Department of Medicine

ANNUAL REPORT

July 1, 2020 – June 30, 2021

Submitted by:

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E.L. Amidon Chair and Professor
Department of Medicine

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Last year I started this summary with: *The Department of Medicine had another incredible and challenging year: We faced the COVID epidemic and the challenges it brought to all aspects of our lives. The creativity, resilience and commitment of the entire department as we continue to face the challenge is truly remarkable*. And this year was another incredible and challenging year highlighted not only by the ongoing pandemic but a devastating cyberattack last fall. Once again the entire department faced the challenges and continued to contribute to outstanding clinical care, education and research. It is truly a privilege to be a part of this team. Despite the challenges, the stress in every aspect of our lives, and the overwhelming fatigue, there are many achievements and awards to celebrate.

We have maintained our strong focus on providing outstanding clinical care even as clinical need in both in the outpatient and inpatient setting exceeds previous levels. To support patient access and care we welcomed 11 faculty over the past year (July 1, 2020 - June 30, 2021) with an additional 5 faculty already hired to start late in 2022. These faculty have joined the divisions of General internal Medicine, Gastroenterology, Cardiology, ID, Hematology, Immunobiology, Rheumatology, Nephrology, and Hospital Medicine and are working not only at UVMMC but also in our network affiliate sites. Last year when the pandemic hit, telemedicine was rapidly incorporated into practice to provide care and we have continued to support our patients with telemedicine when we could reduce the burden of travel and increase access to care. Two faculty were recognized with the Distinguished Clinician Awards for the Department of Medicine: Dr. Eric Ganguly and Dr. Kim Dittus and Dr. Preetika Muthurkrishnan received the Quality Scholarship Award.

Education is a core mission for the department. Faculty continue to teach and mentor in innovative new programs at UVM as well as at our affiliate sites. With constraints imposed by the pandemic we welcomed more medical students into our clinics and our inpatient services at UVMMC than ever before. Faculty embraced the challenge and provided excellent clinical experiences. In recognition of their substantial contributions to education, Dr. Andrew Hale received the Foundation Course Director Award, Dr. Julian Sprague was named the UVMHNMG GME Educator of the Year, Dr. Andrew Hale received the UVMHNMG Education Scholarship Award and Dr. Devika Singh received the Gold Humanism Honor Society-Leonard Tow Humanism in Medicine Faculty Award.

The Department E. L . Amidon recipient was Dr. Sheila Reddy, and the Mark A. Levine MD Award recipient was Dr. Caleb Burr. Three faculty were inducted in the LCOM Teaching
Academy as members: Dr. Matthew Gilbert, Dr. Shea Lambirth and Dr. Rachel McEntee and Dr. Halle Sobel received the highest level of recognition from the academy, Distinguished Educator.

The Department continues to be a nationally/internationally recognized leader in research with contributions to new scientific knowledge. The breadth and depth of research throughout our divisions continues to be a testament to our talented investigators. Key grant awards include: Dr. Devika Singh’s project “Long Term Sequelae Study of COVID-19”, Dr. Mary Cushman’s (Co-PI) COBRE, “Vermont Center for Cardiovascular and Brain Health”, Dr. Neil Zakai’s project “Understanding Risk Factors and Burden of COVID-19 Related Thrombosis and or Bleeding Complications” and Dr. Jason Botten’s project “To discover antibodies that target and neutralize Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)” and Dr. Matthew Kinsey’s project “A Phase I Trial of Intratumoral Cisplatin for Early Stage, Resectable, Non-Small Cell Lung Cancer”. The total research funding for the department hit a new record this year. In recognition of their contributions to research, Dr. Anne Dixon was named the LCOM Research Laureate, Dr. Jason Botten received the Dean’s Mid-Career Investigator Award, Dr. Daniel Weiss received the Dean’s Award for Research Mentorship; Dr. Katharine Cheung was named the UVMHNMG Junior Researcher of the Year, and Dr. Devika Singh was awarded the UVMHNMG Innovation Research Grant.

In aggregate, members of the department including students, residents, fellows (MD and PhD) published in high impact journals, as detailed within this report. They were asked to lead and serve on NIH study sections, advisory councils, FDA review panels, and editorial boards. They were invited from around the world to present at scientific meetings (virtually) and to be visiting professors, and they were elected to leadership in national societies. They also received significant recognition from their national and international colleagues: Dr. Josh Farkas-national Championship in Humanism award, Dr. Jason Bates-American Thoracic Society (ATS) Recognition for Scientific Accomplishment, Dr. David Kaminsky ATS Robert Crapo Memorial Lifetime Achievement Award in Pulmonary Diagnostics, Dr. Polly Parsons-Trudeau Medal, and Dr. Mary Cushman-American Heart Association Award of Meritorious Achievement.

For their overall contributions, Dr. Kristin Pierce received the Dean’s Faculty Award for Professionalism, Mary Claire Walsh received the Dean’s Staff Award for Professionalism, Dr. Jan Carney received the UVM Citizenship and Service Award, and Dr. Mary Cushman was recognized with the LCOM Gender Equity Outstanding Achievement award. It is impossible to list all of the significant contributions of all of our faculty, trainees, students and staff but they can be found throughout this report. Without the incredible dedication, expertise and excellence of our entire department we could not succeed.
Department of Medicine
Standing Committees

**Medicine Credentials Committee**

**Members:**
Glenn Goldman, M.D. Committee Chair
Joel Schnure, M.D.
David Schneider, M.D.
Charlotte Teneback, M.D.
Bonita Libman, M.D.
Sheela Reddy, M.D.
Richard Solomon, M.D.
Sadie Mills, M.D.
Mark Lazarovich, M.D.

**Committee Mission:**
The mission of the Medicine Credentials committee is two-fold. First, the committee is charged with maintaining an up to date policy and procedure / rules and regulations for the Medicine Health Care Service. Second, the committee is charged with ensuring that faculty receive appropriate initial and ongoing performance evaluations to assist the medical staff office with credentialing.

**Quality Assurance Committee – Cardiac Catheterization Laboratory**

**Members:**
Prospero Gogo, Committee Chair
Harold Dauerman, M.D.
Edward Terrien, M.D
Karen McKenny, R.N.
Rony Lahoud, M.D.

**Committee Mission:**
The purpose of the committee is to ensure high quality in the processes of care of the cath lab to ensure excellent outcomes. Some goals are to eliminate outliers, reduce variation, and enhance performance. The QA monthly meeting provides rapid turnover feedback mechanisms. The committee is committed to educational opportunities for the staff and incorporating practice standards and guidelines into the laboratory operation. Internal, regional, and national comparative data is included that address cognitive knowledge, procedural skill, clinical judgment, and procedural outcomes.
Fellowship Directors Education Committee

Members:
M. Pasanen, Committee Chair
G. Garrison
F. Keating
N. Ferrentino
M. Gilbert
B. Libman
K. Pierce
J. Sprague
D. Correa

Committee Mission:
The primary mission of the Fellowship Directors’ Education Committee is to provide a forum and improve the training, education and overall experience for all Fellows throughout the UVMMC and to support, and develop the potential of each Fellow; in doing so, the Fellows will become an asset to the medical community providing outstanding care and contributions.

Resident Research Committee

Members:
A. Kennedy, Chair
K. Cheung
D. Kaminsky
C. Lyon
M. Pasanen
R. Pinckney
J. Sprague
D. Weiss
N. Zakai

Committee Mission:
Responsibilities of the Committee are, in general, to provide guidance and resources for residents and fellows, along with their mentors, performing scholarly research projects. More specifically, the Committee has the following duties:

1) Explain the research project process to new R2s at their annual R2 retreat in July
2) Conduct R2 Research Evenings every fall, where each R2 and their mentor present their project to the Committee to ensure feasibility and receive any pertinent advice/feedback
3) Review residents’ proposals for travel to national meetings to present abstracts that have been accepted, so that limited travel funds can be awarded
4) Serve on a discussion panel for medical students interested in research
5) Review R3 and fellow abstracts every spring to select the abstracts that will be presented orally and via poster on Resident Research Day and Fellow Research Day
6) Select winners of the R3 research (Harriet Dustan) and mentor awards annually for presentation at the resident graduation dinner
**Clinical Competency Committee**

**Members:**
Halle Sobel, M.D. Committee Chair
Jason Bartsch, M.D.
Ryan Clouser, D.O.
Christine Farnham
Eric Ganguly, M.D.
Frederike Keating, M.D.
Mark Pasanen, M.D.
Andrew Hale, M.D
Val Cherry
Benjamin Depo, M.D.
Kevin Qin, M.D.
Matt Gervais, M.D.

**Committee Mission:**
The mission of the Clinical Competency Committee is to ensure that the graduates of our training program have the necessary knowledge, skills and attitudes to provide excellent patient care and to promote quality and improvement in the health care system. The Clinical Competency Committee meets a minimum of twice yearly to assess resident progress towards independent practice using the Milestones as a platform. This committee is responsible for issues pertaining to resident promotion, remediation and dismissal. The committee is also responsible for preparing a complete summative evaluation report, based on a review of all available evaluations, for each resident semi-annually.

**Housestaff Selection Committee**

**Members:**
S. Eldakar-Hein, Chair
M. Antkowiak
J. Bartsch
F. Foerg
E. Ganguly
G. Garrison
M. Gilbert
S. Grant
A. Hale
W. Hopkins
D. Kaminsky
C. Lyon
R. McEntee
P. Menon
C. Noyes
M. Pasanen
K. Pierce
D. Rand
A. Repp
L. Smith
Committee Mission:
The Housestaff Selection Committee is responsible for the recruitment of Internal Medicine Residents. This includes a careful review of applications from candidates, interviews of the invited candidates and, finally the compilation of the rank list for Match Day. As we receive over 1300 applications for residency, and interview over 200 applicants, this committee serves a critical role in the success of the residency.

Program Evaluation Committee

Members:
M. Pasanen, MD - Chair
J. Powelson
E. Wahlberg
K. Wahlberg
S. Wayne
A. Kumar
B. Rigby
Sundas Khan
B. Depo
D. Correa De Sa
E. Strout
S. Eldakar-Hein
A. Hale
E. Riser
M. Barry
J. Bartsch
E. Ganguly
R. McEntee
H. Sobel
K. Parker (Program Admin)
C. Farnham (Program Admin)

Committee Mission:
The Program Evaluation Committee meets 1–2 times per month. This committee actively participates in planning, developing, implementing and evaluating all educational activities of the program. This includes reviewing and making recommendations for revision of competency-based curriculum goals and objectives. It also includes addressing areas of noncompliance with ACGME standards and reviewing the program annually using the evaluations of faculty, residents and others. This culminates in an annual report, which summarizes a systematic evaluation of the curriculum and renders the official written Annual Program Evaluation.
Quality Assurance Committee – Medicine Health Care Service

Members:
Allen Repp, MD Committee Chair
Allen Mead
Pam Stevens, RN
Amanda Kennedy
Bradley Tompkins, MPH, MS
Stephen DeVoe, MPH, MS
Peter VanBuren, MD
Julie Lin, MD
Juan Pablo Perdomo Rodriguez
Richard Zubarik, MD
Marie Sandoval, MD
Farrah Khan, MD
Mark Pasanen, MD
Timothy Whitman, DO
Jeffrey Rimmer, MD
Gil Allen, MD
Scott Legunn, MD
Lee-Anna Burgess, MD
Maria Airoldi, RPh
Tammy Berrings, RN
Susan Bellemare, RN
Peg Gagne, RN

Committee Mission:
The Medicine 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

Faculty Engagement Committee

Members:
Jennifer Kelly, Chair
Katherine Cheung, Nephrology
Farrah Khan, Hematology/Oncology
Marta Kokoszynska, Pulmonary
Alana Nevares, Rheumatology
Cindy Noyes, Infectious Disease
Joseph Pierson, Dermatology
Sheela Reddy, Gastroenterology
Marie Sandoval, General Internal Medicine
Tina Thornton, Immunobiology
Committee Mission:
We are tasked with facilitating interaction between the different divisions in Medicine. We sponsor gatherings at different times of the year and encourage meeting events between divisions. Our goal is to “open up” the department, to encourage inter divisional discourse, and promote mentorship.

Medical Grand Rounds Education Program Committee

Members:
R. Budd, MD
C. Irvin
T. Jetton
S. Lidofsky
M. Wood
M. Takla
B. Everett
L. Burgess
S. Lidofsky

Committee Mission:
The Grand Rounds Committee reviews the format for Grand Rounds and its speakers to insure that it is scientifically sound, presenting up-to-date information, and assisting the medical residents and medical students in becoming familiar with the research going in within the Department. We also review candidates nominated for the Tisdale Lectureship.

Scientific Integrity Committee

Members:
R. Budd, Chair
C. Irvin

Committee Mission:
Scientific Integrity Committee advises the Chair on issues related to policies for reviewing possible scientific fraud.

Department of Medicine Faculty Development Committee

Members:
Joseph Pierson, MD
Maura Barry, MD
Narandra Bethina, MD
Jason Bartsch, MD
Committee Mission:

The Faculty Development Committee is composed of 1-2 faculty from each division in the Department of Medicine and meets monthly. The charge of the committee is to work with the Vice Chair for Academic Affairs on matters related to faculty development, including faculty mentoring, career development, and promotion. The committee serves as a forum for junior and mid-level faculty to discuss faculty development within the DOM and to foster new initiatives to support the DOM faculty. Current efforts include the development and dissemination of:

- Faculty mentoring and career development support tools
- Promotion dossier (Green Sheet) guidance and a standardized Larner College of Medicine CV format
- Metrics and guidelines for career development and promotion within the Clinical Scholar Pathway
- Mechanisms to recognize and address faculty wellness
- The Quarterly Faculty Development newsletter for the DOM

Department of Medicine Reappointment, Promotions, and Tenure Committee

The Reappointment, Promotions, and Tenure Committee is composed of three subcommittees: The Tenure Pathway and Promotions Subcommittee, The Clinical Scholar Evaluation and Reappointment Subcommittee, and The Volunteer Pathway Reappointment Subcommittee. Each are composed of selected faculty from the divisions of the Department of Medicine. All three subcommittees participate in the Spring RPT cycle which addresses faculty reappointments, while the Tenure Pathway subcommittee also meets for the Fall RPT cycle as well to evaluate faculty going up for promotion.

Tenure Pathway and Promotions Subcommittee

Members:
Jason Bates, PhD
Harold Dauerman, MD
Christopher Huston, MD
Benjamin Littenberg, MD
Caroline Lyon, MD
Charles Maclean, MD
Joseph Pierson, MD
Renee Stapleton, MD, PhD

Committee Mission:
The mission of the Department of Medicine Tenure Pathway and Promotions Subcommittee is to provide support to the RPT Chair in the preparation of summary information required for reappointment and promotion of Department of Medicine faculty members on the Tenure Track Pathway, and for promotion dossiers of faculty on all promotion tracks. The Committee is charged with reviewing the content of dossiers, assembled by each faculty member under consideration and corresponding unit director, and with writing summaries that highlight accomplishments in the areas of teaching, research and scholarship, and service to the institution and beyond. Each summary will also serve to generate constructive feedback to the faculty member under consideration, so that the goals for future promotion can be achieved. The Subcommittee will meet at least once during the faculty review cycle to finalize the summaries, which will then be forwarded by the Subcommittee Chair to the RPT Committee Chair.

Clinical Scholar Evaluation and Reappointment Subcommittee

Members:
Kristen Pierce, MD
Naomi Hodde, MD
Internal Medicine
Mohit Jindal, MD
Internal Medicine
Matthew Gilbert, DO
Peter Kaufman, MD
Chi-Chi Lau, MD
Doris Strader, MD
Peter Van Buren, MD
Timothy Whitman, DO

Volunteer Pathway Reappointment Subcommittee

Members:
Claudia Berger, MD Chair
Roberta O'Brien, MD GIM
Garth Garrison, MD Pulmonary & Critical Care Medicine

Committee Mission:
The mission of the Department of Medicine Volunteer Pathway Reappointment Subcommittee is to provide support to the RPT Chair in the preparation of summary information required for reappointment of Department of Medicine faculty members on the Volunteer Pathway. The Committee is charged with reviewing the content of dossiers, assembled by each faculty member under consideration and corresponding unit director, and evaluating eligibility of the faculty member for reappointment on the Volunteer Pathway. The Subcommittee will meet at least once during the faculty review cycle to finalize the recommendations, which will then be forwarded by the Subcommittee Chair to the RPT Committee Chair.
**Research Committee**

**Members:**
- Michael Toth, Ph.D.
- Mary Cushman, M.D., MSc
- Steven Ades, M.D.
- Adam Atherly, Ph.D.
- Ralph Budd, M.D.
- Melanie Bui, M.D., Ph.D.
- Katharine Cheung, M.D., Ph.D.
- Harold Dauerman, M.D.
- Christopher Huston, M.D.
- Matthew Poynter, Ph.D.
- Allen Repp, M.D.
- Renee Stapleton, M.D., Ph.D.
- Daniel Weiss, M.D., Ph.D.
- Michaelanne Rowen, BSN, RN
- Bridget Carney, CRA
- Tina Mazuzan

**Committee Mission:**
The Department of Medicine’s Research Committee is Chaired by the Vice Chair for Research with faculty representation from each Division/Center and financial/operations leadership staff. The committee meets monthly to discuss a wide range of issues pertaining to the research mission and activities of the department’s faculty. A major focus of the committee is to advise the Chair on decisions that impact the research endeavors of the department’s faculty. Other topics include the development and review policies and procedures relating to research, funding requests, new funding opportunities, changes in Federal policies, dissemination of information and setting new initiatives to enhance the research activities of the department.

**Quality Assurance Committee – Dermatology**

**Members:**
- T. Holmes, MD
- G. Goldman, MD
- C. Weinberger, MD
- M. Bui, MD
- A. Fischer, MD
- K. Morley, MD

**Committee Mission:**
Our mission is to ensure quality care and promote continuous quality improvement of services and processes in order to fulfill the needs and expectations of the patients we serve
Medical Service

Ambulatory Care Visits: 205,645 (147,277 specialty care and 58,368 primary care)

Work RVUs: 637,848 work RVUs

UVMMC Practice Sites:

Ambulatory Care Center – Medicine has a presence in five Modules:

- Medicine: Infectious Disease (including Travel Medicine), Rheumatology and Clinical Immunology, Pulmonary (including PFTs), and the Lung Cancer Multidisciplinary Clinic
- Dermatology including Mohs Surgery (occupying two modules)
- Cancer Center: Hematology/Oncology, Breast Care Center and Multidisciplinary Clinic, Vermont Regional Hemophilia Treatment Center, Thrombosis Center
- Surgery: Gastroenterology and Hepatology

University Health Center

- Nephrology
- Sleep Medicine

Tilley Drive, South Burlington

- Cardiology and Cardiac Rehabilitation, Oncology Rehabilitation, Pulmonary Rehabilitation
- Endocrinology, Osteoporosis, and Endocrine Clinical Research

Fanny Allen Hospital

- Memory Clinic
- Vermont Lung Center (Pulmonary Research)

General Internal Medicine:
• Burlington (University Health Center)
• South Burlington
• Essex Junction
• Williston

**UVMMC Outreach Sites:**

**Vermont**

Brattleboro (BMH) – Infectious Disease

St. Albans (Northwestern Medical Center) – Nephrology, Cardiology

St. Johnsbury (Northeastern Medical Center) - Infectious Disease

Barre (Central Vermont) – Nephrology, Dermatology, Pulmonary, Hem/Onc

Rutland (Rutland Regional) – Nephrology, Cardiology, Infectious Disease

Middlebury (Porter) – Cardiology, Hem/Onc

Newport (Newport Memorial) – Nephrology

**New York**

Malone (AHMC) - Cardiology

Massena (MMH) – Cardiology

Plattsburgh (CVPH) – Cardiology, Infectious Disease, Dermatology

**Nursing Homes and Other Locations:**

Elderwood Nursing Facility

The Arbors at Shelburne

Birchwood Terrace Nursing Facility

Green Mountain Nursing Facility

Visiting Nursing Association of Vermont

Castleton Health Center

Community Health Center of Burlington

The Department also participates in many multidisciplinary clinics:
Department of Medicine Multidisciplinary Clinics and Case Conferences/Tumor Boards  
(examples of participants in parentheses)  

Active  

- Maternal Fetal Medicine/Gestational Diabetes (Endocrine, Women’s)  
- Upper GI MDC and Tumor Board (Gastroenterology, Hematology/Oncology, Rad. Oncology, Pathology, Radiology, Surgery)  
- Lung MDC and Tumor Board (Pulmonary, Surgery, Radiation Oncology, Hematology/Oncology, Pathology, Radiology)  
- Breast MDC and Tumor Board (Hematology/Oncology, Radiology, Surgery, Radiation Oncology, Pathology)  
- Hem Malignancy Conference (Hematology/Oncology, Pathology)  
- Brain Tumor Board (Hematology/Oncology, Surgery, Radiology, Radiation Oncology)  
- Sarcoma Tumor Board (Hematology/Oncology, Orthopedics, Radiology, Pathology, Radiation Oncology)  
- ENT Tumor Board (Hematology/Oncology, Surgery, Radiation Oncology)  
- GU MDC and Tumor Board (Hematology/Oncology, Surgery, Pathology)  
- Melanoma Tumor Board (Dermatology, Surgery, Hematology/Oncology, Pathology)  
- Familial Cancer Program Conference (Genetic counseling, medical oncology, pathology, surgical oncology, ob/gyn).  
- Geriatrics/Memory Center (Geriatrics and Neurology)  
- Interstitial Lung Disease (Pulmonary and Rheumatology)  
- Cystic Fibrosis (Pulmonary, Endocrinology, Social Work, Nutritional Services)  
- Bone Metabolism (Endocrinology and Rheumatology)  
- Stone Clinic (Nephrology and Urology)  
- Transplant Clinic (Nephrology and Transplant Surgery)  
- Oncology Rehabilitation (Hematology/Oncology, Cardiology, Physical Therapy)
- Pulmonary Rehabilitation (Pulmonary, Cardiology, and Physical Therapy)
- Heart Failure (Cardiology and Primary Care)
- TAVR (Cardiology and Surgery)
- Accredited Stem Cell Transplant Program (Hematology and Pathology/Laboratory)
- Pediatric Hemophilia Clinic (Hematology/Oncology and Pediatrics)
- Telemedicine (Infectious Disease and Brattleboro Memorial Hospital)

**Under Development**

- Hepatitis C e-consults (Gastroenterology and General Internal Medicine)
Graduate Medical Education Annual Report: 2020-2021

Leadership

Mark Pasanen, M.D., FACP – Program Director
Halle Sobel, M.D., FACP – Associate Program Director
Andy Hale, M.D. – Associate Program Director (beginning Dec 2020)
Prema Menon, M.D. – Associate Program Director (beginning Dec 2020)
Christine Farnham, Rosanne Murat, Valarie Cherry – Program Administrators

Summary of Internal Medicine Program Highlights 2020-2021

Enhancements to Curriculum:
We continue to refine our approach to our formal education sessions, which now include a noon series 3-4 days/week and academic half-days 2 days/week. For our academic half-day sessions, our residents are split into two cohorts (first-year residents and senior residents), allowing our curriculum to be better targeted at the learner level. In addition, as part of this change, we have encouraged our faculty to continue to work toward more interactive teaching methods. Our academic half-day model has allowed for a more comprehensive curriculum, including robust Improvement Science and Wellness initiatives. Our most recent additions include the launch of a curriculum addressing Equity, Diversity and Inclusion and re-invigoration of our Resident as Teacher curriculum. In addition, over the past 2 years, we have successfully moved Morning Report to Noon Report to allow for increased attendance, and better engagement. Of course, the biggest change of the past year has been the continued need to adapt to on-line learning due to COVID-19 gathering restrictions. After a brief transition period, we were able to successfully transition all of structured teaching to an interactive, tele-education environment and have subsequently moved back to a hybrid system – in which there is a mix of in-person and video participants at our teaching sessions.

Board Preparation:
We continue to make sure our curriculum is supporting our residents as they prepare for the ABIM certification exam. Our current 3-year pass rate is 91% for first-time takers. We continue to provide MKSAP for all of our residents, and utilize MKSAP questions in many of our teaching sessions. In addition, we provide all residents with subscriptions to NEJM Knowledge (+), a mobile question-based board review product with an adaptive learning interface as part of our commitment to ABIM Board success.

Continuity Clinic Update:
We continue to take advantage of the block schedule to optimize education. With the leadership of Drs. Halle Sobel and Rich Pinckney at UVMMC and Drs. Jonathan Cohen and Gretchen Gaida-Michaels at the Burlington VA – along with a core of faculty preceptors, residents provide longitudinal care for a diverse population of patients. Twice weekly there are small group learning sessions which continue to be extremely well received by residents – all part of a comprehensive 3-year curriculum. Residents are educated on practice management, population health and continue to complete personal practice improvement projects. In addition, we continue to
incorporate the Yale Ambulatory Curriculum into the formal educational experience, which focuses on common primary care issues.

Wellness:
Resident wellness has continued to be a priority, especially given the enormous stress of the pandemic. Many of our annual events had to be postponed this past year, as we have only recently have we been permitted to have group gatherings (always in compliance with UVM, UVMMC and Vermont recommendations). In the past, events have included Lake Monsters games, picking apples and making cider, paddle-boarding, paint-and-sip, along with dinners at the Hope Lodge (cooked and served by our residents) – along with other less formal outings. Through the last year, we continued to explore ways to stay connected – and look forward to reestablishing many of our previous events.

Improvements in Evaluation/Assessment:
With leadership from Dr. Sobel, our robust Clinical Competency Committee reviews all of our residents at least bi-annually, providing milestone-based evaluations and feedback. In addition, this group provides insight and guidance for residents who may benefit from more structured support and/or remediation. Over the last year, a significant amount of work has been done to prepare for the roll-out of Milestones 2.0 – a major change and improvement in residency evaluation requiring a complete overhaul of our evaluations that launched in July 2021.

Recruitment:
During this past year, we had to adapt to a completely virtual process – and were lucky to have an amazing team of staff and interviewers. We ended up interviewing > 340 applicants, a significant increase as compared to previous years. The increased number of interviewees and reduced barrier of travel necessity allowed us to interview an increasing diverse group of candidates – resulting in a fantastic match (see below for details).

Procedural/Ultrasound Training:
One of our key priorities over the past several years has been to improve our resident procedural and ultrasound skills. We have initiated an ultrasound elective, and continue to work toward improved technology to store images for faculty review. In addition, we continue to collaborate with colleagues in the Department of Medicine and other departments with the goal of getting our residents opportunities to perform desired procedures.

List of All Residents (July 1, 2020-June 30, 2021)
PGY-3
Eric Anderson    Medical College of Wisconsin
Jennifer Bergeron    Tufts University School of Medicine
Kenyon “KC” Bolton    Robert Larner, MD, College of Medicine at the University of Vermont
Benjamin Depo    State University of New York Upstate
Matthew Gervais    Pennsylvania State University College of Medicine
J. Curtis Gwilliam    Robert Larner, MD, College of Medicine at the University of Vermont
Sundas Khan    Lewis Katz School of Medicine at Temple University
Carrie Mahurin    University of North Dakota School of Medicine and Health Sciences
Emily McPherson   University of New England School of Osteopathic Medicine
Jacob Neuwirth    University of New England College of Osteopathic Medicine
Jacqueline Parker  Weill Cornell Medicine
Kevin Qin         University of Toledo College of Medicine and Life Sciences
Samantha Steinmetz-Wood  Royal College of Surgeons in Ireland
Andrew Wall        Albany Medical College
Joshua Zimmer      Quillen College of Medicine at East Tennessee State University

PGY-2
Jason Browne    University of Wisconsin School of Medicine and Public Health
Nathan Centybear Robert Larner, M.D., College of Medicine at the University of Vermont
Elizabeth Carson Robert Larner, M.D., College of Medicine at the University of Vermont
Robert Hardwick  University of Washington School of Medicine
Yu Ting (Christina) He Weill Cornell Medicine
Jonathan Hingre  State University of New York Upstate Medical
Arjun Janardhan   Robert Larner, M.D., College of Medicine at the University of Vermont
Alison Kim       Chicago Medical School at Rosalind Franklin
Seth Levy        Jacobs School of Medicine and Biomedical Sciences Univ of Buffalo
Aurasch Moaven   University of Maryland School of Medicine
Jamie Rowell     Medical University of South Carolina College of Medicine
David Steinmetz  Perelman School of Medicine at the University of Pennsylvania
Ryan Thomas      Albany Medical College
Sean Till        Loyola University Chicago Stritch School of Medicine

PGY-1
Siddique Akram    University of Wisconsin School of Medicine and Public Health
Vishwanath Anekonda University of Washington School of Medicine
Tanesha Beebe     Loyola University Chicago Stritch School of Medicine
Maria Bryan - PC  University of Minnesota Medical School
Brendan Campbell  George Washington University School of Medicine and Health Sci
Kyle Crooker      University of Kansas School of Medicine – Wichita
Brendan Ferraro   Lewis Katz School of Medicine at Temple University
David Jackson     University of New England College of Osteopathic Medicine
Ali Jandal    University of Wisconsin School of Medicine and Public Health
Colton Jensen    University of Iowa Roy J. and Lucille A. Carver College of Medicine
John Lamb    Mercer University School of Medicine – Savannah
Eleanor Stedman - PC    Robert Larner, M.D., College of Medicine at the University of Vermont
Nicholas Tooley    Michigan State University College of Human Medicine - Grand Rapids
Sarah Wachtel - PC    Albany Medical College
Danielle Wall    Robert Larner, M.D., College of Medicine at the University of Vermont

**Preliminary**
Hannah Porter    University of Pittsburgh School of Medicine
Daniel De Los Santos    Robert Larner, M.D., College of Medicine at the University of Vermont
Gregory Johnston    Robert Larner, M.D., College of Medicine at the University of Vermont
Agnes Bacopulos    New York Medical College
Kristin Bartman    Central Michigan University COM
Kaley Kinnamon    University of Kansas School of Medicine
Lauren Skogsholm    University of Connecticut School of Medicine

**Preliminary Anesthesia shared with Surgery**
Jack Chan    Albany Medical College
Jason Dixon    University of Connecticut School of Medicine
Edwin “Taylor” Haring    University of Oklahoma College of Medicine
Brett Heber    Kansas City Univ of Medicine & Bioscience Coll of Osteopathic Med
Britta Kilgus    Robert Larner, M.D., College of Medicine at the University of Vermont
Matthew “Matt” Nowland    Frank H. Netter, M.D. School of Medicine at Quinnipiac University

**Chief Medical Resident**
Benjamin Irvine    University of Wisconsin School of Medicine and Public Health
Shawn Wayne    University of Wisconsin School of Medicine and Public Health
Edwin Goncharuk    University of New England College of Osteopathic Medicine
Resident and Faculty Awards (announced June 2021)

The Harriet P. Dustan, M.D. Award:
• Sundas Khan, MD

The Frank L. Babbott, M.D. Memorial Award:
• Kenyon “KC” Bolton, MD

Richard E. Bouchard, M.D. Excellence in Primary Care Award:
• Kenyon “KC” Bolton, MD

E.L. Amidon, M.D. Award Outstanding Teacher of the Year Subspecialty Medicine:
• Sheela Reddy, MD

Mark A. Levine, M.D. Award Outstanding Teacher of the Year General Internal Medicine:
• Caleb Burr, MD

Resident Research Day: May 28, 2021

Oral Presentations:

Potential Germline Findings Identified During Somatic Tumor Testing: Room for Improvement
_Sundas Khan, MD_

Navigating the Debate on Large (≥4cm) Thyroid Nodules: Local Insight on a Persisting Problem
_Samantha Steinmetz-Wood, MD_

Factors associated with clinical outcomes among critically ill patients transferred from small rural hospitals to a tertiary medical ICU
_Andrew Wall, MD_

Poster Presentations:

Age-Related Cancer Screening in Non-English Speaking Patients in Vermont Primary Care
_Emy McPherson, DO; John Miller, MD_

Cardiac Stress Testing Education for Outpatient Internal Medicine Residents
_Josh Zimmer, MD; Sherrie Khadanga, MD_

Does IV iron reduce the re-admission rate in iron deficient, anemic patients admitted with heart failure exacerbation?
_Eric Anderson, MD; Bradley Tompkins, MPH, MS; William Hopkins, MD_
The Effect of Seasonal Change and Access to Indoor Exercise Facilities on the RAPID3 Index
*Jacob Neuwirth, DO; Levi N. Bonnell, MPH; Bradley J. Tompkins, MS, MPH; Amanda G. Kennedy, PharmD, BCPS; Chi Chi Lau, MD*

Evaluating the Quality of Clinical Telephone Updates
*Matthew Gervais, MD; Ashlynn Ruleman, Amanda G. Kennedy, PharmD, BCPS; Jeanne Shea, PhD*

Hospital Cardiopulmonary Arrest Patient Outcomes Measured Before and After Initiation of a Resident “Mock Code Blue” Curriculum: An Analysis of ACLS Team Leadership Simulation Effectiveness on Inpatient Cardiopulmonary Arrest Mortality and Adherence to AHA Guidelines at the University of Vermont Medical Center (UVMMC)
*Carrie Mahurin, MD; Jamie Rowell, MD; Elena Kozakewich, MD; Brennan Rigby, MD; Amy Lynn Teleron, MD, FACP*

A Pathway for Optimizing Post-Splenectomy Care
*Benjamin Depo, MD, Sundas Khan, MD*; Jean Dejace, MD, Laura Catoe, NP, Timothy Whitman, DO, Bradley Thompson, Carlos Marroquin, MD, Jennifer Gratton, RN, Ajai Malhrota, MD, Andrew Hale, MD *Denotes co-first authors Patient Experience on a Hospital Oncology Service

