

Department of Medicine
ANNUAL REPORT
July 1, 2021 – June 30, 2022

Submitted by:
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E.L. Amidon Chair and Professor
Department of Medicine
Date: November 22, 2022

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Department of Medicine
Annual Report 2021-2022
Chair's Executive Summary



The saying “may you live in interesting times” continues to resonate. This past year included the ongoing challenges of the pandemic, many transitions and extraordinary accomplishments. Once again the entire department came together 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.

Last year I noted that the clinical needs in both the outpatient and inpatient setting had exceeded previous levels and this year the needs were even greater. To support patient access and care we welcomed 16 new faculty over the past year (July 1, 2021 - June 30, 2022) with an additional 13 faculty already hired to start later in 2022. These faculty have joined the divisions of General internal Medicine, Gastroenterology, Cardiology, ID, Hematology, Rheumatology, Nephrology, Pulmonary/Critical Care, and Hospital Medicine supporting patient care here at UVMHC and across the UVMHN. We have continued to support our patients with telemedicine when we could reduce the burden of travel and increase access to care and to further increase access we have initiated e-consults in subspecialties. Two faculty were recognized with the Distinguished Clinician Awards for the Department of Medicine: Drs. Zail Berry and Timothy Whitman. Dr. Melanie Bui 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. The Internal Medicine Residency program expanded to welcome new Assistant Program Directors, the Geriatrics division has submitted an application to create a fellowship in Geriatric Medicine, and we welcomed two new faculty into the department to support the Edupreneurship program at LCOM. In recognition of their substantial contributions to education, Dr. Andrew Hale received the Foundation Course Director Award and the Above and Beyond Award from the class of 2024 and Dr. Lee-Anna Burgees received the AMWA Gender Equity Award. Three faculty were recognized with awards from the LCOM Teaching Academy: Dr. Amanda Kennedy, CME Educator of the Year, Dr. Allen Repp, Innovation in Curriculum Development, and Dr. Halle Sobel, Outstanding Contribution.

The Department E. L. Amidon recipient was Dr. William Hopkins, and the Mark A. Levine MD Award recipient was Dr. Emily Greenberger. Four faculty were inducted in the LCOM Teaching Academy as members: Drs. LeeAnna Burgess, Sherrie Khadanga, John Miller and Elly Riser and Dr. Shea Lambirth was selected to participate in the LCOM Teaching Academy's Medical Education Fellowship Program. Dr. Josh Farkas received the UVMHC Teacher of the Year Award from the division of Emergency Medicine. Dr. Emily Greenberger and colleagues

received a Frymoyer Scholars Award, “Fostering the Qualities of Excellent Clinical Teachers in Medicine”.

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. Chris Holmes’ and Dr. David Schneider’s (CO-PI’s) project “Platelet FcGammaRIIa and Risk of Venous Thromboembolism in Cancer”, Dr. Jeff Spees’ STTR project “VasaPlex-based Biologics for Treatment of Reperfusion Injury after Myocardial Infarction” and Dr. Jason Botten’s UVM SPARK award to develop broad spectrum anti-viral therapeutics. In addition, the Department has supported success in early career research which has resulted in awards to Post-Doctoral Fellow (Dr. Mary Cushman’s Lab), Dr. Debora Kamin Mukaz who received an AHA Fellowship Award, “Residential Segregation, Thrombo-Inflammation and Risk of Hypertension” and Graduate Student Axel Masquelin (mentor Dr. Jason Bates) who received an F31 Pre-Doctoral Fellowship titled “Leveraging Prior Knowledge to Classify Indeterminate Lung Nodules in CT Image using Deep Neural Networks”.

To enhance support for the research mission, the department established the Early Career Green and Gold Professor of Medicine awarded to Dr. Diego Adrianzen Herrera and the Wolgemeth Fellowship awarded Dr. Sherrie Khadanga.

In recognition of their contributions to research, Dr. Anne Dixon was named a 2022-23 University Scholar, Dr. Timothy Plante-UVMHNMG Junior Researcher of the Year, Dr. Jason Bates-LCOM Research Mentorship award, and Dr. Richard Solomon – Dean’s Clinical Trials Research Award. Dr. Randall Holcombe was invested as the Inaugural J. Walter Juckett Chair in Cancer Research.

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. David Kaminsky - Presidential Citation from the American Thoracic Society, Dr. Katie Huggett –Distinguished Career Award for Excellence in Teaching and Education Scholarship from IAMSE, and Dr. Jason Bates-2022 Robert Crapo Memorial Lifetime Achievement Award in Pulmonary Diagnostics, ATS.

For their overall exemplary contributions faculty received significant recognition: Dr. Cindy Noyes-UVM Medical Center Vision Award, Dr. Kristen Pierce-2021 Physician Award for Community Service, VMS, and Drs. Alston and Noyes were the inaugural recipients of the DOM Meritorious Service 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 and on our website: [Department of](#)

[Medicine | College of Medicine | University of Vermont \(uvm.edu\)](#). 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 UVMC 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
H. Sobel
A. Teleron
J. Winget

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 Airoidi, 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 Nevaes, Rheumatology
Cindy Noyes, Infectious Disease
Joseph Pierson, Dermatology
Sheela Reddy, Gastroenterology
Marie Sandoval, General Internal Medicine
Tina Thornton, Immunobiology
Magdalena Zeglin, Cardiology
Amelia Gennari, Geriatrics

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
Jason Botten, PhD
LeeAnna Burgess, MD
Nicholas Ferrentino, MD
Garth Garrison, MD
Farrah Khan, MD
Rony Lahoud, MD

John Miller, MD
Kristen Pierce, MD
JuanPablo Perdomo-Rodriguez, MD
Marios Prikis, MD
Christine Weinberger, MD
Zail Berry, 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 - Clinical Practice Site

Allen Mead, MHSA, Director, Medicine Specialty Services
Tammy Stockton, RN, Director, Geriatrics and General Internal Medicine

The Department of Medicine led through another challenging year and generated strong results. With the support the faculty, advanced practice providers, and staff, the Department produced a 4% increase in visits over the previous academic year and a 12% increase in work RVUs. This helped to partially offset a “post-pandemic” increase in demand. Behind these numbers are numerous individuals going above and beyond. Of particular note, our Hospital Medicine, Pulmonary (Medical ICU), Hematology/Oncology, and Cardiology teams all saw significant increases in inpatient activity that required additional clinical effort. Every division in Medicine also saw increases in clinic volumes. We maintained our utilization of telemedicine and televideo, to support patient care in many areas, which has benefited patients, providers, and improved clinic efficiency.

In the face of this increase in clinical activity, we were proud to continue to partner with our UVM colleagues to support the advancement of our academic mission through clinical research, education, and service.

The Department cannot be successful without a strong team. Our administrative leadership team is:

Jake Hammond – Assistant Director
Jessica Hendela – Financial Specialist (through November 2021)
Chapin LaShombe – Assistant Director
Kelly Marcotte – Financial Specialist
Tina Mazuzan – UVM Research/Financial Manager
Michaelanne Rowen – Research Manager
Bridget Tully – UVM Human Resources Coordinator
Lisa Yates – Coordinator, Medicine Support Services

Some examples of specific projects that we initiated or continued this year include:

- High Value Care = General Internal Medicine and several sub-specialties worked together to develop clear pathways for eConsults and to integrate services into the pathways for patients and families (see detailed list below).
 - Tammy Stockton is also the operational lead for the Panel Management Team
- General Internal Medicine was recertified by the NCQA recognizing that the work of alignment with population health management best practices and improving management of individuals with complex needs are central to care of patients and families.
- Referral Management = several Divisions have collaborated with the Network’s Patient Access and Services Team to improve access by, for example, filling canceled slots more efficiently in Endocrinology and jointly scheduling for Rheumatology between two network locations. These efforts and others have reduced our referral backlogs significantly.
- EPIC Optimization = supported a three-week long EPIC “Sprint” in Hematology/Oncology and a two-week long Sprint each in Gastroenterology and Dermatology to improve operational

processes and user comfort with the system. The results improved user satisfaction with EPIC significantly.

These and many other projects are supported by the entire faculty and staff team in the Department. We thank them on behalf of our patients and our learners.

The Department of Medicine has had the honor of Dr. Polly Parsons leading and managing this Department through the challenges, barriers, difficult situations and celebratory events throughout the year and the past greater than 17 years. She has been a strong advocate for the team and for the patients and families served by the Department of Medicine team. She has kept all of our missions (education, research, patient care, and service) at the forefront of the Department which is no easy feat. Her experience, knowledge and voice has a tremendous influence and positive impact on her team, colleagues, mentees, and the organization. She will be moving forward to a new journey in the near future. She will be missed. We thank her and wish her all the best!

Please find below some additional information on the Department's volumes and practice locations.

Volumes

Ambulatory Care Visits: 214030 (up from 205,645 visits in prior academic year)

- 153,477 visits in specialty care and 60,533 visits in General Internal Medicine and Geriatrics

Work RVUs: 711,535 (up from 637,848 in the prior academic year)

Department of Medicine UVM Medical Center Practice/Medical Group 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
- 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

Geriatrics

Williston

Other Sites

- Pulmonary Rehabilitation

Department of Medicine UVM Medical Center Practice/Medical Group Sites 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
- Plattsburgh (CVPH) – Cardiology, Infectious Disease, Dermatology
- Ticonderoga (ECH) – Dermatology

Nursing Homes and Other Locations:

- Birchwood Terrace Nursing Facility
- Elderwood Nursing Facility
- The Arbors at Shelburne
- Green Mountain Nursing Facility
- Visiting Nursing Association of Vermont
- Castleton Health Center
- Community Health Center of Burlington

Department of Medicine Multidisciplinary Clinics and Case Conferences/Tumor Boards

(examples of participants in parentheses)

- 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)
- 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)

Econsults (with General Internal Medicine)

- Hepatitis C (Gastroenterology)
- Gastroenterology (Abnormal LFT, Fatty liver and GERD)
- Palpitations and Heart Failure (Cardiology)
- C Diff and UTI (Infectious Disease)
- Sleep
- Psychiatry
- Pharmacy (Diabetic medication optimization, suspected ADR, polypharmacy)
- Gynecology (Abnormal PAP, Uterine Bleeding, Adnexal mass and Contraceptive)
- Urology (BPH and hematuria)
- Neurology-Oncology
- Neurology- Stroke
- Pulmonology (COPD and pulmonary nodule)

Graduate Medical Education Annual Report: 2021-2022

Residency Leadership:

Mark Pasanen, M.D. – Program Director
Halle Sobel, M.D. – Associate Program Director
Andy Hale, M.D. – Associate Program Director
Emily Greenberger, M.D. – Associate Program Director
Katie Menson, D.O. – Associate Program Director
David Rand, D.O. – Assistant Program Director
Tara Scribner, M.D. – Assistant Program Director
Christine Farnham – Program Administrator
Valarie Cherry – Program Administrator

Summary of Internal Medicine Program Highlights 2021-2022

Leadership Changes: In the last year, we have made significant additions to our Residency Administrative Team. Drs. Sobel and Hale continue in their roles as Associate Program Directors. Among their many duties, Dr. Sobel also directs the Primary Care track and our Competency Committee and Dr. Hale directs our curricular oversight efforts, including a focus on the Resident-as-Teacher curriculum and Research program. We have welcomed four new members of our team, all of whom are involved in all aspects of our educational program – Dr. Emily Greenberger is focusing on professional development and recruitment; Dr. Katie Menson is leading up our Diversity, Equity and Inclusiveness efforts; Dr. David Rand is directing our Communication curriculum; and Dr. Tara Scribner is leading major improvements in our Ultrasound and Procedural curricula. Christine Farnham and Val Cherry continue to provide amazing support for our team, and for our residents.