Before and After Implementation of a No-visitor Policy During COVID-19
*Kenyon C. Bolton, MD, MA; Michael Lawler, BS; Jennifer Hauptman, MSW, LICSW; Marissa Madden, RN; Stephen G. DeVoe, MPH, MS; Amanda G. Kennedy, PharmD, BCPS; Bradley Tomkins MPH, MS; Naomi M. Hodde, MD*

Practice Patterns of Mortality Risk Prediction Tools in the Vermont Dialysis Population
*Jennifer Bergeron, MD; Christina Damon, MS2; Sean Meagher, MD; Katharine Cheung, MD, PHD*

Utilization of genetic testing among cancer patients by oncologists in Northern New England
*Kevin Qin, MD, MSc; Ya Tuo, MSc; Bernard F. Cole, PhD; YongLi Ji, MD, PhD; Jens Reuter, MD; Susan Miesfeldt, MD; Marie Wood, MD*

Validating the of Use of sGaw in Methacholine Challenge Testing to Diagnose Asthma
*Jacqueline N. Parker, MD, Allison Tzeng; David Kaminsky, MD*

**Fellow Research Day: June 4, 2021**

**Oral Presentations:**

Decade Long Temporal Trends in Revascularization for Patients with Diabetes Mellitus: A Report from the Northern New England Cardiovascular Disease Study Group
Jan H. Denkmann, MD, David J. Malenka, MD, Niveditta Ramkumar, MPH, PhD, Cathy S. Ross, MS, Michael N. Young, MD, Samip Vasaiwal, MD, MSC, James M. Flynn, MD, and Harold L. Dauerman, MD*

Reducing Rates of Biliary Stent-Associated Cholangitis in Malignant Biliary Obstruction Using a Serologic Algorithm
Brendan Everett, MD, and Richard Zubarik*, MD

Lower Heart Rates and Beta-Blockers are Associated with New-Onset Atrial Fibrillation
Nicole Habel, MD, Jeanne du Faye de Lavallaz, MD, Jodi L. Koehler, MS, Paul D. Ziegler MS, Margaret Infeld, MD MS, Daniel L. Lustgarten, MD PhD and Markus Meyer, MD PhD

Poster Presentations:

A Point Prevalence Analysis within a Longitudinal Serosurvey of COVID-19 in a Vermont School District
Sean Bullis MD, Benjamin Grebber, Sally Cook, Sean A. Diehl, Nancy R. Graham, Marya Carmolli, Dorothy Dickson, Beth Kirkpatrick MD, Benjamin Lee, MD

Functional significance of 8-isoprostane in sinonasal disease and asthma
Brittany Duchene, MD, Sarah Caffry, BS, David A Kaminsky, MD, Loretta G Que, MD, Matthew E Poynter, PhD, Anne E Dixon, MD

Endobronchial Ultrasound-Transbronchial Needle Injection Cisplatin Alters Tumor Cellular Composition in Non-Small Cell Lung Cancer
Emily DuComb, DO, Delores Cupak, Cheryl Collins MS, Ralph Budd MD, and C. Matthew Kinsey MD, MPH

“Immune-Brain”: A case series of cognitive dysfunction in cancer patients on checkpoint inhibitors
Sarah Gillett MD, PhD, Ximena Jordan-Bruno, MD, Hibba Rehman, MD, Alissa Thomas, MD

Long-term Bachman’s bundle region and His bundle Pacemaker Lead Thresholds
Jonathan Halevy, MD, Benjamin Depo, MD, Bradley Tompkins, MPH, MS, Daniel Lustgarten, MD, PhD

A Standardized Protocol Improves Testing Rates for Helicobacter Pylori among Inpatients with Peptic Ulcer Disease
Jason D. Heffley, MD, MPH, Richard Zubarik, MD

Post Discharge Risk of Venous Thromboembolism in a Primary Care Population
Ximena Jordan-Bruno, MD, Insu Koh, PhD, Pamela L Lutsey, PhD, Bob Walker, MPH, Nicholas Roetker, PhD, Nicholas L Smith, PhD, Timothy B Plante, MD, MHS, Allen B Repp, MD, Chris E. Holmes, MD, PhD, Mary Cushman, MD, MSc, Neil A. Zakai, MD, MSc
Acute Kidney Injury and Renin Angiotensin System Inhibition Following Transcatheter Aortic Valve Replacement

*Newton Phuong, MD*, Richard J. Solomon, MD; Michael J. DeSarno, MS; Martin M. LeWinter, MD; Joshua Zimmer, MD; Harold L. Dauerman, MD

Inappropriate Thyroid Uptake and Scan Testing in Adult Patients with Grave’s Disease-suspected Hyperthyroidism

*Amy Shah, DO, MPH*; Kaitlyn Barrett, DO; Matthew Gilbert, DO, MPH; Amanda Kennedy, PharmD; radley Tompkins

**Department of Medicine Resident National Meeting Presentations:**

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<tr>
<th>Name</th>
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<td>Christina Wojewoda</td>
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<td>The impact of increasing Anaplasma incidence in Vermont on treatment: Are clinicians keeping up?</td>
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<td>Benjamin Depo; Sundas Khan</td>
<td>Andrew Hale</td>
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<td>Sundas Khan</td>
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<td>Poster</td>
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<tr>
<td>Andrew Wall</td>
<td>Renee Stapleton</td>
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<td>Poster</td>
<td>Factors Associated with Clinical Outcomes Among Critically Ill Patients Transferred from Small Rural Hospitals to a Tertiary Medical ICU</td>
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**Department of Medicine Quality Showcase May 2021:**

Testing for Urinary Tract Infection in Adults without Urinary Symptoms: A High Value Care Case Analysis

Residents: *Eric Anderson, MD; Jennifer Bergeron, MD; Kenyon “KC” Bolton, MD; Benjamin Depo, MD; Matthew Gervais, MD; J. Curtis Gwilliam, MD; Sundas Khan, MD; Carrie Mahurin, MD; Emily McPherson, DO; Jacob Neuwirth, MD; Jacqueline Parker, MD; Kevin Qin, MD; Samantha Steinmetz-Wood, MD; Andrew Wall, MD; Joshua Zimmer, MD* Faculty: Lee-Anna Burgess, MD; Virginia L. Hood, MBBS, MPH; Allen B. Repp, MD, MSc

Standardizing Methods in Culturing Ascitic Fluid: A Project in Quality Improvement

*Aurasch Moaven, MD; Shawn Wayne, MD*; Sheela Reddy, MD

Practice Patterns of Mortality Risk Prediction Tools in the Vermont Dialysis

*Jennifer Bergeron, MD*; Christina Damon, MS2; Katharine L. Cheung, MD, PhD
Medication Changes at the Time of Discharge: An Investigation of Patient Understanding
Residents: Jason Browne, MD; Elizabeth Carson, MD; Jonathan Hingre, MD; Lloyd Patashnick, MD; Jaime Rowell, MD; David Steinmetz, MD; Sean Till, MD
Patient and Family Advisors: Andrea Desautels, Kathy Leahy, Kate Purcell
Faculty: Maria Burnett, MD; Preetika Muthukrishnan, MBBS, MSc; Constance van Eeghen, DrPH, MHSA, MBA; Amanda G. Kennedy, PharmD, BCPS

Improving Residents’ Understanding of Patients’ Daily Goals
Residents: Nathan Centybear, MD; Robert Hardwick, MD; Yu Ting (Christina) He, MD; Arjun Fung-Janardhan, MD; Alison Kim, MD; Seth Levy, MD; Aurasch Moaven, MD; Ryan Thomas, MD
Patient and Family Advisors: Andrea Desautels; Kathy Leahy; Kate Purcell
Faculty: Maria Burnett, MD; Preetika Muthukrishnan, MBBS, MSc; Constance van Eeghen, DrPH, MHSA, MBA; Amanda G. Kennedy, PharmD, BCPS

Minding the Gaps: A Population Health Curriculum for Internal Medicine Residents
Halle G. Sobel, MD, Emily K. Hadley-Strout, MD Elizabeth A. Wahlberg, MD

Graduates
2020 Residents – where did they go?
Calvin Gilkey    Hospitalist, Central Vermont Medical Center
Edwin Goncharuk  Chief Medical Resident, University of Vermont Medical Center
Benjamin Irvine  Chief Medical Resident, University of Vermont Medical Center
Darren Knox     Hospitalist, Gundersen Health System (Wisconsin)
Daniel Krakauer Palliative Care Fellow, Ohio State University Medical Center
Yao Li          Hospitalist, University of Vermont Medical Center
Steven O’Neill  Hospitalist, Good Samaritan Regional Medical Center
Katherine Peterson Fellowship, Infectious Disease, University of Vermont Medical Center
Louis-Bassett Porter Hospitalist, Central Vermont Medical Center
Elly Riser      Hospitalist, University of Vermont Medical Center
Brendan Thoms   Fellowship, Rheumatology, University of Vermont Medical Center
Shawn Wayne     Chief Medical Resident, University of Vermont Medical Center
Andrew Wilks    Fellowship, Hematology/Oncology, University of Massachusetts
Christopher Wargo Primary Care, University of Vermont Medical Center/Essex
Scott Young    Hospitalist, University of Washington Medical Center
2020 Chief Residents
Elizabeth Wahlberg (Burlington)  
Kramer Wahlberg  
Julia Powelson  

MATCH RESULTS - Spring 2021
Categorical
Faiz Abu-Jaber  
Robin Alsher  
Daniel Bailey  
Akshee Batra  
Dominique Billingslea  
Charles Forsythe  
Kelsey Maguire  
Kristine McLaughlin  
Jordan Morrison-Nozik  
Ahmed Raza  
Chastidy Roldan  
Center Coll of Med  
Massoud Saleki  
Sienna Searles  
Deepak Sharma  
Sudershan Srinivasan  

Preliminary
Cheyenne Hornback City  
Joy Lowry  
Zachary Zimmer  
the Univ of Buffalo  
Ryan Beal  
Muhammad Seyam  
Samae Scott  
Karl Heward  

Primary Care, University of Vermont Medical Center  
Fellowship, Cardiology, University of Vermont Medical Center  
Hospitalist, University of Vermont Medical Center  
Tufts University School of Medicine  
Pennsylvania State University College of Medicine  
Jacobs School of Medicine and Biomed Sciences at the Univ of Buffalo  
Maulana Azad Medical College  
University of Washington School of Medicine  
University of Washington School of Medicine  
University of New England College of Osteopathic Medicine  
University of Minnesota Medical School  
University of New England College of Osteopathic Medicine  
Allama Iqbal Medical College  
State University of New York Downstate Medical  
University of Washington School of Medicine  
Robert Larner, M.D., University of Vermont College of Medicine  
Eastern Virginia Medical School  
Case Western Reserve University School of Medicine  
University of Oklahoma College of Medicine at Oklahoma City  
Robert Larner, M.D., University of Vermont College of Medicine  
Jacobs School of Medicine and Biomed Sciences at the Univ of Buffalo  
Campbell University Jerry M. Wallace School of Osteopathic Medicine  
Semmelweis University Faculty of Medicine  
Albany Medical College  
University of Utah School of Medicine
**Preliminary Anesthesia shared with Surgery**

Javier Blanco    University of Pittsburgh School of Medicine  
Robert Carpenter    University of New England College of Osteopathic Medicine  
Jonathan Gougelet   George Washington School of Medicine and Health Sciences  
Marc Hammond    Robert Larner, M.D., University of Vermont College of Medicine  
Nicole (Nikki) Kosmider   Western Univ of Health Sciences Coll of Osteopathic Med of the Pacific  
Marc Kostrubiak    Robert Larner, M.D., University of Vermont College of Medicine

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**Active Grants:**

*Project Title:* Increasing the Pipeline of MAT Prescribers: DATA Waiver Training for All Vermont Medical Students at the Larner College of Medicine  
*Organization Name:* UNIVERSITY OF VERMONT & ST AGRIC COLLEGE  
*Funding Source:* Department of Health and Human Services Substance Abuse and Mental Health Services Administration (SAMHSA)  
*Grant Number:* 1H79TI082571-01  
*FAIN:* H79TI082571  
*Program Director:* Halle Sobel MD  
*Project Period:* 9/30/19-9/29/22  
*Grant Amount:* $308,619 (all years)  
*PI:* Halle Sobel MD,  
*Key Personnel:* John Brooklyn MD, Sanchit Maruti MD, Leigh Ann Holterman PhD, Jacqueline Drouin MA; Elly Riser MD and Stephen Devoe, MPH, MS

*Project Title:* Vermont Responds: The Development of Interactive, Online Pain Modules for Pain Management in the Face of the Opioid Crisis  
*Organization Name:* UNIVERSITY OF VERMONT & ST AGRIC COLLEGE  
*Funding Source:* American Association of Medical Colleges (AAMC) Opioid Education Challenge Grant  
*Grant Period:* October 1, 2019 – September 30, 2020  
*Purpose:* The purpose of this grant is to create online pain management modules for clinicians that will be piloted and assessed by the UVM Graduate Medical Education and CME curriculum committees.  
*PI:* Stephen Berns MD,  
*Co-Investigators:* Martha Seagrave RN, Karen Lounsberry PhD, Elly Riser MD  
*Collaborators:* Jeremiah Dickerson MD, Sanchit Maruti MD, **Halle Sobel MD** and Kathryn Huggett PhD
The 2020-2021 academic year was once again impacted substantially by the COVID-19 pandemic. The cardiovascular division became expert in providing care with telehealth, recruited a fellowship class remotely, and was able to complete the recruitment of a new faculty member.

The Division added a new faculty member, Dr. Lauren Suggs in August of 2021. Dr. Suggs completed her fellowship training at Thomas Jefferson in Philadelphia. She will be based at Central Vermont Medical Center. She will participate in clinical care of the University of Vermont Medical Center, as well. An important transition, Dr. Eric Gauthier, an interventional cardiologist at Champlain Valley Physicians Hospital (CVPH) has taken on a leadership role, serving as the Chief of Cardiology at CVPH.

Despite the limitations associated with the COVID-19 pandemic, the division was clinically very active. While the pressures of the pandemic limited growth of new programs, the division was able to maintain clinical excellence. With the addition of Drs. Barrett and Harhash, we have seen growth in our care of patients with advanced heart failure. We regularly use implanted pulmonary artery pressure monitors (CardioMems) to reduce hospitalization of high-risk patients with heart failure.

Education of the next generation of leaders in cardiovascular care is a core mission of the cardiovascular division. Recruitment of new trainees was entirely virtual. Our current fellows were pivotal in hosting the virtual visits. To the surprise of many, the virtual interviews were a great success and well received by all. Choosing a fellowship is an important decision that is difficult to make without seeing the location. We were pleased on match day to welcome four outstanding candidates to our program. Important accomplishments of our current fellows include: Dr. Nicole Habel completed her dissertation for a German equivalent of a PhD. Dr. Margaret Infeld was awarded the “Clinical Research Award in Honor of Mark Josephson and Hein Wellens” by the Heart Rhythm Society. This award will support a research year focused on the study of electrically targeted Bachmann’s bundle atrial pacing as a non-pharmacologic therapy for atrial fibrillation. Our fellows were co-authors on seven peer-reviewed manuscripts published during the past academic year. An outstanding class of fellows (Drs. Denkmann, Phuong, Habel, and Messerschmidt) graduated from our program. Drs. Denkmann and Phuong joined our interventional cardiology training program, Dr. Habel joined our electrophysiology training program, and Dr. Messerschmidt will begin practice in South Dakota.

Scholarly activities complete the tripartite mission of the division. Despite limitations imposed by the COVID-19 pandemic, clinical and translational research remained active with both investigator-initiated research as well as participation in multicenter clinical trials. The faculty of
the cardiovascular division authored 49 scholarly publications during the past fiscal year. Two faculty received individual honors this year: Dr. Philip A. Ades was awarded the Distinguished Mentor Award, Department of Medicine. Dr. Harold L. Dauerman was awarded Dean’s Research Award for Clinical Trial Research.

Faculty

**David J. Schneider, MD**
Professor of Medicine  
Director, Cardiovascular Division  
Medical Director, Cardiovascular Services, University of Vermont Health Network  

Research and clinical interests  
- thrombosis  
- platelet biology  
- atherosclerosis/ischemic heart disease  
- preventive cardiology

**Aderonke Adeniyi, MD**  
Assistant Professor of Medicine  

Research and clinical interests  
- advanced heart failure  
- pulmonary hypertension

**Philip A. Ades, MD**  
Philip A Ades MD Endowed Professor of Cardiovascular Prevention  
Director, Cardiac Rehabilitation  

Research and clinical interests  
- cardiac rehabilitation  
- preventive cardiology  
- ischemic heart disease

**Trace C. Barrett, MD**  
Assistant Professor of Medicine  
Associate Director, Echocardiography Laboratory  

Research and clinical interests  
- echocardiography  
- heart failure  
- peri-procedural TEE for structural heart disease

**Kevin Carey, MD**  
Assistant Professor of Medicine  

Research and clinical interests  
- coronary intervention  
- cardiac catheterization  
- ischemic heart disease
Daniel Correa de Sa, MD
Assistant Professor of Medicine
Research and clinical interests
- clinical cardiac electrophysiology
- catheter ablation
- pacemaker and ICD implantation

Harold L. Dauerman, MD
Professor of Medicine
Network Director, Interventional Cardiology, UVM Health Network
Research and clinical interests
- coronary and structural heart intervention
- vascular biology, PCI pharmacology
- systems of care and regional quality improvement programs

Timothy Garrand, MD
Interventional Cardiology
Clinical interests
- ischemic heart disease
- cardiac catheterization
- coronary intervention

Eric Gauthier, MD
Assistant Professor of Medicine
Medical Director, Cardiovascular Services, University of Vermont Health Network CVPH
Director, Cardiovascular Catheterization Laboratory CVPH
Clinical interests
- ischemic heart disease
- cardiac catheterization
- coronary intervention

Prospero B. Gogo, MD
Associate Professor of Medicine
Director, Cardiovascular Catheterization Laboratory
Director Interventional Cardiology Training Program
Research and clinical interests
- cardiac catheterization
- percutaneous coronary intervention

Tracy Hagerty, MD
Assistant Professor of Medicine
Clinical interests
- general cardiology
syncope
pacemaker and defibrillator therapy

Ahmed Harhash, MD
Assistant Professor of Medicine
Research and clinical interests
- advanced heart failure and cardiac transplant
- cardiac critical care
- mechanical circulatory support

William E. Hopkins, MD
Attending Cardiologist
Director, Adult Congenital Heart Disease Program
Clinical interests
- adult congenital heart disease
- genetic heart disease
- valvular heart disease
- echocardiography

Roger Ishac, MD
Assistant Professor of Medicine
Clinical interests
- ischemic heart disease
- cardiac catheterization
- coronary intervention

Friederike Keating, MD
Professor of Medicine and Radiology
Director, Nuclear Cardiology and Stress Laboratory
Program Director, Cardiovascular Fellowship
Research and Clinical interests
- multimodality imaging
- medical education
- cardiovascular disease in women
- inpatient general cardiology

Robert J. Kelm, Jr., PhD
Associate Professor of Medicine
Associate Professor of Biochemistry
Research interests
- molecular biology of smooth muscle cell and myofibroblast differentiation
- mechanisms of cardiac and vascular remodeling
- regulation of smooth muscle gene expression
- biochemistry of protein-nucleic acid interactions
role of ssDNA/RNA-binding proteins in heart disease and cancer

Sherrie Khadanga, MD
Assistant Professor of Medicine
Assistant Director, Cardiac Rehabilitation
Research and clinical interests
- cardiac rehabilitation
- women and cardiovascular disease
- systolic heart failure

Rony Lahoud, MD
Assistant Professor of Medicine
Research and clinical interests
- cardiac catheterization
- coronary intervention
- structural heart disease
- renal injury and recovery with coronary and structural procedures
- optimal platelet therapy post coronary intervention

Martin M. LeWinter, MD
Professor Emeritus of Medicine and Molecular Physiology and Biophysics
Research and clinical interests
- heart failure and cardiomyopathies
- cardiac hypertrophy
- heart failure with preserved ejection fraction
- effects of hypertension and diabetes on the myocardium pericardial disease

Robert Lobel, MD
Assistant Professor of Medicine
Research and clinical interests
- clinical cardiac electrophysiology
- catheter ablation
- pacemaker and ICD implantation

Daniel Lustgarten, MD
Professor of Medicine
Research and clinical interests
- clinical cardiac electrophysiology
- catheter ablation
- pacemaker and ICD implantation
- His bundle pacing

Richard L. Page, MD
Professor of Medicine
Dean, Robert Larner, M.D. College of Medicine
Research and clinical interests
- sudden cardiac death
- automated external defibrillators
- pharmacological therapy for atrial fibrillation

Peter S. Spector, MD
Professor of Medicine
Director, Cardiac Electrophysiology
Director, Electrophysiology Fellowship Training Program
Research and clinical interests
- catheter ablation
- atrial fibrillation

Jeffrey L. Spees, PhD
Professor of Medicine
Professor of Neurological Sciences
Director, Stem Cell Core Facility
Research interests
- adult stem cell biology
- regenerative medicine
- repair of cardiac and CNS tissues
- vascular biology

Edward Terrien, MD
Associate Professor of Medicine
Director, Ambulatory Cardiovascular Clinic
Research and clinical interests
- coronary intervention
- cardiac catheterization
- peripheral vascular intervention
- ischemic heart disease

Nathaniel Thompson, MD
Assistant Professor of Medicine
Research and clinical interests
- clinical cardiac electrophysiology
- catheter ablation
- pacemaker and ICD implantation

Marc D. Tischler, MD
Associate Professor of Medicine
Director, Echocardiography Laboratory
Co-Director, Cardiac MRI Laboratory
Research and clinical interests
- magnetic resonance imaging and echocardiography
- valvular heart disease
- ischemic heart disease
- congestive heart failure

Michael J. Toth, PhD
Professor of Medicine
Research interests
- skeletal muscle physiology
- cardiac rehabilitation
- aging
- physical disability
- muscle disuse

Peter VanBuren, MD
Associate Professor of Medicine
Associate Professor of Molecular Physiology and Biophysics
Director, Cardiovascular Care Unit
Director, Heart Failure Program
Associate Director Cardiovascular Training Program
Research and clinical interests
- specialist in heart failure
- echocardiography
- nuclear cardiology

Matthew W. Watkins, MD
Professor of Medicine
Director of Interventional Cardiology
Research and clinical interests
- interventional cardiology
- ischemic heart disease

Joseph Winget, MD
Associate Professor of Medicine
Research and clinical interests
- clinical cardiac electrophysiology
- catheter ablation
- pacemaker and ICD implantation

Magdalena Zeglin, MD
Assistant Professor of Medicine
Research and clinical interests
- coronary artery disease
• interventional cardiology

Pierre Znojkiewicz, MD  
Assistant Professor of Medicine  
Research and clinical interests  
• clinical cardiac electrophysiology  
• catheter ablation  
• pacemaker and ICD implantation

Fellows

Jan Denkmann  
Binnie Desai  
Nicole Habel  
Bhisham Harchandani  
Margaret Infeld  
Cecile King  
Matthew Kluge  
Anand Muthu Krishnan

Carrie Mahurin  
Krina Patel  
Newton Phuong  
Brennan Rigby  
Toishi Sharma  
Kramer Wahlberg  
Tyler Wark  
Joshua Zimmer

Nurse Practitioners and Physician Assistants

Cara DiMasi, APRN  
Gregory Ehle, PA  
Catherine Falduto, APRN  
Alison Farr, APRN  
Nadia Fletcher, DNP  
Susan Ann Hamlyn-Prescott, APRN

Ann Laramee, APRN  
Margaret MacDonald, NP  
Allison Mack, APRN  
Cheryl McNeil, APRN  
Deborah Moyer, APRN  
Nancy Strong, APRN

Graduate Students, Post-doctoral Fellows, MD PhD Students

Philip A. Ades, MD  
Will Middleton  
Chair of Master’s Committee for Will Middleton: Association of Psychosocial Factors with Attendance and Fitness Improvement in Cardiac Rehabilitation

Harold L. Dauerman, MD  
Althea Tapales, LCOM medical student 2nd year, summer research student 2021.

Robert J. Kelm, Jr., PhD  
Andrea Foote, PhD student

Martin M. LeWinter, MD  
Matthew Kluge, MD
Jeffrey L. Spees, PhD  
John McInnis, Ph.D.  
Nicholas Toker, M.S.  
Benjamin Liebman, M.S.  
Lucy Greetham, B.S.

Michael J. Toth, PhD  
Deena Snoke, PhD, Postdoctoral Fellow

**Leadership in Professional Societies**

**Prospero B. Gogo, MD**  
Vermont Chapter of the American College of Cardiology, Past Governor  
ABIM Item Writing Task Force for Interventional Cardiology  
ABIM Standards-setting for Interventional Cardiology

**Friederike Keating, MD**  
American College of Cardiology, Governor for VT  
American College of Cardiology, Chair, Choosing Wisely Workgroup  
American College of Cardiology, Member, ACC Program Director and GME Steering Council  
American College of Cardiology, Member, Membership Committee  
American College of Cardiology, Organizer, Virtual Learning Panel  
ASNC, Member, Health Policy Council

**Robert J. Kelm, Jr., PhD**  
UVM Institutional Biosafety Committee, Chair  
Graduate Studies Committee, Department of Biochemistry, Chair  
Biochemistry Graduate Program, Director

**Sherrie Khadanga, MD**  
American Heart Association GPM & EPI Molecular Determinants of Cardiovascular Health Committee of the Council on Genomic and Precision Medicine, Member  
American Heart Association CLCD Exercise, Cardiac Rehabilitation, and Secondary Prevention Committee of the Council on Clinical Cardiology, Member  
American Association of Cardiovascular and Pulmonary Rehabilitation Early Career Committee, Member  
American College of Cardiology Leadership Academy, Member  
American Association of Cardiovascular and Pulmonary Rehabilitation Research Committee, Member

**Rony Lahoud, MD**  
American College of Cardiology, Fellow
Society of Cardiac Angiography and Intervention, Fellow, Member of Communications Steering Committee

**Martin M. LeWinter, MD**
Council on Clinical Cardiology, American Heart Association, Fellow
American College of Cardiology, Fellow
Council on Circulation and Basic Cardiovascular Sciences, American Heart Association
Association of University Cardiologists, Fellow
International Academy of Cardiovascular Sciences, Fellow

**Daniel Lustgarten, MD**
Heart Rhythm Society, Fellow
American College of Cardiology Political Action Committee, Member
Paul Dudley White Society - Cardiology Division, Member

**Richard L. Page, MD**
Heart Rhythm Society, Past President
Association of Professors of Cardiology, Past President
American Clinical and Climatological Association, Councilor

**Peter S. Spector, MD**
Heart Rhythm Society, Fellow

**Matthew W. Watkins, MD**
Northern New England Cardiovascular Disease Study Group, Executive Board
Green Mountain Care Board, Vt. State health care reform program, Advisory Board
Green Mountain Care Board, Vt. State health care reform program for specialty practice, Technical Advisory Board

### Editorships and Editorial Boards

**Philip A. Ades, MD**
Consulting Editor (former Editor-in-Chief): *Journal of Cardiopulmonary Rehabilitation and Prevention*
Reviewer: *Circulation, JACC, JAMA Cardiology, JACC Heart Failure, Journal of Cardiopulmonary Rehabilitation and Prevention*

**Harold L. Dauerman, MD**
Associate Editor, *Journal of the American College of Cardiology*

**Prospero B. Gogo, MD**
Reviewer: *American Journal of Cardiology and Coronary Disease*
Rony Lahoud, MD
Editorial Board: *Cardiovascular Revascularization Medicine*

Martin M. LeWinter, MD
Section Editor: *Myopericardial Disease, Up-To-Date*
Editorial Boards: *Circulation, Heart and Vessels, Experimental and Clinical Cardiology, Current Cardiology Reviews, Heart Failure Reviews*

Daniel Lustgarten, MD
Editorial Board: *Journal of Innovations in Cardiac Rhythm Management*

Richard L. Page, MD
Editorial Board: *American Heart Journal*
Section Editor: *Cardiac Arrhythmias, Up-To-Date*

Peter S. Spector, MD
Guest Editor: *Journal of the American College of Cardiology: Clinical Electrophysiology*

Marc D. Tischler, MD

Michael J. Toth, PhD

**Study Sections, National Advisory Boards, National/International Invited Talks**

Philip A. Ades, MD
DSMB member for MACRO Study, Daniel Forman MD PI, University of Pittsburgh (NIH supported)

Harold L. Dauerman, MD
Data Safety and Monitoring Board for 5 National trials of renal denervation, percutaneous mitral intervention, percutaneous tricuspid intervention and coronary atherectomy Via the Harvard Clinical Research Institute and the Cardiovascular Research Foundation.

Friederike Keating, MD
American Medical Association, CPT Advisor for the American Society of Nuclear Imaging

Sherrie Khadanga, MD
Current State of Spontaneous Coronary Artery Dissection (SCAD) Research and Practice in Cardiac Rehabilitation. AACPVR National Meeting Workshop. Sept 30, 2020..
Rony Lahoud, MD
Society of Cardiac Angiography and Intervention, Invited Speaker at 2019-2020 Annual Meetings

Martin M. LeWinter, MD
Consultant, Kiniksa Therapeutics
Consultant, SOBI Orphan Therapeutics
“Acute and Recurrent Pericarditis”, lecture for Kiniksa Therapeutics sponsored conference

Richard L. Page, MD
FDA Circulatory System Devices Panel, Past-Chair

Peter S. Spector, MD
Cardiology grand rounds: OUHSC 12/10/2020
“What to do when pulmonary vein isolation fails?”: Rhythm interventions online European conference
Chair, live cases: Rhythm interventions online Minimising X-rays during AF ablation
Chair, live case: Rhythm interventions online Ablation Technology – Live Case Arash Arya, Leipzig Heart Centre, Leipzig, DE

Jeffrey L. Spees, PhD
Review panel to select Canadian Research Chairs
Ph.D. Thesis Defense Review Panel; Melbourne University, Australia
Invited Lecturer, American Epilepsy Society Meeting 2020

Michael J. Toth, PhD
National Institutes of Health, ZRG1 F10B-B, Ad hoc
National Institutes of Health, ASG, Ad hoc

Magdalena Zeglin, MD

Major Faculty Honors and Awards

Philip A. Ades, MD
Distinguished Mentor Award, Department of Medicine, 2021

Harold L. Dauerman, MD
Dean’s Research Award for Clinical Trial Research, 2021
Jeffrey L. Spees, PhD
Samba BioLogics, Inc. selected for UVM/Celdara Medical DRIVEN Program, 2020
US10,632,153 Compositions and Methods of Cardiac Tissue Repair (Inventor), 2020
US10,675,329 Composition comprising Connective Tissue Growth Factor (CTGF) for cardiac tissue repair (Inventor), 2020

Grants

Philip A. Ades, MD
NIH: The National Institute of General Medical Sciences: Vermont Center on Behavior and Health (COBRE Grant). P20GM103644
Role: Associate Director
Case Management vs Financial Incentives on Cardiac Rehabilitation Participation in Low SES Individuals. R33HL143305
Role: Co-Principal Investigator

Harold L. Dauerman, MD
TAVR EXPAND trial, National Executive Committee—A comparison of medical therapy versus early TAVR in patients with asymptomatic or moderate aortic stenosis. Sponsor Medtronic.
Budget: TBD

NO-AKI Pilot Trial: Ultrasound mediated modulation of urinary oxygen and nitric oxide among patients undergoing TAVR (with R. Solomon and R. Lahoud): Funded by Sonogenix, 49,000 dollars.

ACURATE NEO: A 3rd Generation TAVR valve pivotal trial. Site principal investigator. Sponsored by Boston Scientific—estimated grant funding: 250,000 dollars.