Enhancements to Curriculum:

Over the past year, we have continued to make adjustments in our educational program with the goal of maintaining coverage of core Internal Medicine content while better addressing other critical curricular needs. As an overview, our educational sessions include a noon series 4 days/week and academic half-days 2 days/week, along with an outpatient curriculum (see below). For our academic half-day sessions, our residents are split into two cohorts (first-year residents and senior residents), allowing our curriculum to better target learner level. In addition, since making this change, we have encouraged our faculty to work toward more interactive teaching methods. Our academic half-day model has allowed for a more comprehensive curriculum, including robust established Improvement Science and Wellness initiatives. Our areas of focus recently include the launch of a curriculum addressing Equity, Diversity and Inclusion, enhancements in our ultrasound training and re-invigoration of our Resident as Teacher and Communication curricula. In addition, over the past several 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 varying COVID-19 gathering restrictions. We have continued to function in a hybrid system – in which there is a mix of in-person and video participants at our teaching sessions as we gradually move toward more in-person teaching/learning.

Board Preparation:

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. As we move forward, we are also building more formal board review into our educational sessions, and have supported residents to participate in external board review courses.

Continuity Clinic Update:

We continue to take advantage of the block schedule to optimize education in the outpatient setting. With the leadership of Drs. Halle Sobel and Rich Pinckney at UVMMMC 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. In the past year, under the leadership of Drs. Depo and Greenberger, we introduced a new Ambulatory Report, focused on interesting case discussions from the longitudinal experience.

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 for the past two years, as we have recently started to re-introduce group gatherings (always in compliance with UVM, UVMMMC 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 and moving forward, we continue to explore ways to stay connected – and look forward to reestablishing many of our previous events.

Recruitment:

During this past year, we continued to refine our virtual recruitment 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 (and similar to last year). The increased number of interviewees and reduced barrier of travel necessity has allowed us to interview an increasing diverse group of candidates – resulting in a fantastic match (see below for details).

List of Residents (July 1, 2021-June 30, 2022)**PGY-3**

Jason Browne
Health

University of Wisconsin School of Medicine and Public

Nathan Centybear
Vermont

Robert Larner, M.D., College of Medicine at the University of

Elizabeth Carson
University of Vermont
Robert Hardwick
Yu Ting (Christina) He
Jonathan Hingre
Arjun Janardhan
University of Vermont
Alison Kim
Seth Levy
Buffalo
Aurasch Moaven
Lloyd Patashnick
Vermont
Jamie Rowell
David Steinmetz
Pennsylvania
Ryan Thomas
Sean Till

PGY-2

Siddique Akram
Public Health
Vishwanath Anekonda
Tanesha Beebe
Maria Bryan
Brendan Campbell
Health Sci
Kyle Crooker
Brendan Ferraro
David Jackson
Ali Jandal
Health
Colton Jensen
Medicine
John Lamb
Eleanor Stedman
University of Vermont
Nicholas Tooley
Medicine - Grand Rapids
Sarah Wachtel
Danielle Wall
Vermont

PGY-1

Faiz Abu-Jaber
Robin Alsher

Robert Larner, M.D., College of Medicine at the
University of Washington School of Medicine
Weill Cornell Medicine
State University of New York Upstate Medical
Robert Larner, M.D., College of Medicine at the
Chicago Medical School at Rosalind Franklin
Jacobs School of Medicine and Biomedical Sciences Univ of
University of Maryland School of Medicine
Robert Larner, M.D., College of Medicine at the University of
Medical University of South Carolina College of Medicine
Perelman School of Medicine at the University of
Albany Medical College
Loyola University Chicago Stritch School of Medicine

University of Wisconsin School of Medicine and
University of Washington School of Medicine
Loyola University Chicago Stritch School of Medicine
University of Minnesota Medical School
George Washington University School of Medicine and
University of Kansas School of Medicine – Wichita
Lewis Katz School of Medicine at Temple University
University of New England College of Osteopathic Medicine
University of Wisconsin School of Medicine and Public
University of Iowa Roy J. and Lucille A. Carver College of
Mercer University School of Medicine – Savannah
Robert Larner, M.D., College of Medicine at the
Michigan State University College of Human
Albany Medical College
Robert Larner, M.D., College of Medicine at the University of

Tufts University School of Medicine
Pennsylvania State University College of Medicine

Daniel Bailey of Buffalo	Jacobs School of Medicine and Biomed Sciences at the Univ
Akshee Batra	Maulana Azad Medical College
Dominique Billingslea	University of Washington School of Medicine
Charles Forsythe	University of Washington School of Medicine
Kelsey Maguire Medicine	University of New England College of Osteopathic
Kristine McLaughlin	University of Minnesota Medical School
Jordan Morrison-Nozik Medicine	University of New England College of Osteopathic
Ahmed Raza	Allama Iqbal Medical College
Chastidy Roldan Center Coll of Med	State University of New York Downstate Medical
Massoud Saleki	University of Washington School of Medicine
Sienna Searles Medicine	Robert Larner, M.D., University of Vermont College of
Deepak Sharma	Eastern Virginia Medical School
Sudershan Srinivasan	Case Western Reserve University School of Medicine

Preliminary

Cheyenne Hornback City	University of Oklahoma College of Medicine at Oklahoma
Joy Lowry Medicine	Robert Larner, M.D., University of Vermont College of
Zachary Zimmer the Univ of Buffalo	Jacobs School of Medicine and Biomed Sciences at
Ryan Beal Medicine	Campbell University Jerry M. Wallace School of Osteopathic
Muhannad Seyam	Semmelweis University Faculty of Medicine
Samae Scott	Albany Medical College
Karl Heward	University of Utah School of Medicine

Preliminary Anesthesia shared with Surgery

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

Chief Medical Residents

Benjamin Depo	State University of New York Upstate
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Matthew Gervais
Kevin Qin

Pennsylvania State University College of Medicine
University of Toledo College of Medicine and Life Sciences

Resident and Faculty Awards (announced June 2022)

The Harriet P. Dustan, M.D. Award:

- Yu Ting (Christina) Hel, M.D.

The Frank L. Babbott, M.D. Memorial Award:

- Jamie Rowell, M.D.

Richard E. Bouchard, M.D. Excellence in Primary Care Award:

- David Steinmetz, M.D.

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

- William Hopkins, M.D.

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

- Emily Greenberger, M.D.

Resident Research Day: May 27, 2022

Oral Presentations:

Christina He, MD

Characterizing Cervical and Breast Cancer Screening Rates in HIV vs. Non-HIV Patients
Anupama Balasubramanian, Shivani Mathur, Angela Russo, Devika Singh

Jamie Rowell, MD

Longitudinal Assessment of Lung Function in COVID-19 Patients
Jamie Rowell, MD, Katie Menson, DO, Charles Irvin, PhD, Janice Bunn, PhD, Jeff Priest, PhD, Olivia Johnson, BS, Cory Raymond, BS, Elise Prehoda, BS

Ryan Thomas, MD

Development of a Computable Phenotype for Venous Thrombosis: The Medical Inpatient Thrombosis and Hemostasis (MITH) Study
Ryan Thomas, MD, Katherine Wilkinson, MS, Insu Koh, PhD, Ang Li, MD, Nicholas Roetker, PhD, Nicholas L Smith, PhD, Allen B Repp, MD, Chris E. Holmes, MD, PhD, Timothy B Plante, MD, MHS, Mary Cushman, MD and Neil A. Zakai, MD, MSc

Poster Presentations:

Jason Browne, MD

Incidence of nonalcoholic fatty liver disease (NAFLD) in a cohort of rheumatoid arthritis (RA) patients on methotrexate (MTX)

Jason Browne, MD, Bradley Tompkins, MPH, Amanda G. Kennedy, PharmD, BCPS, Steven D. Lidofsky, MD, PHD

Elizabeth Carson, MD

Prescribing SGLT-2 Inhibitors and GLP-1 Agonists in Primary Care: Improving Rates of Guideline-Concordant Practice

Elizabeth Carson, MD; Matthew Gilbert, DO; Samantha Schuetz, MPH; Ruveni Gogerly-Moragoda, MBBS; Halle Sobel, MD

Nathan Centybear, MD

Flow Volume Loop Morphology in Patients with Parkinson's Disease

Nathan Centybear, MD, David Kaminsky, MD, Ping Zhao, PhD, Acorda, Inc.

Robert Hardwick, MD

Relationship of FeNO with asthma control varies by BMI group

Robert Hardwick, MD, A. E. Dixon MD, D. Kaminsky MD

Jonathan Hingre, MD

Improving Patient Understanding of the Resident's Role in Primary Care Clinic

Jonathan Hingre, MD, Bradley J. Tompkins, MS, MPH, Gretchen Gaida-Michaels, MD

Arjun Fung-Janardhan, MD

Associations Between Health Plan Transitions and Healthcare Utilization Among ICU Survivors

Arjun Fung-Janardhan MD, Andrew Wilcock PhD, Adam J. Atherly PhD, Elena Kozakewich MD, Leslie P. Scheunemann MD, MPH, Skyler A. Lentz MD, Renee D. Stapleton MD, PhD

Alison Kim, MD

Comparison of Younger vs Older Patients Participating in Phase 2 Cardiac Rehabilitation

Alison Kim, MD, Sherrie Khadanga MD, Patrick Savage MS, Philip Ades MD

Seth Levy, MD

Incidence of Influenza and Other Respiratory Viral Infections in Vermont During the COVID-19 Pandemic

Seth Levy, MD, Lindsay Kill, MS, Jennifer Read, MD, MS, MPH, Kristen Pierce, MD

Aurasch Moaven, MD

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

Aurasch Moaven, Shawn Wayne, Siddique Akram, Sheela Reddy

Lloyd Patashnick, MD

Are We Over-sedating in the MICU: A Retrospective Analysis

Lloyd Patashnick, MD, Bradley Tompkins, MS, MPH, MaryEllen Antkowiak, MD

Jamie Rowell, MD

Simulation in critical care: a curriculum for internal medicine residents in the Medical ICU
Jamie Rowell, MaryEllen Antkowiak, Bradley Tompkins, Julia Powelson

David Steinmetz, MD

Resident physician reactions to telemedicine in a primary care training setting
David Steinmetz, MD, Kamryn Jones, Amanda G. Kennedy, PharmD, Halle Sobel, MD

Sean Till, MD

The relationship between lung volume and airway conductance in obstructive and restrictive lung disease
Sean Till, David Kaminsky

Department of Medicine Graduating Resident Presentations:

Manuscripts

Name	Title
Elizabeth Carson	Carson E, Wilcox R. Choosing Wisely in Pre-clinical Medical Education: a Direct Comparison of Active Learning Methods for Teaching Metabolic Liver Disease. <i>Med Sci Educ.</i> 2019 Oct 28;30(1):139-146. doi: 10.1007/s40670-019-00821-2. PMID: 34457652
Yu Ting He	He YT, Peterson K, Crothers J, DeJace J, & Hale A. Endocarditis and Systemic Embolization from Whipple's Disease. <i>IDCases.</i> 2021 Mar 31;24:e01105. doi: 10.1016/j.idcr.2021.e01105. PMID: 33868927
Yu Ting He	Lam BD, Hale AJ, Bullis SM, He Y, Khan S, Freed JA. A Retrospective Review of 193 Cases of Severe Eosinophilia in the Northeast United States. <i>Am J Med.</i> 2021 Jun;134(6):e374-e377. doi: 10.1016/j.amjmed.2020.11.022. PMID: 33359774
Yu Ting He	He YT, Hale A. Oral-Step Down Therapy for Uncomplicated Streptococcal Bloodstream Infections: β -Lactams or Fluoroquinolones? <i>Contagion</i> , February 2021 (Vol. 06, No. 01)
Sean Till	Infeld M, Nicoili C, Meagher S, Tompkins BJ, Wayne S, Irvine B, Betageri O, Habel N, Till S, Lobel J, Meyer M and Lustgarten D. Clinical impact of Bachmann's bundle pacing defined by electrocardiographic criteria on atrial arrhythmia outcomes. <i>Europace.</i> 2022 Mar 19:euac029. doi: 10.1093/europace/euac029. PMID: 35304608.
A special thanks to former residents who continued to work on scholarship of their resident research projects after finishing residency!*	
KC Bolton	Bolton K, Lawler M, Hauptman J, Madden M, DeVoe SG, Kennedy AG, Tompkins BJ, Hodde NM. Patient experience on a hospital oncology service before and after implementation of a no-visitor policy during Covid-19. <i>J Patient Exp.</i> 2021 Jul 28;8:23743735211034620. doi: 10.1177/23743735211034620. PMID: 34377777.
Katherine Peterson	Peterson KL, Tompkins BJ, Ahern JW, Smith LM. The Impact of a Best-Practice Advisory on Inpatient Use of Piperacillin-Tazobactam. <i>Antimicrobial Stewardship & Healthcare Epidemiology</i> , Volume 2, Issue 1, 2022, e36 DOI: https://doi.org/10.1017/ash.2022.12
Samantha Steinmetz-Wood	Steinmetz-Wood SN, Kennedy AG, Tompkins BJ, Gilbert MP. Navigating the Debate on Managing Large (≥ 4 cm) Thyroid Nodules. <i>Int J Endocrinol.</i> 2022 Apr 16;2022:6246150. https://doi.org/10.1155/2022/6246150 . PMID: 35469125