Friederike Keating, MD
NIH 1U01HL133817-01
Myocardial Ischemia and Transfusion (MINT)
Role: Site Principal Investigator

Robert J. Kelm, Jr., PhD
Atomwise, Inc. AIMS Award A19-363
Identification of Small Molecules Targeting Purine-Rich Element Binding Protein B
Role: Principal Investigator

UVM Cancer Center Pilot Project 2020
Evaluation of Purine-Rich Element Binding Protein B as a Druggable Target in Cancer Therapy
Role: Principal Investigator
Sherrie Khadanga, MD
VCBH COBRE P20GM103644 ($250k/year)
Role: Project Director

CVRI Early Career Grant ($9500)
Role: Principal Investigator

Rony Lahoud, MD
XIENCE 90: A Safety Evaluation of 3-month DAPT After XIENCE Implantation for HBR patients
Role: Site Principal Investigator

Shockwave Medical, Inc.
SHOCKWAVE Coronary Lithoplasty Study (Disrupt CAD II)
Role: Site Principal Investigator

Martin M. LeWinter, MD
NIH RO1 HL118524
Rilonacept Inhibition of Interleukin-1 Alpha and Beta for Recurrent Pericarditis: A Pivotal Symptomatology

Inflammatory cytokines in pericardial fluid from patients with pericarditis

Daniel L. Lustgarten, MD, PhD
Cross X4 15-406: Evaluate the presence of PNS in pts who receive a BSCI device with SJM LV Lead
Role: Sub Principal Investigator

PSR M09-167: Product Surveillance Registry
Role: Sub Principal Investigator

Protego DF4 15-353: Determine the effectiveness of Biotronik’s DF4 lead
Role: Principal Investigator

Quadripolar Pacing Post Approval Study M13-013: Evaluate the acute and chronic performance of a Quadripolar CRT-D device system in a patient population indicated for cardiac resynchronization therapy
Role: Principal Investigator

TEMPO 15-008: To evaluate the effect of GS-6615 compared to placebo on the overall occurrence of appropriate ICD interventions (antitachycardia pacing [ATP] or shock) in subjects with ICD or CRT-D during the first 24 weeks of treatment
Role: Principal Investigator
MR-HIS 16-244: Retrospective multicenter analysis of His bundle pacing outcomes
Role: Principal Investigator

HIS Bundle Pacing Registry 00000048: The HBP Registry is a prospective, observational, multi-center registry
Role: Principal Investigator

Peter S. Spector, MD
Epicardial Mapping of Atrial Fibrillation
Sponsor: Coremap
Role: Sub-Investigator

Study CathVision Cube® Monitoring Assessment
Sponsor: CathVision
Role: Sub-Investigator

Jeffrey L. Spees, PhD
R01 HL132264
“Vascular protection by HGF/IgG protein complexes that activate RYK”
4/01/2016-3/31/2021
Role: Principal Investigator

GreenSeal Cannabis Company, Ltd.
“Cloning of Cannabis biosynthesis enzymes”
Role: Principal Investigator

Michael J. Toth, PhD
NIH R01 AR065826
Skeletal Muscle Atrophy and Dysfunction in Human Cancer
Role: Principal Investigator

NIH R01 AG050305
Skeletal Muscle Atrophy and Dysfunction Following Total Knee Arthroplasty
Role: Principal Investigator

NIH R01 HL143452
Effects of exercise on inflammation-induced lung and muscle injury in critical illness (NEXIS-FLAME)
Role: Principal Investigator (multi-PI grant)

R01 AR0767
The adaptive response of skeletal muscle, bone, and cartilage to severe knee trauma involving ACL disruption with and without concomitant injury to the meniscus
Role: Co-Investigator

Matthew W. Watkins, MD  
Capricor, Inc.  
Randomized, Double-Blind, Placebo-Controlled Phase I/II Study of the Safety and Efficacy of Intracoronary Delivery of Allogeneic Cardiosphere-Derived Cells in Patients With an Anterior Myocardial Infarction and Ischemic Left Ventricular Dysfunction (ALlogeneic Heart STem Cells to Achieve Myocardial Regeneration, ALLSTAR) – Enrollment ongoing

Role: Site Principal Investigator

NIH/Renova Therapeutics  
Adenovirus Vector Type 5 (Ad5.hAC60 Expressing Human Adenylyl Cyclase Type 6) Administered via Intracoronary Catheterization – enrollment completed 2014, study ongoing

Role: Site Principal Investigator

Joseph Winget, MD  
AdaptResponse 15-066: Test the AdaptivCRT algorithm in CRT indicated patients

Role: Principal Investigator

QP Excel 17-0163: Confirm safety and effectiveness of the Sentus QP LV lead and BIOTRONIK CRT-D.

Role: Principal Investigator

Publications

Ades PA, Balady GL, Berra K, Franklin BA, Froelicher V, Hamm LF, Kaminsky LA, Williams MA  


Dauerman HL, Ibanez BJ. The Edge of Time in Acute Myocardial Infarction; J Am Coll Cardiol 2021; 77: 1871–1874.


Division of Dermatology

Glenn Goldman, MD, Director
http://www.med.uvm.edu/medicine/Dermatology

Dermatology at the University of Vermont Medical Center is a division of the Department of Medicine. Our division employs seven general dermatologists, three surgical dermatologists, a pediatric dermatologist and five experienced physician assistants. We provide general dermatology care to the community as well as specialized consultation with particular strengths in the treatment of psoriasis, cutaneous lupus, dermatomyositis, cutaneous lymphoma, and all forms of skin cancer including melanoma. Despite the COVID pandemic we saw 27,000 patients in 2020, and in 2021 we are at full capacity. While telemedicine has been useful for some of our services, most of our services must be in person either for examination or a procedure. Our staff has done an exceptional job guiding our patients through this challenging year. This year we have begun a collaboration with Four Seasons Dermatology to provide Mohs surgery for modest lesions in an office setting. This collaboration maintains our strong relationship with the community dermatologist while providing patient-friendly outpatient procedures for our mutual patients.

This year we said goodbye to David Chen, who joined a private practice in Connecticut. We have hired a new physician, Dr. Katelyn Shea who sees general, surgical, and cosmetic dermatology at UVMMC and preforms outreach in Ticonderoga.

Dr. Glenn Goldman finished his year as President of the American College of Mohs Surgery. He published a new textbook Techniques in Dermatologic Surgery. He continues with many committee memberships and chairs with the American College of Mohs Surgery, The American Society for Dermatologic Surgery, and the American Academy of Dermatology.

Joseph Pierson, MD is the Dermatology Residency Director. He provides a very high level of academic service and serves as Vice Chair for Faculty Development for the Department of Medicine. Dr. Pierson publishes broadly and has been appointed to the Editorial Board of the American Academy of Dermatology. He is very active in the Association of Professors in Dermatology.

Melanie Bui, MD, PhD, is our most active research dermatologist and is exceptionally-dedicated to student and resident research. In the last three years she has mentored 17 medical students. She is our quality leader and this year during the pandemic she initiated and completed a far-reaching overhaul of our melanoma staging, tracking and follow-up system. She is engaged in multiple committees at the medical center, regionally and nationally. Dr. Bui has taken on our public face with multiple appearances in the local media for public education about sun and the
skin as well as women’s dermatological issues. In the past year she and our students and residents had 12 posters, presentations and virtual presentations.

Christine Weinberger, MD and Todd Holmes, MD have developed a stellar national reputation in the area of skin cancer surgery and reconstruction. As a team we have as strong of a Mohs surgery unit as exists anywhere in the country. In conjunction with surgical oncology, otolaryngology, radiation oncology and oncology we hold regular tumor board conferences, coordinating care and assuring the highest level of service for our patients. Both Dr. Holmes and Dr. Weinberger have lectured extensively at our national meetings and have outstanding reputations as developing leaders in the field.

Keith Morley, MD continues to offer broad ranging pediatric dermatology services. He provides pulsed dye laser treatment of vascular birthmarks, simple excisions, and diagnostic skin biopsies with sedation in the Comfort Zone if needed. He lectures broadly in the community. Dr. Morley continues as a Pediatric Contributing Editor for Visual Dx, a patient and physician-centered telehealth and public health web-based application. He serves on the Society of Pediatric Dermatology’s Education Committee and the Maintenance of Certification Committee. This year he was appointed to the Advisory Board Representative of the Vermont Dermatology Society to the American Academy of Dermatology (AAD). As always he will be volunteering with Camp Discover, a camp for children with chronic skin conditions.

Dr. Ankit Gor sees patients both at UVMMC and in Plattsburgh at CVPH. He has facilitated NY state telehealth services and is working with the E-consult team to improve the process for outside consultations.

Dr. Aliza Fisher and Dr. Julia Barker perform an extremely well-received outreach at CVMC. Our patients in the center of the State now have access to the excellence of these two outstanding UVMMC dermatologists.

Evan Piette, MD is an invaluable addition to our faculty. He has established a clinic caring for many of our more complex medical dermatology patients and is working with the Rutland Community Health Center to provide teledermatology services.

Each month we host medical students for clinical or research rotations in dermatology. On average, one or two University of Vermont medical students per year choose to enter the field of dermatology. Due to the tremendously-competitive nature of dermatology as a specialty, each student requires careful guidance and assistance in procuring a residency. As usual, last year our two UVM students interested in dermatology matched at excellent training programs.

We continue to volunteer regularly at the Community Health Center Free Clinic. Each month, an attending physician supervises the residents and Physician Assistants in the provision of free care to patients at the Community Health Center in Burlington. This provides a service to the community and is also a superior experience for our residents and fellow, who are able to participate in the care of an underserved population.
Faculty

Glenn Goldman, MD
Rogers and Nancy Follansbee Professor of Medicine
Director, Dermatology Division
Director, Mohs Surgery and Dermatologic Oncology Fellowship
President, American College of Mohs Surgery
Board of Directors, American Society for Dermatologic Surgery
- Mohs Surgery and Reconstructive Surgery
- Management of high-risk skin cancers
- Cosmetic Dermatology
- Procedural Dermatology Education
- National Health Care Policy
- Continuing Medical Education
- International Dermatologic Surgery

Julia Barker, MD
Assistant Professor of Medicine
- General and Surgical Dermatology
- CVMC Berlin Outreach

Melanie Bui, MD, PhD
Assistant Professor of Medicine
- General Medical Dermatology
- Immunology
- Dermatology Research

David Chen, MD
Assistant Professor of Medicine
- Mohs Surgery and Reconstruction
- Cosmetic Dermatology
- Medical Student Education

Keith Morley, MD
Assistant Professor of Medicine
- Pediatric Dermatology
- Pediatric Laser Surgery

Aliza Fischer, MD
Assistant Professor of Medicine
- General and Surgical Dermatology
- CVMC Berlin Outreach

Ankit Gor, MD
Assistant Professor of Medicine
• General and Surgical Dermatology
• CVPH Plattsburgh Outreach

**Todd Holmes, MD**
Professor of Medicine
• Surgical Dermatology and Cutaneous Oncology
• Mohs and Reconstructive Surgery
• Resident and Fellow Education
• International Education in dermatologic surgery

**Joseph Pierson, MD, Col US Army**
Associate Professor of Medicine
• General Medical Dermatology
• Residency Education in Dermatology
• Faculty Development

**Evan Piette, MD**
Assistant Professor of Medicine
• General and Surgical Dermatology
• Teledermatology
• Middlebury Outreach

**Katelyn Shea, MD**
Assistant Professor of Medicine
• General Medical Dermatology

**Christine Weinberger, MD**
Associate Professor of Medicine
• Mohs Surgery and Reconstruction
• Mohs Surgery for Melanoma
• Skin Cancer in Solid Organ Transplant Recipient

**Fellow MSDO 2020-2021**
Julien Beattie-Lanoue, MD, PGY-5

**Residents**
Lucy Ledyard, MD, PGY-4
Alexandra Charos, MD, PGY-4
Daniel Bax, MD, PGY-3
Dustin Taylor, MD, PGY-3
Carli Whittington, MD, PGY-3
Santana VanDyke, MD, PGY-2
Nate Bombardier, MD, PGY-2

Physician Assistants:

Anne Klein, PA
Anne is a surgical PA, and works with the dermatologic surgeons daily. She trained for years with a plastic surgeon and has exceptional procedural skills. A testament to her skill is that physicians refer patients to her regularly for surgical excisions. She is also active in teaching students and in mentoring those with potential interest in becoming physician assistants.

Rich Callahan, PA
Rich is experienced in dermatology and provides both medical and minor surgical dermatology care. He brings with him many patients from his former practice. Rich has a particular interest in dermoscopy and has championed the use of this technique for the evaluation of pigmented lesions.

Emilie Rainville, PA
Emilie was our medical assistant prior to going to PA school. She has trained with us and hits the ground running with a strong background in dermatology.

Morgen Rogers, PA
Morgen is our newest PA. She started out in dermatology as a medical assistant and we are very pleased to have her back on our team as a physician assistant.

Deb Roseman, PA:
Deb has been with us for over 16 years. She has decades of experience as a dermatology physician assistant and has a following of thousands of patients for whom she provides care. She is active in teaching students and in mentoring those with potential interest in becoming physician assistants.

Editorships and Editorial Boards
Dr. Morley  Editor for Pediatric Section of VisualDx
Dr. Pierson  Editorial Board, Journal of the American Academy of Dermatology

Institution Service
Dr. Goldman  Chair, Medicine Credentials Committee

Leadership in Professional Societies:

Vermont Dermatologic Society
Dr. Goldman  President
Dr. Bui  Treasurer

American Academy of Dermatology
Dr. Goldman  Chair of the Coding and Reimbursement Committee
Dr. Morley  AAD Advisory Board Representative for the Vermont Dermatological Society

American Society for Dermatologic Surgery
Dr. Goldman  Board of Directors
Dr. Goldman  Chair of the ASDS International Traveling Mentorship Committee
Dr. Holmes  Chair of the ASDS ITMP Fellowship Subcommittee

Dermatology Foundation
Dr. Goldman  Leader’s Society State / Regional Chair
Dr. Pierson  Leader’s Society State / Regional Vice Chair

American College of Mohs Surgery
Dr. Goldman  President

Faculty, Resident and Fellow Peer-Reviewed Publications


Whittington CP, Stowman AM, Morley KW. Chondrodermatitis nodularis helicis in a teenager caused by frequent headphone use. Dermatol Online J. 2021;27(1).

The 2020-2021 academic year has been very stressful both emotionally physically and occupationally. Despite this we have continued the trend of increased research and patient care opportunities for the Division of Endocrinology and Diabetes. The Division serves the residents of Vermont and upstate New York with a goal of delivering seamless, system-wide care within the University of Vermont Health Network for endocrine-related disorders.

We now have 5 physicians, 2 nurse practitioners, and 3 certified diabetes educators provide consultative and ongoing care through our outpatient clinic at Tilley Drive, which has approximately 14,000 visits per year (4th in the Department of Medicine); the Division also operates a consult service at the UVM Medical Center and continues to develop outreach endocrine services at our Network partner hospitals, CVPH in Plattsburgh, NY and Central Vermont Medical Center, Berlin, VT. during the Covid pandemic and the cyberattack we have continued to have very robust patient care opportunity. Doing patient care virtually will allow us to expand our telemedicine program.

The Division continues to make progress in expanding services to patients in the areas of osteoporosis/metabolic bone disease under the aegis of Jennifer Kelly, DO, Director of the Osteoporosis/Metabolic Bone Disease Clinic. She has recently been named the Associate Chief of the Division of Endocrinology and Diabetes, Dr. Kelly, a renowned clinician and researcher in the area of metabolic bone disease, joined our faculty in 2017. Working with Dr. Elizabeth Ames from Orthopedics, they are establishing a fracture liaison service for patients to receive proper evaluation and treatment after sustaining an osteopathic fracture. The DXA Bone Density Machine moved into the Endocrinology clinic on Tilley Drive in early 2020. This has increased our ability to focus on screening and prevention for at-risk patients, even with the restrictions imposed by the pandemic and the cyberattack.. Dr. Kelly is also involved in a research project with Dr. David Lunardini from Orthopedics that examines the use of abaloparatide in healing C2 fractures.

Kaitlyn Barrett, DO joined our faculty in mid-August 2019 following completion of her Fellowship in Endocrinology and Diabetes with the Division. As the Division’s newest Assistant Professor, Dr. Barrett continues the excellent patient care and education of trainees that she demonstrated during her fellowship; she also is active in our metabolic bone disease enterprise. A very exciting endeavor is the new “Cardio- metabolic" clinic which is a joint undertaking with Endocrinology and Cardiology.

With our existing expertise in telemedicine we have been able to successfully establish a robust and enhanced telemedicine practice with social distancing due to the restrictions placed upon our system because of the Covid-19 pandemic.
Our research initiatives continue at both the clinical and basic levels. Dr. Matthew Gilbert leads the way in clinical trials. He and his collaborators are working on cardiovascular outcome trials with oral GLP-1RAs, analysis of cardiovascular outcome trials with GLP-1 RA and SGLT2 in the elderly, and the use of GLP-1 RA in patients with renal insufficiency.

Data from a Division-initiated analysis of the cost-effectiveness of inpatient diabetes consultation (Drs. Schnure and Kelsey Sheahan (our 2nd year Fellow) was published and was presented at the American Diabetes Association meeting in June 2020. The study has shown a substantial decrease in length of stay in patients who receive an early Endocrine consultation. Other ongoing clinical research projects, including a study investigating the various treatment modalities for enteral and parenteral feeding for inpatients (Drs. Gilbert) are proceeding.

The Division’s basic research efforts with Drs. Tom Jetton and Jay Gupta continue to focus on pancreatic islet biology, diabetes, and metabolic disease and, in collaboration with Jana Kraft, PhD, on the effects of bioactive lipids on gut microbiota eubiosis, energy metabolism, and aging. Dr. Kraft is a lipid biochemist with expertise in human nutrition; in addition to her basic research with Drs. Jetton and Gupta, she is collaborating with Matthew Gilbert, DO, MPH on a clinical study of dietary dairy lipids and diabetes risk.

Our faculty participate in educational activities at multiple levels. Clinical faculty work closely with medical students and residents rotating through the Endocrine Service and they train two Fellows in Endocrinology each year. Dr. Matthew Gilbert has been on the forefront of the simulation lab and continues a vigorous presence in preclinical medical student education. Dr. Kelly supervises the Metabolic Bone Conference series and ensures the quality and diverse topic range of this monthly lecture program. She also works with Drs. Nathan and Gilbert to be sure that the Endocrine lectures provided weekly to Endocrine fellows, faculty, and staff are focused on a wide range of Endocrine pathologies and provide the most up-to-date standards of care. The Division’s educational mission is also evidenced by faculty participation in LCOM initiatives, including Dr. Schnure, Dr. Gilbert and Dr. Kelly’s service with The Teaching Academy, which promotes education and scholarship of faculty members.

The faculty’s medical education focus also extends beyond UVM/UVMMC through CME-accredited, day-long conferences available to healthcare providers in our region. Dr. Kelly was the course director for and a presenter at “Osteoporosis Update for Primary Care,” held in September 2019; Dr. Barrett also presented a program at this conference. Dr. Schnure was the course director for the “2nd Annual Diabetes for Primary Care Conference,” held in November 2019. This conference included local and nationally recognized experts in treating diabetes, heart disease, and peripheral neuropathy.

Dr. Schnure was named by Dr Isabelle Desjardins, the Chief Medical Officer at UVMMC, to serve as chairman of the newly formed Diabetes Oversight Task Force. The Task Force has been charged with enhancing the care of our patients with diabetes throughout our network. The Task Force expedites the work of Dr. Gilbert, who continues to serve as Chair of the Inpatient Glycemic Control Committee, whose mission includes education of hospital physicians and staff on glucose management strategies.

Dr. Jetton continues to serve as Director of the graduate course, Science Communication, which has become part of the required curriculum for the Cellular, Molecular and Biomedical Sciences Program. Dr. Jetton also continues to teach classes in human structure and function to medical students and was instrumental in updating of curriculum. He also
works one-on-one in his lab to train undergraduate, graduate, and medical students in research
techniques.

Clearly, the 2020-2021 year was a busy, productive, and very challenging one for the
Division of Endocrinology and Diabetes and the programmatic and research strides made this
year ensure the continued effectiveness of our service and education missions.
Faculty

Joel J. Schnure, MD
Professor of Medicine
Director, Division of Endocrinology and Diabetes
Chair, Diabetes Oversight Task Force, UVMMC
Member, The Teaching Academy
Member, DOM Operations and Efficiency Committee
Lead, Diabetes Chronic Care Initiative
Lead, Task Force on In-patient Diabetes Education
Member, In-patient Diabetes Initiative
Research and clinical interests:
- Diabetes care for Type 1, Type 2, and diabetes in pregnancy
- Thyroid disease
- Pituitary disease
- Integration of home glucose monitoring into electronic medical records
- Fructosamine as an alternative to HbA1C in pregnancy
- Web-based algorithms in titration of basal insulin in adults with Type 2 diabetes
- HbA1c and fructosamine in early pregnancy: correlation to 24-28 week OGTT
- Cost-effectiveness of endocrine consultation in inpatients with diabetes

Kaitlyn Barrett, DO
Assistant Professor of Medicine
Research and clinical interests:
- Metabolic bone disease and osteoporosis
- Thyroid disorders
- Diabetes mellitus
- Male hypogonadism

Matthew P. Gilbert, DO, MPH
Associate Professor of Medicine
Director, Endocrinology Fellowship Program
Chairman, Inpatient Diabetes Management subcommittee of P and T
Research and clinical interests:
- Diabetes mellitus
- Thyroid disorders
- Thyroid cancer
- Male hypogonadism

Dhananjay (Jay) Gupta, PhD
Research Assistant Professor
Research interests:
- Pathogenesis of type 2 diabetes and islet biology
- Epigenetic regulation of adaptive islet beta cell response with changing metabolic milieu

**Thomas L. Jetton, PhD**  
Professor of Medicine  
Research interests:  
- Nutrient and neural regulation of β-cell mass homeostasis  
- Diet influence on intestinal microbiota and autoimmune disease susceptibility  
Teaching interests:  
- Human Structure and Function  
- Gastrointestinal Physiology  
- Regulation of Energy Homeostasis  
- Science Communication

**Jennifer Kelly, DO, FACE**  
Associate Professor of Medicine  
Associate Chief of the division of Endocrinology and diabetes  
Chairman of the Faculty Engagement Committee of the Department of Medicine  
Director of the Metabolic Bone Program  
Member, The Teaching Academy  
Research and clinical interests:  
- Osteoporosis  
- Metabolic bone disorders, including Paget’s Disease of Bone  
- Diabetes mellitus

**Muriel H. Nathan, MD, PhD**  
Professor of Medicine  
Research and clinical interests:  
- Diabetes (including use of insulin pumps) and PCOS  
- Thyroid cancer, thyroid nodules, and hyper- and hypothyroidism  
- Pituitary tumors and dysfunction  
- Adrenal disorders, hirsutism  
- Inpatient improvement projects funded by the James M. Jeffords Institute for Quality ~  
  SQ and IV insulin forms, insulin pump, DKA
Fellows

Shreya Amin, MD (F4, will begin training 7/1/2020; expected completion 6/30/2022)
Samantha Steinmetz-Woods

Nurse Practitioners and Certified Diabetes Educators

Ann Gotham, ANP, MSN, ScM
Chassidy Deslauriers, MBA, RD, CDE
Mary Spence, RN, CDE
Linda Tilton, MS, RD, CDE
Laurie Davignon, RN, APRN

Graduate Students, Post-doctoral Fellows, MD PhD Students

None

Endowed Professorships

Leadership in Professional Societies

Matthew P. Gilbert, DO, MPH
Vermont Board of Osteopathic Physicians and Surgeons, Secretary as of November 2019

Dhananjay (Jay) Gupta, PhD
American Diabetes Association
American Society for Biochemistry and Molecular Biology
Boston-Ithaca Islet Club

Thomas L. Jetton, PhD
Boston-Ithaca Islet Club, senior member
Jennifer J. Kelly, DO, FACE
National Osteoporosis Foundation, member of the Ambassadors Leadership Council
American Association of Clinical Endocrinologists national organization:
Task Force to Update the AACE/ACE Postmenopausal Osteoporosis Clinical Practice Guidelines
Membership Committee, member
Bone and Parathyroid Disease State Network Committee, member
Thyroid Disease State Network Committee, member
American Association of Clinical Endocrinologists, New England Chapter, Board of Directors
International Society of Clinical Densitometry, Web Advisory Committee member
New England Bone Club, 2018 and 2019 Annual Meeting Planning Committee member
American Association of Clinical Endocrinologists (AACE) national organization, Bone and
Parathyroid Disease State Network Committee member and Thyroid Disease State
Network Committee memberships
Chair of the 2023 International Society of Clinical Densitometry annual
meeting planning committee
American Association of Clinical Endocrinologists (AACE) New England Chapter,
Board of Directors
National Osteoporosis Foundation Ambassadors, Leadership Council member
New England Bone Club, 2018 Annual Meeting planning committee member
American Association of Clinical Endocrinologists (AACE) national organization,
Thyroid and Parathyroid Disease State Network Committee member
American Association of Clinical Endocrinologists (AACE) New England Chapter,
Course director for Regional Meeting, Lebanon, NH.
American Association of Clinical Endocrinologist (AACE) New England Chapter,
Board of Directors and Co-chair of the 2021 Annual Meeting Planning committee.
member for Diabetes Day for Primary Care Providers
New England Endocrine Alliance Bylaws Revision Task Force, member
American Association of Clinical Endocrinologists Diversity, Equity and Inclusion
Task Force, member
International Society of Clinical Densitometry, Annual Meeting Planning
Committee member, Ask the Experts member.
Diversity, Equity and Inclusion Committee, member

Muriel H. Nathan, MD, PhD
New England Thyroid Club, senior member
Editorships and Editorial Boards

Dhananjay (Jay) Gupta, PhD
Editorial Board: *Journal of Endocrinology, Diabetes and Obesity*

Thomas L. Jetton, PhD
Reviewer: *Diabetes, Endocrinology, PNAS, Metabolism, Diabetologia, American Journal of Physiology, PLoSOne*

Joel J. Schnure, MD
Editorial Board: *Coronary Artery Disease*

Study Sections and Federal Advisory Boards

Dhananjay (Jay) Gupta, PhD
Grant Review Panel, Diabetes UK

Thomas L. Jetton, PhD
Federal review boards:
- EMNR-Study Section (SBIR and STTR), ad hoc reviewer
- NIDDK/NIH, ad hoc reviewer
- NIH (S10 SIG/SIFAR), ad hoc reviewer
Major Faculty Awards

None

Grants and Research

Dhananjay (Jay) Gupta, PhD
Department of Medicine (UVM) IGP Research Award
Vitamin D Signaling and Bioavailability in Pre-Clinical Models of Type 2 Diabetes (1/15/2020-1/15/2021)
Role: Principal Investigator

Jennifer J. Kelly, DO, FACE
Shire/Takeda
PARADIGMH (Physicians Advancing Disease Knowledge in Hypoparathyroidism): A Registry for Patients With Chronic Hypoparathyroidism (2018-present)
Role: Site Principal Investigator

Role: Site Principal Investigator

Osteoporosis Center DXA Data Repository (2019-present)
Role: Site Principal Investigator

Publications


Gilbert MP. Screening for Diabetic Retinopathy. Healio Educational Lab Case Series. https://cme.healio.com/endocrinology/education-lab/ace-the-case/2019/03_march/ace-the-


Abstracts

Gilbert MP, DeVoe SG, Nevares A, Teneback CC. Improving Health Care Transitions for Young Adults at the University of Vermont Medical Center. Poster presented at University of Vermont Medical Center Department of Medicine Scholarly Quality Improvement Poster Session; May 8, 2020; Virtual Presentation.


Presentations

Joel J Schnure, MD
Sheahan K, Atherly A, Dayman CE, Schnure JJ. The Impact of Rapid Inpatient Endocrinology Consultations on Hospital Outcomes. American Diabetes Association 80th Scientific Session,

Kaitlyn Barrett, DO


Matthew P. Gilbert, DO, MPH
“Diabetes Management: Beyond Glycaemic Control” presented at the Global Diabetes Summit held in Frankfurt, Germany, October 4-5, 2019.

Jennifer J. Kelly, DO, FACE
Course Director for “Osteoporosis Update for Primary Care” and speaker for “What’s New in Osteoporosis 2019,” presented September 27, 2019 at the UVM Davis Center.

“Boning Up on Bone Health” at the 25th annual Vermont 50+ Expo held February 15, 2020 at the University Mall in South Burlington.

Joel J. Schnure, MD
Course Director for "Diabetes 2019: Updates on Management and Treatment," the 2nd annual Diabetes for Primary Care Conference; attendees were primary care providers and clinicians from Vermont, New Hampshire, Maine, and upstate New York. November 8, 2019; Burlington, Vermont.
The Gastroenterology and Hepatology Division at the University of Vermont College of Medicine/University of Vermont Medical Center has eight Gastroenterologists, one Advanced Practice Provider and four GI Fellows.

2020-21 has been a tough year for the gastroenterology division, the medical center, and the health care system in general. We continued to navigate the COVID pandemic and endured a Cyber-attack. Fortunately, our two senior fellows have decided to continue to practice within our Network. Dr. Jason Heffley has accepted a faculty position at UVMMC and Dr. Brendan Everett will be practicing at Central Vermont Hospital.

During the COVID pandemic the cohesion, compassion, comradery, ingenuity and grit of the UVMMC gastroenterology division has never been so evident and needed. These traits were evident in our care of patients, our role as educators, and in the research, we conducted.

We have continued to provide exceptional gastrointestinal care to our community through this period. In recognition of this, Dr. Ganguly was awarded the distinguished clinician award this year. There is a balance between protecting patients and staff from infection and continuing to provide both the important urgent and preventive gastrointestinal care for our patients. We have continued to provide both urgent and preventive GI care, but have made the workplace as safe as possible through appropriate protective equipment, smart scheduling and encouragement of vaccination. Telehealth visits have also played an important role in our Division this year and will likely continue for the foreseeable future. During the COVID pandemic, they have allowed for quality patient care while limiting infectious exposure. They also have allowed improved access to care for patients distant from the Medical Center.

Education of Fellows and Residents remains strong. Dr. Ferrentino continues to be our Fellowship Director. Education continues to be a priority for all members of our division. An example of this is that Dr. Reddy was awarded the Outstanding Teacher of the Year, Subspecialty Medicine Award. In addition, Dr. Ganguly and Dr. Reddy wrote a teaching curriculum to aide in teaching the Primary Care Residents. The challenges of maintaining social distancing resulted in us conducting conferences this year using teleconferencing. Although teleconferencing has limitations, it did allow us to stay connected and include physicians in our conferences that would otherwise have been difficult to include. Likely, this platform will be used in the future as we develop into a Network Department and try to reach learners at affiliated hospitals. During this period, we were able to continue our regular educational conferences using teleconferencing, as well as adding gastroenterology morning report conferences to enhance the educational experience of our fellows and residents.

Research efforts this year were challenging due to the COVID pandemic. Despite this, we continued to publish articles in both peer reviewed journals and in Stat-of-the-Art textbooks on topics such as gastrointestinal stenting, peptic ulcer disease, helicobacter pylori, jaundice, gut neurobiology and inflammatory bowel disease.
In summary, the Gastroenterology and Hepatology Division at the University of Vermont remains strong. The unprecedented challenges of this time have strained our system like no other. Through this time, it is clear that the greatest strength we have is our human capital. Our unit has always been about cohesion, collegiality, providing state-of-the-art compassionate care to patients in need, educating the future wave of health care providers, and having scientific inquisitiveness. These are the characteristics that are supporting us through this difficult time and because of our collective talents, the Gastroenterology Unit remains strong. I am very proud to be part of this Division.

Richard Zubarik, MD

**Nicholas Ferrentino, MD**
Associate Professor of Medicine
Director, GI Fellowship Program
- Chronic Viral Hepatitis
- Management of Cirrhosis
- General Gastroenterology and General Hepatology
- Therapeutic Endoscopy

**Joseph Frasca, MD**
Assistant Professor of Medicine
Director of Inflammatory Bowel Disease
- Inflammatory Bowel Disease
- Crohn’s Disease
- Ulcerative & Microscopic Colitis
- Celiac Disease
- Biliary Tract Disorders

**Eric Ganguly, MD**
Professor of Medicine
Director of Endoscopy
- GI Oncology
- Endoscopic Ultrasound and GI Malignancies
- Barrett’s Esophagus and Radiofrequency Ablation for Barrett’s Esophagus
- Therapeutic Endoscopy
- GERD
- Inflammatory Bowel Disease

**Steven Lidofsky, MD, Ph.D.**
Professor of Medicine and Pharmacology
Director, Hepatology
Co-Director, Gastrointestinal Research
Director, MD-Ph.D. Program
- Cirrhosis
- Hepatocellular Carcinoma
- Hepatitis C
- Nonalcoholic Fatty Liver Disease
Gary Mawe, Ph.D.
Professor of Neurological Sciences; Adjunct Professor of Medicine and of Pharmacology
- Neural Regulation of the Digestive Tract
  (understanding changes in enteric neural circuits that contribute to altered gut function in inflammatory bowel disease and irritable bowel syndrome)

Sheela Reddy, MD
Assistant Professor of Medicine
- Alcohol Related Liver Disease
- Viral Hepatitis
- Nonalcoholic Fatty Liver Disease
- Autoimmune Liver Diseases
- Role of Liver Transplantation in Patients with End Stage Liver Disease

Jane Roberts, MD, Ph.D.
Assistant Professor of Medicine
- Functional Bowel Disorders
- Intestinal Motility and Manometry
- Eosinophilic Esophagitis
- Irritable Bowel Syndrome (IBS)
- Dyspepsia
- Celiac Disease
- GERD

Doris Strader, MD
Professor of Medicine
- Viral Hepatitis
- Hepatitis C
- Nonalcoholic Fatty Liver Disease
- Eosinophilic Esophagitis
- Cirrhosis
- General Hepatology and General Gastroenterology

Richard Zubarik, MD
Professor of Medicine
Director of Gastroenterology & Hepatology Division
- GI Oncology
- Pancreatic Disorders
- Dysphagia
- Inflammatory Bowel Disease
- Therapeutic Endoscopy and EUS
- Endoscopic Ultrasound

Maia Stamieszkin, NP
Nurse Practitioner
- IBS
- FODA Map
Leadership in Professional Studies:

Steven Lidofsky, MD, Ph.D.
- AASLD Leadership
- Public and Clinical Policy Committee
- Abstract review hepatobiliary neoplasia for Liver Meeting and DDW
- Appointed as Vice Chair, American Association for the Study of Liver Diseases Public Policy Committee (January 2021-December 2021)

Gary Mawe, Ph.D.
- Director, Anatomical Gift Program, The University of Vermont, College of Medicine, 2015-present.
- Planning Committee and C-chair, NIH NIDDK Workshop on Brain Gut interactions in Neurodegenerative Diseases, 2019-2021
- Fundamentals of Neurogastroenterology – Co-Chair Basic Science Committee, The Rome Foundation. The purpose of this committee is to develop a summary of the research and literature to date related to functional gastrointestinal disorders, and then offer guidelines or recommendations to help advance future research. 2021-present
- Chair, Journal Management Committee, Neurogastroenterology and Motility, 2019-present

Editorships and Editorial Boards:

Steven Lidofsky, MD, Ph.D.
- Ad hoc reviewer for American Journal of Gastroenterology
- Ad hoc reviewer for Clinical Therapeutics
- Ad hoc reviewer for Hepatology

Gary Mawe, Ph.D.
- Editorial Board: Frontiers in Autonomic Neuroscience, 2010-present
- Editorial Board: Frontiers in Gastrointestinal Sciences, 2011-present
- Editorial Board: Journal of Visualized Experiments, (JoVE), 2011-present

Doris Strader, M.D.
- Reviewer, American Journal of Gastroenterology, Clinical Gastroenterology & Hepatology, 2009-Present
- Reviewer, Digestive Diseases and Sciences 2010-present
- Reviewer, AASLD publication, Hepatology Journal 2010-present
Richard Zubariik, M.D.

- Editorial Board Member, World Journal of Gastroenterology 2012-present
- Reviewer, Gastrointestinal Endoscopy 2004-present
- Reviewer, Evidence-Based Gastroenterology 2001-present
- Reviewer, Journal of Gastroenterology 2006-present
- Reviewer, Archives of Internal Medicine 2010-present
- Reviewer, Digestive Diseases and Sciences 2010-present
- Reviewer, International Journal of Inflammation 2012-present
- Reviewer, American Society for Gastrointestinal Endoscopy Publications Committee
- Reviewer, Journal of Endocrinological Investigation, 2015-Present

Study Sections and Federal Advisory Boards:
Steven Lidofsky, MD, Ph.D.

- Vermont Department of Health Steering Committee for Viral Hepatitis
- Appointed to Editorial Board, World Journal of Hepatology

Doris Strader, MD

- Director of Data Safety Monitoring Board for NIH Hepatitis B Research Network, 2011-Present

Grants – list all active by faculty member, PI
Steven Lidofsky, MD, Ph.D.

- Steven Lidofsky (PI of subaward)
  NIH U54 GM115516 NNE CTR Network (July 2019- June 2021) Harnessing the electronic health record in primary care for hepatocellular carcinoma surveillance in cirrhosis
- UVMHN Medical Group (Steven Lidofsky, Co-PI with Andrew Hale) Empowering hepatitis C management in primary care by electronic linkage to specialty guidance (January 2020 - December 2021)

Pharmaceutical Sponsored Research
Steven Lidofsky, MD, Ph.D.

- Intercept: A phase 3 randomized long-term placebo-controlled multicenter study evaluating the safety and efficacy of obeticholic acid in subjects with nonalcoholic steatohepatitis (NASH)
- Target Pharmasolutions: A multi-center study of the management and outcomes of subjects with nonalcoholic fatty liver disease
- Intercept: A phase 2 randomized, long-term placebo-controlled multicenter study evaluating the safety and efficacy of obeticholic acid in subjects with cirrhosis due to NASH
- Celgene: A phase 2 multicenter study of the JNK inhibitor CC-90001 for non-alcoholic steatohepatitis (NASH) with advanced hepatic fibrosis or cirrhosis
- Gilead (Steven Lidofsky, Site PI) A phase 3 randomized controlled trial for the FXR agonist cilofexor for noncirrhotic primary sclerosing cholangitis (2020-2022).

Joseph Frasca, MD

- Site Principal Investigator. A Phase 3, Multicenter, Randomized, Efficacy Assessor-Blinded study of Risankizumab Compared to Ustekinumab for the Treatment of Adult Subjects with Moderate to Severe Crohn’s Disease who have failed anti-TNF therapy. AbbVie-Crohn’s
Jane Roberts, MD, PhD

- Site Principal Investigator. A Phase 3, Multicenter, Multinational, Randomized, Double Blind, Placebo Controlled Induction and Maintenance Study to Evaluate the Efficacy and Safety of CC-93538 in Adult and Adolescent Subjects with Eosinophilic Esophagitis. Celgene

Other Research
Richard Zubarić, MD

- Pancreatic Cancer Screening Employing CA 19-9 and Targeted Endoscopic Ultrasound (EUS) in a High Risk Population
- A Pilot Study to Determine if the Endoscopic Dilation Monitor can Create Real-Time Pressure/Volume and Pressure/Time Curves during Endoscopic Balloon Dilation of Esophageal Strictures, and if these Curves Vary According to Stricture Etiology.
- Choledocholithiasis After Normal Diagnostic Cholaniogram or Endoscopic Clearance of Bile Duct
- The Incidence and Risk Factors for Development of Ascending Cholangitis Following Common Bile Duct Stent Placement

Publications – peer reviewed, chapters, etc. (not abstracts)

Rupal H Patel, Brendan T Everett, Dmitriy Akselrod, Joseph D Frasca, Stuart R Gordon


The Division of General Internal Medicine specializes in diagnosing, treating, and preventing medical problems across generations from adolescents to our oldest adults. Our general internal medicine physicians work with their teams in the outpatient clinics to care for a large proportion of patients in our area. Throughout the COVID-19 pandemic we have worked hard to maintain our high standards of care by utilizing telemedicine and safe in-person protocols. This allowed our patients to still get the care they needed without exposing them to potential risk of contracting the virus.

Our faculty physicians teach the principles of general internal medicine to medical students, resident physicians, professional colleagues, and community members. We hold several leadership roles at the College of Medicine and are proud to serve an integral role in our vibrant academic medical center.

Service:
Our clinical service includes approximately 42 physicians, nurse practitioners and physician assistants. We have four outpatient sites in Chittenden County.

In the office setting, patients are seen for a variety of acute and chronic medical problems, preventive care, health maintenance and preoperative exams. Our group has been a national leader in developing innovative models for care delivery. All four outpatient sites have been consistently recognized as NCQA as level 3 Patient Centered Medical Homes. In the era of new payment structures for health care, we have been transitioning to more value-based care models from the traditional fee-for-service model.

This year our general internal medicine faculty and providers will conduct approximately 70,000 patient encounters via in-person and virtual care (telemedicine and e-visits).

Our faculty and providers are extensively engaged in service at the state and national levels. A few examples include:

Past-President of the New England Society of General Internal Medicine, Membership Chair of the New England Society of General Internal Medicine, member of the State Board Advisory Committee to the USMLE, member of the Vermont Commissioner of Health’s Task Force on Opioid Prescribing, USMLE Composite Committee member,
Vermont Medicaid Drug Utilization Board members, OneCare Vermont Regional Clinician Representative, OneCare Population Health Committee Representative, Vermont Blueprint for Health Executive Committee, Councilor of the Vermont Chapter of the Alpha Omega Alpha Medical Honor Society

**Education:**
Division faculty members play a pivotal role in teaching and directing courses for a broad audience of clinical learners in the outpatient and inpatient settings. Our educational programs cover a wide spectrum, from communication skills to clinical skills, and from pre-medical students to post-graduate continuing medical education. This past year our faculty hosted nearly all of the third year outpatient internal medicine clerkship students throughout our four clinic sites when COVID-19 limited travel to other teaching locations.

At the UVM College of Medicine, our faculty member’s act as preceptors, instructors, and facilitators for courses at all levels of the Vermont Integrated Curriculum. Additionally, we serve as course directors for Convergence (Dr. Patricia King), Outpatient Medicine Clerkship (Dr. Roberta O’Brien and Dr. Dennis Beatty). Administrative leadership positions at the College of Medicine include the Associate Dean for Primary Care (Dr. Charles Maclean).

We also play key roles in the clinical education of the Internal Medicine residents. Dr. Halle Sobel is an Associate Program Director. Our Adult Primary Care Burlington site houses the Internal Medicine Resident Clinic – where the Internal Medicine residents practice under the supervision of our preceptors and firm leaders in a busy clinic environment. Dr. Richard Pinckney and Dr. Halle Sobel lead the curricular coordination for the Resident Clinic.

**Research**
Many of our clinical faculty conduct research via the General Internal Medicine Research unit and provide mentorship, resources, and a scholarly community that supports faculty from many departments in their investigations. We have a diversity of scholarly interests among our faculty including the impact of primary care redesign and mental health integration, narcotic prescribing practices in the outpatient setting, innovative models in medical education and curriculum development, the use of portable technology in hypertension control, the role of inflammation in chronic disease management and disparities of health in rural populations.

**Faculty**

*Adult Primary Care - Burlington*

Claudia Berger, MD (Site Clinical Leader)
Assistant Professor of Medicine

Amy Dinitz, MD
Assistant Professor of Medicine

Michael Latreille, MD
Assistant Professor of Medicine

Benjamin Littenberg, MD (see Division of GIM-Research)
Professor of Medicine
Director, Division of General Internal Medicine - Research

Scott Luria, MD
Associate Professor of Medicine (Emeritus)

John Miller, MD
Assistant Professor of Medicine

Richard Pinckney, MD, MPH
Associate Professor of Medicine
Co-Director, Internal Medicine Resident Clinic

Halle Sobel, MD
Associate Professor of Medicine
Associate Program Director, Internal Medicine Resident Program

Emily Hadley Strout, MD
Assistant Professor Medicine

Adult Primary Care - Essex

Tania Bertsch, MD
Associate Professor of Medicine (Emeritus)

Gary Gilmond, MD
Assistant Professor of Medicine

Diane Haddock, MD (Site Clinical Leader)
Assistant Professor of Medicine

Patricia King, MD, PhD
Professor of Medicine
Convergence Course Director, Vermont Integrated Curriculum, UVM College of Medicine
Charles MacLean, MD (see Division of GIM-Research)
Professor of Medicine
Associate Dean for Primary Care
  • Health services research and epidemiology

Roberta O’Brien, MD
Associate Professor of Medicine
Director, Outpatient Internal Medicine Clerkship

Christopher Wargo, MD
Assistant Professor of Medicine

Adult Primary Care – South Burlington

Dennis Beatty, MD
Associate Professor of Medicine
Associate director, Outpatient Internal Medicine Clerkship

Jennifer Gilwee, MD
Associate Professor of Medicine
Division Chief, General Internal Medicine

Jason Gramling, MD
Assistant Professor of Medicine

Emily Greenberger, MD
Assistant Professor of Medicine

Diane Hakey, MD
Assistant Professor of Medicine

Sara Roberts, MD
Assistant Professor of Medicine

Marie Sandoval, MD (Site Clinical Leader)
Associate Professor of Medicine

Elizabeth Wahlberg, MD
Assistant Professor of Medicine

Susan Weinstein, DO
Assistant Professor of Medicine
Adult Primary Care - Williston

Anne Breña, MD
Assistant Professor of Medicine

Lucy Miller, MD (Site Clinical Leader)
Assistant Professor of Medicine

Jonathan Benjamin Wilfong, MD
Assistant Professor of Medicine

Other Division Members:

Timothy Plante, MD, MHS
Assistant Professor of Medicine

Adam Atherly, Ph.D.
Director of the Health Services Research Center
Professor of Medicine

Nurse Practitioners, Physician Assistants, and Mental Health Specialists:

Adult Primary Care - Burlington
Tracey Niquette, NP

Adult Primary Care - Essex
Sarah Bushweller, PA
Alison Hall, PA
David Spence, PA

Adult Primary Care - South Burlington
Diane Bell, NP
Rachel Brodie, PA
Sarah McLaughlin, NP
Desiree Price, NP

Adult Primary Care - Williston
Genevieve Flanders, PA
Meagan Goodwin, NP

Leadership in Professional Societies:
- Patricia King, MD, PhD
  Chair, Composite Committee of United States Medical Licensing Exam

Halle Sobel, MD
- Immediate Past-President, New England Chapter of Society of General Internal Medicine

Sarah Bushweller, PA
- Board of Directors for the Physician Assistant Academy of Vermont
- Vermont representative to the House of Delegates, American Academy of Physician Assistants

Dennis Beatty, MD
- AAMC Council of Faculty and Academic Societies, Senior Representative from Larner College of Medicine

**Editorships and Editorial Boards:**

Halle Sobel, MD
- Reviewer: Annals of Internal Medicine, AAIM, SGIM, JGIM, AJM

**Study Sections and Federal Advisory Boards:**

Patricia King, MD, PhD
- Federation of State Medical Boards Advisory Council to the United States Medical Licensing Examination
- National Board of Medical Examiners Standards Setting Committee for USMLE Step 1

**Major Faculty Awards:**

- Bloomfield Early Career Professorship in Cardiovascular Research- Timothy Plante, MD, MHS
- Distinguished Educator, LCOM Teaching Academy- Halle Sobel, MD

**Grants**

Halle Sobel, MD
- SAMSHA grant
  Grant Number: 1 H79 TI082571-01
  Project Title: Increasing the Pipeline of MAT Prescribers: DATA Waiver Training
for All Vermont Medical Students at The Larner College of Medicine

Benjamin Littenberg, MD, Richard Pinckney, MD (co-investigators)

Emily Hadley Strout, MD, Elizabeth Wahlberg, MD
UHC Fund Grant: Integration of Mentorship and At the Elbow Support for Panel Management in an IM Resident Clinic

Timothy Plante, MD (primary investigator)
Loan Repayment Award (Plante) 10/1/2020-9/30/2022 0 Cal. mo.
NIH-NHLBI $92,811
Loan Repayment Award for project “The inflammatory basis of hypertension”
As with the career development award above, this project will assess the role of inflammation on the development of hypertension. This proposal will provide significant renumeration for loan repayment to support these efforts.
Role: PI

Bloomfield Early Career Professor in Cardiovascular Research 7/1/2020 – 6/30/2022 0.6 Cal. mo.
UVM $150,000
The inflammatory basis of hypertension
This named professorship provides funds to augment the planned K08 application, The inflammatory basis of hypertension. This project will extend on the existing REGARDS infrastructure to assess the role of novel inflammatory biomarkers in the development of hypertension.
Role: PI

Timothy Plante, MD as co-investigator:
6 NU38OT000280-03-02 (Zakai) 9/01/2020 – 7/30/2021 0.6 Cal. mo.
CDC $1,400,000
Understanding risk factors and burden of COVID-19 related thrombosis and or bleeding complications
High rates of thrombosis and bleeding have been reported in hospitalized COVID-19 patients leading to clinical uncertainty as to the benefit of anticoagulation. Pooling data from 9 hospital systems and over 10,000 hospitalized COVID-19 patients, we will determine the absolute and relative
rates of thrombosis and bleeding in COVID-19 patients as well as the association of antithrombotic medications with outcomes.

Role: Co-investigator

R01HL141290 (Zakai) 5/15/2019 – 2/28/2023 1.44 Cal. mo.
NIH/NHLBI $446,833

Thrombosis and Bleeding Risk Assessment in Medical Inpatients

Our goals in two complementary healthcare systems (located at the University of Vermont and the University of Washington), are to develop and validate robust models to assess hospital-acquired bleeding and VTE risk, and determine the period of increased risk for bleeding and VTE after discharge from the hospital. With these aims, we will make healthcare safer by allowing providers to tailor VTE prevention strategies to those at highest risk of VTE and lowest risk of bleeding.

Role: Co-investigator

U01NS041588 (Judd S; Howard G, Manley J, Cushman M,)
02/15/2018-03/31/2023 1.8 Cal. mo.
NIH - NINDS $441,530

VCID and Stroke in a Bi-Racial National Cohort

Initiated in 2002, we are following 30,000 black and white adults for incident stroke, cognitive function, VCID and incident risk factors. We will study reasons for racial disparities in risk factor evolution over 10 years. I am a co-investigator and coordinate the reviews of new ancillary studies.

Role: Co-investigator

Publications – peer reviewed, chapters, etc. (not abstracts)


• Integrating Addiction Medicine into Undergraduate Medical Education: The Time is Now. E Riser, LA Holterman, S Maruti, JR Brooklyn, SG Devoe, BJ Tompkins, J Drouin and HG Sobel. Substance Abuse, 1-8, 2021 Apr 06


Geriatric Medicine
Michael LaMantia, MD, Division Chief

https://www.med.uvm.edu/medicine/geriatrics

The Division of Geriatric Medicine specializes in providing world-class, personalized medical care to older adults in a variety of settings, including nursing homes, rehabilitation facilities, clinics, and patient homes. We strive to get to know our patients as individuals and recognize the important role that their family, friends, caregivers, and community play in their identity and in their care. We are excited to work with our colleagues across Vermont and Northern New York State to ensure that our area remains one of the best places in the country to age in place.

Our faculty physicians teach geriatric medicine to medical students, resident physicians, professional colleagues, and community members. We hold numerous leadership roles at the College of Medicine and are proud to serve an integral role in our vibrant academic medical center.

Service:
Our 7 physicians and 2 nurse practitioners care for many geriatric patients in Chittenden County, attending to elderly patients living independently, in assisted living, in local nursing homes, and at hospice. Our Geriatric Medicine Division does consultations for the care of older adults through our Adult Primary Care Williston location.

Education:
Our geriatricians play a key role in teaching medical students, residents, undergraduates, graduate students, and providers across the region in issues affecting older adults. In addition, we speak widely on topics in aging in public venues across the region; we are interviewed frequently by newspaper and television reporters on the subject; and we provide evidence-based guidance to partners in community organizations as well as local and state government.

We teach the following groups of learners at the University of Vermont and University of Vermont Medical Center:

Undergraduate Students: Our faculty frequently teach in courses at the undergraduate level, often in courses led by our colleagues in the University of Vermont Center on Aging. In addition, our partners at the Center on Aging frequently work with us to find mentor and volunteer experiences for undergraduates interested in experiences in aging.
Medical Students: We teach medical students in the Doctoring in Vermont Course, the second-year Human Development and Reproductive Health Course, in clerkships, and in special electives.

Medical Residents: All internal medicine residents complete a required rotation in geriatric medicine where they evaluate patients in a variety of care settings under the supervision of our faculty.

Graduate Students: Our faculty have offered seminar courses in the Graduate College on topics related to aging through the Clinical and Translational Sciences program.

Research
Our faculty conduct research on a wide variety of topics affecting older adults in partnership with and with the support of the University of Vermont Center on Aging. Particular areas of focus include care of patients with cognitive impairment including delirium and dementia, care of older adults with chronic kidney disease, and care of older adults in the emergency department.

Faculty - Geriatric Medicine

Zail Berry, MD
Associate Professor of Medicine
Medical Director, The Arbors
- Geriatric Medicine
- Key Research Area: Optimizing care of elders in long-term care facilities

Amelia Gennari, MD
Associate Professor of Medicine
Associate Chief for Clinical Affairs
- Geriatric Medicine

Elizabeth Rosy Hill, MD
Assistant Professor of Medicine
Medical Director of Green Mountain Nursing Facility
- Geriatric Medicine

Michael LaMantia, MD
Associate Professor of Medicine
- Chief, Division of Geriatric Medicine
- Holly and Bob Miller Chair of Memory and Aging
- Director, University of Vermont Center on Aging
Isaura Menzies, MD  
Associate Professor of Medicine  
Associate Chief for Education  
Medical Director, Elderwood at Burlington Nursing Home  
  • Geriatric Medicine  

Alexandra Messerli, MD  
Assistant Professor of Medicine  
  • Geriatric Medicine  

Susanna Thach, MD  
Assistant Professor of Medicine  
  • Geriatric Medicine  

Nurse Practitioners, Physician Assistants, and Mental Health Specialists:  

Birchwood Nursing Center (Skilled Nursing Facility)  
Amber Snow, NP  

Elderwood at Burlington Nursing Home (Skilled Nursing Facility)  
Elisa Vautier, NP  

Publications – peer reviewed, chapters, etc. (not abstracts)  

A. Executive Summary

The Division of Hematology and Oncology has had a successful clinical and academic year. The division has 18 faculty members located at the UVMMMC campus with additional faculty members at CVMC (2), Porter Medical Center (1) and CVPH (1). Faculty in the division care for patients with oncologic and hematologic malignancies, benign hematology, as well as thrombotic and bleeding disorders. We were fortunate to have Dr. Jaqueline Poston join us this spring as a new faculty member focused on benign hematology. In addition, Drs. Holmes and Zakai were promoted to full professor with tenure. Several faculty also received awards including Dr. Zakai (Department of Medicine Mentor Award); Dr. Dittus (Department of Medicine Distinguished Clinician Award); Dr. Adrianzen-Herrera (CVRI Young Investigator as well as the ASH Clinical Research Training Institute Award); Dr. Cushman (Gender Equity Outstanding Achievement in Medicine LCOM, Meritorious Achievement Award from the American Heart Association, and induction into the Association of American Physicians).

Several members of the faculty were appointed to new leadership positions this year- highlights include: Dr. Cushman, Vice Chair for Emerging Research DOM; Dr. Ahmed (TDT leader-GU-UVM CC, beginning October 2021); Dr. Barry (TDT leader H&N UVM CC); Dr. Dittus (new Director of Integrative and supportive Services UVM CC); Dr. Wood (Deputy Director, Cancer Control Program- ALLIANCE for clinical trials); Dr. Khan (Medical Director of the HemOnc Clinic) and Dr. Kaufman (3 year term, ALLIANCE Board of Directors). In addition to these new positions, faculty continued to hold other key leadership position in the UVM Cancer Center including Dr. Holmes (interim Co-Director); Dr. Wood (Associate Director Cancer Control and Population Health Sciences Program), Dr. Ades (Medical Director of the Clinical Trial Office); Dr. Greenblatt (Molecular Mechanisms of Malignancy Program Co-Leader) and Dr. Kaufman (Co-leader of the Host Factor and Tumor Progression Program). Dr. Cushman continued to serve on the Board of Directors of the Cardiovascular Research Institute at the University of Vermont and Dr. Barry
serves as a member of the Education and Professional Development Working Group, LCOM Gender Equity Initiative.

The clinical care enterprise is comprised of faculty, 6 APPs, 3 genetic counselors and over 50 nurses and staff in the outpatient UVMMC clinic. In 2020-2021 the division provided over 22321 outpatient visits, 3214 new patients visits in addition to 11,270 infusions and 352 procedures (at the UVMMC campus). Inpatient services offered by the division include a hematology consult service, an oncology consult service and a heme-malignancy inpatient service. In addition to specialized hematology services and subspecialty oncologic care, the division also provides unique services to our patient population including:

- The Thrombosis & Hemostasis Program, (Dr. Cushman, Director)
- Multidisciplinary Oncology Clinics (in collaboration with surgery & radiation oncology)
- The Apheresis Program, (Dr. Sprague, Director)
- The VT Regional Hemophilia Treatment Center (federal designation, Dr. Holmes, PI)
- The FACT accredited Autologous Stem Cell Transplant Program (Dr. Sprague, Director)
- The High Risk Breast Program, a clinical research program, (Dr. Wood, PI)
- Familial Cancer Genetics, (Drs. Wood and Greenblatt, PI’s with 3 cancer geneticists)
- Oncology Rehabilitation, (Dr. Dittus, Medical Director)
- Lymphedema Care and Expertise, (Dr. O’Brien, PI)
- The Prevention of Cancer Associated Thrombosis Program (Dr. Holmes PI)

Research within the division focuses on epidemiologic and translational research as well as clinical trials. Despite the challenges of COVID and the cyberattack, 10 new grants were funded with Hematology/Oncology faculty serving as the PIs including an NCI U24 (Greenblatt); 1 CDC grant (Zakai); 5 NNECOS awards (Ades, Ahmed, Rehman, Adrianzen-Herrera, Wood), 1 UVM Cancer Center award (Wood); 1 NNECTR (Holmes); 1 collaborative grant with the Vermont State Department of Health (Dittus). Investigators within the Division receive funding from clinical trials (national cooperative group and pharmaceutical trials), NIH NCI, NHLBI, and AHA. The division faculty and fellows published 82 manuscripts in the last year and were involved in numerous local, national and international abstract presentations. A highlight for the division was the preparation and publication of a manuscript in Journal of Oncology Practice (JCOP) titled “Cancer Care in the Wake of a Cyberattack: How to Prepare and What to Expect”.

The division also maintains an active fellowship program comprised of 6 fellows under the direction of Dr. Julian Sprague (Program Director) and Dr. Molly Barry (Associate Program Director). Specialized tracks in thrombosis & hemostasis, familial genetics and breast cancer are available to fellows and promote the academic careers of interested fellows. Fellows maintain an active clinical schedule and are engaged in research. Division highlights in education include Dr. Molly Barry was accepted in to the ASCO Education Scholars Program and Dr. Sakshi Jasra participated in the Teaching Academy’s Medical Education Fellowship.
**Faculty**

**Jose Acostamadiedo, MD—Clinical Practice Physician**  
Physician at CVPH  
Research and clinical interests: Lung Cancer and Melanoma

**Steven Ades, MD, MSc – Associate Professor**  
Leader, UVM Medical Upper Gastrointestinal Oncology Transdisciplinary Team  
Co-Leader, UVM Medical Center Genitourinary Oncology Transdisciplinary Team  
Medical Director, UVM Cancer Center Clinical Trials Office  
Member, University of Vermont Cancer Center Clinical Trials Executive Committee  
Member, University of Vermont Cancer Center Protocol Review and Monitoring Committee  
Member, University of Vermont Medical Center Cancer Service Line Leader Committee  
Member, UVM Medical Center Hematology/Oncology Fellowship Program Evaluation Committee  
Member, UVM Medical Center Hematology/Oncology Fellowship Clinical Competency Committee

Research and clinical interests: GI and GU cancers, supportive care and thrombosis in malignancy

**Diego Adrianzen Herrera, MD—Assistant Professor**  
Member, Protocol Review and Monitoring Committee, UVM Cancer Center  
Member, Search Committee, Malignant Hematology Clinical Scholar Pathway  
Member, Search Committee, Hematopathologist, Clinical Scholar Pathway  
Member, Grand Rounds Committee, Division of Hematology and Oncology  
Member, Hematology/Oncology Fellowship Applicant Review and Interview Committee

Research and clinical interests: Clinical correlation and epidemiologic significance of clonal hematopoiesis, myelodysplastic syndrome and cardiovascular disease. Novel diagnostic, therapeutic or prognostic markers in acute myeloid leukemia. Developing and implementing a portfolio of clinical trials in malignant hematology at UVM

**Shahid Ahmed, MD, MBBS—Assistant Professor**  
Member - University of Vermont Cancer Center  
Member - UVMMC Protocol Review and Monitoring Committee (PRMC)  
Member - UVM Health Network Covid-19 Hematology/Oncology Re-entry committee  
Member - UVMMC Hematology/Oncology Grand Rounds Committee  
Leader - Genitourinary Oncology Transdisciplinary team (starting October 2021)  
Member - Cutaneous oncology Transdisciplinary team

Research and clinical interests: Clinical trials in genitourinary and cutaneous malignancies. Interplay of microbiome and T cells in bladder cancer
**Maura (Molly) Barry, MD—Assistant Professor**

Associate Program Director, Hematology/Oncology Fellowship Program  
Member, UVMMC Department of Medicine Faculty Development Committee,  
Member, UVM Medical Center Hematology/Oncology Fellowship Program Evaluation Committee  
Member, UVM Internal Medicine Residency Program Evaluation Committee  
Member, UVM Medical Center Hematology/Oncology Fellowship Clinical Competency Committee  
Member, Larner College of Medicine Committee on Fitness  
Member, Larner College of Medicine Teaching Academy  
Member, UVM Medical Center EPIC Advisory Council  
Member, UVM Medical Center EPIC Oncology Power Team  
EPIC Specialty Champion  
Member, Education and Professional Development Working Group, LCOM Gender Equity Initiative  
Member, LCME Self-Study Task Force, Subcommittee 9  
Leader, Head and Neck TDT, UVM Cancer Center

Research and clinical interests: Medical Education GI and head and neck cancers, supportive care, wellness.

**Mary Cushman, MD, MSc—Professor and Vice Chair for Emerging Researchers, Medicine.**  
Professor of Pathology  
Director, Thrombosis and Hemostasis Program  
Board Member, Cardiovascular Research Institute  
Vice Chair, Emerging Researchers, Department of Medicine

Research and clinical interests: Etiology of cardiovascular diseases, stroke, cognitive impairment and other chronic diseases; racial disparities; venous thrombosis and post thrombotic syndrome, COVID-19

**Kim Dittus, MD, PhD—Associate Professor**  
Medical Director of Oncology Rehabilitation  
Director, Inpatient Hematology/Oncology  
Chair Clinical Committee, Program in Integrative Health  
Member, Cancer Control Committee, Chair of survivorship subcommittee UVM Medical Center  
Director, Integrative and Supportive Services, UVM Cancer Center

Research and Clinical interests: Breast Cancer, Cancer survivorship, diet/nutrition, exercise

**Marc Greenblatt, MD—Professor**  
Co-Chair, UVM Cancer Center Molecular Mechanisms of Malignancy Program  
Assistant Director, Hematology/Oncology Fellowship Program
Research and clinical interests: Cancer genetics and gastrointestinal cancers

**Chris Holmes, MD, PhD – Professor of Medicine**
- Interim Division Chief, Hematology/Oncology Division
- Interim Co-Director, University of Vermont Cancer Center
- Director, Vermont Regional Hemophilia Treatment Center
- Assistant Director, Thrombosis and Hemostasis Program
- Leader, Clinical Trials Executive Committee, UVM Cancer Center

Research and clinical interests: Venous thrombosis, platelet function, coagulation and cancer

**Sakshi Jasra, MD—Assistant Professor**
- Co-chair, UVM Department of Hematology/Oncology Grand Rounds Committee
- Member, UVM Cancer Center Data Safety and Monitoring Board
- Member, UVM Department of Medicine Operations Committee

Research and clinical interests: Exploring barriers to clinical trial enrollment in rural cancer patients, qualitative research methods and their applications in rural health and mechanisms and clinical relevance of clonal hematopoiesis

**Peter Kaufman, MD – Professor**
- Member, Vermont Cancer Center Data Safety and Monitoring Committee (DSMC)
- Director, Regional Clinical Trials, Vermont Cancer Center
- Program Co-Leader, Host Factors and Tumor Progression (HFTP) Vermont Cancer Center
- Member, Clinical Trials Executive Committee, Vermont Cancer Center
- Member, Neuro-Oncology Search Committee
- Member, search committee, UVM Cancer Center Director and Hematology/Oncology Division Chief

Research and clinical interests: Breast cancer, translational research in breast cancer, clinical research and clinical trials in breast cancer

**Farrah Khan, MD – Assistant Professor**
- Member: UVMMMC Department of Medicine Faculty Development Committee, Faculty Engagement Committee
- Member, UVMMMC Department of Medicine Quality Assurance and Improvement Committee
- Member, Data Safety and Monitoring Committee, UVM Cancer Center
- Member, Executive Board for the Pharmacy and Therapeutics Committee
- Medical Director, Hematology and Oncology Clinic
Research and clinical interests: Lung cancer, breast cancer, mesothelioma, sarcoma and supportive/palliative care

**Saranya Kodali, MD—Clinical Practice Physician**
- Physician at CVMC
- Member, Faculty Development Committee at UVMMC

Research and clinical interests: Malignant Hematology

**Patricia O’Brien, MD – Assistant Professor Clinical Scholar**
- Director, Lymphedema Program
- Oncology Rehab-Steps to Wellness

**Jacqueline Poston, MD – Assistant Professor**
- Hematology/Oncology Division, Department of Medicine
- Transfusion Medicine, Clinical Pathology Division, Department of Pathology
- Director, Anticoagulation Safety

Research and clinical interests: Acquired hemophilia A, intersection of hematology and immunology, benign hematology

**Hibba tul Rehman, MD—Assistant Professor**
- Member, Protocol Review and Monitoring Committee
- Member, Clinical Competency Committee for Hem/Onc Fellowship
- Member, Program Evaluation Committee for Hem/Onc Fellowship
- Member, UVMMC Credentials Committee

Research and clinical interests: Lung cancer, sarcoma, breast cancer and rare tumors

**Julian Sprague, MD, PhD – Associate Professor**
- Director, Hematology/Oncology Fellowship Program
- Director, Stem Cell Transplant Program, University of Vermont Medical Center
- Clinical Director, Apheresis Services
- Member, UVM Medical Center, Transfusion Committee
- Member, UVM Medical Center, Ethics Committee

Research and clinical interests: Myeloma and neurotoxicity, hematologic malignancies

**Eswar Tipirneni, MD—Clinical Practice Physician**
- Medical Director, CVMC Hematology/Oncology

Research and clinical interests: Immunotherapy and lung cancer

**Elvira Umyarova, MD—Assistant Professor**
- Chair, UVM Pharmacy, Chemotherapy Subcommittee
Member, UVM Fellowship Committee
Assistant Director, Stem Cell Transplant Program, University of Vermont Medical Center

Research and clinical interests: Malignant hematology, stem cell transplant, clinical trials

Paul Unger, MD, FACP—Associate Professor
Site Leader, Community Oncology Porter
Chair, UVMMC Credential Committee

Research and clinical interests: Quality assessment for clinical oncology in community practice

Marie Wood, MD – Professor
Director, Familial Cancer Program
Assistant Director, Hematology/Oncology Division
Associate Director, Cancer Control and Population Health Science
Co-Chair, University of Vermont Faculty Senate Educational and Research Technologies Committee
Member, Executive Committee Faculty Senate

Research and clinical interests: Biomarkers of breast cancer risk, genetic testing in rural areas, breast cancer screening and prevention

Neil Zakai, MD, MSc – Professor of Medicine and Pathology
Member (Past Chair), UVM Cancer Center Data Safety and Monitoring Board
Member, UVM Medical Center Pharmacy and Therapeutics Committee
Member, UVM Medical Center Hematology/Oncology Fellowship Research Committee
Member, UVM Medical Center Internal Medicine Residency Research Committee
Chair, Medication Safety Subcommittee for the Pharmacy & Therapeutics Committee

Research and clinical interests: Epidemiology and novel risk factors for venous thrombosis and cardiovascular disease. Epidemiology, causes, and consequences of anemia in diverse populations. Venous thrombosis causes and prevention, post thrombotic syndrome.