National or Regional Posters and Presentations

Name	Title
Elizabeth Carson	Carson E, et al. Prescribing SGLT2 inhibitors and GLP-1 agonists in primary care: Improving rates of guideline-concordant practice. Presented at: Society of General Internal Medicine national meeting (SGIM22); April 7, 2022. Orlando, Florida. Accepted for presentation at: Endocrine Society National Meeting (ENDO2022); June 11-14, 2022. Atlanta, Georgia.
Arjun Fung-Janardhan	Fung-Janardhan, A., Wilcock, A., Atherly, A., Kozakewich, E., Scheunemann, L., Lentz, S., Stapleton, R. (May 2021). Associations Between Health Plan Transitions and Healthcare Utilization Among Intensive Care Unit Survivors. Poster presented virtually at: ATS 2021.
Robert Hardwick	R. Hardwick, A. E. Dixon, D. Kaminsky. Relationship of Fractional Exhaled Nitric Oxide (FeNO) with Asthma Control Varies by BMI Group. Poster presented at: ATS 2022.
Yu Ting He	Lin J, Hampton K, He YT, Jacobs A, McEntee R, Li J, et al. How to survive a cyberattack: Preparing for the unexpected. Virtually presented at EPIC XGM Expert Group Meetings 2021.
Yu Ting He	He YT. Transition to oral antibiotics for streptococcal bacteremia: Which and when?. Presented at Vermont and New Hampshire Society of Hospital Medicine Updates in Hospital Medicine Webinar; March 2021.
Alison Kim	Kim A, Toishi Sharma MD, Anand Krishnan MD, Louis Polish MD, William Hopkins MD. Cutibacterium acnes: An indolent presentation of prosthetic valve endocarditis. Presented virtually at: Vermont ACP Chapter meeting; October 15, 2021.
Alison Kim	Kim A, Khadanga S, Savage P, Ades P. Comparison of younger vs older patients participating in phase 2 cardiac rehabilitation. Presented virtually at: Beginning Investigator Award Session at the AACVPR annual meeting; October 7, 2021.
Aurasch Moaven	Moaven A, Abutaleb A, Stonesifer E, Rubin J, Jakhete N, Sakiani S, Schmalzle S, Kottlil S, Shetty K. Prevalence of Non Alcoholic Fatty Liver Disease and Predictors of Hepatic Fibrosis in an Urban Population with HIV Mono-infection. Oral and poster presentation at HIV and Liver Disease 2021 Conference; September 2021; Teton Village, WY.
Aurasch Moaven	Moaven A, Wahlberg K. A Case of Reactive Arthritis Secondary to BCG Therapy. Case report poster presentation at the Vermont Chapter of American College of Physicians 2019 Scientific Meeting. October 2019. Stowe, VT.
Dave Steinmetz	David Steinmetz, Maylene Qiu, Matthew Palmer, Jonathan Dunham, Jonathan J. Hogan: IgA nephropathy in patients with psoriatic arthritis: a case series and systematic review of the literature. 2019 ASN Kidney Week, Washington, DC.
Ryan Thomas	Thomas R. Development of a Computable Phenotype for Venous Thrombosis Present on Admission: The Medical Inpatient Thrombosis and Hemostasis (MITH) Study. Presented at International Society on Thrombosis and Haemostasis; 2021.

Fellow Research Day: June 3, 2022

Oral Presentations:

Morgan Carbajal, MD

Measuring Airway Hyper-responsiveness Shows That Osteopontin May Play an Anti-Inflammatory Role in Regulating the Immune Response to Influenza A Virus

M. P. Clark-Coller, Z. F. E. Mark, A. Kumar, N. Daphtary, M. Aliyeva, Jegga A., J. H. Bates, V. Anathy

Mansour Gergi, MD

Risk Factors for bleeding after recent medical hospitalization: The Medical Inpatient Thrombosis and Hemostasis Study (MITH)

Mansour Gergi, Katherine Wilkinson, Andrew Sparks, Hanny Al-Samkari, Nicholas L. Smith, Nicholas S. Roetker, Timothy B. Plante, Mary Cushman, Allen B. Repp, Chris E. Holmes and Neil A. Zakai.

Elena Kozakewich, MD

Vermont ICU Survivorship: A population-based, retrospective cohort study utilizing VHCURES

Elena Kozakewich, MD, Andrew Wilcock, PhD, Adam Atherly, PhD, Arjun Fung-Janardhan, MD, Leslie Scheunemann, MD, MPH, Skyler Lentz, MD, Renee Stapleton, MD, PhD

Poster Presentations:

Shreya Amin, MD

Use of cardio-protective anti-hyperglycemic medications in cardiac rehab population with T2DM

Tanesha Beebe, MD; Sherrie Khadanga, MD; Patrick Savage, MS; Kaitlyn Barrett, DO.

Cecile King, MD

Fellows as Teachers: Development of a Fellowship Echocardiography Board Focused Curriculum Needs Assessment

Cecile King MD, Kramer Wahlberg MD, Bisham Harchandani MD

Matthew Kluge, MD

Interleukin-1 and idiopathic pericarditis

Matthew Kluge MD, Ralph C Budd, MD, Cheryl C Collins MS, Marek Polomsky MD, Fuyuki Hirashima, MD and Martin M LeWinter MD

Kara Landry, MD

Analysis of a rare PMS1 variant identified in discordant sibling pairs from hereditary breast cancer families

Landry KK, Dragon JA, Seward D, McKinnon WC, Colello L, Wallace SS, Cuke M, Wood ME

Katherine Peterson, MD

Determining SARS-CoV-2 infectious viral titers and RT-PCR cycle threshold values of clinical specimens from vaccinated versus unvaccinated individuals

Katherine L. Peterson, DO; Allison L. Unger, PhD; Korin M. Eckstrom, MS; Hannah W. Despres, BA; Madaline M. Schmidt, BA, MPH; Emily A. Bruce, PhD; Jessica W. Crothers, MD

Brennan Rigby, MD

Ten-Year Fracture Data of ICD Leads Implanted Within the UVMHN
Brennan D. Rigby MD, Daniel D. Correa de Sa MD, Susan Calame BSN

Brendan Thoms, MD

Efficacy of Combination Therapy with the JAK Inhibitor Baricitinib in the Treatment of COVID-19
Brendan L Thoms MBBS, PhD, Jeanne Gosselin MD, Bonita Libman MD, Benjamin Littenberg MD, Ralph C. Budd MD

Brendan Thoms, MD

"The rheumatologist will see you now" -- The identification of variables in new patient referrals predictive of a diagnosis of inflammatory arthritis
Brendan Thoms, MD, Alana Nevares MD, Levi N Bonnell MPH, Bradley Tompkins MS, MPH, ChiChi Lau, MD

Manuscripts

Name	Title
Mansour Gergi	Gergi M, Cushman M, Littenberg B, Budd RC. Thrombo-inflammation response to Tocilizumab in COVID-19. <i>Res Pract Thromb Haemost.</i> 2020 Sep 25;4(8):1262-8. doi: 10.1002/rth2.12436. Epub ahead of print. PMID: 33043232; PMCID: PMC7537313.
Mansour Gergi	Gergi M, Landry KK, Ades S, Barry M, Zakai NA, Herrera DA. Nivolumab-Induced Thrombotic Thrombocytopenic Purpura in a Patient with Anal Squamous Cell Carcinoma: A Lesson on Hematologic Toxicity from Immunotherapy. <i>Oncologist.</i> 2020 Dec;25(12):1009-1012. doi: 10.1002/onco.13553. Epub 2020 Oct 23. PMID: 33017484.
Mansour Gergi	Gergi M, Goodwin A, Freeman K, Colovos C, Volod O. Viscoelastic hemostasis assays in septic, critically ill coronavirus disease 2019 patients: a practical guide for clinicians. <i>Blood Coagul Fibrinolysis.</i> 2021 Jan 12. doi: 10.1097/MBC.0000000000000999. Epub ahead of print. PMID: 33443923.
Mansour Gergi	Kamin Mukaz D, Gergi M, Koh I, Zakai NA, Judd SE, Sholzberg M, Baumann Kreuziger L, Freeman K, Colovos C, Olson NC, Cushman M. Thrombo-inflammatory biomarkers and D-dimer in a biracial cohort study. <i>Res Pract Thromb Haemost.</i> 2021;5(8): e12632.
Kara Landry	Landry KK, Seward DJ, Dragon JA, Slavik M, Xu K, McKinnon WC, Colello L, Sweasy J, Wallace SS, Cuke M, Wood ME. Investigation of discordant sibling pairs from hereditary breast cancer families and analysis of a rare PMS1 variant. <i>Cancer Genetics.</i> Available online 15 November 2021. https://doi.org/10.1016/j.cancergen.2021.11.004 .
Katherine Peterson	He Y, Peterson K, Crothers J, DeJace J, Hale A. Endocarditis and Systemic Embolization from Whipple's Disease. <i>IDCases.</i> 2021; 24:e01105. PMID 33868927. doi: 10.1016/j.idcr.2021.e01105
Katherine Peterson	Peterson, K., Tompkins, B., Ahern, J., & Smith, L. (2022). The impact of a best practice advisory on inpatient prescribing of piperacillin-tazobactam. <i>Antimicrobial Stewardship & Healthcare Epidemiology</i> , 2(1), E36. doi:10.1017/ash.2022.12.

National or Regional Posters and Presentations

Brendan Thoms	Thoms BL, Gosselin J, Libman B, Littenberg B, Budd RC. Efficacy of Combination Therapy with the JAK Inhibitor Baricitinib in the Treatment of COVID-19. <i>SN Compr Clin Med</i> . 2022;4(1):42. doi: 10.1007/s42399-022-01121-4. Epub 2022 Jan 21. PMID: 35079694; PMCID: PMC8776555.
Brendan Thoms	Thoms BL, Agrawal V, Umyarova ER, Gibson PC, Solomon RJ. Antineutrophil Cytoplasmic Autoantibody-Associated Vasculitis with Kidney Involvement in a Patient with AL Amyloidosis . <i>Case Rep Nephrol Dial</i> . 2021 Jul 8;11(2):183-189. doi: 10.1159/000517142. PMID: 34327221; PMCID: PMC8299401.
Matthew Kluge	Wahlberg K, Sharma T, Kluge MA . Electrical storm relieved by emergent transcatheter aortic valve replacement: An unusual presentation of critical aortic stenosis. ACC Complex Clinical Cases Moderated Poster. April 2022
Matthew Kluge	Wahlberg K, Sharma T, Krishnan AM, Kluge MA. Candida endocarditis requiring urgent valve replacement complicated by stress cardiomyopathy and torsades de pointe . ACC Complex Clinical Case Poster. April 2022
Elena Kozakewich	Kozakewich, E., Wilcock, A., Atherly, A., Fung-Janardhan, A., Scheunemann, L. P. , Lentz, S., & Stapleton, R. D. Differences in Patterns of Post-Intensive Care Unit (ICU) Healthcare Utilization Among Vermonters According to Rurality of Survivor Residence. American Thoracic Society (2021)
Kara Landry	Landry KK, Dragon JA, Seward D, McKinnon WC, Colello L , Wallace SS, Cuke M , Wood ME. Analysis of a rare PMS1 variant identified in discordant sibling pairs from hereditary breast cancer families. Poster presented at American Society of Preventive Oncology 44th Annual Meeting; March 2020 and Northern New England Clinical Oncology Society Meeting; October 2019

Department of Medicine Quality Showcase May 2022:

Beyond the AVS: Patient-centered After Visit Engagement with their Data (PAVED)

Akram S, Anekonda V, Beebe-Peat T, Bryan M, Campbell B, Crooker K, Ferraro B, Jackson D, Jandal A, Jensen C, Lamb J, Stedman E, Tooley N, Wachtel S, Wall D, Burnett M, Muthukrishnan P, van Eeghen C, Kennedy AG. Patient and Family Advisors: Desautels A, Purcell K, Rubin A.