Hematology/Oncology Fellows
Ximena JordanBruno, MD—3rd year fellow
Sarah Gillett—3rd year fellow
Kara Landry, MD—2nd year fellow
Mansour Gergi, MD—2nd, year fellow
Anil Rahul, MD—1st year fellow
Asad Anwar, MD—1st year fellow

NP’s and PA’s
Jamie Kelly, PA
Penny Gibson, PA  
Jordan Tolstoi, PA 
Anne Berkowitz, NP  
Janet Ely, NP  
Emily Parenteau, MSN, FNP  

**Graduate students, post-doctoral fellows, MD PHD students**

Juan Conde, PhD. MD Candidate. Smoking, Biomarkers and Stroke Risk. Medical Student Research. Mentored by Mary Cushman  
Samuel Short, BA. MD Candidate. Proenkephalin and risk of stroke and cognitive impairment in a biracial cohort. Medical Student Research. UVM Cardiovascular Research Institute of Vermont (CVRI) Summer Research Award 2020. Mentored by Mary Cushman  
Alexander Karabachev, UVM LCOM Class of 2021. Mentored by Marc Greenblatt  
Maeve Dillon-Martin, UVM Class of 2022. Mentored by Marc Greenblatt  
Cinduja Nathan-Medical Student Research. Venous thromboembolism prevention in the ambulatory cancer clinic (VTE PACC). Mentored by Chris Holmes  
Kara Landry, MD. Mentored by Marie Wood  
Nick Farina, PhD. Mentored by Marie Wood  
Alexander Karabachev, Mentored by Marc Greenblatt  
Jordan Munger, BS: Inaugural Dean’s research fellowship 2020-21. Mentored by Neil Zakai

**Leadership in Professional Societies**

Jose Acostamadiedo, MD  
Cancer Liaison Physician for Fitzpatrick Cancer Center

Steven Ades, MD  
Member, Board of Directors Northern New England Clinical Oncology Society  
Member, Alliance Symptom Intervention Committee  
Member, ASCO Upper Gastrointestinal Oncology Annual Meeting Planning Committee

Diego Adrianzen Herrera, MD  
Member, American Society of Clinical Oncology (ASCO): Career Conversations Mentor, Trainee and Early Career Council.  
Member, Northern New England Clinical Oncology Society (NNECOS): Grant Reviewer Committee

Shahid Ahmed, MD, MBBS
Maura Barry, MD
Member, American Society of Clinical Oncology
Member, Northern New England Clinical Oncology Society
Member, Multinational Association of Supportive Care in Cancer
Member, ASCO eLearn Question Writing Group

Mary Cushman, MD, MSc
Member, Medical Experts Committee, American Society of Hematology
Member, Leadership Council of the International Society on Thrombosis and Haemostasis, ex officio non-voting
Publishing Committee (ex officio), International Society on Thrombosis and Hemostasis
Medical Advisory Committee, Foundation for Women & Girls with Blood Disorders
Planning Committee, 2021 HTRS Research Colloquium, Developing a Sustainable Research Career in Hemostasis and Thrombosis
Chair, Subcommittee on Women in Science and Medicine, American Heart Association
Chair, 2020 Women’s Triennial Health Tracking Study in Cardiovascular Disease and Stroke. American Heart Association
Board Director, Hemostasis and Thrombosis Research Society
Board Director, Eastern States Affiliate, American Heart Association
Research Funding Subcommittee of the Research Committee, American Heart Association
Member, Medical Alumni Executive Committee
Vascular Health Advisory Committee, American Heart Association

Kim Dittus, MD, PhD
Member, Cancer Control Committee, UVM Medical Center
Member, Northern New England Clinical Oncology Society

Marc Greenblatt, MD
President, Human Genome Variation Society (HGVS)
Executive Board, Human Genome Organization (HUGO)
Co-Chair, InSiGHT-ClinGen Hereditary Polyposis Colorectal Cancer APC Gene Variant Curation Expert Panel
Member, ClinGen Sequence Variant Interpretation Working Group; Co-Chair, Computational Subgroup
Member, International Scientific Advisory Council, Human Variome Project
Member, American Association of Cancer Research
Member, American Society of Clinical Oncology
Member, American Society of Human Genetics
Member, Collaborative Group of the Americas of Inherited Colorectal Cancer (CGA-ICC)
Member, Vermont Medical Society
Member, Northern New England Clinical Oncology Society

Chris Holmes, MD, PhD
Executive Board Member, National Network, Health and Human Services New England
Comprehensive Hemophilia Diagnostic and Treatment Centers
Director, Community Counts-Vermont, Centers for Disease Control (CDC) Public Health Monitoring Program, Division of Blood Disorders
Member, Institutional Review Board, Committee on Human Research in the Medical Sciences (CHRMS), University of Vermont
Member, American Society of Hematology
Member, Northern New England Clinical Oncology Society
Member, Thrombosis Committee, American Thrombosis and Hemostasis Network, Centers for Disease Control
Member, Northern New England Clinical Oncology Society

Sakshi Jasra, MD
Member, American Society of Hematology
Member, Northern New England Clinical Oncology Society

Peter Kaufman, MD
Committee Member, Breast Cancer Core Committee, Alliance for Clinical Trials in Oncology
Breast Cancer Committee Liaison to Neuro-Oncology, Alliance for Clinical Trials in Oncology
Alliance Champion, E2112, A Randomized Phase III Trial of Endocrine Therapy Plus Entinostat or Placebo in Patients with Hormone Receptor Positive Advanced Breast Cancer
Co-Investigator, A071701, Genomically Guided Trial in Brain Metastases (CTEP Approved)
Member, Board of Directors, Alliance for Clinical Trials in Oncology
Member, Macrogenics ODAC Preparation Committee, Preparation for Successful FDA ODAC Presentation.
Member, Medical Advisory Board, Expedition Inspiration Fund for Breast Cancer Research, Boise, Idaho.
Member, Northern New England Clinical Oncology Society

Farrah Khan, MD
Member, American Society of Clinical Oncology
Member, Northern New England Clinical Oncology Society
Member, International Association for the Study of Lung Cancer
Member, American Society of Clinical Oncology
Member, Alliance for Clinical Trials in Oncology

Saranya Kodali, MD
  Member, Alliance for Clinical Trials in Oncology
  Member, NRG Oncology
  Member, American Society of Clinical Oncology
  Member, American Society of Hematology
  Member, American Society for Blood and Marrow Transplantation
  Member, American College of Physicians
  Member, Massachusetts Medical Society
  Member, Northern New England Clinical Oncology Society

Patricia O’Brien, MD
  Member, American Physical Therapy Association- Oncology Rehabilitation Educational

Jacqueline Poston, MD
  Member, American Society of Hematology
  Member, AABB

Hibba tul Rehman, MD
  Member, American Society of Clinical Oncology
  Member, American Society of Hematology
  Member, Northern New England Strategic Planning Committee
  Member, Northern New England Educational Committee
  Member, Immuno Oncology Subcommittee for Alliance for Clinical Trials

Julian Sprague, MD
  Member, American Society of Hematology
  Member, American Society of Clinical Oncology
  Member, Northern New England Clinical Oncology Society
  Member, Committee on Training, American Society of Hematology
  Liaison, Committee on Quality from the Committee on Training, American Society of Hematology
  Member, Alliance Myeloma Subcommittee
  Chair, Medical Education Subcommittee for the Committee on Training (ASH)

Elvira Umyarova, MD
  Member, American Society of Hematology
  Member, Northern New England Clinical Oncology Society
  Member American Society of Clinical Oncology

Paul Unger, MD
  Immediate Past President, Northern New England Oncology Society
  Member, American Society of Clinical Oncology Quality Oncology Project Initiative (QOPI) Steering Committee
Member, Clinical Practice Committee of ASCO

Marie Wood, MD
Co-Chair, Alliance, Prevention Committee
Deputy Director, Alliance Cancer Control Committee
Member, Alliance Foundation, Board of Trustees
Member, Northern New England Clinical Oncology Society Board of Directors
President, Northern New England Clinical Oncology Society
Member, American College of Physicians
Member, National Surgical Adjuvant Breast and Bowel Project
Member, NCI Cancer Prevention and Control Steering Committee
Fellow, American Society of Clinical Oncology
Fellow, American College of Physicians

Neil Zakai, MD
American Heart Association (AHA)
Member, Executive Committee, American Heart Association Council on Epidemiology and Prevention
Member (past chair), American Heart Association Council on Epidemiology and Prevention, Publications Committee
American Heart Association Council on Epidemiology and Prevention March 2019 meeting (Houston TX)

American Society of Hematology (ASH)
Member, American Society of Hematology COVID 19 research initiative on benign hematology.
Member, American Society of Hematology
“Consult a Colleague” Program-
  • Content expert “Hemostasis/Thrombosis”
  • Content expert “Anemias”
Member 2019-2022, American Society of Hematology Organizing Committee for Highlights of ASH (organizing 12 domestic and 6 international meetings)

Hemophilia and Thrombosis Research Society (HTRS)
  • Vice-Chair 2020-2021 Mentored Research Award Committee
  • Mentored Research Award Grant Reviewer 2020-21, 2021-22

Member, Northern New England Clinical Oncology Society

Editorships and Editorial Boards

Jose Acostadiego, MD
Editorial Board Colombian Society of Hematology Oncology Magazine (ACHO)

Shahid Ahmed, MD, MBBS
Reviewer – Journal of Clinical Oncology, Precision Oncology

Mary Cushman, MD
Inaugural Editor-in-Chief, Research and Practice in Thrombosis and Haemostasis
Editorial Board, Circulation

**Marc Greenblatt, MD**
Contributing Editor, Human Mutation

**Peter Kaufman, MD**
Ad-Hoc Reviewer Journal of Immunology
Ad-Hoc Reviewer American Journal of Hematology
Ad-Hoc Reviewer Cancer
Ad-Hoc Reviewer Journal of Clinical Oncology
Ad-Hoc Reviewer Cancer Letters, British Journal of Cancer

**Patricia O’Brien, MD**
Board, Multinational Association of Supportive Care in Cancer, reviewing lymphedema
Publication
Review for California Breast Cancer Research ProgramReview Grant Applications for Funding

**Marie Wood, MD**
Editorial Board, The Breast
Editorial Board, Journal of the National Cancer Institute
Editor in Chief, ASCO Digital Education

**Neil Zakai, MD**
Associate Editor, Research and Practice of Thrombosis and Haemostasis

**Study Sections and Federal Advisory Boards**

**Mary Cushman, MD, MSc**
Steering Committee Member, NHLBI Collaborating Network of Networks for Evaluating COVID-19 and Therapeutic Strategies (CONNECTS)

Ad hoc reviewer, NIGMS Phase 1 Center of Biomedical Research Excellence (Chair, Lucy Liaw, PhD)

**Chris Holmes, MD, PhD**
Center for Disease Control/American Thrombosis and Hemostasis Network Community Project Review Committee

**Marie Wood, MD**
Member, NCI Cancer Prevention Steering Committee
Member, Cancer, Heart and Sleep Epidemiology B Study Section

**Grants**

**Steven Ades**
NNECOS Ades (PI) 01/15/20-06/16/21
VTE Risk Assessment and Prevention in Cancer Patients in the Community Oncology Setting
Role: PI

PROMISE Trial Ades (PI) 01/01/19-12/31/20
UVMCC 1902-Prostate Cancer Circulating miRNAs for Precision-based Medicine Role: PI

Diego Adrianzen-Herrera, MD
Martin M. LeWinter Young Adrianzen-Herrera (PI) 12/2020 (Single Award)
Investigator Award
Cardiovascular Research Institute of Vermont

NNECOS Adrianzen-Herrera (PI) 04/01/21-04/01/22
Identifying factors associated with CV disease in MDS. An analysis of the Seer-Medicare database

Shahid Ahmed, MD, MBBS
NNECOS Ahmed (PI)
How bacteria influence the formation of an immune escaped bladder cancer; a pilot correlative study

Mary Cushman
NINDS 02/15/18-01/31/23
U01 NS041588
VCID and Stroke in a Bi-Racial National Cohort
S Judd, Contact PI, University of Alabama at Birmingham
G Howard, MPI, University of Alabama at Birmingham
J Manly, MPI Columbia University
Role: MPI, 25%

NHLBI 1/1/98– 3/31/24
R01 HL59367
Epidemiology of Venous Thrombosis and Pulmonary Embolism
AR Folsom, PI, University of Minnesota
Role: Subcontract PI, 15, 10, 10 in current project

NHLBI 08/15/00-12/18/25
HHSN2682015000031
Multiethnic Study of Atherosclerosis
R. McClelland, PI, University of Washington
Role: Subcontract Co-I, 5%

NIH-NIA 06/01/16-05/31/21
Transitions to Family Caregiving and its Impact on Health Indicators
Role: Subcontract PI

NIH-NIMHD 08/14-03/31/22
R01 MD013349
The Add Health Epigenome Resource: Life course stressors and epigenomic modifications in adulthood
K Harris, PI, University of North Carolina, Chapel Hill
Role: Subcontract PI, 2.5%

NIH-NIA 03/01-02/28/23
R01 AG061186
Use of High Density Lipoprotein Proteome in the Prediction of Cognitive Impairment and Alzheimer’s Disease: (REGARDS)
RS Rosenson, R. Sidney, PI’s, Mount Sinai School of Medicine
Role: Subcontract PI, 5%

NIH-NHLBI 05/15-02/28/23
R01 HL141290
Thrombosis and Bleeding Risk Assessment in Medical Inpatients
N Zakai, PI, University of Vermont
Role: Co-Investigator, 5%

NIH – NIGMS
P20 GM135007
Vermont Center for Cardiovascular and Brain Health Center of Biomedical Research Excellence (COBRE)
M Cushman, MPI, (25%)
ADC: $1,560,000 (total $11,857,283)
FUNDING: 8/6/2020-8/5/2025

NHLBI (C4R)
RTI 22-312-0217571-66178
Collaborative Cohort of Cohorts for COVID-19 Research
E Oelsner, PI, Columbia University
M Cushman MPI subcontract 3%
FUNDING: 10/01/20 – 9/13/22
ADC: $236,462

NIH - NIA
U01 AG071450
The National Longitudinal Study of Adolescent Health Wave VIADRD
A Aiello, PI, University of North Carolina, Chapel Hill
M Cushman Co-PI subcontract 2%
FUNDING: 01/15/21 – 12/31/25
ADC: $154,969
<table>
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<tr>
<th>Grant/Project</th>
<th>Principal Investigator</th>
<th>Funding Period</th>
<th>Role</th>
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<tr>
<td>NIH – NIA U01 AG071448</td>
<td>R Hummer</td>
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<td>PI</td>
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<td>The National Longitudinal Study of Adolescent Health Wave VI Core Project</td>
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<td>04/01/21 – 03/31/26</td>
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<td>M Cushman PI subcontract 3%</td>
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<td>Kim Dittus</td>
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<td>VCC 55060                      Dittus/Stein (Co-PI)</td>
<td>07/01/21-06/29/22</td>
<td>Role: PI</td>
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<td>VDH Survivorship III – Vermont Department of Health Award</td>
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<td>Marc Greenblatt</td>
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<td>NIH-NHGRI U01 HG007437-01</td>
<td>Berg, Jonathan (PI)</td>
<td>09/01/13-08/31/21</td>
<td>Role: Co-Investigator</td>
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<td>A Knowledge Base for Clinically Relevant Genes and Variants</td>
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<td>UVM Cancer Center Pilot Project Wood, Marie (PI)</td>
<td>01/2020 – 12//2021</td>
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<td>U24 CA258119-01</td>
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<td>NCI InSiGHT-ClinGen Polyposis /Colon Cancer Variant Curation Expert Panel (VCEP)</td>
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<td>Chris Holmes</td>
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<td>Improving VTE Risk Assessment: Education and Prophylaxis in Rural Cancer Clinics</td>
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<td>VTE Risk Assessment and Prevention in Cancer Patients in the Community Oncology Setting</td>
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<td>5H30MC24048-04-00</td>
<td>Walsh (PI)</td>
<td>06/01/10-05/31/21</td>
<td>Department of Health and Human Services Human Resources and Services Administration Hemophilia Treatment Centers (SPRANS)</td>
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Role: Collaborating PI

ATHN2011001-1-1   Croteau (PI)   09/30/11-09/29/21
Centers for Disease Control and Prevention
American Thrombosis and Hemostasis Network
Public Health Surveillance for the Prevention of Complications of Bleeding and Clotting Disorders
Role: Co-Investigator

NIH-NHLBI05/15/19-02/28/23
R01 HL141290
Thrombosis and Bleeding Risk Assessment in Medical Inpatients
N Zakai, PI, University of Vermont
Role: Co-Investigator

Peter Kaufman, MD
Industry Sponsored   Kaufman (International Co-Chair)   06/10/19-Ongoing
Clinical Research Grant
Polyphor Pharma
An International, Phase 3, Multicenter, Randomized, Open-Label Trial Comparing Balixafortide in combination with Eribulin versus Eribulin alone in Patients with HER2 negative, Locally Recurrent or Metastatic Breast Cancer (FORTRESS)

1P01CA240685-01A1 Stein (PI)   04/01/21-03/31/26
Epigenetic Control and Genome Organization
$1,678.92
Role: Co-Investigator 5% FTE

Lilly Pharmaceuticals   Kaufman (PI)
EMBER: A Phase 1a/1b Study of LY3484356 Administered as Monotherapy and in Combination with Anticancer Therapies for Patients with ER+ Locally Advanced or Metastatic Breast Cancer and Other Select Non-Breast Cancers
Role: PI

Sanofi Pharma   Kaufman (PI)
An open-lab randomized Phase 2 trial of SAR439859, versus endocrine monotherapy as per physician’s choice in patients with estrogen receptor-positive HER2-negative locally advanced or metastatic breast cancer with prior exposure to hormonal therapies
Role: PI

Sanofi Pharma
Phase 2 window study of two dose levels of SAR439859 (SERD) versus letrozole in newly diagnosed preoperative post-menopausal patients with ER positive, HER2 negative primary breast cancer
Lilly Pharmaceuticals Kaufman (PI)
monarchE: Protocol I3Y-MC-JPCF
A Randomized, Open-Label, Phase 3 Study of Abemaciclib Combined with Standard Adjuvant Endocrine Therapy versus Standard Adjuvant Endocrine Therapy Alone in Patients with High Risk, Node Positive, Early Stage, Hormone Receptor Positive, Human Epidermal Receptor 2 Negative, Breast Cancer

Julian Sprague, MD
Graduate Medical Educator of the Year (2021), $6000 grant for a project

Eswar Tipirneni, MD
NNE-CTR/NIGMS Holmes (PI) 06/2020
Improving VTE Risk Assessment: Education and Prophylaxis in Rural Cancer Clinic
Role: Site PI

Marie Wood
Dana Farber Cancer Institute/Dept of Defense
BC181146: CDMRP Breast Cancer Research Program Breakthrough Award Prospectively Randomized, Placebo-Controlled Phase III Study to Determine the Effect of Denosumab on Breast Cancer Prevention in BRACA1 Mutation Carries
Role: Subaward PI

UVMCC Wood (PI) 08/14/18-07/31/25
Point of Care (POC) Testing for Patients with Advanced Cancer (PoC-TAC): A feasibility study
Role: PI

Alliance NCORP Bertagnolli (PI) 08/14/18-07/31/25
Research Base
5UGICA189823-03 Prevention Committee Co-Chair
Role: Subaward PI

NNECOS Wood (PI) 04/01/19-10/31/21
Attitudes, Beliefs and Practices Regarding Point of Care Genetic Testing among Northern New England Medical Oncologists
Role: PI (mentor to Kevin Qin, MD PhD)
Neil Zakai
NIH-NHLBI Zakai (PI) 05/15/19-02/28/23
R01 HL141290
Thrombosis and Bleeding Risk Assessment in Medical Inpatients
Each year there are 10 million non-surgical admissions to hospitals in the United States, which are associated with 200,000 venous thromboembolism (VTE) events and an equal or greater number of bleeding events. Despite a lack of validated risk models, providers are required to assess VTE and bleeding risk on admission to the hospital, and provide VTE prophylaxis to those at low risk of bleeding and high risk of VTE. Our goals, in two complementary healthcare systems (located at the University of Vermont and the University of Washington), are to develop and validate robust models to assess hospital-acquired bleeding and VTE risk, and determine the period of increased risk for bleeding and VTE after discharge from the hospital
Role: PI 30%

CDC (6 NU38OT000280-03-02) Zakai (PI) 09/01/20 – 07/30/22 1.20 Calendar Months
CDC $1,400,000
Understanding risk factors and burden of COVID-19 related thrombosis and bleeding complications
High rates of thrombosis and bleeding have been reported in hospitalized COVID-19 patients leading to clinical uncertainty as to the benefit of anticoagulation. Pooling data from 9 hospital systems and over 10,000 hospitalized COVID-19 patients, we will determine the absolute and relative rates of thrombosis and bleeding in COVID-19 patients as well as the association of antithrombotic medications with outcomes. Further, it is not known what role health disparities may play in the development of COVID related thrombosis. Better understanding of thrombosis and treatment in COVID 19 patients is essential in developing clinical and public health programs that could reduce the risk or improve the outcome

U01 NS041588 Howard (PI) 02/15/18-01/31/23
NINDS
VCID and Stroke in a Bi-racial National Cohort
This study plans to extend follow-up for incident stroke and cognitive decline in a national cohort of 30,000 black and white community dwelling participants. This proposal will identify mechanisms of racial and geographic disparities in dementia, and identify pathways and biomarkers for the development of hypertension and diabetes
Role: Subcontract—Co investigator 10%

R01HL131579 Lutsey (PI) 01/01/17-11/30/20
NIH/NHLBI
Contemporary Venous Thromboembolism Treatment
Recent introduction of novel oral anticoagulant drugs have transformed the management of venous thromboembolism (VTE), however we have little real-world experience with the side-effects of these medications. This grant uses data from two
large U.S. commercial claims databases (OptumInsight and MarketScan) to see whether real-life outcomes differ between traditional treatment of VTE and novel treatments and if bleeding and recurrent thrombosis differ

Role: Co-Investigator

R01 HL132947 Reiner (PI) 04/01/17-03/31/21
NIH
Thrombosis Genetics in African Americans
The primary objective of this project is to measure several emerging thrombosis and inflammation plasma biomarkers that are likely to reflect and/or account for increased thrombogenicity and therefore may contribute to higher rates of CVD in African Americans, and to assess the association of thrombosis biomarkers and biomarker-associated genetic variants with more complex subclinical and clinical CVD endpoints available in JHS and other African American cohorts, including REGARDS
Role: Subcontract Investigator

RO1 HL136373 Pamir (PI) 01/15/18-12/31/22
NIH
Identification of the Role of HDL Function in Human Cardiovascular Disease through Proteomics and Genetics.
The primary aims seek to assess whether high-density lipoprotein cholesterol efflux capacity and the protein composition of HDL provide predictive value of assessing the risk of coronary heart disease and stroke in Caucasian and African-Americans relative to HDL cholesterol and apolipoprotein A1 level
Role: Subcontract Investigator

NIH Kanaya (PI) 04/01/19-03/31/25
Tri-Asian Cohort on Cardiometabolic (TRACC) Health
The general aim of this proposal is to provide fundamental clinical and biological data about cardiometabolic risk factor profiles including magnetic resonance imaging of the heart, great vessels, abdomen; to track changes in behavioral, psychological, sociocultural and contextual factors among Asian immigrants; and to investigate mechanisms that influence cardiometabolic risk aortic stiffness, hepatic and myocardial fibrosis
Role: Subcontract PI

**Publications**


**Cushman M,** Barnes GD, Creager MA, Diaz JA, Henke PK, Machlus KR, Nieman MT, Wolberg AS, American Heart Association Council on Peripheral Vascular Disease; Council on Arteriosclerosis, Thrombosis and Vascular Biology; Council on Cardiovascular and Stroke Nursing; Council on Clinical Cardiology on Epidemiology and Prevention; and the International Society on Thrombosis and Haemostasis. Venous Thromboembolism


Adrianzen-Herrera D, Jordan-Bruno X, Devitt KA, Conant JL, Gardner JA. Acquired BCR-ABL1 fusion and IDH1 Clonal evolution following BCL2 inhibitor treatment in refractory


The Division of Hospital Medicine at the Larner College of Medicine at the University of Vermont pursues excellence in academic Hospital Medicine by:

- Delivering compassionate, responsive, integrated care to medical inpatients 24 hours a day
- Teaching the science, art, and joy of medicine to students, trainees, and colleagues
- Promoting knowledge through research and educational efforts
- Cultivating a collegial and sustainable practice environment
- Collaborating with members of the hospital and university community to improve the quality, safety and value of inpatient care

Our Hospitalist faculty physicians are involved in all aspects of the academic teaching hospital mission, including providing valuable clinical services, teaching a broad range of learners, engaging in leadership and system improvement while advancing a broad research agenda.

**Service:**
The Adult Hospital Medicine Service (AHMS) specializes in the diagnosis and treatment of hospitalized adults, both as the primary service and in the role of consultant – with our service providing 24x7 attending coverage. We serve as physician leadership for the Rapid Response Team, which responds to inpatients with medical emergencies throughout the hospital. Our Hospitalists work in multi-disciplinary teams to provide effective, safe, timely and patient-centered care. We also offer medical consultation to patients in the inpatient acute rehabilitation program.

The AHMS includes four General Internal Medicine teaching services (each with an attending, three residents, and 3rd and 4th year medical students), one Family Medicine teaching service (mix of FM and IM attendings with three FM residents), one Medical Oncology teaching service, which works closely with Oncology to provide inpatient care to patients with solid tumors, three non-resident services (each staffed by an attending and physician assistant), a Medicine Consult service, and a triage attending. In addition, each night we have two Nocturnists (and intermittent physician assistant coverage), who provide cross-coverage care and perform admissions for both the teaching and
non-resident services along with medical consults, Rapid Response Team coverage, and outside hospital triage. We continue to expand our use and teaching of bedside ultrasound techniques under the expert guidance of Drs. Mohit Jindal and Tara Scribner. The AHMS faculty had an especially busy year caring for potential and confirmed COVID-19 patients.

Our Hospitalists have been engaged in numerous institutional quality improvement and safety initiatives. Our current project focuses on standardizing venous thromboembolism prophylaxis use in medical inpatients. In the last few years, we have also significantly reduced the rate of hyperglycemia, reduced the number of unnecessary labs performed on our inpatients, improved the completion of accurate problem lists at the time of discharge, improved communication with primary care at discharge, and decreased the wait time of orders for patients admitted through the Emergency Department.

Education:
Our faculty teaches General Internal Medicine and Hospital Medicine to medical students, resident physicians, professional colleagues, and community members. Dr. Mark Pasanen is the Vice Chair for Education in the Department of Medicine.

Hospitalists serve as the teaching attending for the six teaching teams throughout the year – offering clinical supervision, bedside and didactic education, and feedback and evaluation to resident physicians and medical students. At night, our Nocturnists provided supervision and education for our night residents and 4th year medical students. Additionally, our inpatient faculty physicians lead the Medicine Consult elective for residents and medical students, which includes residents from Orthopedic Surgery.

Our faculty are regular participants and facilitators at Resident Report and Intern Report. Dr. Julia Powelson provided outstanding leadership in our Adult Code training for our residents. Dr. Jason Bartsch has helped develop the Hospital Medicine academic half-day resident curriculum in which multiple hospitalists participate. Dr. Amanda Kennedy oversees our comprehensive Internal Medicine Resident research program, Dr. Carrie Lyon is a member of the Resident Research Committee, and Dr. Naomi Hodde was a mentor for a resident research project. Dr. Rachel McEntee provides high level education on Epic use, including directing Epic Sprints for attendings and APPs and didactic sessions for resident physicians and medical students.

Dr. Mark Pasanen is the Program Director for the Internal Medicine Residency. Our faculty members have been recognized numerous times by the resident physicians for teaching excellence. Most recently, Dr. Caleb Burr received the Mark A. Levine Award for Outstanding Teacher of the Year in General Internal Medicine in 2021.
At the Larner College of Medicine, our primary teaching is in the hospital setting, focusing on the Internal Medicine Inpatient Clerkship and the Internal Medicine Acting Internship. Dr. Jason Bartsch serves as Assistant Clerkship Director and serves on the Active Learning Advisory Committee. Dr. Lee-Anna Burgess is the Assistant Acting Internship Director. Dr. Lee-Anna Burgess also serves as the course director for the Nutrition, Metabolism, and GI course. Dr. Elly Riser is the course director for the first Addiction Medicine elective at LCOM. Drs. Maria Burnett, Lee-Anna Burgess, Carrie Lyon, Rachel McEntee, Sadie Mills, Mark Pasanen, Tara Scribner, and Paul Slavik teach in the Foundations courses, Drs. Maria Burnett, Carrie Lyon, and Mark Pasanen teach in the Convergence course, and Drs. Naomi Hodde and Paul Slavik are faculty mentors in the Professionalism, Communication and Reflection course. Dr. Naomi Hodde also teaches 3rd year medical students during their bridge weeks.

We educate our colleagues locally, regionally and nationally in a variety of venues. This past year our annual University of Vermont Continuing Medical Education Course in Hospital Medicine was canceled due to COVID, but our course directors, Drs. Carrie Lyon, Steve Grant and Jason Bartsch are looking forward to 2022.

The AHMS faculty are also very involved in mentorship and advising. This includes advising numerous medical students on career choice and residency match issues. Residents also frequently seek out our Hospitalists to serve as advisors, especially those going into the growing field of Hospital Medicine.

Research:
In addition to our clinical work and focus on quality and safety, we have diverse scholarly interests among our faculty. This has included externally funded clinical trials of immunizations and high value laboratory ordering practices. In addition, internal funding has supported Dr. Elly Riser’s work on teaching trainees about opioid use disorder and medication assisted treatment. Dr. Elie Donath works with the UVM Complex Systems Group, the UVM Computer Science Department, and the Gund Institute on several projects looking at artificial intelligence in medicine and public health.

Quality:
Our Division is very involved in quality initiatives throughout the institution. Dr. Allen Repp is the Department’s Vice Chair for Quality. Dr. Preetika Muthukrishnan and Maria Burnett lead our Division quality improvement work, which includes optimizing use of the electronic health record and communication and work on venous thromboembolism prevention in the hospital. Drs. Zech Gardner, Preetika Muthukrishnan, and Naomi Hodde are physician leaders for the hospital’s Collaborative Leadership Model. Dr. Yao Li provides support and education around information technology and Epic use.

Leadership:
Hospital Medicine faculty members are engaged in service at the national, state and institutional levels. National and regional involvement includes the OneCare Vermont Clinical Advisory Board, Vermont Chapter for the American College of Physicians (past Governors and several members of the advisory council membership) and past president of the UVM Medical Alumni Executive Committee.

Faculty participation in committees and task forces at the Larner College of Medicine and the University of Vermont Medical Center is also wide-ranging. Highlights include leadership and/or participation on the Tenure and Promotions committee, Medical Executive committee, Rapid Response and Resuscitation committee, Unit-based Care leadership, Hospital Operations, Quality Improvement, Ethics, COVID-19 response committees, and EPIC/IT.

There are numerous specific examples of leadership within the faculty. Dr. Steven Grant serves as the Associate Chief Medical Officer for Care Coordination and Patient Transitions. Drs. Steve Grant and Zech Gardner chair the Hospital Operations committee. Drs. Chad Mitchell, Zech Gardner, Mohit Jindal and Steve Grant serve a critical role in Utilization Review, providing real-time reviews in coordination with Case Management. Dr. Rachel McEntee has been instrumental in helping to optimize EPIC, our electronic health record, through her role as Director of Medical Informatics. Dr. Preetika Muthukrishnan is the Medical Director of the Emergency Response Team. Dr. Dr. Allen Repp serves as Vice Chair of Quality for the Department of Medicine. Dr. Mark Pasanen is the Internal Medicine Residency Program Director and Vice Chair for Education in the Department of Medicine.

We have worked closely with other departments in an effort to optimize patient care. This has included co-management arrangements with the Orthopedics Hip Fracture, Spine, and Podiatry services. We have also developed a shared model of care with the Renal Transplant Service and Ophthalmology. In addition, Drs. Gardner, Muthukrishnan and Hodde serve as Unit-Based Leaders for our General Medical and Oncology units.

**Faculty/Members of the Division of Hospital Medicine:**

**Jason Bartsch, MD**  
Assistant Professor of Medicine  
Director of Medical Education, Division of Hospital Medicine  
Assistant Clerkship Director, Department of Medicine

**Brittany Bryan, PA**

**Lee-Anna Burgess, MD**  
Assistant Professor of Medicine  
Assistant Acting Internship Director, Department of Medicine  
Course Director, Nutrition, Metabolism, and GI, LCOM
Maria Burnett, MD, MS  
Assistant Professor of Medicine  
Co-Director of Quality and Safety, Division of Hospital Medicine

Caleb Burr, MD  
Assistant Professor of Medicine

Alejandro Castro, MD  
Assistant Professor of Medicine

Jennifer Clauss, PA

Markus Degirmenci, MD  
Assistant Professor of Medicine

Elie Donath, MD  
Assistant Professor of Medicine

Florian Foerg, MD  
Assistant Professor of Medicine  
Director, Hospital Medicine Consult and Co-management Service

Jon Ford, PA

Zechariah Gardner, MD  
Assistant Professor of Medicine  
Associate Division Chief, Division of Hospital Medicine  
Medical Director, Baird 3 CLM  
Co-chair, Hospital Operations

Nadia Ghallab, MD  
Assistant Professor of Medicine

Steven Grant, MD  
Associate Professor of Medicine  
Associate Chief Medical Officer for Care Coordination and Patient Transitions

Sonali Herath, PA

Naomi Hodde, MD  
Assistant Professor of Medicine  
Medical Director, Miller 5 CLM
Mohit Jindal, MD  
Assistant Professor of Medicine  
Director of Ultrasound Education, Division of Hospital Medicine

Peter Kaminski, MD  
Assistant Professor of Medicine

Amanda Kennedy, PharmD  
Associate Professor of Medicine  
Chair, Internal Medicine Residency Research Committee  
Department of Medicine Quality Scholar

Erin Kurek, MD, MPH  
Assistant Professor of Medicine

Shea Lambirth, MD  
Assistant Professor of Medicine

Griffin Latulippe, PA

Yao (Jim) Li, MD  
Assistant Professor of Medicine  
Informaticist

Caroline Lyon, MD, MPH  
Associate Professor of Medicine  
Division Chief, Division of Hospital Medicine  
Director, Hospital Medicine CME course

Rachel McEntee, MD  
Assistant Professor of Medicine  
Director, Medical Informatics

Sadie Mills, MD  
Assistant Professor of Medicine

Chad Mitchell, MD  
Assistant Professor of Medicine

Preetika Muthukrishnan, MD  
Assistant Professor of Medicine  
Medical Director, McClure 6 CLM  
Medical Director, Emergency Response Team  
Co-Director of Quality and Safety, Division of Hospital Medicine
Melissa Naef, PA

Mark Pasanen, MD
Associate Professor of Medicine
Program Director, Internal Medicine Residency Program
Vice Chair for Education, Department of Medicine

Allen Repp, MD, MS
Professor of Medicine
Vice Chair for Quality, Department of Medicine

Elly Riser, MD
Assistant Professor of Medicine

Tara Scribner, MD
Assistant Professor of Medicine

Paul Slavik, MD
Assistant Professor of Medicine

Michael Stutzman, MD
Assistant Professor of Medicine

Eric Westphal, PA

Dennis Woods, MD
Assistant Professor of Medicine

Editorships and Editorial Boards:

Allen Repp, MD, MS
Reviewer:
- Journal of Hospital Medicine
- Journal for Healthcare Quality
- Journal of General Internal Medicine
- Academic Medicine
- The Joint Commission Journal on Quality and Patient Safety

Zech Gardner, MD
Reviewer:
- British Medical Journal Open Quality
**Major Faculty Awards:**

Caleb Burr, MD was the recipient of the Mark A. Levine, M.D. Award for Outstanding Teacher of the Year in General Internal Medicine

Dr. Preetika Muthukrishnan won the Department of Medicine Quality Scholarship Award

Dr. Elly Riser was awarded the top medical innovations abstract for her work in addiction medicine education at the Society of General Internal Medicine Mountain West/New England Virtual Regional Meeting on November 6, 2020.

**Publications – peer reviewed, chapters, etc. (not abstracts)**


Presentations:

Dr. Naomi Hodde:

Dr. Elly Riser:
1. “Integrating Addiction Medicine into Undergraduate Education: The Time is Now”; Society of General Internal Medicine Mountain West/New England Virtual Regional Meeting. November 6, 2020
2. “Innovative Learning and Teaching About Substance Use/Opioid Use Disorder”, Coalition on Physician Education in Substance Use Disorders Virtual Meeting, January 21, 2021
The Division of Immunobiology currently has five research faculty and two graduate students. Research covers a variety of areas, including the immune response to infections and vaccines, virus-host interactions, autoimmune mechanisms, and inflammation in cancer. Research support includes numerous individuals grants as well as a Center of Biomedical Research Excellence (COBRE) Award from NIH. Now in its 15th year, the COBRE grant supports the activities of the Vermont Center for Immunology and Infectious Diseases (VCIID), which now numbers 25 faculty in 8 departments in 3 colleges and is in close alliance with the Vaccine Testing Center. The VCIID has a weekly joint Research-in-Progress meeting, seminar series, and a journal club. This provides a regular forum for students and postdoctoral fellows to present their research progress as well as for faculty to review hypotheses and specific aims of planned grants. During the first 10 years of COBRE funding, VCIID faculty published 419 articles and received over $92 million in funding. This also provided funds to allow the College of Medicine to build a new BSL3 facility in partnership with the Vermont Department of Health, and to recruit new faculty to the theme of the host response to infection. We also have a T32 Training Grant from NIH, also in its 15th year, to support the salaries of our graduate students.

Faculty

Ralph Budd, MD
University Distinguished Professor of Medicine and Microbiology & Molecular Genetics
Director, Vermont Center of Immunology & Infectious Diseases

- Key Research Interests: Autoimmune mechanisms, immune cell death, Lyme arthritis, caspase regulation, immune metabolism, γδ T cells
- Clinical interests in autoimmune diseases
Jason Botten, PhD
Professor of Medicine, Adjunct in Microbiology and Molecular Genetics
- Key Research Interests: Identification of key virus-host interactions required for viruses (e.g. arenaviruses, flaviviruses, coronaviruses hantaviruses) to complete their life cycle and/or cause human disease; understanding how host-driven posttranslational modifications (e.g. phosphorylation) of viral proteins regulate their functionality; understanding the natural history of host T and B cell responses to virus infection and how these immune cells contribute to protective immunity or immune-mediated pathogenesis; viral diagnostics; translating our basic science discoveries into vaccines and therapeutics.

Allison Falcone, DVM
Faculty Scientist
- Key Research Interests: Animal models of viral infection, A/BSL-3 studies, development of medical countermeasures for pathogenic RNA viruses (SARS-CoV-2, hantaviruses, arenaviruses)

Cory Teuscher, PhD
Professor of Medicine and Pathology
- Key Research Interests: Immunogenetics of animal models of autoimmune and infectious disease

Tina Thornton, PhD
Assistant Professor of Medicine
- Key Research Interests: Understanding motivation and ways to promote biomedical entrepreneurship and research commercialization, Understanding the interactions of signaling pathways that control early thymocyte development and survival, the interaction of the p38 MAPK pathway and GSK3 in the context of DNA damage signaling.

Graduate Students, Post-doctoral Fellows, MD PhD Students and brief statement on their research study:


Inessa Manuelyan (graduate student) – Identification of key human proteins and host-drive post-translational modifications of viral proteins required for flavivirus and coronavirus propagation.
Leadership in Professional Societies:

(Budd) Advisory Committee, New England Immunology Society

Editorships and Editorial Boards:

(Budd) Senior Editor for “Textbook of Rheumatology” 11th Edition, Elsevier

(Botten) Editor for Frontiers in Microbiology

Study Sections and Federal Advisory Boards:

Budd:
2020 T32 Grant Reviews AITC NIAID
2020 NIH Immunity and Host Defense
2020 ZGM1 RCB-9 COBRE Phase I Grant Review NIGMS
2021 ACTS (Arthritis, Connective Tissue, and Skin Biology Section)

Botten:
2020 Topics in Drug Discovery and Clinical Field Studies (ZRG1 IDM-N (02) Special Emphasis Panel, NIH /NIAID, Ad hoc reviewer

2021 NIH/NIAID Drug Discovery and Mechanisms of Antimicrobial Resistance Study Section DDR, Ad hoc reviewer

Teuscher:
2021 National Institutes of Health, ZRG1 BDCN-W (03)
2021 National Institutes of Health, NIGMS ZGM1 RCB-2 (C1)
2021 Reviewer, for applications in response to PAR-20-177 and PAR-20-178, “Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019 (COVID-19)

Permanent member, grant review panel for the National Multiple Sclerosis Society

Major Faculty / Research Awards:

(Botten) Promoted to Professor of Medicine (Tenure)
Recipient of the 2020 UVM LCOM Dean’s Mid-Career Investigator Award

Nominated for the 2020 UVM Department of Medicine Distinguished Mentor Award

Chaired a Breakout Session at the 2020 American Society of Virology Meeting.

Keynote speaker at the Northeast Regional Laboratory Staff and Core Directors Meeting.

Co-founding member of the PROPAGATE Network, an international team of scientists and regulatory officials working to increase global COVID-19 testing and screening capacity

Founding Scientific Advisory Board member for the Pandemic Security Initiative, a public-private partnership working to prepare the United States for future pandemics through the proactive development of innovative diagnostics, vaccines, and therapeutics

PhD students Inessa Manuelyan and Annalis Whitaker each received travel awards for the 2021 American Society of Virology Meeting. Annalis, Inessa, and Dr. Botten each gave talks at this meeting

Grants – list all active by faculty member, PI

Budd:

P30 GM118228 Budd (PI)
Title: Vermont Immunology / Infectious Diseases Center
Dates of Award: 08/05/2016 – 07/31/22
Role: PI
Current Yr funding: $1,165,985
Source: NIH/NIGMS

P30 GM118228-S1 Budd (PI)
Title: Alzheimer’s-focused Administrative supplement
Dates of Award: 08/01/2020 – 07/31/22
Role: PI
Current Yr funding: $390,000
Source: NIH/NIGMS

P30 GM118228-S2 Budd (PI)
Title: Administrative Supplement for Research on Women’s Health in the IDeA States
Dates of Award: 08/01/2020 – 07/31/22
Role: PI
Current Yr funding: $312,000
Source: NIH/NIGMS
R21 Al151407  Budd (PI)
Title: Ligands for Human Synovial Gamma-Delta T Cells
Dates of Award: 04/06/2020-03/31/22
Role: PI
Current Yr funding: $241,753
Source: NIH/NIAID

T32 AI 055402  Budd (PI)
Title: Vermont Immunology / Infectious Diseases Training Grant
Dates of Award: 09/01/05 – 08/31/21
Role: PI
Current Yr funding: $197,789
Source: NIH/NIAID

Botten:

R41Al132047 (STTR)  (Botten, J.) 08/08/2017-07/31/2021
NIH/NIAID
Therapeutic antibodies for treatment of hantavirus cardiopulmonary syndrome
Major goal is to capture the repertoire of antibodies generated against Andes hantavirus
during acute infection and identify those that could be used to therapeutically treat
disease.
Total costs of UVM sub with indirect costs: $0 No Cost Extension

R21AI154198 (Botten, J.) 06/01/2020-05/31/2022
NIH/NIAID
Title: Deep sequencing the lymphocytic choriomeningitis arenavirus quasi species to
identify and functionally validate the molecular signature of defective interfering
particles
Major goal is to map the phosphorylation sites on the arenavirus proteome and
determine
which modifications regulate the functionality of arenavirus proteins.
Total costs with indirect costs: $444,347

1R43Al142911-01 (SBIR)  (Botten, J., Co-PI) 01/01/2019-12/31/2021
NIH/NIAID
A novel antibody therapy for Sin Nombre virus infection
Major goal is to capture the repertoire of antibodies generated against Sin Nombre
hantavirus during acute infection and identify those that could be used to therapeutically
treat disease.
Total costs of UVM Sub with indirect costs: $0 No Cost Extension

1U01Al141997-01  (Botten, J., MPI) 02/01/19-01/31/24
NIH/NIAID
Mechanisms of Protection and Durability for a Live Attenuated Tetravalent Dengue Vaccine
Tetravalent dengue vaccination must offer safe and durable protection against all four serotypes of dengue viruses. We leverage four vaccine trials and viral challenges evaluating the NIH dengue vaccine to explore and confirm immune mechanisms associated with protection.
Total costs with indirect costs: $695,490

R41 AI157527  (Botten, J., Co-PI)  01/01/2021-12/31/2022
NIH/NIAID
A Novel Broad-spectrum Antiviral Agent
The primary purpose of this project is for Dr. Botten’s lab to perform hybridoma screening for SARS-CoV-2 and Junin viral neutralization – white plate assay and IC50.
Total costs of UVM Sub with indirect costs: $131,736

Jet Propulsion  (Botten, J.,PI)  06/01/2020-07/31/2021
Screening of novel anti-SARS-CoV-2 peptides for infection of Vero E6 cells with SARS-CoV-2
The goal of this project is to test a library of peptides for their ability to inhibit SARS-CoV-2 growth.
Total costs with indirect costs: $100,000

IGM Biosciences  (Botten, J.,PI)  07/14/2020-11/31/2021
SARS CoV-2 Neutralization Assay of Proof of Concept Multimeric Antibodies
The purpose of this phase is to establish methodologies and determine the feasibility of performing live SARS-CoV-2 viral neutralization assays with purified antibodies or culture supernatants containing these antibodies.
Total costs with indirect costs: $410,455

IGM Biosciences  (Botten, J.,PI)  03/01/2021-2/22/2022
In-Vivo Efficacy Testing of Human Monoclonal Antibodies
The purpose of this project is for Dr. Botten’s lab to establish 3 murine models of SARS-CoV-2 infection to test the efficacy of human monoclonal antibodies (mAbs) for inhibition of viral replication and disease pathogenesis.
Total costs with indirect costs: $357,557

Atreca  (Botten, J.,PI)  11/02/2020-11/01/2021
Mapping the repertoire of human antiviral antibodies during acute SARS-CoV-2 infection
The purpose of this project is for Dr. Botten’s lab to perform functional testing on human mAbs derived from COVID-19 plasmablasts as well as plasma or serum from these same donors.

Total costs with indirect costs: $315,625

Teuscher:

R01 NS097596 (Krementsov D, PI) 03/15/2017-01/31/2022
NIH
Interactions Between Host Genetics and the Gut Microbiome in CNS Autoimmunity
Annual Direct Costs: $218,750  Teuscher Effort: 5%

RG-1807-31533 (Krementsov D, PI) 10/01/2019-09/30/2022
NMSS
Next generation systems analysis of pathogenetic mechanisms underlying CNS autoimmunity using the Collaborative Cross
Annual Direct Costs: $38,152  Teuscher Effort: 5%

P30 GM118228-05S2 (Budd R, PI) Teuscher C (Lead Contact) 08/01/2020-07/31/2021
NIH/NIGMS
Vermont Immunology/Infectious Disease Center Supplement in response to NOT-GM-20-017: Administrative Supplements for Research on Women’s Health in the IDeA States
Annual Direct Costs: $200,000  Teuscher Effort: 11%

R21 AI152556-01A1 (Bonney E, PI) 05/21/2021-04/30/2022
NIH/NIAID
Mechanistic Analyses of the Genetic Variation of Preterm Birth Using the Collaborative Cross Mice
Annual Direct Costs: $153,009  Teuscher Effort: 10%

R01 DK113800 (Mawe G, PI) Teuscher C (Co-PI) 09/20/17-08/31/21
NIH/NIDDKD
Autoimmune Mechanisms of Gastrointestinal Dysmotility in Multiple Sclerosis
The goals for this project are to test the hypotheses that 1) gastrointestinal motility is disrupted in EAE mice and determine whether this function involves antibody production by B-lymphocytes, 2) human MS and murine EAE serum samples contain autoantibodies that target enteric neuronal and/or glial cell proteins, 3) activities of colonic enteric glial cells and neurons are disrupted in EAE mice and by exposure to MS serum samples and 4) existing treatments for constipation or for EAE somatic symptoms can restore intestinal motility in EAE mice.
Direct Costs: $298,106

Publications – peer reviewed, chapters, etc. (not abstracts):


The Infectious Diseases (ID) Division is comprised of twelve attending physicians and 3 mid-level providers on the Burlington campus dedicated to the diagnosis, management, prevention and investigation of infectious diseases. Obviously, this past year was defined by the COVID–19 pandemic. The ID division played a key role in the UVMMC response and worked closely with Employee Health and Infection Prevention to care for patients and protect staff. We collaborated with the Medical Center, the Network, and the state of Vermont. Meanwhile, the division carried on with its day to day work, providing outstanding patient care for those in the hospital as well as in the clinic and throughout the State, teaching fellows, residents, students, colleagues, and the community, performing cutting edge research, and providing administrative support for a variety of hospital functions.

The ID Division performs about 150 inpatient consultations a month. We also staff a busy outpatient clinic seeing new consultations, hospital follow-ups, and caring for travelers, those living with HIV, hepatitis C, tuberculosis and refugees, among others. This effort includes the care of over 500 patients with HIV in four federally funded Comprehensive Care Clinics located in Burlington, Brattleboro, Rutland, and St. Johnsbury. The Division has contracts with the Vermont Department of Health to collaborate on antibiotic stewardship, tuberculosis, and biological and pandemic preparedness. The Division has a contract with the VT Department of Corrections to consult on hepatitis C. The ID staff includes the Chair of the Department of Microbiology and Molecular Genetics in the College of Medicine, the UVM Medical Center Hospital Epidemiologists and Director of Infection Prevention, the Director of Pandemic Preparedness, a Vice Chair of Medicine, the Director of Antibiotic Stewardship, the Director of Clinical Ethics, the Larner College of Medicine Clerkship Director for the Department of Medicine, the Course Director for Cardiovascular, Respiratory, and Renal Systems in the College of Medicine, the Associate Director for the Department of Medicine Residency Program, and the Director of the Vaccine Testing Center at UVM.

We are proud to have become the UVM Health Network Infectious Diseases Division, welcoming ID physicians from Champlain Valley Physicians Hospital and Central Vermont Medical Center.

In addition to daily teaching rounds with medical students, residents and fellows, the faculty are actively involved in teaching several courses in the Larner College of Medicine. The ID Division accepts one fellow per year into a two-year fellowship-training program. The graduating fellows have a 100% board certification pass rate. Our fellows have presented abstracts at national ID meetings; published peer reviewed articles, and authored book chapters. We are very pleased that we were able to recruit our graduating fellow this year, Sean Bullis, to join our faculty.
Within our Division, we have several active research laboratories, which support a number of clinical and basic science projects including those performed by a PhD faculty member, graduate and visiting students, laboratory technicians, and often the 2nd year ID Fellow.

The Huston laboratory has been continuously funded by the NIH as well as various NGOs and is working on the discovery of therapeutic agents for Cryptosporidium.

Investigations of the Kirkpatrick laboratories and Vaccine Testing Center (VTC) continue in the Department of Microbiology and Molecular Genetics (MMG), in tight collaboration with the division of Infectious Diseases. It focuses on improving global health through the assessment of candidate vaccines, microbial diseases, and the understanding of human protective immune responses following vaccination and infection. The team continues to work on development of the NIH’s live attenuated tetravalent dengue vaccine, performs extensive work on dengue human immunology and correlates of protection, Zika vaccine development and immunology, rotavirus immune correlates of protection, polio vaccines and mucosal immunology, as well as human experimental challenge models for Cryptosporidium and dengue. During the last year, collaborative projects with long-standing colleagues in Bangladesh have continued, with some understandable challenges due to COVID. In addition, the VTC was involved with the global efforts at COVID vaccine development, and participated in the national phase 3 study for the Astra Zeneca vaccine candidate.

In addition to clinical revenues, financial support is provided by grants from the National Institutes of Health (NIH), especially NIAID, the Health Services Research Administration (HRSA) as well as contracts with regional hospitals, the VT Department of Health, and UVM Medical Center directorships.

Obviously, none of this work would be possible without our fantastic support staff. In addition to the 12 attending physicians, the Infectious Diseases Division includes 23 individuals statewide, including 3 midlevel providers, 2 fellows, 2 administrative staff, 5 nurses, 2 medical assistants, 2 schedulers, a dietitian, a social worker, and 5 staff at our HIV outreach hospitals. In addition, there are 3 attending physicians and a midlevel at our Network hospitals.

The Division has been recognized with several awards this year, including Dr. Kirkpatrick being named as a 2021–22 University Scholar, Dr. Pierce being awarded the Dean’s Faculty Award for Professionalism, Dr. Singh receiving the Gold Humanism Honor Society (GHHS) - Leonard Tow Humanism in Medicine Faculty Award, and Mary Claire Walsh receiving the Dean’s Staff Award for Professionalism.

This year saw the much-deserved promotion of Dr. Noyes to Associate Professor.

**Faculty**

**W. Kemper Alston, MD, MPH**
Professor
- Division Chief, Infectious Disease Division
- Attending Physician for Infectious Disease
- Assistant Hospital Epidemiologist
- Tuberculosis Consultant, State of Vermont
- Medical Director, UVMMC Employee Health
- Infection Prevention Consultant, Northwestern Medical Center
- HIV care provider, Brattleboro Memorial Hospital, Comprehensive Care Clinic
- Member, Infection Prevention Committee, UVM
- member, Medical Staff Quality Assessment and Improvement Committee, UVM
- Member, Infectious Diseases Practice Subcommittee, Pharmacy and Therapeutics Committee, UVM
- Volunteer, Visiting Nurse Association of Chittenden and Grand Isle Counties, Quality Assurance and Performance Improvement Committee

Jean Dejace, MD
Assistant Professor
- Director, Infectious Disease Fellowship Training Program
- Attending Physician for Infectious Disease
- CVPH attending

Andrew Hale, MD
Assistant Professor
- Attending Physician for Infectious Disease
- Director, Infectious Elective Rotation
- Course Director, How the Hospital Works, 4th yr medical student course
- Course Director, Comparative Physiology, Mount Desert Island Biological Laboratories
- Course Director, Cardiac Respiratory and Renal Pathophysiology at the UVM Larner College of Medicine
- Associate Program Director, Internal Medicine Residency at the UVM Larner College of Medicine

Christopher D. Huston, MD
Professor of Medicine with Tenure
- Research Interests: Intestinal protozoan infections including *E. histolytica* host-parasite infections, *Cryptosporidium* drug development
- Attending Physician for Infectious Disease
- Institutional Biosafety Committee, UVM
- Reappointment, Promotions and Tenure Committee, Department. of Medicine, UVM
- College of Medicine Advisory Committee. UVM Larner College of Medicine
- Physician-Scientist Working Group. UVM Larner College of Medicine

Beth D. Kirkpatrick, MD, FIDSA, FASTMH
Professor of Medicine with Tenure
Chair, Department of Microbiology and Molecular Genetics
- Director, UVM Vaccine Testing Center
- Research Interests: Vaccine development, vaccine immunology, enteric and flavivirus infections, human experimental infection models.
- College of Medicine Advisory Committee. UVM Larner College of Medicine.
- Physician-Scientist Working Group. UVM Larner College of Medicine
Tim Lahey, MD, MMSc
Professor of Medicine
- Director, Clinical Ethics
- Attending Physician for Infectious Disease
- Ombudsperson for Graduate Medical Education
- Co-Chair, Unsafe Patient Behavior Task Force
- Co-founder, Behavior Response Team
- Member, Workplace Violence Initiative
- Member, High Value Care Committee
- Faculty co-advisor, Social Justice Coalition, UVM Larner College of Medicine
- Faculty associate-advisor, Albert Schweitzer Fellowship, UVM Larner College of Medicine
- Member, Vermont State COVID-19 Serology Workgroup
- Member, Vermont State Crisis Standards of Care Working Group
- Member, Vermont COVID-19 Vaccine Implementation Advisory Committee
- Member, Advanced Integration Level Subcommittee
- Scholarly interests: clinical ethics, medical education including re social medicine, tuberculosis vaccines

Cindy Noyes, MD
Associate Professor of Medicine
- Attending Physician for Infectious Disease
- Hospital Epidemiologist
- Director, Infection Prevention

Kristen K. Pierce, MD
Professor of Medicine
- Vice Chair for Academic Affairs
- Attending Physician for Infectious Disease
- Lead Clinical Investigator, Vaccine Testing Center
- Research Interests: Development of Live Attenuated Flavivirus Vaccines
- Institutional Review Board

Louis B. Polish, MD
Associate Professor of Medicine
- Director, Department of Medicine Inpatient Medicine Clerkship Program
- Attending Physician for Infectious Disease

Devika Singh, MD, MPH
Assistant Professor of Medicine
- Director, Part C HRSA Award, Part B HRSA Sub Award, and NEAETC Sub Award
- Attending Physician for Infectious Disease
- HIV care provider, Rutland Regional Medical Center, Comprehensive Care Clinic
- Principal Investigator for Long Term Sequelae of Covid-19 public health surveillance project between UVMMC and Vermont Department of Health
- Research Interests: HIV and the sexual and reproductive health of women, sexually transmitted diseases
Consultant and researcher in pharmacovigilance/safety, Microbicide Trials Network (HIV/AIDS clinical trials network by the National Institute of Allergy and Infectious Diseases)
College of Medicine: Medical Curriculum Committee

**Lindsay M. Smith, MD**
Assistant Professor of Medicine
- Director, UVMMC Antimicrobial Stewardship Program
- Attending Physician for Infectious Disease
- Co-Chair, IDCP sub-committee, Pharmacy and Therapeutics Committee

**Jose E. Teixeira, PhD**
Faculty Scientist
- Interests: Intestinal protozoan infections including *E. Histolytica* host-parasite infections, *Cryptosporidium* drug development

**Timothy Whitman, DO**
Associate Professor of Medicine
- Attending Physician for Infectious Disease
- HIV care provider, Northeastern Vermont Regional Hospital, Comprehensive Care Clinic
- Quality Assurance and Improvement Committee representative

**Fellows**

**Sean Bullis, MD**
Infectious Disease 2nd Year Fellow
- Infectious Disease Fellowship Training Program July 1, 2019 – June 30, 2021

**Katherine Peterson, MD**
Infectious Disease 1st Year Fellow
- Infectious Disease Fellowship Training Program July 1, 2020 – June 30, 2022

**Nurse Practitioners and Physician Assistants:**

**Jessica Terrien, PsychNP**
Comprehensive Care clinic, HIV patients
- HIV Patient Care, mental health

**Laura Catoe, ARNP**
Nurse Practitioner, Comprehensive Care clinic
- Travel health
- Vermont Refugee Clinic
- General ID
Mary Claire Walsh, NP
Nurse Practitioner, Comprehensive Care Clinic / Vaccine Testing Center
- General ID

Graduate Students, Post-doctoral Fellows, MD PhD Students:

Bethany Mihavics—PhD Student (Huston Laboratory)
Ethan Mattice—PhD Student (Huston Laboratory)
Jubilee Ajiboye – PhD Student (Huston Laboratory)

Endowed Professorships:

Leadership in Professional Societies:

Christopher Huston, M.D.
- Member, American Society for Microbiology Council on Microbial Sciences

Beth Kirkpatrick, MD, FIDSA, FASTMH
- Global Health Committee, Infectious Disease Society of America
- Institutional Representative, American Society for Clinical Investigation (ASCI)
- Scientific Advisory Board. Symposium on Controlled Human Experimental Infection Models. International Alliance for Biologic Standardization (IABS)

Tim Lahey, MD, MMSc
- Member, United States Medical Licensing Examination Microbiology and Immunology Test Material Development Committee
- Member, United States Medical Licensing Examination Step 1 Interdisciplinary Review Committee
- Member, United States Medical Licensing Examination General Principles/Foundational Science Task Force

External Reviewer, Editorships and Editorial Boards:

W. Kemper Alston, MD
- External reviewer
  - Annals of Internal Medicine,
  - Clinical Infectious Diseases
  - Infection Control and Hospital Epidemiology

Andrew Hale, MD
- External reviewer
  - Medical Teacher
- Teaching and Learning in Medicine
- BMJ Open
- ID Cases: received “Reviewer Recognition” in 2019, 2020
- Contributing writer, Contagion
- Journal of Graduate Medical Education
- Cancer Causes and Control
- Therapeutic Advances in Infectious Disease
- PLOS Medicine
- Case Reports in Infectious Diseases
- Journal of the American Podiatric Medical Association

Christopher Huston, MD
- Editorial Board Member – Infection and Immunity
- External reviewer
  - PLoS Pathogens
  - PLoS Neglected Tropical Diseases
  - PLoS ONE
  - mBio
  - Antimicrobial Agents and Chemotherapy
  - Journal of Infectious Diseases
  - Clinical Infectious Diseases
  - ACS Infectious Diseases
  - Cellular Microbiology
  - Molecular Microbiology
  - Molecular and Biochemical Parasitology
  - Journal of Clinical Microbiology
  - American Journal of Tropical Medicine and Hygiene

Beth Kirkpatrick, MD, FIDSA, FASTMH
- Section Editor, American Journal of Tropical Medicine and Hygiene 2014-present
- External Reviewer
  - American Journal Tropical Medicine and Hygiene
  - Clinical Infectious Diseases
  - Journal Infectious Diseases
  - Lancet Infectious Diseases
  - PLOS Neglected Tropical Diseases
  - PLOS Pathogens
  - PLOS ONE
  - Vaccine

Tim Lahey, MD, MMSc
- External Reviewer
  - Clinical Infectious Diseases
  - Academic Medicine
  - The Lancet Respiratory Medicine
  - AMA Journal of Ethics
Kristen Pierce, MD
- External reviewer
- American Society of Tropical Medicine and Hygiene

Study Sections and Federal Advisory Boards:

Christopher Huston, MD
- Ad-Hoc Reviewer - National Institutes of Allergy and Infectious diseases
  - 2020, PTHE study section (Pathogenic Eukaryotes)

Beth Kirkpatrick, MD, FIDSA, FASTMH
- Indo-US Vaccine Action Program, Candidate Vaccine Advisory Committee (CVAC) - international Vaccine Working Group

Kristen Pierce, MD
- ACIP American Council on Immunization Practices – CDC working group on Flavivirus Vaccines
- Indo-US Vaccine Action Program, Candidate Vaccine Advisory Committee (CVAC). – international Vaccine Working Group

Major Faculty Awards:

Andrew Hale, MD
UVMMC Foundations Course Director Award

Tim Lahey, MD, MMSc
Albert Schweitzer Fellowship Leadership Award 2019

Cindy Noyes, MD
University of Vermont Medical Center Department of Medicine, Distinguished Clinician Award

Devika Singh, MD
Innovation Grant through the UVM Health Network Medical Group. Title of the project: Sexual and Reproductive Health Needs and Experiences of Women Living with HIV/ AIDS in Vermont. The award is for a two year project starting January 2021 through December 2022

Grants – list all active by faculty member, PI

Andrew Hale, MD
Frymoyer Scholars Program 7/1/18-6/30/20
Optimizing Care for Vermonters Infected with Hepatitis C Virus through a Statewide Educational Curriculum
Andrew Hale, MD (PI)
HIV/HCV Care for Incarcerated Persons in Vermont
Consultant for the State of Vermont Department of Corrections contractor for optimizing care of HIV and HCV infected persons who are incarcerated in Vermont.
3/1/2019-2/28/2020
$48,000 per year

Andrew Hale, MD (PI)
Eureka Grant, University of Vermont Department of Medicine.
The Impact of Infectious Diseases Provider Involvement on Asplenic Care Outcomes
4/11/2019-6/30/2022
$10,000

Chris Huston (Co-investigator (5%)) (Jason Botten is the PI)
NASA Jet Propulsion Laboratory
Title: Screening of novel anti-SARS-CoV-2 peptides for infection of Vero E6 cells with SARS-CoV-2
June 1, 2020-December 31, 2020
Direct costs: $100,000

Christopher Huston (Co-investigator) (Melissa Love (PI) at Calibr at Scripps Institute)
Wellcome Trust
Title: New treatments for cryptosporidiosis
Role: Principal Investigator of sub-contract at UVM (1% effort)
11/1/2020-10/31/2023
UVM total costs: $15,000

Christopher Huston, MD (PI)
Merck Serono
Project title: Screening the Merck “mini-library” for anti-Cryptosporidium drug activity
Role: Principal investigator (2.6% effort)
12/1/2015-12/31/2019
Direct costs: $43,547  Total costs: $67,032

Christopher Huston, MD (PI)
National Institute of Allergy and Infectious Diseases R21 AI130807
Project title: Continuous in vitro culture and treatment of Cryptosporidium using small molecule differentiation inhibitors
Role: Principal investigator (10% effort)
1/25/2017-12/31/2019 (NCE)
Direct costs: $275,000  Total costs: $419,375

R01 AI143951  Christopher Huston, MD (PI)
National Institutes of Allergy and Infectious Diseases (NIAID)
Project title: Preclinical optimization of a parasiticidal drug for cryptosporidiosis
The goal of this project is to develop a new drug candidate for treating cryptosporidiosis and determine its molecular mechanism of action, beginning with a piperazine-based lead compound identified through phenotypic screening.

Role: Principle investigator (multi-PI grant; Huston lead (20% effort))
3/01/2019-02/29/2024
UVM Direct costs: $1,088,495  UVM Total costs: $1,682,577

R21 AI141184 Christopher Huston, MD (PI)
National Institutes of Allergy and Infectious Diseases (NIAID)
Project title: Repurposing the EMD-Serono “mini-library” for Cryptosporidium drug development.
The goal of this project is to develop a new drug candidate for treating cryptosporidiosis, using high-value EMD-Serono compounds as the chemical starting points.
Role: Principle investigator (multi-PI grant; Huston lead (10% effort))
2/01/2019-1/30/2021
UVM Direct costs: $297,992  UVM Total costs: $456,623

R33 AI141184 Christopher Huston, MD (PI)
National Institute of Allergy and Infectious Diseases (NIAID)
Project Title: Repurposing the EMD-Serono “mini library” for Cryptosporidium drug development.
The grant is a continuation of the R21 grant listed above
Role: Principle investigator (multi-PI grant; Huston lead (10% effort))
1/31/2021-1/31/2024
UVM Direct Costs $1,246,99 UVM Total Costs $1, 373,205

Christopher Huston MD (Co-PI) (10% effort)
Gilbert (PI) (University of Dundee)
Medical Research Council (Great Britain)
Project title: Development of new agents for the treatment of cryptosporidiosis
Role: Principal investigator of sub-project at UVM (10% effort)
1/2019-8/2021
UVM Direct costs: $330,884  UVM Total costs: $330,884

P20GM125498  Kirkpatrick (PI)
National Institutes of General Medical Sciences Center of Biological Research Excellence (COBRE)
Project title: Translational Research to Prevent and Control Global Infectious Diseases (Translational Global Infectious Diseases Research Center, TGIR)
The goal of this project is to establish a center for translational infectious diseases research at UVM by facilitating interactions between faculty in the biological sciences with faculty in the engineering and data sciences.
Role: Co-principal Investigator (20% effort)
10/01/18-09/30/23
UVM Direct costs: $7,515,013 UVM Total costs: $11,515,478

NIH U01 AI141997    Kirkpatrick, Diehl, Botten (MPI)
Mechanisms of Protection and Durability for a Live, Attenuated Tetravalent Dengue Vaccine
This work seeks to clarify the immune components and mechanisms of durable protection of a live tetravalent dengue vaccine.
02/2019-01/2024

Bill & Melinda Gates Foundation   (Kirkpatrick (PI)
New Paradigms of Campylobacter Persistence and Transmission in Zimbabwean Infants. This work follows our observations of human Campylobacter recrudescence and uses metagenomic sequencing in a new birth cohort to re-examine reservoirs and transmission of this important pathogen. This data may improve prevention of an important cause of infant diarrhea and poor health in low-income settings.
1/2019-12/2022

NIH P20 GM125498-01     Kirkpatrick (PI)      10/2018-9/2023
Center of Biomedical Research Excellence (COBRE) award for the Translational Global Infectious Disease Research (TGIR) Center. This award supports institution-wide growth in global Infectious Disease research and the support and development of junior faculty (from both biomedical and computational/quantitative data fields) toward research independence.
10/2018-9/2023

Beth D. Kirkpatrick, MD Principal Investigator
Improving Rotavirus Vaccination: Refining Correlates of Protection and Immunologic Responses to Vaccination. The major goals of this project are to permit better understanding and use of immunologic markers (correlates) of protection and identify the optimal immunologic responses and variables inhibiting responsiveness to rotavirus vaccination.
$2,200,000 (2015-2019) Bill and Melinda Gates Foundation

Beth D. Kirkpatrick, MD   Site Principal Investigator
Operation of a Facility for the Study of Infectious Agents, Vaccines, and Antimicrobials in Adult and Pediatric Human Subjects. This award supports the design and implementation of a series of large outpatient clinical studies and basic immunology evaluations of novel live flavivirus (e.g. Dengue, West Nile, Zika) virus vaccines and human challenge models.
$9,000,000  (2009-2019) National Institutes of Health and Johns Hopkins University

Devika Singh, MD  MPH (Principal Investigator)
UVM Medical Group / Vermont Department of Health
Sexual/Reproductive Health Needs and experiences of women
1/1/2021 – 12/31/2022
$50,000  non Federal award VDH

Devika Singh, MD
New England AIDS Education Training
7/1/2020 – 6/30/2021
$49,039 Federal sub-award, UMASS
Devika Singh, MD (PI)
Ryan White Part C Grant for HIV Care
5/1/2020– 4/30/2021
$ 530,005 Federal HRSA

Devika Singh, MD (PI)
Ryan White Part C Grant for HIV Care
5/1/2021 – 4/30/2022
$ 530,005 Federal HRSA

Devika Singh, MD (PI)
Ryan White HIV/AIDS Program Part C EIS Covid-19 Response
4/1/2020 – 3/31/2021
$ 77,125 Federal HRSA

Devika Singh, MD (PI)
Ryan White Care Act Part B Sub Award
1/1/2020– 12/31/2020
$340,000 Federal HRSA

Devika Singh, MD (PI)
Ryan White Care Act Part B Sub Award
1/1/2021– 12/31/2021
$290,000 Federal HRSA

Lindsay M. Smith, MD
Vermont Department of Health Antimicrobial Stewardship Grant
6/1/17 – 4/30/20
Total Direct Costs $410,939

Publications – peer reviewed, chapters, etc. (not abstracts)


Hale A. A Tale of Two Doctors. *Journal of Medical Education and Training*, 2021; 5:e055


Dr. Kristen Pierce – mentioned/quoted in UVM COM news: A Matter of Trust: Bringing Vaccine Education to New American Communities.