Delay to Inpatient Endoscopy: A High Value Care Case Analysis

Browne J., Carson E., Centybear N., Hardwick R., He Y., Hingre J., Janardhan A., Kim A, Levy S., Moaven A., Patashnick L., Rowell J., Steinmetz D., Ryan T., Till S., Burgess L., Hood V., Stinnett-Donnelly J., Repp J. B.

Evaluating a Brief Cognitive-Behavioral Therapy Curriculum for Primary Care Internal Medicine Residents: A Pilot Study

Emily Greenberger MD and Julia Terman

Improving Cardiology Fellow Education, Utilization, and Throughput of Coronary Computed Tomography Angiography - A Work in Progress

Matthew Kluge MD, Kevin DiBona, Tyler Wark MD, Friederike Keating MD

Integration of Mentorship and At-The-Elbow Electronic Medical Record Support into a Panel Management Curriculum for Internal Medicine Residents

Benjamin J. Depo MD, Emily K. Hadley Strout MD, Elizabeth A. Wahlberg MD, Halle G. Sobel MD

**Prescribing SGLT-2 Inhibitors and GLP-1 Agonists in Primary Care:
Improving Rates of Guideline-Concordant Practice**

Elizabeth Carson, MD; Matthew Gilbert, DO; Samantha Schuetz, MPH; S. Ruveni Gogerly-Moragoda, MBBS; Halle Sobel, MD

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

Aurasch Moaven, MD, Shawn Wayne, MD, and Sheela Reddy, MD

The impact of standardized infectious diseases consultation on asplenic care outcomes

Andrew Hale, MD, Benjamin Depo, MD

Graduates

2021 Residents – where did they go?

Eric Anderson	Hospitalist, Arizona
Jennifer Bergeron	Nephrology Fellowship, Vanderbilt University
Kenyon “KC” Bolton	Hospitalist, UVMHN – Central Vermont Medical Center
Benjamin Depo	Chief Resident
Matthew Gervais	Chief Resident
J. Curtis Gwilliam	TBD
Sundas Khan	Hematology/Oncology Fellowship, Lankenau Medical Center
Carrie Mahurin	Cardiology Fellowship, University of Vermont
Emily McPherson	Hospitalist, Maine
Jacob Neuwirth	Hospitalist, Virginia
Jacqueline Parker Center	Hospitalist, UVMHN – Central Vermont Medical
Kevin Qin	Chief Resident
Samantha Steinmetz-Wood	Endocrinology Fellowship, University of Vermont
Andrew Wall	Cardiology Fellowship, University of Massachusetts
Joshua Zimmer	Cardiology Fellowship, University of Vermont

2021 Chief Residents

Benjamin Irvine	Cardiology Fellowship, Tulane University
Shawn Wayne	Pulmonary/Critical Care Fellowship, University of Vermont
Edwin Goncharuk	Gastroenterology Fellowship, University of Vermont

MATCH RESULTS - Spring 2022

PGY-1

Categorical

Steven Bair University	Arizona College of Osteopathic Medicine of Midwestern
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Sara Brennan Vermont	Robert Larner, M.D., College of Medicine at the University of
Erika Dorff Medicine	University of Iowa Roy J and Lucille A Carver College of
Jesse Evensky - PC University	Sidney Kimmel Medical College at Thomas Jefferson
Jacob Gabbay - PC	University of Colorado School of Medicine
Aaron Henry Medicine	University of Arkansas for Medical Sciences College of
Jennifer Liao	Pennsylvania State University College of Medicine
William (Will) Lorentzen of Medicine	University of Iowa Roy J and Lucille A Carver College
Margaret (Maggie) MacPhail	Indiana University School of Medicine
Tessalyn (Tess) Morrison Medicine	Oregon Health & Science University School of
Aaron O'Brien	Ohio University Heritage College of Osteopathic Medicine
Kayla Sturtevant - PC Vermont	Robert Larner, M.D., College of Medicine at the University of
Amelia Winter	University of Central Florida College of Medicine
Albert Wu	University of South Dakota Sanford School of Medicine
Jonathon Zeitler	Creighton University School of Medicine

Preliminary

Ethan Ben - Radiology	University of Washington School of Medicine
Sheridan Joseph - Dermatology	University of Washington School of Medicine
Claudia Russell University of Vermont	Robert Larner, M.D., College of Medicine at the
Samantha (Sam) Blum - Neurology	Touro College of Osteopathic Medicine New York
Callie Brown - Neurology Midwestern University	Arizona College of Osteopathic Medicine of
Taylor Lakusta-Wong - Neurology	Loma Linda University School of Medicine
Adam Morehead - Neurology Vermont	Robert Larner, M.D., College of Medicine at the University of
Sabrina Wirth - Neurology University of Vermont	Robert Larner, M.D., College of Medicine at the

Preliminary Anesthesia shared with Surgery

Alisha Booms University	Arizona College of Osteopathic Medicine of Midwestern
Sarah "Sally" Clark Vermont	Robert Larner, M.D., College of Medicine at the University of
Ryan Dwosh	University of New England College of Osteopathic Medicine
Christopher Frederick	University of Colorado School of Medicine
Jefferson Last	University of Utah School of Medicine
Anna Quinlan Vermont	Robert Larner, M.D., College of Medicine at the University of

Chief Medical Residents

Aurasch Moaven
Jamie Rowell
David Steinmetz
Pennsylvania

University of Maryland School of Medicine
Medical University of South Carolina
Perelman School of Medicine at University of

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

Academic Affairs and Faculty Development

Kristen Pierce, MD., Vice Chair for faculty Affairs
Joseph Pierson, MD., Vice Chair for faculty development

During the last year, The Department of Medicine has established a Diversity Equity and Inclusion (DEI) Committee. This committee is under the expert leadership of Dr. Macaulay Onuigbo and Dr. Marie Sandoval. Through their combined leadership, the group has three subcommittees in areas of department planning/education, pipelines for change and lastly, data collection and synthesis. The committee has broad representation from across the various divisions. As a committee, the group has worked to develop and adopt a mission statement in order to embed DEI education into all facets of the department, work to develop pipelines to promote active and effective change, and ensure active participation and contributions to change workplace culture.

Additionally the Gender Equity Group, has worked to increase the representation, and advancement of women-identified and under-represented genders, in the Department of Medicine to continue to work to foster a safe, equitable and just work environment. Dr Greenberger recently presented data from the Department of Medicine at the LCOM-wide Gender Equity Meeting this Spring

Both the DEI Committee and the Gender Equity Group are planning to host a combined social event this Fall.

The DOM saw the successful promotion of several outstanding faculty members last year, and is looking forward to additional promotions for the upcoming year as the current cycle is underway. The reappointment process has been streamlined in the last two years and this has been well received. Additionally several presentations about the promotions process have been offered to new faculty and many faculty members have taken advantage of individual reviews of their CV as they begin to contemplate and understand the promotion process

Last August, the Faculty Development Committee hosted an early career mentoring workshop, hosted by Vice Chairs Dr. Kristen Pierce and Dr. Joe Pierson. On the other end of the spectrum, the committee organized a late career workshop this past spring, delivered by our own Dr. Virginia Hood, who had given a presentation on this topic at the American College of Physicians. Beyond her words of wisdom, a team from Human Resources gave practical guidance for those planning for retirement, to include the various benefits available from both UVMCC and LCOM. The entire session was recorded and is available on the departmental web site.

In late fall, the Faculty Engagement and Communication Committee collected information on all new clinicians hired since the pandemic started, culminating in an end of year edition of the Department of Medicine's publication The Chart that spotlighted them, to include personal photos and "fun facts" submitted about themselves. In early May, the committee, spearheaded by its Chair Dr. Jennifer Kelly, successfully hosted the first department-wide social gathering since the pandemic began. This event took place on the Burlington Waterfront area and was well attended and enjoyed by all.

Throughout the pandemic, these two committees have held combined twice-monthly zoom meetings under the improvisational umbrella of faculty support, where a number of timely topics have been addressed. Starting this summer, the two committees will revert to their pre-Covid format and meet separately each month.

**Department of Medicine Quality Program
Annual Summary, Fiscal Year 2022 (July 1, 2021 – June 30, 2022)**

Overview

The Quality Program in the Department of Medicine was established in the Fall 2016 under the direction of Dr. Polly E. Parsons, the E.L. Amidon Professor and Chair, and Dr. Allen B. Repp, Professor and Vice Chair for Quality, in the Department of Medicine at the Robert Larner, MD College of Medicine at the University of Vermont. The program serves faculty, fellows, residents, and students through our mission to enhance care delivery, provide education and training, and promote scholarship in improvement science.

Mission

We serve as a resource center and laboratory to support improvement in care delivery, education and training, and scholarship in quality, safety, and value in the Department of Medicine at the Robert Larner, MD College of Medicine at The University of Vermont.

Faculty/Staff

- Allen B. Repp, MD, MSc; Vice Chair for Quality and Professor of Medicine
- Amanda G. Kennedy, PharmD, BCPS; Quality Scholar and Professor of Medicine
- Juvena Hitt, MPH; Project Director
- Bradley Tompkins, MPH, MS; Quality Analyst

Fiscal Year 2022 Highlights

During FY22, the Quality Program continued to experience increased demand for its services. Overall, the Quality Program supported 94 projects in FY2022. It supported rigorous clinical quality improvement (QI) and improvement science research led by faculty, fellows, residents and students. In addition to improvements in [care quality](#), we witnessed continued growth in the resulting [scholarly products](#) including peer reviewed [publications](#) and [national abstracts](#) / posters. [Education and training](#) efforts focused on the longitudinal 3-year Improvement Science curriculum for medicine residents; curriculum for Pulmonary-Critical Care Medicine fellows; and sponsoring medical student initiatives to integrate high value care activities into the pre-clinical curriculum.

Education and Training

- *Medical Students*
 - Choosing Wisely STARS (Students & Trainees Advocating for Resource Stewardship) Program: To date, we have provided faculty mentorship to 10 medical students participating in the STARS program and advancing student-led initiatives to integrate high value care in medical education
- *Residents and Fellows*

- Improvement Science Curriculum for Internal Medicine Residents: Delivered and evaluated our 3-year, integrated active learning curriculum for 57 Internal Medicine Residents focusing on foundational and applied training in Quality Improvement (QI), patient safety, and high value care. We incorporate patient and family advisors as co-learners into our PGY-2 curriculum. Multiple manuscripts have been published describing and assessing the resident curriculum.
- All PGY-2 and PGY-3 residents participated in development and presentation of posters for submission to Department of Medicine Quality Showcase.
- *Faculty Development*
 - Junior faculty paired with senior/experienced faculty in Internal Medicine Resident curriculum in train-the-trainer model
 - Successful internal grant funding (UHC grant, PI: P. Muthukrishnan) for early-career faculty led initiative to improve venous thromboembolism risk assessment for hospitalized adults at UVM Medical Center
- *Departmental*
 - Vice Chair for Quality collaborated with chief medical residents to produce monthly, interactive Morbidity & Mortality conference incorporating quality improvement and patient safety concepts

Care Delivery Improvement

- *Quality Improvement Initiatives in Clinical Divisions*
 - Provided project management, design and analytic support to clinical divisions' quality initiatives, several of which are pursuing scholarship
 - Highlights of FY2021/2022 initiatives to date:
 - Cardiovascular Medicine: Develop e-consults/pathways for patients with heart failure and palpitations
 - Dermatology: Promote guideline-based follow-up for patients with malignant melanoma
 - Gastroenterology and Hepatology: Assess opportunities to improve efficiency and outcomes for UVM Health Network inpatient ERCP procedures
 - General Internal Medicine: Improve medication reconciliation and refill processes; Evaluate and improve diabetes management
 - Geriatrics: Evaluate the clinical impact of the geriatrics consult service
 - Hospital Medicine: Evaluate the venous thromboembolism risk assessment initiative
 - Infectious Disease: Improve the outpatient parenteral antibiotic therapy process - program evaluation and publication
 - Nephrology: Evaluation and improvement anemia management in patients with advanced chronic kidney disease
 - Pulmonary Disease and Critical Care Medicine: Improve lung transplant readiness for patients with cystic fibrosis and advanced lung disease
 - Rheumatology: Improve documentation of contraception counseling for pre-menopausal women placed on immunosuppressive therapies