DIVISION OF NEPHROLOGY

Annual Report – July 1, 2020-June 30, 2021

A. Executive Summary:

The past year continued to be a challenging one for the Division. We saw a continued reduction in available FTE, and a complete shut down of office based visits. We did rehire Megan Houstan to staff the Acute Dialysis Unit, a major source of patient and staff satisfaction. We continued patient care activities largely through ‘virtual’ visits. We learned that these were more efficient than office visits and as a result our arrived visits increased nearly 40% with almost every provider exceeding their budgeted targets (the exceptions were in those who were on maternity leave during this time period). In the Spring of 2021, we reopened office visits but continue to have 85-90% of patient visits via telephone or zoom.

The Division started an ACO funded ‘navigator’ program to work specifically with patients who are nearing end stage renal disease. The recently hired navigator will be interacting with these patients, educating them with regard to diet, dialysis, transplantation, and palliative care options, establishing ‘goals of care’ documents, and facilitating the transition to a path consistent with those patient goals. The ultimate goal is to improve the patient experience and reduce hospitalizations and costs associated with developing end stage kidney disease. There are currently ~100 patients enrolled in the program and we are accumulating statistics on patient satisfaction, timeliness of dialysis starts, referrals to transplant program, referrals to home dialysis program, etc.

Research activities increased in the past year. Dr. Kat Cheung was successful with a number of competitive grants including the COBRA grant on neural and brain microcirculatory health and was a subPI for an NIH grant involving training of dialysis providers to effectively discuss end of life issues with patients using a ‘best case-worse case scenario’ format. Dr. Solomon oversaw a pilot trial of low frequency ultrasound to protect the kidneys from insult during TAVR procedures. The trial monitored renal production of nitric oxide and urinary oxygen levels. Positive results were observed and a manuscript has been submitted. A national trial (Dr. Solomon as National PI) is just getting started using the same technology in patients undergoing cardiac angiography. A number of pharmaceutical sponsored trials in IgAl nephropathy, diabetes, glomerular diseases were also started in the past year while we completed trials in diabetes, IgA and metabolic acidosis. We lost one research coordinator and are currently posting the position for a replacement.

On the educational front, we remained without a renal fellowship program. Dr. Onuigbo has agreed to become the program director with help from Drs. Fitzgerald and Narasimhadevara. During Covid, we stopped accepting observers into the Division. This had been a consistent source of learners for the Division. One of our early 2020 observers successfully interviewed at UVMMC and is now a first year resident here.
Despite the many challenges associated with the loss of clinical FTE (higher workload, more nights and weekends on call), EMR upgrades, financial constraints on variable compensation, loss of childcare services affecting some of our junior faculty, the Division scored extremely well on provider satisfaction and was one of the lowest on the burnout survey. None of the above changes have diminished patient access and the quality of care delivered. Indeed, the Division was a leader in the Press-Gainey patient satisfaction survey.

At the Network level, very little has changed over the past year. CVPH and the Plattsburgh community are underserved with regard to outpatient CKD visits despite the presence of two UVM trained nephrologists who do not have resources for outpatient care.

Patient Care

| RVU target FY19 – 32,210 | Actual 30,066 (-6.7%) |
| RVU target FY20 – 36,652 | Actual 18,586 (-23.5%) as of May 2020 |
| Arrived Visits target FY19 -6440 | Actual 4305 (-33%) |
| Arrived Visits target FY20 -6674 | Actual 3196 (-27.8%) as of May 2020 |

B. Faculty

Varun Agrawal, MD
Associate Professor
Medical Director of Barre Dialysis Unit
   Education of medical residents, burnout in nephrology fellows

Katherine Cheung, MD
Assistant Professor of Medicine
Frailty in chronic kidney disease, cognitive decline in end stage kidney disease

Chidinma Enyinna, MD
Assistant Professor of Medicine
Coverage of Rutland dialysis unit
   Interest in quality improvement projects (Dr. Onuigbo mentor)

Alison Fitzgerald, MD
Assistant Professor of Medicine
Medical Director Newport Dialysis Unit
   Well-being of medical students

Virginia Hood, MD
Professor of Medicine
Director of Stone Clinic
   High value care, nephrolithiasis
Abhishek Kumar, MD
Assistant Professor of Medicine
Transplant, including cardiac transplant

Nina Narasimhadevara, MD
Assistant Professor of Medicine
Medical Director, Rutland Dialysis Unit
Urinary oxygen as marker of kidney function

Macaulay Onuigbo, MD
Professor of Medicine
Medical Director of Home Dialysis Unit
Acute kidney injury

Marios Prikis, MD
Associate Professor of Medicine
Medical Director of Transplantation
Transplantation

Jeff Rimmer, MD
Professor of Medicine
Medical Director Acute In-Patient Dialysis Unit and Chittenden County Dialysis Unit
Hemodialysis,

Richard Solomon, MD
Professor of Medicine
Director, Division of Nephrology
Medical Director of Acute Dialysis Unit
Acute kidney injury

Sree Susarla, MD
Assistant Professor of Medicine

Wolfgang Weise, MD
Associate Professor of Medicine
Medical Director, St. Albans Dialysis Unit
Glomerulonephritis

C. Fellows:

None

D. PA/NP:
Margaret Butler, APRN (outpatient hemodialysis and chronic kidney disease)
She is our designated ‘superuser’ for EPIC
Megan Houston, APRN (in patient hemodialysis)

E. Post-doctoral Fellows (Ph.D.)
None

F. Endowed Professorship

Patrick Professorship (Dr. Solomon)

G1. Leadership in Professional Societies

- Kidney Disease Outcome Quality Initiative Education committee, National Kidney Foundation (Agrawal)
- American Academy of Hospice and Palliative Medicine special interest group (Cheung)
- American Geriatrics Society Junior Faculty Committee (Cheung)
- Member, Kidney Supportive Care Work Group (Cheung)
- Member, UVM Medical Center Board of Trustees, 2014-present (Hood)
  Chair, UVM Health Network Population and Quality Committee, 2017-present (Hood)
  Member, UVM Health Network Board of Trustees, 2017–present (Hood)
- Member Executive Committee, International Society Internal Medicine 2015-present (Hood)
- Member, Sydney University Graduate Union North America Board of Trustees (Hood)
- Member, ACP Membership Committee (Hood)
- Member, ACP Vermont Chapter Council (Hood)
- President Emeritus, American College of Physicians (Hood)
- Member of the European Board of Transplant Medicine, National representative (Prikis)
  Board Member and Examiner for the Transplant Medicine certification of the European Union of Medical Specialties (UEMS). (Prikis)
- European network for Collaboration on Kidney Exchange Program – COST action (Prikis)
- Chairman, Constitution and Bylaws Committee, Association of Nierian Physicians in the Americas (Onuigbo)
- ESRD Network 1 Board of Directors (Rimmer)
  ESRD Network 1 Medical Review Committee (Rimmer)

G2: Larner College of Medicine, Department of Medicine
H. Editorships and Editorial Boards

- Associate Editor, *Journal of Medical Case Reports*. Nov 2014 to present (V. Agrawal)
- Associate Editor, BioMed Central Nephrology. Nov 2016 to present (V. Agrawal)
- Member, Editorial Board, International Journal of Clinical Practice (Onuigbo)
- Member, Editorial Board, BioMed Research International (Onuigbo)
- Member, Editorial Board, Journal of Renal Injury Prevention (Onuigbo)

I. Study Section and Federal Advisory Boards
J. Major Faculty Awards
- Cheung, KL. Junior Faculty Researcher of the Year, UVM Health Network 2020.

K. Grants (all grant accounts show a positive balance) – active 2020-2021

Federal
- National Palliative Care Research Center Career development award ($154,000 over 2 years) – (Cheung) July 2018- Dec 2020
  Telemedicine facilitated palliative care consultations in rural dialysis units– (Cheung)
- NIH-NIA R01 (June 2020-Feb 2025- $202,800) A Randomized-Clinical Trial of a Communication Tool to Improve Access to Palliative Care for Patients with End-Stage Renal Disease (Cheung- site PI)
- NIH RO1 DK113201 IMPROVE AKI: A Cluster-Randomized Trial of Team-Based Coaching Interventions to IMPROVE Acute Kidney Injury (Jeremiah Brown, PI)
  Role: Sub PI July 2018-June 2023 (Solomon)
- NIH-NIGMS (Cushman/Nelson (PI) 8/2020-7/2023
  Trajectories and vascular mechanisms of cognitive impairment in chronic kidney disease
  The goal of this study is to examine the trajectories of cognitive impairment in chronic kidney disease in the REGARDS study, to identify risk factors for rapid decline and to examine potential vascular mechanisms of cognitive impairment in CKD.
  Role: Cheung, Project Director
  Direct Costs: $495,000

University of Vermont
- Aortic pathology and acute kidney injury in patients undergoing TAVR (Solomon/Dauerman) IRB 17-0238
- University of Vermont Center for Biomedical Innovation (UVM CBI) SEED Project Research Award, 2021-2022. (Onuigbo) Hemodialysis Filter Rotator/Manipulator.
  March 9, 2021. This is a two-term Electrical and Biomedical Engineering/Mechanical Engineering Capstone Design UVM Course. University of Vermont (UVM) College of Engineering and Mathematical Sciences (CEMS) Senior Experience in Engineering Design (SEED) UVM CEMS – SEED.
**Multicenter Pharmaceutical grants**

- Bayer Figaro and Fidelio Trials: Use of finerenone for patient with diabetes and chronic kidney disease (Solomon) IRB: 16-057 and 16-058
- REATA: Study of bardoxylone treatment in patients with autosomal dominant polycystic kidney disease (Solomon) IRB: Study 341
- CALLIDITAS: Budesonide therapy in patients with IgA nephropathy (Solomon) IRB Study 15
- TRC101: Treatment of metabolic acidosis in patients with chronic kidney disease using a novel H+ binder (Solomon) IRB 19-0188
- APOLLO study: participating center (Prikis)
- Cell free donor DNA (Allosure) in diagnosing BK nephropathy. Study run by Univ of Rhode island and CareDx- Pending budget approval, participating center (Prikis)

**L. Publications**

7. Locke A, Bushey MA, LaCroix C, Deardoff P, Chukwukadibia, Onuigbo MA. Timed Controlled Repeated Rotation of the CAR-170-C NXSTAGE Chronic Cartridge Hemodialysis Filter: A Novel Approach to Enabling Heparin-Free Frequent Daily Home


Abstracts;


INVITED SPEAKER
National and International:

AAHPM- oral presentation at Annual Assembly for the American Academy of Hospice and Palliative Medicine 2021 Virtual Meeting


ASN- two poster presentations at Kidney Week 2020


The Pulmonary Critical Care Division, like other divisions, continued to face tremendous challenges this year related to COVID. Members of the Division continued to lead local and national efforts to address the pandemic, and at the same time have won a number of major local and national awards, and had an outstanding productive year. This has been a very successful year for the Division.

The Division manages critically ill patients in the Medical Intensive Care Unit, provides inpatient pulmonary and critical care consults, and has a number of sub-specialty clinics including those in interstitial lung disease, cystic fibrosis, lung cancer, cancer survivorship, pulmonary hypertension, and asthma. The Division provides a full range of pulmonary diagnostic services: these include bronchoscopy, pulmonary function testing, evaluation of sleep disorders, lung cancer screening and evaluation, an interventional pulmonary program, and a nationally certified pulmonary rehabilitation program.

Members of the Division continued to be very productive academically. In fact this year, the faculty published approximately 140 peer-reviewed articles and book chapters. Members of the faculty also obtained very significant funding from a number of foundations and major grants from the National Institutes of Health. This publication and funding record are particularly impressive given the competing demands on faculty time during the last year.

Members of the Division continue to have major national leadership roles: Dr. Gil Allen serves on the Society of Critical Care Medicine Congress Planning Committee; Dr. Carney serves as a member of the American College of Physicians Board of Regents; Dr. Dixon Chairs the American Lung Association Scientific Advisory Committee and serves on the Board of Directors; Dr. Matt Kinsey serves on the Board of Directors of the American Association of Bronchology and Interventional Pulmonology; Dr. Stapleton served as the Chair of the Critical Care Assembly of
the American Thoracic Society and on the Board of Directors; and, Dr. Weiss serves as the Chief Scientific Officer for the International Society of Cell and Gene Therapies and on the Board of Directors for the same organization. Members of the Division serve on numerous national grant review committees, and editorial boards for major publications.

Members of the Division have received a number of very prestigious awards. Dr. Jason Bates received national recognition for his contributions to science this year with a Scientific Accomplishment Award from the American Thoracic Society. Dr. Carny was appointed a Fellow of the Royal College of Physicians, and received the President’s Distinguished university Citizenship and Service Award from the University of Vermont. Dr. Dixon was named the 2020 Research Laureate in the Larner College of Medicine. Dr. Farkas was awarded a Gold Humanism Award for his services during COVID. Dr. David Kaminsky received the Robert Crapo Memorial Lifetime Achievement Award in Pulmonary Diagnostics, and Dr. Dan Weiss received the College of Medicine Research Mentor of the year award.

The Division is committed to education and training, and trains 2 clinical fellows per year in pulmonary and critical care medicine, as well as a number of pre and post-doctoral research students. At an institutional level, Dr. Huggett continues to lead the very successful Teaching Academy, which is a nationally recognized program, and a tremendous resource for our faculty and trainees alike.

The last year has been a busy and successful year for the Division as outlined in detail for all members of the Division below.

**Faculty**

**Gilman Allen III, MD**  
Professor of Medicine  
Director of Critical Care Services

**MaryEllen Antkowiak, MD**  
Assistant Professor of Medicine  
Co-Director Critical Care Services

**Ramasubramanian Baalachandran, MBBS**  
Assistant Professor of Medicine

**Jessica Badlam, MD**  
Assistant Professor of Medicine
Jason H.T. Bates, PhD DSc
Professor of Medicine
Department of Molecular Physiology & Biophysics

Jan Kirk Carney, MD MPH
Professor of Medicine
Associate Dean for Public Health

Ryan Clouser, DO
Associate Professor of Medicine
Network Medical Officer for Network Regional Transport System

Anne E. Dixon, MA, BM BCh
Professor Medicine
Director, Pulmonary Disease and Critical Care Medicine
Director of Clinical Research, Vermont Lung Center

Kelsey Gleason Donovan, ScD
Assistant Professor
Environmental Epidemiology, Global Health, Humanitarian Disaster Resilience and Response

Joshua Farkas, MD
Associate Professor of Medicine

Garth Garrison, MD
Associate Professor of Medicine
Program Director, Pulmonary and Critical Care Fellowship
Co-Director, Lung Cancer Screening Program

Victoria Hart, PhD
Assistant Professor
Epidemiology, Biostatistics

Kathryn N. Huggett, PhD
Director, Teaching Academy at the UVM College of Medicine
Robert Larner, MD ’42 Professor in Medical Education
Assistant Dean for Medical Education
Curriculum design and evaluation
Faculty development
Medical education research

**Charles Irvin, PhD**
Professor Department of Molecular Physiology & Biophysics
Associate Dean for Faculty Affairs

**David Kaminsky, MD**
Professor of Medicine
Medical Director, Pulmonary Function Lab
  - Pulmonary physiology, pulmonary function testing, asthma, COPD

**C. Matthew Kinsey, MD, MPH**
Assistant Professor of Medicine
Director of Interventional Pulmonary
  - Quantitative imaging and computational modeling for identification of lung cancer
  - Application of endobronchial ultrasound transbronchial needle aspiration for development of novel precision medicine therapies for lung cancer
  - Interventional trials for COPD

**Suman Majumdar, MD**
Assistant Professor of Medicine

**Prema Menon, MD, PhD**
Associate Professor of Medicine

**Katherine Menson, MD**
Assistant Professor of Medicine

**Katelin Morrissette, MD**
Assistant Professor of Medicine

**Polly E. Parsons, MD**
E.L. Amidon Chair and Professor of Medicine

**Matthew E. Poynter, PhD**
Professor
Director of the Cellular, Molecular, and Biomedical Sciences Graduate Program
Associate Director of the Vermont Lung Center
Associate Director of the Multidisciplinary Training in Lung Biology T32 Training Grant
  Immunobiology of asthma
  Pathophysiology of obese asthma
  Alcohol-induced immunosuppression

Renee Stapleton, MD, PhD
Professor of Medicine

Charlotte Teneback, MD
Associate Professor
Medical Director, Pulmonary Rehabilitation
Director, Adult Cystic Fibrosis Center
Director, Cystic Fibrosis Therapeutic Development Center
  Cystic fibrosis clinical care and research
  Pulmonary rehabilitation clinical practice and research

Zachary Weintraub, MD
Assistant Professor of Medicine

Daniel Weiss, MD, PhD
Professor of Medicine

Fellows
  Morgan ClarkColler, MD
  Brittany Duchene, DO
  Emily Ducomb, MD
  Syed Moin Hassan, MD
  Elena Kozakewich, MD
  Patrick Neilan, MD

Nurse Practitioners and Physician Assistants:
  Abe Sender, PA
  Sarah Wagner, NP
  Suzanne DeCapua, PA
Graduate Students, Post-doctoral Fellows, MD PhD Students:

Jason H.T. Bates, PhD DSc
  Axel Masquelin – PhD student in Biomedical Engineering
  Dylan Casey – PhD student in Data Science
  Vitor Mori - postdoctoral associate (Daymon Runyon Fellow)

Anne E. Dixon, MA, BM BCh
  Ravi Chandrasakaren, PhD
  Swati Bhatawadaker, PhD, 2019-2021
  Brittany Duchene, MD

C. Matthew Kinsey, MD, PMP
  Axel Masquelin
  Vitor Mori PhD
  Heng Tan MD (Medical Student)
  Emily DuComb (PCCM Fellow)

Matthew E. Poynter, PhD
  JJ Bivona, CMB doctoral student
  Amanda Fastiggi, CMB doctoral student
  Paola Pena, CMB doctoral student
  Madeleine Mank, MPH student

Renee Stapleton, MD, PhD
  Joseph J. Bivona, III (graduate student mentor)
  Christian Pulcini, MD, Assistant Professor (research/faculty mentor)
  Katharine Cheung, Assistant Professor (research/faculty mentor)

Daniel Weiss, MD, PhD
  Post-docs: Nigel Farrow PhD
  Grad students: Evan Hoffman, Joy Barua
  Masters student: Alicia Tanneberger
**Endowed Professorships:**

Kathryn N. Huggett, PhD  
Robert Larner, M.D. ’42 Professor of Medical Education

**Leadership in Professional Societies:**

Gilman Allen, MD  
Second elected 3-year term on SCCM Congress Planning Committee (Society of Crit Care Med)

Jessica Badlam, MD  
Joined the Pulmonary Hypertension Association’s (PHA) HCP Education and Support Implementation Committee this year.

Jan Carney, MD, MPH  
2021-2023 American College of Physicians, Member, Board of Regents  
2021-2022 American College of Physicians, Member, Ethics, Professionalism, and Human Rights Committee  
2020-2022 American College of Physicians, Member, Credentials Committee

Anne E. Dixon, MA, BM BCh  
American Thoracic Society Nominating Committee, Chair  
American Lung Association Scientific Advisory Committee, Chair  
American Lung Association, National Board of Directors Executive Committee, Member

Victoria Hart, PhD  
ASPPH: Transformative Educational Models & Pedagogy Expert Panel - panelist

Kathryn N. Huggett, PhD  
AAMC Northeast Group on Educational Affairs, Member-at-Large  (term completed April 2021)  
Academies Collaborative Steering Committee, Steering Committee Member Emerita

David Kaminsky, MD  
2021: Speaker and Co-Chair: *Physiological Phenotyping and Treatable Traits.*  
International Conference, American Thoracic Society, Virtual.  
2021: Faculty and Organizer: *Race/Ethnicity in Pulmonary Function Testing Workshop,*  
International Conference, American Thoracic Society, Virtual.

C. Matthew Kinsey, MD, MPH
American Association of Bronchology and Interventional Pulmonology Board of Directors

Polly E. Parsons, MD
American Thoracic Society:
Chair, Assembly Chair Forum
Member, Planning and Evaluation Committee

Renee Stapleton, MD PhD
American Thoracic Society
Board of Directors, 2019-2021
Critical Care Assembly Chair, 2019-2021
Unrepresented Patients Working Group, member 2016-2021
Canadian Critical Care Nutrition Clinical Practice Guidelines Committee, External Panel Member, 2008-present
International Consensus on the use of High Flow Therapy (HFT) with Nasal Cannula, Member, March 2018-2021.
Member of Data Safety Monitoring Board, “Facilitating Communication Study (FCS2),” 2019-present
Member of Data Safety Monitoring Board, “Phase 2 RCT of low dose inhaled carbon monoxide in ARDS,” 2019-present
Chair of Data Safety Monitoring Board, “Arrest Respiratory Failure Due to Pneumonia (ARREST Pneumonia) Trial”, NIH funded, MPIs J Levitt, E Festic, O Gajic, K Mahaffey, M Matthay, 2019-present
Member of Data Safety Monitoring Board, “Impact of Resident Scheduling on Patient and Resident Outcomes (INCURS) Trial”, CIHR funded, MPIs D. Piqette and C. Parshuram, 2019-present

Daniel Weiss, MD, PhD
Chief Scientific Officer: International Society for Cell and Gene Therapies (ISCT)
ISCT Board of Directors

**Editorships and Editorial Boards:**

Anne E. Dixon, MA, BM BCh
Up-To-Date Section Editor
Springer Press, Respiratory Medicine Series, book series editor
Kathryn N. Huggett, PhD  
AMA Journal of Ethics, Editorial Board Member

Charles Irvin, PhD  
Editorial Board, COPD Journal

Matthew E. Poynter, PhD  
Editorial Board member, American Journal of Respiratory Cell and Molecular Biology

Renee Stapleton, MD PhD  

Daniel Weiss, MD, PhD  
Editorial Boards: American Journal of Respiratory Cell and Molecular Biology, Cytotherapy, Molecular Therapy

**Study Sections and Federal Advisory Boards:**

Jason H.T. Bates, PhD DSc  
Chaired a NIH Study Section reviewing SBIT/STTR grant proposals  
Member of the Scientific Advisory Council for the Parker B Francis Foundation

Anne E. Dixon, MA, BM BCh  
Member, Special Emphasis Panel for Childhood Asthma in Urban Settings Clinical Research  
Network, RFA-AI-19-073 (U01) and RFA-AI-19-074 (UM1), October 2020  
NHLBI’s National Asthma Education and Prevention Program (NAEPP) EPR4 Guideline Panel –  
Topic Team Leader: (2018-2020)  
American Board of Internal Medicine Pulmonary Examination Chair, VA Merit Review for Pulmonary: 2020- 
NIAID: DSMB for COVID-19 trial, member

Charles Irvin, PhD
External Advisory Committee, NIH COBRE (PI: Rounds), Brown University
External Advisory Committee, NIH NHLBI T32 (PI: Levy, Brigham and Women’s Hospital, Boston
External Advisory Committee, NIH NIGMS COBRE (PI: Madden) Dartmouth College
External Advisory Committee, NIH NHLBI T32 (PI: Wise), Johns Hopkins, Baltimore
External Advisory Committee, NIH COBRE (PI: Stewart), Nemours, Delaware
External Advisory Committee, NIH COBRE (PI: Jeyaseelan) LSU, Baton Rouge, LA

David Kaminsky, MD
Member, American Lung Association Research Grant Award Study Section

C. Matthew Kinsey, MD, MPH
NIH, NCI Developmental Therapeutics

Polly E. Parsons, MD
Scientific Director, Parker B. Francis Fellowship Program
Chair, NHLBI Petal Network DSMB

Matthew E. Poynter, PhD
NHLBI T32 Special Emphasis Panel, June 2021

Renee Stapleton, MD PhD
Member of NHLBI Clinical Trials Review Committee (CLTR, standing study section), June 2020-present

Daniel Weiss, MD PhD
NIH/VA COVID Response Special Emphasis Panel
NSF grant reviewer
6 different data safety and monitoring boards

**Major Faculty Awards:**

Gilman Allen, MD
Nominated for the Gold Humanism Award

Jason H.T. Bates, PhD DSc
Recognition Award for Scientific Accomplishments, American Thoracic Society.
Jan Carney, MD, MPH
2020 Fellow, Royal College of Physicians (FRCP).
2019-2020 President’s Distinguished University Citizenship and Service Award,
University of Vermont

Anne E. Dixon, MA, BM BCh
2020 Research Laureate Award, Larner College of Medicine, University of Vermont

Josh Farkas, MD
Gold humanism award (selected as a humanism champion for the annual Gold
Foundation gala)

Victoria Hart, PhD
LCOM Teaching Academy 2021 Curriculum Development & Education Scholarship Award - recipient

David Kaminsky, MD
2021 -American Thoracic Society Dr. Robert Crapo Memorial Lifetime Achievement Award in Pulmonary Diagnostics

Polly E. Parsons, MD
Edward Livingston Trudeau Medal
Elected member: American Clinical and Climatological Association

Daniel Weiss, MD, PhD
College of Medicine Research Mentor Award 2020

Grants – list all active by faculty member, PI

Jason H.T. Bates, PhD DSc
R01 HL130847           PI: Bates/Dixon           03/15/2016 - 2/28/2022
NIH/NHLBI            Role: Co-MPI             0.12 calendar months
Non-Allergic Late-Onset Asthma of Obesity: Pathophysiology and Therapy

U01 HL139466           PI: Suki/Bates          09/01/2018 - 08/31/2023
NIH/NIBIB            Role: Co-MPI              3 calendar months
A multi-scale computational model of the extracellular matrix of the lung
Preserving epithelial barrier integrity in ventilator-induced lung injury.

Translational research to prevent and control global infectious diseases (Translational Global Infectious Diseases Research Center, TGIR)

Jan Carney, MD, MPH
Northern New England Clinical and Translational Research Network Grant National Institutes of Health (NIH)
Maine Medical Center and Larner College of Medicine at UVM (Grant U54 GM115516)
2017 – 2022
Role: Core Director, Rural Health Research and Community Engagement Core

2020-2023
Role: Co-Investigator. PI: Adam Atherly, PhD, Director Center for Health Services Research

Anne E. Dixon, MA, BM BCh
R34 HL135361 05/01/17 – 04/30/2022
NIH/NHLBI (NCE)
Role: PI
Trial of Roflumilast in Asthma Management (TRIM)
This is a study to pilot test the feasibility of a trial of roflumilast for the treatment of obese patients with poorly controlled asthma at two sites (University of Vermont and University of Arizona)

Obese Allergic Asthma and the Impact of Weight Loss on Airway Epithelial Function
The objective of this proposal is to investigate the contribution of specific cells and their secreted mediators that are released from visceral adipose tissue of obese allergic asthmatics to the mitochondrial function of airway epithelial cells and their activation by allergen, which
then cause the structural alterations and methacholine hyperresponsiveness that manifest in severe disease in obese allergic asthmatics.

R01 HL136917  09/04/2018-07/31/2023  
NIH/NHLBI  
Role MPI  
Mitochondrial Redox Perturbations in Obese Allergic Asthma  
This is a proposal to investigate targeting mROS production and signaling through a peroxiredoxin 3-FoxM1 signaling pathway. Studies will be performed in lean and obese asthmatics, and lean and obese healthy controls, and lean and obese mouse models of asthma.

R01 HL138708  08/03/2017 – 06/30/2021  
NIH/NHLBI  
Role: Co-I  
DUOX1 and mitochondria in obese asthma  
The majority of severe asthmatics in the U.S. are obese, and obese asthmatics often respond poorly to standard therapy. Allergic inflammation and metabolic alterations due to obesity are associated with oxidative stress, yet the contribution(s) of oxidative mechanisms to disease pathology are not well understood. This project will address the importance of the NADPH oxidase DUOX1, a major oxidant source within the respiratory epithelium, combined with mitochondrial dysfunction, as an important feature of metabolic disease in mediating redox-dependent processes leading to altered or exaggerated allergic inflammation due to obesity.

American Lung Association  08/01/00-05/31/2021  
Role: Co-PI  
Asthma Clinical Research Center: The major goals of this project are to participate in a nationwide network of clinical research studies in diverse patient populations with asthma.

UVMMC  1/1/2021-12/30/2021  
Role: PI  
Treatment of mitochondrial oxidative stress for severe COVID-19 in people with obesity

Kelsey Gleason Donovan, ScD  
Gund COVID-19 Rapid Research Fund Co-Investigator (Bose (PI)) 02/10/21 - 11/10/21

Victoria Hart, PhD  
Ongoing research support on NNE-CTR – NIH U54 GM115516
Kathryn N. Huggett, PhD
2018-2020 AAMC NEGEA grant Haidet, P (PI) 07/01/18-12/30/20*
Student Perspectives About Learning: An Important Influence on Evaluations of Teaching?
Role: Co-Investigator

*Extension granted for Covid-19

AAMC Opioid Education Challenge Grant Berns S; Lounsbury K (PI) 08/09/19-03/31/21
Responding to the Training and Development Needs of Academic Health Centers
Role: Collaborator

Charles Irvin, PhD
American Lung Association (PI: Irvin) 06/30/2021-07/01/1026
Airways Clinical Research Center (ACRC)
Role: Principal Investigator of the Northern New England Consortium (NNEC) ALA-ACRC
Major goal are to investigate the pathogenesis of asthma in the format of a multi-center network. I am the PI of the NNEC study site and we currently are recruiting applicants for both NIH sponsored studies and industry sponsored studies.

T32 HL076122, NIH/NHLBI (Irvin/Poynter) 04/01/2004-04/30/2024
Multidisciplinary Training in Lung Biology
Role: MPI
The major goal of this training grant is to produce outstanding, independent biomedical scientists who investigate the mechanisms, manifestations, preventions and cures for lung disorders. This grant supports both pre and postdoctoral fellows.

R35 HL135828 (Janssen-Heininger) 01/01/2017-12/31/2023
NIH/NHLBI
S-glutathionylation chemistry in fibrotic lung remodeling
Role: Co-Investigator
The goal of this proposal is to understand the importance of the process of S-glutathionylation in patients with asthma or pulmonary fibrosis, and in mouse models of these diseases. The goal is to understand how this process of S-glutathionylation works, and whether the enzymes that regulate this process can be a target for more specific drugs. We believe that these questions are important for translation into clinical practice as we already have data with compounds that can be used clinically.
R25 GM116701 04/01/2016-02/28/2021 Now NCE
NIH/NIGMS
Fostering entrepreneurship in biomedical research
Role: PI
The goal of this training grant is to increase the entrepreneurship environment in biomedical research within the University of Vermont as well as other IDeA states (Maine, New Hampshire, Rhode Island, Puerto Rico and Alaska) by developing common courses and workshops.

UT2 GM130176 (Reder) 09/01/2018-08/31/2021
NIH/NIGMS
Subcontract with Celdera Medical
DRIVEN: Accelerating Medical Entrepreneurship in the Northeast
Role: Academic Co-PI
The goal of this grant is to establish a regional hub to facilitate investigators of the Northeast IDeA states to become successful entrepreneurs

David Kaminsky, MD
Northern New England Clinical and Translational Research Network
Feasibility of Home Monitoring in Patients with COPD Exposed to Wood Smoke
PI: Kaminsky - 07/01/21-06/30/22

UVM Medical Center Foundation Grant
Longitudinal Analysis of Lung Function in COVID-19 Patients
PI: Kaminsky - 10/12/20-04/12/22

American Lung Association - Asthma Clinical Research Center
PI: Charles G. Irvin, Ph.D.
Role on Project: Co-Investigator (5%) - 7/1/04-6/30/21

US Department of Defense
Beta Blockers for the Prevention of Acute Exacerbations of COPD
PI: Mark Dransfield, MD
Role on Project: Co-investigator (1%) - 10/1/19-9/30/21

United Therapeutics, Inc.
Changes in the Diffusing Capacity of the Lung for Carbon Monoxide (DLCO) in Response to Vasodilator Therapy in Patients with Pulmonary Arterial Hypertension
PI: David Kaminsky, MD (< 5%) - 5/1/13-open
CT Characteristics of Emphysema for Evaluation of Pulmonary Nodules
This research focuses on leveraging the morphologic and vascular characteristics of emphysema to help determine if a lung nodule may be cancer.
Role: PI

Johnson and Johnson Investigator Initiated Trial Award- Approved,
Anticipated 11/01/2020 - 10/31/2022
Phase 1 Trial of Intratumoral Cisplatin for Early Stage Resectable Lung Cancer (PI)

Matthew E. Poynter, PhD
1 R01 HL142081 (Poynter) 04/01/2018 – 03/31/2022
NIH/NHLBI
Ketone Body Supplementation in Obese Asthma
Role: PI

VLC Pilot Project (Poynter) 05/01/2021-04/30/2022
Vermont Lung Center
Exploiting Exercise Enhanced Protein Synthesis to Augment mRNA Vaccine Translation
Role: PI

R01-HL133920 (Poynter & Dixon) 08/15/2016 – 07/30/2021
NIH
Obese allergic asthma and the impact of weight loss on airway epithelial function
Role: MPI

R01 HL143452 (Stapleton, Toth, Files, & Poynter) 09/15/2018-06/30/2022
NIH/NHLBI
Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)
Role: MPI

T32-HL076122 (Poynter & Irvin) 05/01/2019 - 04/30/2024
NIH/NHLBI
Multidisciplinary Training in Lung Biology
Role: MPI

2 R01 HL085646-09 (van der Vliet) 09/01/2017 -08/31/2022
NIH/NHLBI
Dual Oxidase in Airway Epithelial Injury and Inflammation
Role: Co-I

R01 HL138708 (van der Vliet) 08/03/2017-06/30/2021
NIH/NHLBI
DUOX1 and Mitochondria in Obese Asthma
Role: Co-I

R01 HL122383-06 (Anathy) 05/01/2020 – 04/30/2024
NIH/NHLBI
Endoplasmic reticulum stress signaling in allergen induced airway remodeling
Role: Co-I

R03 AI151525 (Wargo) 04/23/2020- 04/22/2022
NIH/NIAID
Klebsiella pneumoniae pathogenesis in the obese lung
Role: Co-I

R56 AG062105 (Dumas) 09/15/2019 - 08/31/2020
NIH/NIA
Fatty Acid Effects on Brain Functioning in Normal Aging
Role: Co-I

NDC 2777 (Kraft) 11/01/2017 – 12/31/2020
National Dairy Council
Full-Fat Yogurt and Glucose Tolerance
Role: Co-I

Renee Stapleton, MD PhD
Nutrition and Exercise in Critical Illness (The NEXIS Trial): A Randomized Trial of Combined Cycle Ergometry and Amino Acids in the ICU
R01 HL132887, 4/01/2017-3/31/2022
NIH/NHLBI
Role: Contact PI

Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)
R01 HL143452, 09/15/2018-06/30/2022
NIH/NHLBI
Role: Contact PI

Improving Palliative Care for Older Seriously Ill Hospitalized Patients and Their Families: A Randomized Trial of an Informed Assent Communication Intervention about CPR
R01 AG050698, 5/01/2016-2/28/2022 (currently in NCE)
NIH/NIA
Role: PI

Novel Arm Restraint for Critically Ill Patients To Reduce Immobility, Sedation, Agitation and Cognitive Impairment
R42 AG059451, 4/01/18-6/30/22 (currently in NCE)
NIH/NIA
Role: Contact PI

Ganciclovir to Prevent Reactivation of Cytomegalovirus in Patients with Acute Respiratory Failure and Sepsis
UG3 HL147011, 09/15/2020-08/31/2027
NIH/NHLBI
Role: MPI

Therapeutic modulation of zinc for lung injury and mechanobiology
R01 HL142093, 4/01/2019-3/31/2023
NIH/NHLBI
Role: Co-Investigator

Multidisciplinary Training in Lung Biology
T32 HL076122, 05/01/2019-04/30/2024
NIH/NHLBI
Role: Co-Director

Longitudinal epidemiologic investigation of post-hospitalization health care utilization among ICU survivors in Vermont
Vermont Lung Center Pilot Award
08/01/2020-07/31/2021
Role: PI

Charlotte Teneback, MD
Cystic Fibrosis Therapeutic Development Center Award, 1/1/15-6/30/21
Cystic Fibrosis Adult Care Center Award, 7/1/20-6/30/21

Daniel Weiss, MD PhD
DoD Expansion Award 2019-2022
Clinical Development of a Novel Pleural and Tracheal Sealant

VLC Pilot Project 2020-2022
Effects of human lung derived hydrogel organoid culture on lung progenitor cell behaviors.

American Lung Association Research Grant 2020-2022
Mechanisms of SARS-CoV-2 Pathogenesis of Type 2 Alveolar Epithelial Cells

CF Foundation Pilot and Feasibility (Feinberg PI, Weiss Co-I) 2020-2022
ECM Shrink-wrapped Airway Epithelial Cells Towards Function Engraftment

DoD Medical Discovery Award (Weiss co-PI with Dimensions Inx) 2021-2022
Bi-Phasic, Regenerative Tracheal Implants From 3D-Printed Advanced Biomaterials with Integrated Vascularizing and Epithelializing Factors

United Therapeutics Inc. 2021-2023
Effect of UNEX-42 (MSC-derived EVs) on SARS-CoV2 Spike Protein Airway and Alveolar Epithelial Biology

R21 HD104069 (Finck PI, Weiss Co-I) 2021-2023
Ex vivo bioengineering of functional biomimetic airways for treatment of neonatal and pediatric respiratory conditions

Zachary Weintraub, MD
PACE Award for Cystic Fibrosis.

Publications-peer reviewed, chapters, etc.


Ather JL, Van Der Vliet KE, Mank MM, Reed LF, Dixon AE, Poynter ME. Obese Adipose Tissue Modulates Pro-inflammatory Responses of Mouse Airway Epithelial Cells. Am J Physiol Regul Integr Comp Physiol 2021


Borger V; Weiss DJ; Anderson JD; Borras FE; Bussolati B; Carter DRF; Dominici M; Falcon-Perez JM; Gimona M; Hill AF; Hoffman AM; de Kleijn D; Levine BL; Lim R; Lotvall J; Mitsialis SA; Monguio-Tortajada M; Muraca M; Nieuwland R; Nowocin A; O'Driscoll L; Ortiz LA; Phinney DG; Reischl I; Rohde E; Sanzenbacher R; Thery C; Toh WS; Witwer KW; Lim SK; Giebel B. ISEV and ISCT statement on EVs from MSCs and other cells: considerations for potential therapeutic agents to suppress COVID-19. Cytotherapy. 2020 May 16.


Duchene B, Caffry S, Kaminsky DA, Que LG, Poynter ME, Dixon AE. Functional significance of 8-isoprostanes in sinonasal disease and asthma. Respir Med. 2021 Jun 9;185:106506


Enes SR, Hampton TH, Barua J, McKenna DH, dos Santos CC, Amiel E, Asahre A, Liu KD, Krasnodembskaya AD, English K, Stanton BA, Rocco PRM, Matthay MA, Weiss DJ. Healthy


Lim SK; Giebel B; Weiss DJ; Witwer KW; Rohde E. Re: "Exosomes Derived from Bone Marrow Mesenchymal Stem Cells as Treatment for Severe COVID-19" by Sengupta et al. In press, Stem Cells & Development. 2020 Jun 10.

Lopes-Pacheco M, Carvalho L, Cruz FF, Khoury M, Weiss DJ, Rocco PRM. Mitochondria-rich Fraction Isolated from Mesenchymal Stromal Cells Reduce Lung and Distal Organ Injury in Experimental Sepsis Critical Care Medicine, in press 2021.


Oliver, A. C., et al. (2021). "Effects of Reduced Nicotine Content Cigarettes on Fractional Exhaled Nitric Oxide (FeNO) and Self-Reported Respiratory Health Outcomes among Smokers with Psychiatric Conditions or Socioeconomic Disadvantage." Nicotine Tob Res


Pouliot RA; Young BM; Link PA; Park HE; Kahn AR; Shankar K; Schneck MB; Weiss DJ; Heise RL. Porcine Lung-Derived Extracellular Matrix Hydrogel Properties Are Dependent on Pepsin Digestion Time. Tissue Engineering - Part C: Methods. 26(6):332-346, 2020 Jun.


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Academic Medicine, 95(12):1853-1863. December 2020


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Wagner DE; Ikonomou L; Gilpin SE; Magin CM; Cruz F; Greaney A; Magnusson M; Chen YW; Davis B; Vanuytsel K; Rolandsson Enes S; Krasnodembskaya A; Lehmann M; Westergren-Thorsson G; Stegmayr J; Alsaifadi HN; Hoffman ET; Weiss DJ; Ryan AL. Stem Cells, Cell Therapies, and Bioengineering in Lung Biology and Disease 2019. European Respiratory Journal Open Research. 6(4), 2020


Weiss DJ, Segal K, Casaburi R, Hayes J, Tashkin D. Effect of mesenchymal stromal cell infusions on lung function in COPD patients with high CRP levels. Respiratory Research, in press 2021


Book Chapters

Dixon AE & S Peters, Obesity and asthma, in Murray and Nadel, Volume 7 Eds: Broadus, Ernst, King, Lazarus, Sarmentio, Schnapp, Stapleton, Gotway, 2020 Elsevier

Online Chapters
Up-to-Date
Dixon AE & AM Nyenhuis, Obesity and Asthma, updated May 2020
Peters S & AE Dixon, Moderate persistent asthma, updated December 2020

Peer-Reviewed Research Articles as Part of a Large Study Team

Peer-Reviewed Invited Review Articles/Statements/Working Group Reports
Stapleton RD, Heyland DK. Glycemic control and intensive insulin therapy in critical illness. Up To Date online version 16.3. 2007-present. Last updated May 2021. Section Editors Polly E. Parsons MD and Adrienne G. Randolph MD MSc; Deputy Editor Kevin C. Wilson MD. Website: http://www.uptodate.com/online/content/topic.do?topicKey=cc_medi/13045&selectedTitle=1~150&source=search_result


Books Edited
The members of the Division of Rheumatology and Clinical Immunology provide high quality patient care to residents of Vermont, up-state New York and other contiguous communities, teach UVM Medical Center resident physicians and UVM College of Medicine medical students, and perform both bench and clinical research. Our faculty consists of eight physicians, a clinician pharmacist and a nurse practitioner. Over the past 12 months, the Rheumatology Division had over 12,000 patient visits, generating more than 20,000 work RVUs. We provide point of care diagnostic and procedural (guided injections) musculoskeletal ultrasound that is integrated with rheumatology care. We participate in an interdisciplinary metabolic bone clinic in addition to our rheumatology services. We cover inpatient consults at the University of Vermont Medical Center on a 24-7 basis.

Our fully accredited rheumatology fellowship program accepts one new fellow annually in an increasingly competitive match. Our fellows receive musculoskeletal ultrasound training and participate in the USSONAR program. The internal medicine residency program continues to participate in an outpatient rheumatology rotation where residents see rheumatology patients with all of the faculty, thus experiencing a variety of practice styles. Faculty and fellows teach various rheumatology topics during the annual Internal Medicine Academic Half Day. Medical students complete one month elective rotations in our outpatient clinic. Each year we participate in the Vermont Integrated Curriculum Connections course teaching 2nd year medical students rheumatology and musculoskeletal physical examination skills.

Our faculty engage in clinical research including the effect of janus kinase inhibition on inpatients with COVID pneumonia, and effect of exercise on chronic low back pain. We are actively engaged in QI projects such as VCHIP transition of care program for pediatric patients and effect of telemedicine on Rapid3 scores and patient satisfaction. We continue to collaborate with the Division of Immunobiology on research in molecular physiology in rheumatoid arthritis and lupus patients.

**Faculty**

**Narandra Bethina, M.D.**
Associate Professor of Medicine
Associate Program Director, Rheumatology Fellowship Training Program
Director, Division of Rheumatology Musculoskeletal Ultrasound Clinic
• Rheumatoid Arthritis
• Psoriatic Arthritis
• Scleroderma
• Sjogren’s Syndrome
• Gout
• Autoimmune Disorders
• Polymyalgia Rheumatica/Temporal Arteritis
• Musculoskeletal Ultrasound

**Ralph Budd, M.D.**
University Distinguished Professor of Medicine, Microbiology & Molecular Genetics
Director, Immunobiology and Vermont Center for Immunology and Infectious Diseases
• Systemic Lupus Erythematosus (SLE)
• Inflammatory Arthritis (γδ T cells)
• T cell homeostatic proliferation in autoimmune diseases
• Metabolic regulation of cell death in the immune system

**Chi Chi Lau, M.D.**
Associate Professor of Medicine
• Systemic Lupus and related autoimmune conditions
• Scleroderma
• Inflammatory arthritis
• Vasculitis
• Laboratory testing in rheumatology

**Scott Legunn, M.D.**
Assistant Professor of Medicine
• Rheumatoid Arthritis
• Polymyalgia Rheumatica/Giant Cell Arteritis
• Psoriatic Arthritis/Seronegative Spondyloarthropathies
• Crystalline Arthritis (Gout/CPPD)
• Vasculitis
• Systemic Lupus Erythematosus and related autoimmune conditions

**Bonita Libman, M.D.**
Professor of Medicine
Division Chief, Rheumatology and Clinical Immunology
Program Director, Rheumatology Fellowship Training Program
- Systemic Lupus Erythematosus
- Rheumatoid Arthritis
- Psoriatic Arthritis

Alana Nevares, M.D.
Assistant Professor of Medicine
- Giant Cell Arteritis
- ANCA Associated Vasculitis
- Autoimmune Eye Disease
- Sarcoidosis/Neurosarcoidosis

Sanjeev Patil, M.D.
Assistant Professor of Medicine
- Vasculitis
- Rheumatoid Arthritis
- Psoriatic Arthritis
- Ankylosing Spondylitis
- Inflammatory Muscle Disease
- Musculoskeletal Sarcoidosis

Laura Paxton, M.D.
Clinical Assistant Professor of Medicine
- Rheumatoid Arthritis
- Psoriatic Arthritis
- Spondyloarthropathy
- Giant Cell Arteritis/Polymyalgia Rheumatica
- Gout
- Vasculitis

Fellows

Jeanne Gosselin, M.D., 2nd year fellow

Brendan Thoms, M.D., Ph.D., 2nd year fellow

Dawid Czarny, M.D., 1st year fellow

Nurse Practitioners and Physician Assistants:
Morgan Merchand, APRN

**Leadership in Professional Societies**

**Narandra Bethina, M.D.**, member, American College of Rheumatology Musculoskeletal Ultrasound Planning Committee

**Narandra Bethina, M.D.**, member, USSONAR Fundamental Education Committee

**Narandra Bethina, M.D.**, Educational Mentor, USSONAR (Ultrasound School of North American Rheumatologists)

**Ralph Budd, M.D.**, Advisory Committee, New England Immunology Conference

**Bonita Libman, M.D.**, member, American College of Rheumatology RheumPAC Committee

**Alana Nevares, M.D.**, Reviewer, Abstract Selection Sub-Committee for Orthopedics, Low Back Pain and Rehabilitation, American College of Rheumatology 2020 National Meeting

**Alana Nevares, M.D.**, Award Selection Committee, Panamerican League of Associations for Rheumatology (PANLAR) Stimulus and Schumacker Awards

**Alana Nevares, M.D.**, Reviewer, Journal of Clinical Rheumatology

**Editorship**

**Ralph Budd, M.D.**, Editor, Textbook of Rheumatology 11th edition, 2020

**Study Section**

**Ralph Budd, M.D.**

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<td>2020</td>
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<td>ACTS (Arthritis, Connective Tissue, and Skin Biology Section)</td>
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**Faculty Awards**
Grants

Chi Chi Lau, M.D.  Rheumatology Research Foundation Medical Student Research Preceptorship Grant ($4000)

Ralph Budd, M.D.
NIAID R21 AI151407 Ligands for Human Synovial Gamma/Delta T cells 2020-2022
NIAID T32 AI 055402 Immunology/Infectious Diseases Training Grant 2005-2021
NIGMS P30 GM118228 Vermont Immunobiology/Infections Diseases Center (COBRE Phase III Grant) 2016-2021

Publications

Peer Reviewed Publications


Book Chapters and Non-Peer Reviewed Publications
Department of Medicine
UVM Research Funding (Direct & Indirect), FY17-FY21

FY17: $18,925,948
FY18: $16,060,209
FY19: $17,629,335
FY20: $17,452,377
FY21: $19,208,482
# Department of Medicine

UVM Research Funding (Direct & Indirect) by Division, FY2017-FY2021

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<td>Myocardial ischemia and Transfusion (MINT) CCC</td>
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<td>Skeletal Muscle Atrophy and Dysfunction in Human Cancer</td>
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<td>Identifying factors associated with CV disease in MDS. An analysis of the SEER-Medicare database</td>
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<td>Use of High Density Lipoprotein Proteome in the Prediction of Cognitive Impairment and Alzheimer's Disease: (REGARDS)</td>
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<td>Hematology Oncology</td>
<td>Wood, Marrie E.</td>
<td>Dana Farber Cancer Institute</td>
<td>Prospective Randomized, Placebo-Controlled Phase III Study to determine theEffect of Denosumab on Breast Cancer Prevention in BRCA1 Mutations Carriers</td>
<td>09/15/2020</td>
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<td>Hematology Oncology</td>
<td>Zakai, Neil A.</td>
<td>Assn of University Ctrs on Disabilities</td>
<td>Understanding risk factors and burden of COVID-19 related thrombosis and or bleeding complications</td>
<td>09/01/2020</td>
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<td>Hematology Oncology</td>
<td>Zakai, Neil A.</td>
<td>Nalt Heart Lung and Blood Inst/NHLBI/NIH</td>
<td>Thrombosis and Bleeding Risk Assessment in Medical Inpatients</td>
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<td>Immunobiology</td>
<td>Botten, Jason W.</td>
<td>Atreca, Inc</td>
<td>To discover antibodies that target and neutralize Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2).</td>
<td>11/02/2020</td>
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<td>Botten, Jason W.</td>
<td>Celdara Medical, LLC</td>
<td>A Novel Broad-Spectrum Agent for Treatment of Viral Infections</td>
<td>01/01/2021</td>
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<td>Immunobiology</td>
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<td>IGM Biosciences</td>
<td>SARS-CoV-2 Neutralization Assay of Proof of Concept Multimeric Antibodies</td>
<td>07/14/2020</td>
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<td>Immunobiology</td>
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<td>In-Vivo Efficacy Testing of Human Monoclonal Antibodies</td>
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<td>Deep Sequencing the Lymphopoeic Choriomeningitis Arenavirus Quasispecies to Identify and Functionally Validate the Molecular Signature of Defective Interfering Particles</td>
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<td>Vermont Immunology / Infectious Diseases Training Grant</td>
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<td>Repurposing the EMD-Serono Mini-Library for Cryptosporidium Drug Development</td>
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<td>Preclinical Optimization of a Parasitidal Drug for Cryptosporidiosis</td>
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<td>UVM, Scripps-Caliber, Wellcome Trust Collaboration: Assay Work in Support of the Development of New Treatments for Cryptosporidiosis</td>
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<td>Long Term Sequelae Study of COVID-19</td>
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<td>Cheung, Katharine Lana</td>
<td>University of Wisconsin</td>
<td>Best Case/Worst Case: A Multisite Randomized Clinical Trial of Scenario Planning for Patients with End-Stage Kidney Disease</td>
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<td>Solomon, Richard Jay</td>
<td>Dartmouth College</td>
<td>IMPROVE AKI: A Cluster-Randomized Trial of Team-Based Coaching Interventions to IMPROVE Acute Kidney Injury</td>
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<td>DRIVEN: Accelerating Medical Entrepreneurship in the Northeast</td>
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<td>Bates, Jason H. T.</td>
<td>Boston University</td>
<td>A Multi-Scale Computational Model of the Extracellular Matrix of the Lung. Project 036993 to be moved from CON000797 to this award</td>
<td>06/01/2020</td>
<td>05/31/2021</td>
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<tr>
<td>Pulmonary</td>
<td>Bates, Jason H. T.</td>
<td>Boston University</td>
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<td>05/31/2022</td>
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<td>Dixon, Anne Elizabeth</td>
<td>Nall Heart Lung and Blood Inst/NHLBI/NIH</td>
<td>Mitochondrial Redox Perturbations in Obese Allergic Asthma</td>
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<td>Dixon, Anne Elizabeth</td>
<td>University of Illinois</td>
<td>Prevent COPD Exacerbations (RELIANCE)</td>
<td>06/01/2019</td>
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<td>Pulmonary</td>
<td>Farrow, Nigel</td>
<td>University of Adelaide</td>
<td>MS McLeod Postdoctoral Research Fellowship: Harnessing the Potential of Airway Stem Cells as a Therapy for Cystic Fibrosis Lung Disease</td>
<td>03/01/2021</td>
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<td>American Lung Association</td>
<td>Airways Clinical Research Center (ACRC) Core Award</td>
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<td>American Lung Association</td>
<td>Losartan Effects on Emphysema Progress Trial (LEEP)</td>
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<td>Pulmonary</td>
<td>Kaminsky, David Alan</td>
<td>University of Alabama at Birmingham</td>
<td>Beta Blockers for the Prevention of Acute Exacerbations of COPD</td>
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<td>Kinsey, Charles Matthew</td>
<td>Johnson &amp; Johnson Enterprise Innovations</td>
<td>A Phase I Trial of Intratumoral Cisplatin for Early Stage, Resectable, Non-Small Cell Lung Cancer</td>
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<td>Pulmonary</td>
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<td>Characteristics Of Emphysema For Evaluation Of Pulmonary Nodules</td>
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<td>EBUS-TBNI of Cisplatin Optimization in Heterogeneous Lung Tumors</td>
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<td>Poynter, Matthew E</td>
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<td>Obese Allergic Asthma and the Impact of Weight Loss on Airway Epithelial Function</td>
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<td>Stapleton, Renee D.</td>
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<td>Therapeutic Modulation of Zinc for Lung Injury and Mechanobiology</td>
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<td>Fred Hutchinson Cancer Center</td>
<td>Ganciclovir to Prevent Reactivation of Cytomegalovirus in Patients with Acute Respiratory Failure and Sepsis</td>
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<td>Pulmonary</td>
<td>Stapleton, Renee D.</td>
<td>Healthy Design Ltd. Co.</td>
<td>Novel Arm Restraint For Critically Ill Patients To Reduce Immobility, Sedation, Agitation and Cognitive Impairment</td>
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<td>Pulmonary</td>
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<td>Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)</td>
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<td>Teneback, Charlotte C.</td>
<td>Cystic Fibrosis FdnTherapeutics, Inc</td>
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<td>Healthcare-Associated Links in Transmission (HALT) of Nontuberculous Mycobacteria in Patients with Cystic Fibrosis</td>
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<td>Teneback, Charlotte C.</td>
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<td>Standardized Treatment of Pulmonary Exacerbations II (STOP 2)</td>
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<td>Prospective Evaluation of a Standardized Approach to Diagnosis (PREDICT) and Treatment (PATIENCE) of Nontuberculous Mycobacteria Disease in Cystic Fibrosis</td>
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<td>Bi-Phasic, Regenerative Tracheal Implants From 3D-Printed Advanced Biomaterials with Integrated Vascularizing and Epithelializing Factors</td>
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**Total Awarded to Medicine**

| Total Awarded to Medicine | $ 14,978,855 | $ 5,531,799 | $ 20,510,654 |

**Grand Total Medicine less 1/2 of Cushman/Nelson COBRE**

| Grand Total Medicine less 1/2 of Cushman/Nelson COBRE | $ 14,078,855 | $ 5,129,627 | $ 19,208,482 |
# Department of Medicine

**FY 2021 External UVM Research Applications Submitted by DOM Faculty**

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<th>Department</th>
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<th>FY21 Count</th>
<th>FY21 Dollars</th>
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<td>$(129,263)</td>
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<td>Pulmonary</td>
<td>46</td>
<td>$14,729,132</td>
<td>40</td>
<td>$20,852,891</td>
<td>$6,123,759</td>
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<td><strong>Medicine Total</strong></td>
<td><strong>132</strong></td>
<td><strong>$55,942,305</strong></td>
<td><strong>126</strong></td>
<td><strong>$80,023,935</strong></td>
<td><strong>$24,081,630</strong></td>
<td><strong>43.0%</strong></td>
</tr>
</tbody>
</table>
**Division** | **PI** | **Sponsor** | **Project Title** | **Requested Start Date** | **Requested End Date** | **Requested Direct Costs** | **Requested Indirect Costs** | **Requested Total Costs**
--- | --- | --- | --- | --- | --- | --- | --- | ---
Nephrology | Onuigbo, Macaulay A | Maine Medical Center | The CKD Express © App — A Patient-Centered Innovative CKD TeleMedicine Program | 7/1/2021 | 6/30/2022 | $46,552 | $25,883 | $72,435
Pulmonary | Badlam, Jessica Beatrice | American Lung Association | The role of sex hormones and reproductive factors in pulmonary arterial hypertension | 7/1/2021 | 6/30/2023 | $100,000 | - | $100,000
Pulmonary | Badlam, Jessica Beatrice | American Lung Association | The role of Reproductive Factors and Sex Hormones in Pulmonary Arterial Hypertension | 7/1/2021 | 6/30/2023 | $112,500 | 37,496 | $149,996
Pulmonary | Badlam, Jessica Beatrice | Bayer Corporation | The role of reproductive factors and sex hormones in pulmonary arterial hypertension | 7/1/2021 | 6/30/2023 | $432,744 | 240,328 | 673,072
Pulmonary | Dixon, Anne Elizabeth | National Institutes of Health/NIH | Obesity: diet and metabolic dysfunction in the genesis of lung disease | 4/1/2021 | 3/31/2026 | $3,005,196 | 842,318 | $3,847,514
Pulmonary | Dixon, Anne Elizabeth | University of Illinois | The ALOHA trial: Addressing Quality of Life, Clinical Outcomes, and Mechanisms in Adults with Uncontrolled Asthma Following the DASH Dietary Pattern | 7/1/2021 | 6/30/2026 | $405,983 | $178,401 | $584,384
Pulmonary | Farrow, Nigel | University of Adelaide | Harnessing the Potential of Airway Stem Cells as a Therapy for Cystic Fibrosis Lung Disease | 3/1/2021 | 12/31/2021 | 68,448 | - | 68,448
Pulmonary | Irvin, Charles G. | American Lung Association | Airways Clinical Research Center | 7/1/2021 | 6/30/2022 | 165,000 | - | 165,000
Pulmonary | Irvin, Charles G. | American Lung Association | BI LHC Supplement Grant | 4/22/2021 | 12/15/2024 | 28,328 | - | 28,328
Pulmonary | Irvin, Charles G. | American Lung Association | The Improving Medication Adherence with Telehealthcare Medication Therapy Management to Change Health Outcomes in Adolescents and Young Adults with Asthma (MATCH) Study | 5/1/2021 | 6/30/2022 | 6,420 | - | 6,420
Pulmonary | Irvin, Charles G. | American Lung Association | Airways Clinical Research Center | 7/1/2020 | 6/30/2021 | 35,000 | - | 35,000
Pulmonary | Irvin, Charles G. | American Lung Association | American Lung Association-Airways Clinical Research Center - Lung Health Cohort (ALA-LHC) Study | 1/1/2021 | 6/30/2024 | 14,835 | - | 14,835
Pulmonary | Irvin, Charles G. | Baylo College of Medicine | Roles of Allergen Sensitization and T2 Inflammation on Lung Health in Young Adults | 12/1/2021 | 11/30/2026 | 59,385 | 33,255 | 92,640
Pulmonary | Irvin, Charles G. | Celdara Medical, LLC | DRIVEN: Accelerating Medical Entrepreneurship in the Northeast | 9/1/2021 | 8/31/2025 | 466,668 | 93,332 | 560,000
Pulmonary | Irvin, Charles G. | Dartmouth College | Arsenic Enhances Pro-inflammatory and Inhibits Pro-resolution Pathways in Response to Influenza Infection Across Generations | 9/1/2021 | 8/31/2026 | 59,990 | 33,595 | 93,585
Pulmonary | Irvin, Charles G. | National Institutes of Health/NIH | Deep Functional Phenotyping of the ALA Lung Health Cohort | 9/1/2021 | 8/31/2026 | 2,787,172 | 929,280 | 3,716,452
Pulmonary | Irvin, Charles G. | National Institutes of Health/NIH | Fostering entrepreneurship in biomedical research | 7/1/2021 | 6/30/2026 | 2,485,010 | 178,401 | 2,663,411
Pulmonary | Johnson, Olivia K | Academy of Nutrition and Dietetics | Malnutrition and COVID-19: Evaluation of Nutrition Risk on the Setting of SARS-CoV-2 | 5/1/2021 | 10/31/2021 | 1,000 | - | 1,000
Pulmonary | Kaminisky, David Alan | Maine Medical Center | Feasibility of Home Monitoring in Patients with COPD Exposed to Wood Smoke | 7/1/2021 | 6/30/2022 | 41,303 | 22,964 | 64,267
Pulmonary | Kinsey, Charles Matthew | National Institutes of Health/NIH | Optimizing Intratumoral Giplatin Delivery | 4/1/2021 | 3/31/2026 | 1,623,063 | 1,172,019 | 2,795,082
Pulmonary | Kinsey, Charles Matthew | National Institutes of Health/NIH | CT Characteristics of Emphysema for Evaluation of Pulmonary Nodules | 8/1/2021 | 1/31/2022 | 60,200 | 4,816 | 65,016
Pulmonary | Masquelin, Axel Herve | National Institutes of Health/NIH | Detecting lung cancer from CT images and patient history using deep neural nets | 12/1/2021 | 10/31/2024 | 100,491 | - | 100,491
Pulmonary | Morriessette, Katelin Marie | Nati Heart Lung and Blood Inst/NHLBI/NIH | Aided Diagnosis via Machine Learning for Point of Care Cardiothoracic Ultrasound | 9/1/2021 | 8/31/2023 | 296,260 | 109,723 | 405,983
Pulmonary | Teneback, Charlotte C. | Cystic Fibrosis Foundation | Therapeutics Development Center | 4/1/2021 | 3/31/2022 | 104,094 | 8,328 | 112,422
Pulmonary | Weintraub, Zachary | Seattle Children’s Hospital | Prospective Evaluation of a Standardized Approach to Diagnosis (PREDICT) and Treatment (PATIENCE) of Nontuberculous Mycobacteria in Cystic Fibrosis | 6/1/2021 | 5/31/2026 | 53,120 | 4,250 | 57,370
Pulmonary | Weiss, Daniel Jay | Alpha-1 Foundation | 2021 Stem Cells, Cell Therapies, and Bioengineering in Lung Biology and Diseases Conference | 7/12/2021 | 7/15/2021 | 5,000 | - | 5,000
Pulmonary | Weiss, Daniel Jay | American Lung Association | Mechanisms of SARS-CoV-2 Induced Type 2 Alveolar Epithelial Cell Pathogenesis | 7/1/2021 | 6/30/2022 | 100,000 | - | 100,000
Pulmonary | Weiss, Daniel Jay | Cystic Fibrosis Foundation | Mechanisms of SARS-CoV-2 Pathogenesis of CF Airway Epithelial Cells | 1/1/2021 | 12/31/2022 | 250,000 | 28,336 | 278,336
Pulmonary | Weiss, Daniel Jay | National Heart and Lung Inst/NHLBI/NIH | Stem Cells, Cell Therapies, and Bioengineering in Lung Biology and Lung Diseases | 7/1/2021 | 6/30/2022 | 100,000 | - | 100,000
Pulmonary | Weiss, Daniel Jay | United Therapeutics Corporation | Effect of UNEX-42 (MSC-derived EVs) on SARS-CoV2 Spike Protein Airway and Alveolar Epithelial Biology | 6/1/2021 | 5/31/2023 | 290,614 | 101,715 | 392,329
<table>
<thead>
<tr>
<th>Division</th>
<th>PI</th>
<th>Sponsor</th>
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<th>Requested Start Date</th>
<th>Requested End Date</th>
<th>Requested Direct Costs</th>
<th>Requested Indirect Costs</th>
<th>Requested Total Costs</th>
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<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel Jay</td>
<td>United Therapeutics Corporation</td>
<td>Modeling Pulmonary Hypertension Drug Mechanisms of Actions in Pulmonary Vascular Smooth Cells: Correlation of in silico and in vitro studies</td>
<td>7/1/2021</td>
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<td>9/1/2021</td>
<td>11/30/2021</td>
<td>$1,000</td>
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<td>8/31/2025</td>
<td>$308,093</td>
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<td>Virginia Commonwealth University</td>
<td>Basement Membrane Supported Epithelial Junction Formation in Engineered Lung Tissues</td>
<td>4/1/2022</td>
<td>3/31/2026</td>
<td>$308,093</td>
<td>$172,531</td>
<td>$480,624</td>
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</table>
Department of Medicine
UVM Medical Center Research Revenue (Direct & Indirect), FY17-FY21

2017: $3,243,560
2018: $3,430,100
2019: $2,908,420
2020: $2,196,358
2021: $3,776,122