- *High Value Care Program*
 - Started in 2012, this program supports front line clinical teams (including trainees/learners) in completing projects to reduce waste
 - Since inception, 14 completed projects with >\$500,000 estimated annual reduction in costs
 - Selected new high value care project (P2Y12 inhibitor therapy before left heart catheterization, PI: K Wahlberg) through adjudicated application process
- *Member of High Value Practice Academic Alliance*
 - Multi-specialty organization including 90+ partner institutions working to advance high value practice on a national scale
- *Pediatric-to-Adult Transitions of Care Project*
 - Funded collaboration with Vermont Child Health Improvement Program (VCHIP) to implement QI-based best practice guidelines for transitioning patients with chronic illnesses from pediatric to adult specialty clinics
 - Provided project co-management for 3 specialties (Endocrinology, Pulmonology, Rheumatology) in 6 clinics (3 pediatric, 3 adult) for 6 faculty members and clinical teams.
 - General Internal Medicine will join project in FY2023

Scholarship

- *Analytic Support Program*
 - Supported 94 DOM faculty-led or fellow/resident QI projects mentored by faculty. Provided analytic support for 62 of these projects.
- *Quality Showcase and Poster Presentation*
 - Virtually hosted this annual event featuring selected platform and poster presentations highlighting improvement work across the Department of Medicine
 - 10 accepted posters presented by medical students, residents, fellows, and faculty including resident QI projects, divisional QI initiatives, and clinical faculty/faculty-resident projects
 - 2022 platform speakers and topics:
 - Eric Ganguly, MD: *“Using the EHR for good – Developing an automated tool for adenoma detection rate and colonoscopy quality”*
 - Andrew Hale, MD & Benjamin Depo, MD: *“The impact of standardized infectious diseases consultation on asplenic care outcomes”*
 - Charlotte Teneback, MD: *“Improving care for people with cystic fibrosis who have advanced lung disease”*
- *Quality Scholarship Award*
 - Recognition of faculty and/or faculty-led teams in the Department who demonstrate excellence in scholarly quality improvement, patient safety, or high value care
 - FY2022 Recipient: Melanie Bui, MD, PhD
 - FY2021 Recipient: Preetika Muthukrishnan, MBBS, MS
 - FY2020 Recipient: Constance van Eeghen, PhD, MHSA, MBA
 - FY2019 Recipient: Gilman Allen, MD

- FY2018 Recipient: Marie Sandoval, MD
- *Scholarly Products*
 - Quality Program faculty/staff has provided consultation, mentorship, project management, and analytic support to more than 150 scholarly-related projects since our inception and has included faculty, fellows, residents, and medical students
 - Supported projects have resulted in scores of publications and national juried abstracts/posters (faculty, fellows, residents, and medical students) across several divisions supported by the Quality Program

Measures	2019	2020	2021	2022	Cumulative
Number of Scholarly Products	33	52	38	37	160
Peer-reviewed publications	<u>5</u>	<u>8</u>	<u>14</u>	<u>12</u>	<u>40</u>
National and regional abstracts/posters/platform presentations	5	18	9	11	43
Local abstracts/posters/platform presentations	23	26	15	14	78

Peer-Reviewed Publications

Academic Year 2021/2022

1. Clifton J, Bonnell L, Hitt J, et al. Differences in Occupational Burnout Among Primary Care Professionals. *Journal of the American Board of Family Medicine : JABFM*. 2021;34(6):1203-1211.
2. Hadley Strout EK, Wahlberg EA, Kennedy AG, Tompkins BJ, Sobel HG. A Mixed-Methods Program Evaluation of a Self-directed Learning Panel Management Curriculum in an Internal Medicine Residency Clinic. *Journal of general internal medicine*. 2022:1-5.
3. Infeld M, Nicoli CD, Meagher S, Tompkins BJ, Wayne S, Irvine B, Betageri O, Habel N, Till S, Lobel J, Meyer M, Lustgarten DL. Clinical impact of Bachmann's bundle pacing defined by electrocardiographic criteria on atrial arrhythmia outcomes. *Europace*. 2022 Mar 19:euac029. doi: 10.1093/europace/euac029. Epub ahead of print. PMID: 35304608.
4. Lavoie J, Canin B, Hitt JR, et al. Partnering Guide for Research. 2021; <https://sites.google.com/view/partneringguide>.
5. Nenninger A, Ball SJ, Kennedy AG, Regier LD. "You're on mute"-lessons learned with virtual academic detailing. *Journal of the American Pharmacists Association : JAPhA*. 2022.
6. Peterson K, Smith L, Ahern J, Tompkins B. The Impact of a Best-Practice Advisory on Inpatient Use of Piperacillin-Tazobactam. *Infection Control & Hospital Epidemiology*. 2020;41(S1):s406-s407.
7. Roberts S, Tompkins BJ, Kennedy AG. The effect of an educational intervention on primary care providers' knowledge, confidence and frequency of patient counselling on strength training and bone density. *Musculoskeletal care*. 2021.
8. Rose GL, Bonnell LN, O'Rourke-Lavoie JB, et al. Development and validation of the patient centeredness index for primary care. *Journal of clinical nursing*. 2022.
9. Steinmetz-Wood SN, Kennedy AG, Tompkins BJ, Gilbert MP. Navigating the Debate on Managing Large (≥ 4 cm) Thyroid Nodules. *International journal of endocrinology*. 2022;2022:6246150.
10. van Eeghen C, Hitt JR, Pomeroy DJ, Reynolds P, Rose GL, O'Rourke Lavoie J. Co-creating the Patient Partner Guide by a Multiple Chronic Conditions Team of Patients, Clinicians, and Researchers: Observational Report. *Journal of general internal medicine*. 2022;37(Suppl 1):73-79.
11. Wahlberg EA, Muthukrishnan P, Burnett M, Barrett KV, Gilbert M, Repp AB. Improving Management of Type 2 Diabetes Mellitus in Hospitalized Adults: A Quality Initiative. *Journal for healthcare quality : official publication of the National Association for Healthcare Quality*. 2021;43(2):e20-e25.
12. Wahlberg KJ, Pay T, Repp AB, Wahlberg EA, Kennedy AG. Effect of Patient Safety Curriculum for Internal Medicine Residents on a Health Care System. *ATS scholar*. 2022;3(1):156-166.

Academic Year 2020/2021

1. Bolton K, Lawler M, Hauptman J, Madden M, DeVoe SG, Kennedy AG, Tompkins BJ, Hodde NM. Patient experience on a hospital oncology service before and after implementation of a no-

- visitor policy during Covid-19. *J Patient Exp.* 2021 Jul 28;8:23743735211034620. doi: 10.1177/23743735211034620. PMID: 34377777.
2. Barrett KV, Kennedy AG, Repp AB, Tompkins BJ, Gilbert MP. Predictors and Consequences of Inappropriate Thyroid Ultrasound in Hypothyroidism. *Cureus* 13(8): e17304. doi:10.7759/cureus.17304
 3. Sheahan KH, Kennedy AG, Tompkins BJ, Repp AB, Gilbert MP. The impact of a nursing strike on glycemic control in hospitalized patients with diabetes. *Cureus.* 13(6):e16020. doi:10.7759/cureus.16020.
 4. Houston E, Kennedy AG, O'Malley D, Rabinowitz T, Rose G, Boyd J. Telemedicine in neurology: A scoping review of key outcomes in movement disorders. *Telemed J E Health.* 2021 Jun 8. doi: 10.1089/tmj.2021.0117. PMID: 34101518
 5. Rodriguez N, Kennedy AG, Tompkins BJ, VanOpdorp J, Heffley J, Ganguly E. Quality improvement opportunities exist for helicobacter pylori treatment and confirmatory testing. *Clin Res Hepatol Gastroenterol.* 2021 Jun 1;45(5):101720. doi: 10.1016/j.clinre.2021.101720. PMID: 34087425
 6. Muthukrishnan P, Burnett M, DeVoe SG, Kennedy AG, Pasanen ME, Tompkins B, Repp AB. An active-learning quality improvement curriculum for faculty in Hospital Medicine. *J Contin Educ Health Prof.* 2021 Apr 22. doi: 10.1097/CEH.0000000000000354. Epub ahead of print. PMID: 33929351.
 7. Gau J, Nwora C, Eldakar-Hein ST, Goel MS, Lahey T, Repp AB. Things We Do for No Reason™: Routine Inclusion of Race in the History of Present Illness. *Journal of Hospital Medicine*, in press.
 8. Riser E, Holterman LA, Maruti S, Brooklyn JR, DeVoe SG, Tompkins BJ, Drouin J, Sobel HG. Integrating DATA 2000 waiver training into undergraduate medical education: the time is now. *Subst Abus.* 2021 Apr 6;1-8. doi: 10.1080/08897077.2021.1903653. Online ahead of print. PMID: 33821773.
 9. Wahlberg KJ, Burnett M, Muthukrishnan P, Purcell K, Repp AB, van Eeghen C, Wahlberg EA, Kennedy AG. Partnering with patients in a quality improvement curriculum for Internal Medicine residents. *J Patient Exp.* 2021 Mar;8:1-6. doi: 10.1177/2374373521999604.
 10. Kennedy AG, Regier L, Fischer MA. Educating community clinicians using principles of academic detailing in an evolving landscape. *Am J Health Syst Pharm.* 2021 Jan 1;78(1):80-86. doi: 10.1093/ajhp/zxaa351. PMID: 33155056.
 11. Kennedy AG, Wood M, Starecheski G, Belcher R, Cote E. Academic detailing with ambulatory pharmacists to support naloxone counseling. *J Am Pharm Assoc.* 2021 Feb 20:S1544-3191(21)00033-9. doi: 10.1016/j.japh.2021.01.031. PMID: 33622559.
 12. Whitman TJ, Noyes CD, Hale AJ, Singh D, DeVoe SG, Repp AB, Pierce KK, Polish LB, Kirkpatrick BD, Dejace J, Smith LM, Lahey T, Huston CD, Catoe LJ, Ghatage P, Bullis S, Alston WK. Impact and costs of a hepatitis C virus screening programme for adults hospitalised at an academic medical centre. *BMJ Open Qual.* 2021 Feb;10(1):e001248. doi: 10.1136/bmjopen-2020-001248. PMID: 33593729.
 13. Darzi AJ, Repp AB, Spencer FA, Morsi RZ, Charide R, Etxeandia-Ikobaltzeta I, Bauer KA, Burnett AE, Cushman M, Dentali F, Kahn SR, Rezende SM, Zakai NA, Agarwal A, Karam SG, Lotfi T,

Wiercioch W, Waziry R, Iorio A, Akl EA, Schünemann HJ. Risk-assessment models for VTE and bleeding in hospitalized medical patients: an overview of systematic reviews. *Blood Adv*. 2020 Oct 13;4(19):4929-4944. doi: 10.1182/bloodadvances.2020002482. PMID: 33049056.

14. Tarleton EK, Kennedy AG, Rose GL, Littenberg B. Relationship between magnesium intake and chronic pain in U.S. Adults. *Nutrients*. 2020 Jul 16;12(7):2104. doi: 10.3390/nu12072104. PMID: 32708577.

Academic Year 2019/2020

1. Sacco AY, Self QR, Worswick EL, Couperus CJ, Kolli SS, Muñoz SA, Carney JK, Repp AB. Patients' Perspectives of Diagnostic Error: A Qualitative Study. *J Patient Saf*. 2020 Mar 11. doi: 10.1097/PTS.0000000000000642. PMID: 32168272.
2. Kennedy AG, Burnett B, Muthukrishnan P, Sobel H, van Eeghen C, Repp AB. "I think I was losing the forest for the trees:" Evaluation of an Internal Medicine residency Quality Improvement curriculum. *Med Sci Educ*. 2020 Mar;30(1):197-202. doi: 10.1007/s40670-019-00854-7.
3. Bartlett KJ, Vo AP, Rueckert J, Wojewoda C, Steckel EH, Stinnett-Donnelly J, Repp AB. Promoting appropriate utilisation of laboratory tests for inflammation at an academic medical centre. *BMJ Open Qual*. 2020 Feb;9(1). pii: e000788. doi: 10.1136/bmj-2019-000788. PMID: 32098777.
4. Wershoven N, Kennedy AG, MacLean CD. Use and reported helpfulness of cannabinoids among primary care patients in Vermont. *J Prim Care Community Health*. 2020 Jan-Dec;11:2150132720946954. doi: 10.1177/2150132720946954. PMID: 32757826.
5. van Eeghen C, Kennedy AG, Pasanen ME, MacLean CD. A new quality improvement toolkit to improve opioid prescribing in primary care. *J Am Board Fam Med*. 2020 Jan;33(1):17-26. doi: 10.3122/jabfm.2019.01.190238. PMID: 31907242.
6. Sobel HG, Goedde M, Maruti S, Hadley-Strout E, Wahlberg E, Kennedy AG. Primary care residents delivering care: integration of office-based opioid treatment into an Internal Medicine residency curriculum. *Acad Psychiatry*. 2019 Oct;43(5):499-502. doi: 10.1007/s40596-019-01069-z. PMID: 31087288.
7. van Eeghen C, Edwards M, Libman BS, MacLean CD, Kennedy AG. Order from chaos: An initiative to improve opioid prescribing in rheumatology using Lean A3. *ACR Open Rheumatol*. 2019 Sep 4;1(9):546-551. doi: 10.1002/acr2.11078. PMID: 31777838.
8. Tarleton EK, Kennedy AG, Rose GL, Crocker A, Littenberg B. Association between depression and serum magnesium levels in an adult primary care population. *Nutrients*. 2019 Jul;11(7):1475. doi: 10.3390/nu11071475. PMID: 31261707.

Academic Year 2018/2019

1. Sandoval MB, King JG, Hart V, Repp AB. Increasing advance care planning in primary care practices: a multi-site quality improvement initiative. *J Gen Intern Med*. 2019 Jun;34(6):809-811. doi: 10.1007/s11606-018-4800-4
2. Wahlberg K, Lambirth S, Gardner Z. Improving patients' ability to identify their physicians through the use of physician facecards and whiteboards. *BMJ Open Quality*. 2019 Apr 29;8:e000606. doi:10.1136/bmj-2018-000606

3. Cruden P, Cushman M, Repp AB. Hospitalist assessment of venous thromboembolism and bleeding risk: a survey study. *Thrombosis Res.* 2019 Apr 16;178:155-158. doi: 10.1016/j.thromres.2019.04.015
4. Soelch LA and Repp AB. Hospital responses to mortality measures: a survey of administrative leaders at academic medical centers. *Qual Manag Health Care.* 2019 Apr/Jun;28(2):78-83. doi 10.1097/QMH.0000000000000209
5. Farley S, Libman B, Edwards M, Possidente CJ, Kennedy AG. Nurse telephone education for promoting a treat-to-target approach in recently diagnosed rheumatoid arthritis patients: a pilot project. *Musculoskeletal Care.* 2019 Mar;17(1):156-160. doi: 10.1002/msc.1376

National Peer-Reviewed/Juried Abstracts & Posters

Academic Year 2021/2022

1. Bolton K, DeVoe SG, Hauptman J, Kennedy AG, Madden M, Hodde N. Gauging oncology inpatient experience before and during Covid-19 visitor restrictions: implementation of a pre-discharge questionnaire. Submitted to ACP Annual Meeting on 12/2/20.
2. Burgess LAK, Pasanen ME, Fung MK, Skelly JM, Repp AB. Resident perspectives on laboratory over-utilization: Differences between residency program sites. Poster presented at: Society of Hospital Medicine Annual Conference; May 1, 2017; Las Vegas, NV.
3. Carey ME, Gilmore BL, Lawler MJ, Hoddwells M, Hale AJ, Repp AB. High value care in undergraduate medical education: Student & faculty perceptions of Choosing Wisely in the pre-clinical curriculum. Preventing Overdiagnosis Conference, Calgary, Alberta, Canada, June 2022.
4. Clifton J, Bonnell L, Das N, Hitt J, Rose G, Littenberg B, van Eeghen , Natkin L, Cooper S. Evaluating Rural-Urban Differences in Burnout Among Primary Care Professionals During COVID-19. North American Primary Care Research Group Annual Meeting. Virtual Conference. November 19-23, 2021.
5. Eisenbiegler GE, Wilkinson K; McEntee R, Repp AB, Zakai NA; Muthukrishnan P. Adoption of an Electronic Health Record Tool to Promote Venous Thromboembolism Risk Assessment for Hospital Medicine Patients. Thrombosis & Hemostasis Summit of North America, Chicago, IL, August 2022. Accepted for Poster Presentation.
6. Hadley Strout EK, Wahlberg EA, Kennedy AG, Sobel HG. Personalizing Population Health Education in Residency: Panel Management Curriculum in an Internal Medicine Resident Clinic. Poster presented at: Society of General Internal Medicine (SGIM) New England Regional Meeting; November 2, 2019; Boston, MA.
7. Libman B, Farley S, Edwards M, Possidente C, Kennedy A. Nurse Telephone Education for Promoting a Treat-to-Target Approach in Recently Diagnosed Rheumatoid Arthritis Patients - a Preliminary Review. Presented at: 2017 American College of Rheumatology (ACR)/Association of Rheumatology Health Professionals (ARHP) Annual Meeting; November 5, 2017; San Diego, CA.
8. Littenberg, B. *et. al.* Integrating Behavioral Health & Primary Care for multiple chronic diseases: clinical trial of a practice redesign toolkit. North American Primary Care Research Group Annual Meeting. Virtual Conference. November 19-23, 2021.

9. Rose G, Weldon T, McEntee M, Hitt J, Kessler R, Littenberg B, Macchi CR, Martin M, Mullin DJ, van Eeghen C. A Measure for Integrated Behavioral Health in Primary Care: Improving Clarity and Utility of a Valid Measure. Society of Behavioral Medicine. 43rd Annual Meeting. Baltimore, MD. April 6 – 9 2022.
10. Shah A, Gilbert M, Barrett K, Tompkins B, Kennedy AG. Inappropriate Use of Thyroid Uptake and Scan in Adult Patients with Suspected Graves' Disease. Poster to be presented virtually at: 90th Annual Meeting of the American Thyroid Association, September 30, 2021.
11. van Eeghen C, Hitt J, Van Serke H, Schweitzer H, Kelley K. Stakeholder Engagement to Influence Research: Partnering Tools and Skills. North American Primary Care Research Group Annual Meeting. Virtual Conference. November 19-23, 2021. Workshop Presentation.

Academic Year 2020/2021

1. DeVoe SG, Kennedy AG, Repp AB, Prior C, Consigli AB, Robinson KJ, Teneback CC. Improving the integration of young adults patients: Implementation of a "welcome visit" into an adult Cystic Fibrosis clinic. Accepted June 10, 2021. (To be published in Journal of Cystic Fibrosis)
2. Teneback CC, Prior C, Sender A, McCuin T, Weintraub Z, Brady CM, Ludlow M, Steiert K, Antell M, Huguenin B, DeVoe SG. Implementation of a multifaceted mental health screening approach in an adult Cystic Fibrosis clinic. Accepted June 10, 2021 (To be published in the Journal of Cystic Fibrosis)
3. Gilbert MP, DeVoe SG, Kennedy AG, Ogelby M, Consigli AB, Zimakas PJ, Repp A, Robinson KJ. Improving the Quality of Health Care Transitions for Young Adults at an Adult Endocrinology Clinic. Poster to be presented virtually at: American Diabetes Association 81st Scientific Sessions, June 25-29, 2021.
4. Steinmetz-Wood S, Kennedy AG, Tompkins B, Gilbert M. Navigating the Debate on Large (4+cm) Thyroid Nodules: Local Insight on a Persisting Problem. Poster to be presented virtually at: Endocrine Society ENDO 2021, March 20, 2021. *Winner, Endocrine Society Outstanding Abstract Award.
5. Gergi M, Wilkinson K, Koh I, Munger J, Smith NL, Roetker N, Cushman M, Repp AB, Holmes CE, Zakai NA. Development and validation of a computable phenotype for bleeding in hospitalized patients: the Medical Inpatients Thrombosis and Hemostasis (MITH) Study [abstract]. *Blood*. 2020;136(Suppl 1):45-46. doi: 10.1182/blood-2020-142407.
6. Thomas RM, Wilkinson K, Roetker N, Smith NL, Repp AB, Holmes CE, Plante TB, Cushman M, Zakai NA. Development of a computable phenotype for hospital-acquired venous thrombosis: The Medical Inpatient Thrombosis and Hemostasis (MITH) study [abstract]. *Blood*. 2020;136(Suppl 1):40-41. doi: 10.1182/blood-2020-141047.
7. Riser E, Holterman LA, Maruti S, Brooklyn JR, DeVoe SG, Tompkins BJ, Drouin J, Sobel HG. Integrating Addiction Medicine into Undergraduate Medical Education: The Time is Now. Oral presentation virtually at: Society of General Internal Medicine (SGIM) Mountain West, New

England Regional Meeting; November 6-7, 2020. *Winner, Medical Innovation Award (Riser), November 2020.

8. Teneback C, DeVoe S, Kennedy A, Ogelby M, Consigli A, Repp A, Robinson KJ. Improving health care transitions for young adults at an adult cystic fibrosis center: a quality improvement [abstract]. *Pediatr Pulmonol*. 2020;55(Suppl 2):S333. doi: 10.1002/ppul.25089.
9. Jordan Bruno X, Koh I, Plante TB, Holmes CE, Walker R, Lutsey P, Repp AB, Cushman M, Zakai NA. Association of Surgical and Medical Hospitalizations with Venous Thromboembolism (VTE) in a Primary Care Population [abstract]. *Res Pract Thromb Haemost*. 2020 Jul;4(Suppl 1):PB2333. doi: 10.1002/rth2.12393.

Academic Year 2019/2020

1. Sheahan K, Tompkins B, Kennedy AG, Repp AB, Gilbert MP. Exploratory Analysis of Glycemic Control During Nurses' Strike. Poster presented at: American Diabetes Association 80th Scientific Sessions; June 12-16, 2020; Chicago, IL. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak.
2. Infeld M, Wayne S, Nicoli C, Khadanga S, Plante T, Tompkins B, Correa de Sa D, VanBuren P. The Effect Of Multiple Radiofrequency Ablation Procedures For Atrial Fibrillation On Left Atrial Pressure And Compliance. Poster presented at: 2020 Heart Rhythm Society Annual Scientific Sessions; May 6-9, 2020; San Diego, CA. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak.
3. Infeld M, Nicoli C, Meagher S, Wayne S, Tompkins B, Irvine B, Betageri O, Habel N, Halevy J, Lustgarten DL. Electrically Guided Bachmann Bundle Pacing Is Associated With Increased Freedom From Atrial Arrhythmias. Poster presented at: 2020 Heart Rhythm Society Annual Scientific Sessions; May 6-9, 2020; San Diego, CA. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak.
4. Infeld M, Nicoli C, Meagher S, Wayne S, Irvine B, Betageri O, Tompkins B, Lustgarten DL. Bachmann Bundle Pacing Is Associated With Decreased Atrial Arrhythmia Burden And Progression Over Time. Poster presented at: 2020 Heart Rhythm Society Annual Scientific Sessions; May 6-9, 2020; San Diego, CA. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak.
5. Infeld M, Meagher S, Nicoli C, Wayne S, Irvine B, Tompkins B, Betageri O, Habel N, Lobel RM, Lustgarten DL. Bachmann Bundle Pacing Is Associated With Decreased Incidence Of Atrial Arrhythmias. Poster presented at: 2020 Heart Rhythm Society Annual Scientific Sessions; May 6-9, 2020; San Diego, CA. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak.
6. Berger C, Gay C, Gordon J, Resnick M. RN-performed Medicare Annual Wellness Visits: A Pilot in a General Internal Medicine Practice. Poster accepted to: Society of General Internal Medicine 2020 Annual Meeting, May 2020, Birmingham, AL. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak.
7. Wahlberg EA, Hadley Strout EK, Kennedy AG, and Sobel HG. Making Population Health More Popular: Improving Preventive Health Through a Novel Personalized Panel Management Curriculum. Poster presented virtually at: American College of Physicians Internal Medicine

- Meeting 2020; April 2020; Los Angeles, CA. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak. *Winner of Early Career Physician Poster Award in Quality Improvement/Patient Safety category.
8. Depo B, Khan S, Dejace J, Catoe L, Whitman T, Tompkins B, Marroquin C, Gratton J, Malhrota A, Hale A. A Pathway for Optimizing Post-Splenectomy Care. Poster presented virtually at: American College of Physicians Internal Medicine Meeting 2020; April 2020; Los Angeles, CA. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak.
 9. Wahlberg K, Burnett M, Desautels A, Leahy K, Muthukrishnan P, Purcell K, Repp AB, van Eeghen C, Wahlberg E, Kennedy AG. Partnering with patients in a quality improvement curriculum for internal medicine residents. Abstract accepted for oral presentation at AAMC Northeast Group on Educational Affairs 2020 Annual Conference; April 2020; Burlington, Vermont. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak.
 10. Peterson K, Ahern JW, Kennedy AG, Tompkins BT, Smith LM. The Impact of a Best Practice Advisory on Inpatient Use of Piperacillin-Tazobactam. Poster presented at: 6th Decennial International Conference on Healthcare Associated Infections; March 28, 2020, Atlanta, GA. Meeting cancelled due to the novel coronavirus (COVID-19) outbreak.
 11. Rodriguez N, Heffley J, VanOpdorp J, Boland K, Tompkins B, Kennedy AG, Ganguly E. Evaluating eradication rates of helicobacter pylori regimens in treatment naïve patients at a tertiary academic medical center. Poster presented at: Vizient Consortium Pharmacy Network Meeting; December 7, 2019; Las Vegas, NV.
 12. Bruno XH, Koh I, Lutsey PL, Walker R, Roetker N, Smith NL, Plante TB, Repp AB, Holmes CE, Cushman M, Zakai NA. Post discharge risk of venous thromboembolism in a primary care population [abstract]. *Blood*. 2019 Nov;134(Suppl 1):934. doi: 10.1182/blood-2019-129203.
 13. Wershoven NL, Kennedy AG, MacLean CD. Cannabinoid use among Vermont primary care patients. Poster presented at: American Public Health Association's 2019 Annual Meeting and Expo; November 4, 2019; Philadelphia, PA.
 14. Barrett KV, Kennedy AG, Repp AB, Tompkins B, Gilbert M. Predictors and Consequences of Inappropriate Thyroid Ultrasound. Poster presented at: 2019 American Thyroid Association 89th Annual Meeting; October-November 2019; Chicago, IL.
 15. Foster M, Hollander M, Kennedy A, Lewis L, Thompson O, Tompkins B, Van Eeghen C. Improving Adolescent Health Care Transition: Piloting the Transition Readiness Assessment Questionnaire [abstract]. *Arthritis Rheumatol*. 2019 Oct;71(Suppl 10):1755. doi: 10.1002/art.41108.
 16. Sender A, Repp AB, Stockton T, Dixon AE. Effectiveness of Implementing a Lung Cancer Screening Work-flow at a Rural University Medical Center. Accepted abstract and selected for oral presentation at: 2019 CHEST Annual Meeting; October 2019; New Orleans, LA.
 17. Young SK, Tompkins B, Teneback CC. Right Ventricle Dysfunction and Exercise Tolerance in Pulmonary Rehabilitation: A Retrospective Study. Moderated Presentation and Poster presented at: American Association of Cardiovascular and Pulmonary Rehabilitation Annual Meeting; September 18-21, 2019; Portland, OR.

18. DiMarco DE, Kennedy AG, Tompkins B, Read JS, Pierce KK. Pre-exposure Prophylaxis (PrEP) for HIV in Vermont: An Assessment of Prescribing in a Uniquely Rural State. Poster presented at: ID Week 2019; October 4, 2019; Washington, DC.

Academic Year 2018/2019

1. Sandoval MB, Gilwee JP, Kennedy AG, MacLean CD. Using the EHR to Improve Opioid/Chronic Pain Outcomes in Primary Care. Poster presented at: 2019 I-PrACTISE Conference; June 2019; Boston, MA.
2. Kennedy AG, Cote E, MacLean C, McLean L, Pinckney R, Starecheski G, VanOpdorp J. Interprofessional continuing education through the Vermont Academic Detailing Program. Poster presented at: American Society of Health-System Pharmacists 2019 ASHP Summer Meetings and Exhibition; June 10, 2019; Boston, MA.
3. Wahlberg E, Repp A. Perceived Barriers to Guideline-Based Diabetes Care in Hospitalized Adults. Poster presented at: 2019 American College of Physicians Scientific Meeting; April 2019; Philadelphia, PA.
4. Muthukrishnan P, Burnett M, DeVoe SG, Kennedy AG, Repp AB. Active-Learning Quality Improvement Training Curriculum for Faculty in Hospital Medicine. Poster presented at: 2019 Society of Hospital Medicine Annual Meeting; March 2019; National Harbor, MD.
5. Goodson A, Libman B, Nevares A, Edwards M, Kennedy AG. Pneumococcal Vaccination Quality Improvement Initiative within a Rheumatology Clinic at an Academic Medical Center. Poster presented at: 2018 American College of Rheumatology (ACR)/Association of Rheumatology Health Professionals (ARHP) Annual Meeting; October 2018; Chicago, IL.

Faculty Research

Faculty in the Department span a wide range of disciplines, conducting nationally and internationally recognized research from basic science to clinical trials. Notable grants include:

- Increasing Functional Recellularization of Decellularized Pig Lungs with Human Lung Cells awarded to Dan Weiss,
- Platelet FcGammaRIIa and Risk of Venous Thromboembolism in Cancer awarded to Chris Holmes and David Schneider,
- Evaluation of Intratumoral Drug Delivery awarded to Matt Kinsey,
- VasaPlex-based Biologics for Treatment of Reperfusion Injury after Myocardial Infarction awarded to Jeff Spees, and
- Peripheral Cannabinoid Receptor-1 (CB1R) Antagonists in Obese Asthma awarded to Anne Dixon.

Additionally, our early career faculty excelled in competing for research grants and receiving recognition for their work.

- Dr. Sherrie Khadanga was awarded a UVMMG Innovation Research Grant entitled “Neuromuscular Electrical Stimulation in Heart Failure Patients to Improve Functional Recovery following Hospitalization” and received the inaugural Wohlgemuth Fellowship,
- Dr. Kara Landry was awarded a Vermont Cancer Center Award entitled “Strategy for Management of Patients with Hereditary Cancer Syndromes in a Rural Environment”,
- Dr. Diego Adrianzen-Herrera was named the inaugural Department of Medicine Early Career Professorship and received an extramurally funded Mentored Research Award, “Identifying Patient and Treatment Factors Associated with Cardiovascular Disease Risk and Mortality in Patients with Myelodysplastic Syndromes”, and
- Dr. Jessica Badlam received a Department of Medicine Pilot Project grant entitled “Pregnancy and Reproductive Risk Factors for Pulmonary Arterial Hypertension in Women.

In recognition of their contributions to research, Dr. Anne Dixon was named one of four University Scholars, Dr. Jason Bates received the Dean’s Award for Research Mentorship and Dr. Richard Solomon received the Dean’s Award for Clinical Trials Research.

Cardiovascular Division

David J. Schneider, MD, Director

<https://www.uvmhealth.org/medcenter/Pages/Departments-and-Programs/Cardiology.aspx>



The 2021-2022 academic year has been a year of important transitions. Dr. Martin LeWinter retired after more than 30 years at UVM. Dr. LeWinter is an internationally respected expert in heart failure. Through his research and clinical activity, he improved the care of patients in our region and across the globe. Although Dr. LeWinter has formally retired, he will remain engaged as an emeritus faculty. Dr. Edward Terrien left UVM after more than 20 years. Dr. Terrien provided outstanding judgement and technical expertise to the care of patients, particularly those requiring interventional procedures. Dr. Terrien will also continue his connection to UVM as an emeritus faculty.

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 is based at primarily at Central Vermont Medical Center but also participates in clinical care of the University of Vermont Medical Center (UVMHC). The Cardiology Division recruited two new faculty in interventional cardiology. Dr. Jan Denkman completed his general and interventional cardiology training at UVMHC and joined the Division in August of 2022. Dr. Tanush Gupta completed his general cardiology training at Montefiore Medical Center, interventional cardiology training at New York-Presbyterian Hospital, Columbia University Medical Center, and structural heart training at the Houston Methodist DeBakey Heart and Vascular Center. Dr. Gupta will join the Division in September 2022. His clinical efforts will support and grow our structural heart program at UVMHC.

The Cardiology Division is actively engaged in efforts to improve care through the maintenance of health and is one of two specialty areas actively engaged in the Population Health initiative. The Division provides comprehensive care to patients with cardiovascular disease offering robust programs in interventional cardiology that includes coronary and structural heart interventions; electrophysiology that includes ablation and device therapy for heart rhythm disorders; comprehensive cardiovascular imaging; cardiac rehabilitation and prevention; and heart failure. With the aging of the population, care of patients with heart failure is increasingly important. Efforts continue to prevent hospitalization and re-hospitalization through improved care of these patients.

Education of the next generation of leaders in cardiovascular care is a core mission of the cardiovascular division. Recruitment of new trainees continues to be virtual – this allows more candidates to see options in Vermont – a positive change brought about by the pandemic. We were pleased on match day to welcome four outstanding candidates to our program. Dr. Hopkins was recognized for his teaching with the E. L. Amidon, MD Award: Outstanding Subspecialty Teacher of the Year by the UVMHC Internal Medicine Residency Program in 2022.

Scholarly activities complete the tripartite mission of the division. 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 46 scholarly publications during the past fiscal year.

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 and Surgery

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

- arrhythmias

- pericardial diseases
- disease prevention and social determinants of health

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 – Retired, Emeritus 6/22

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, PhD

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

Lauren Suggs, MD

Assistant Professor of Medicine

Research and clinical interests

- preventative cardiovascular disease
- women's heart disease
- heart failure

Edward Terrien, MD – retired, emeritus

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 Znojkwicz, 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

Brennan Rigby

Toishi Sharma

Kramer Wahlberg

Tyler Wark

Joshua Zimmer

Advanced Practice Providers

Cara DiMasi, APRN

Gregory Ehle, PA

Catherine Falduto, APRN

Susan Ann Hamlyn-Prescott, APRN

Anna Hilton, PA

Ann Laramée, APRN

Margaret MacDonald, NP

Tatyana Makhlina, APRN

Deborah Moyer, APRN

Nancy Strong, APRN

Elysha Wiest, PA

Danielle Winslow, 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

Toishi Sharma MD
Alexandra Novelli MD, LCOM medical student 2nd year
Sudershan Srinivasan MD, 2nd year resident internal medicine

Robert J. Kelm, Jr., PhD

Andrea Foote, PhD candidate

Rony Lahoud, MD

George Zhang, medical student
Rose Pedemonte
Noah Smith

Robert Lobel, MD

Anna Quinlan

Martin M. LeWinter, MD

Matthew Kluge, MD

Jeffrey L. Spees, PhD

Benjamin Liebman, M.S.
Lucy Pilcher, B.S. (Ph.D. Candidate)

Michael J. Toth, PhD

Deena Snoke, PhD, Postdoctoral Fellow

Leadership in Professional Societies

Harold L. Dauerman, MD

Scientific Oversight Committee, Society of Cardiac Angiography and Interventions 2021-2023

Prospero B. Gogo, MD

Vermont Chapter of the American College of Cardiology, Past Governor
ABIM Standards-setting for Interventional Cardiology
State Chair, AHA Vermont Advocacy Committee

Friederike Keating, MD

American College of Cardiology, Chair, Choosing Wisely Workgroup
American College of Cardiology, Member, Leadership Forum Strategy Group
American College of Cardiology, Member, ACC Program Director and GME Steering Council
American College of Cardiology, Member, Membership Committee; Chair, Member Influencer Workgroup
American Society of Nuclear Cardiology, 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, Early Career Committee
Cardiovascular Research Institute, Early Career Advisory 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, PhD

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*

Ahmed Harhash, MD

Reviewer: *Journal of the American College of Cardiology*

Reviewer: *Resuscitation Journal*

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, PhD

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

Ad Hoc Reviewer: *American Journal of Cardiology, Journal of American College of Cardiology, Journal of American Society of Echocardiography*

Michael J. Toth, PhD

Editorial Boards: *American Journal of Physiology-Endocrinology and Metabolism*, *Journal of Cellular Biochemistry*

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
American Society of Nuclear Cardiology, ASNC2022 Patient First Track planning committee
Panelist, ACC PD-GME and FIT section webinar, "Ask The Experts: on Applying for Cardiology Fellowship"
Invited talk, "PCI for Stable Angina: Yes Please" Debate at ACC 2022

Rony Lahoud, MD

UVM Medicine Grand Rounds
"Mitral regurgitation: From Diagnosis to Treatment"
New England Valve and Structural Heart Foundation
"My worst TAVR Complication"
UVM Family Medicine Grand Rounds
"Review of Mitral Regurgitation"
Cardiovascular Research Technologies Annual Meeting
"TAVR Complications"

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

Jeffrey L. Spees, PhD

Invited seminar (2022), UVM Department of Microbiology and Molecular Genetics
"Paracrine regulation of reactive astrogliosis and microglia after brain injury"

Michael J. Toth, PhD

National Institutes of Health, ZRG1 F10B-B, Ad hoc
National Institutes of Health, ASG, Ad hoc

Magdalena Zeglin, MD

2021 International Congress of Electrocardiology- joint meeting of the 21th Congress of the International Society for Holter and Noninvasive Electrocardiology (ISHNE) and the 48th Congress of the International Society of Electrocardiology (ISE), Zakopane Poland. Topic: Gender disparity in atrial fibrillation.

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

Prospero B. Gogo, MD

General Cardiology Faculty Teacher of the Year, 2021

William E. Hopkins, MD

E. L. Amidon, MD Award: Outstanding Subspecialty Teacher of the Year
UVM Internal Medicine Residency Program 2022

Sherrie Khadanga, MD

Inaugural Wohlgemuth Fellowship Award
Guest Editor for Women's Health Journal Special Collection: Cardiovascular and Metabolic Bone Health in Aging Women

Rony Lahoud, MD

University of Vermont Healthcare Hero
Cardiovascular Research Institute of Vermont Career Development Award

Jeffrey L. Spees, PhD

University of Vermont and State Agriculture College (Inventor: Jeffrey L. Spees, Ph.D.).
Entitled: "Compositions and methods for cardiac tissue repair". Filed: July 3, 2014; Granted on January 12, 2022 (European Patent No. 2964330).

Mentor: Lucy Pilcher, 2022 Viridis Montis Research Award

Mentor: Benjamin Liebman, 2022 Outstanding Master's Thesis Award

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

SPYRAL AFFIRM: Single Arm registry of SPYRAL renal denervation for patients with hypertension. Sponsor Medtronic Budget TBD. Site PI

APOLLO: Percutaneous Transcatheter Mitral Valve Replacement versus Mitral Valve surgery in high risk patient Sponsor Medtronic. Budget TBD. Site PI

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

Friederike Keating, MD

NIH 1U01HL133817-01

Myocardial Ischemia and Transfusion (MINT)

Role: Site Principal Investigator

Prolocor (Sponsor):

Assessment of Individual Risk of Cardiovascular Events by Platelet FcGammaRIIa

Role: Sub-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

P20 GM103644 Higgins (PI)

08/1/18-07/31/23

Vermont Center on Behavior and Health

This center investigates relationships between personal behavior patterns (e.g., substance abuse, sedentary lifestyle, medication non-adherence) and risk for chronic disease and premature death.

Role: CO-I

UVM Health Network Research Grant

01/01/22-/01/01/24

Role PI

NCT03473223 CSL Behring 03/21/18-06/01/22

AEGIS II study to evaluate the efficacy and safety of CSL112 on reducing the risk of major adverse CV events

Role: Sub-I

NCT03988634 Novartis 06/27/19-03/21/22

PARAGLIDE HF: Assess the effect of sacubitril/valsartan (LCZ696) vs. valsartan on changes in NT-proBNP and outcomes, safety and tolerability in patients with HFpEF

Role: Sub-I

NCT03037931 American Regent 01/31/17-06/01/22

HEART FID: Assess the efficacy of IV iron therapy in patients with HFpEF

Role: Sub-I

NCT03037931 Cardiovascular Research Foundation 09/01/16-03/01/22

TAVR UNLOAD: Determine efficacy of TAVR in patients with moderate aortic stenosis

Role: Sub-I

Rony Lahoud, MD

Low Frequency Therapeutic Ultrasound System (LOTUS) Pivotal Clinical Trial by Sonogenix

MitraClip Thrombosis Study – internal funding

Nitric Oxide Acute Kidney Injury (NO-AKI) Pilot Trial by Sonogenix

Prospective, Multicenter, Single-Arm, Global IDE Study of the Shockwave Coronary Intravascular Lithotripsy (IVL) System with the Shockwave C2 Coronary IVL Catheter in Calcified Coronary Arteries (Disrupt CAD III Study)

Martin M. LeWinter, MD

NIH RO1 HL118524

Riloncept 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

David J. Schneider, MD

NIH R21 CA267074-01

Platelet FcGammaRIIa and Risk of Venous Thromboembolism in Cancer

Role: Co-Principal Investigator

NIH R01 NS123734-01

Platelet Expression of FcgammaRIIa and Arterial Hemodynamics to Predict Recurrent Stroke in Intracranial Atherosclerosis

Role: Co-Principal Investigator

NIH R44 HL166003-01

Validation of Platelet Expression of FcγRIIa as a Precision Tool

Role: Co-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

R41 HL162161-01 (NIH STTR)

“VasaPlex-based biologics for treatment of reperfusion injury after myocardial infarction”

Spees (PI) for Samba BioLogics, Inc/UVM

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

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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 and subspecialty care for the full array of skin diseases. Despite COVID and hiring challenges we remain exceptionally busy. Our staff continues to excel during this period of challenges.

This will be a year of change in dermatology, with Dr. Goldman retiring from the institution. After 26 years of practice he will join a local practice to provide patient care. He plans to remain on faculty as Emeritus staff and will retain teaching responsibilities.

Joseph Pierson, MD will assume the helm ably as Professor and Acting Chief of Dermatology. Dr. Pierson was promoted to full professor and brings with him an extensive experience in patient care, academic achievement and leadership. He will remain the Dermatology Residency Program 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, was promoted to Associate Professor and was also awarded the distinguished Quality Scholarship Award by the Department of Medicine for her outstanding contributions in student mentorship, quality improvement and overall scholarship. She remains our most active research dermatologist, routinely mentoring over ten students simultaneously. 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.

Christine Weinberger, MD and Todd Holmes, MD have developed a stellar national reputation in the area of skin cancer surgery and reconstruction. With the departure of Dr. Goldman, Dr. Holmes will assume the position of Director of Dermatologic Surgery and Fellowship Director for Mohs Surgery and Cutaneous Oncology. In conjunction with surgical oncology, otolaryngology, radiation oncology, dermatopathology, 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, while also serving as Associate Program Director for our residency. 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 provides an invaluable service to our patients in upstate New York. He greatly enjoys working with dermatology residents and students.

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, who also play a key role in resident teaching.

Evan Piette, MD is starting his third year with us. He has established a clinic caring for many of our more complex medical dermatology patients and our residents greatly appreciate his insights.

Katelyn Shea, MD is our newest addition. Beyond her skills in general medical clinic, she now plays a key role with cosmetic procedures and greatly enjoys working with all trainees.

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.

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

Associate Professor of Medicine

- General Medical Dermatology
- Immunology
- Dermatology Research

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

Professor of Medicine

- General Medical Dermatology
- Residency Education in Dermatology
- Faculty Development

Evan Piette, MD

Assistant Professor of Medicine

- General and Surgical Dermatology
- Teledermatology

Katelyn Shea, MD

Assistant Professor of Medicine

- General Medical Dermatology
- Cosmetics

Christine Weinberger, MD

Associate Professor of Medicine

- Mohs Surgery and Reconstruction
- Mohs Surgery for Melanoma
- Skin Cancer in Solid Organ Transplant Recipient

Fellow MSDO 2021-2022

Rechelle Tull, MD, PGY-5

Residents

Daniel Bax, MD, PGY-4

Carli Whittington, MD, PGY-4

Dustin Taylor, MD, PGY-4

Nathan Bombardier, MD, PGY-3

Santana VanDyke, MD, PGY-3

Nadeem Marghoob, D.O., PGY-2

Hannah Porter, MD, PGY-2

Physician Assistants:

Emilie Besl, 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.

Richard 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.

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.

Morgen Hennessy, 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

Veerabagu SA, Perz AM, Lukowiak TM, Lee MP, Neal D, Aizman L, Miller CJ, Golda N, Albertini J, Bar A, Leitenberger J, Maher I, Sobanko JF, Chen D, Hollmig T, Aasi S, Sutton A, Higgins HW, Shin TM, **Weinberger C**, Mattox A, Wysong A, Nugent ST, Etkorn JR.. Patient reported nasal function and appearance after interpolation flap repair following skin cancer resection: a multi-center prospective cohort study. *Facial Plastic Surgery & Aesthetic Medicine*, accepted Feb 2022.

Shea K, Potter K, **Weinberger C**. Repair of a large cheek defect. *Dermatologic Surgery* July 2021, epub ahead of print. PMID: 34313637 .

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Lukowiak TM, Perz AM, Veerabagu SA, Lee MP, Neal D, Alzman L, Miller CJ, Golda N, Albertini JG, **Holmes T**, Bar A, Leitenberger J, Maher IA, Sobanko JF, Chen D, Aasi S, Sutton A, Higgins HW, Shin TM, **Weinberger C**, Mattox A, Wysong A, Etkorn JR. Patient quality of life after interpolated flap repair of nasal Mohs surgery defects: a multicenter prospective cohort study. *JAMA Dermatology* Oct 2021;157(10):1213-6. PMID: 34431977.

Shea K, **Weinberger C**. Alarotomy to increase visualization during Mohs micrographic surgery of a squamous cell carcinoma of the nasal septum and sill. *Dermatologic Surgery* Aug 2021;47(8):1121-2.



Division of Endocrinology and Diabetes

Joel J. Schnure, MD, Director

<http://www.med.uvm.edu/medicine/endocrinology>

The 2021-2022 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 6 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. Dr Kelly is a member of the writing committee for AACE (American Association of Clinical Endocrinologists) osteoporosis guidelines. She is the site PI for Shire/Takeda: PARADIGM (Physicians Advancing Disease Knowledge in Hypoparathyroidism): A Registry for Patients With Chronic Hypoparathyroidism. Dr Kelly has authored a chapter on Diabetic Nephropathy in Diabetes and Cardiovascular Disease

Kaitlyn Barrett, DO joined our faculty in mid-August 2019 following completion of her Fellowship in Endocrinology and Diabetes with the Division. Dr. Barrett is an 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. Dr Barrett has established a "Cardio- Metabolic" clinic which is a joint undertaking with

Endocrinology and Cardiology, utilizing the new diabetes available agents that have cardiovascular protection.

Kelsey Sheahan, DO, has recently joined our division. Dr. Sheahan was an outstanding resident and fellow at UVM MC/L COM and now has returned to our division as a full-time faculty member. Dr. Sheehan interest includes obesity diabetes care lipid metabolism and healthcare access. She recently is the first author on a paper identifying decrease length of stay for patients on medical services however early inpatient diabetes consultation.

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.

Eric Klett, MD is another new addition to the division of endocrinology and diabetes. Dr. Klett comes from University of North Carolina where his interests include in transgender medicine and lipid metabolism as well as general endocrinology. Although new to Vermont he already has made an impression with his general clinical expertise. Most importantly he is an active participant in the transgender medicine task force which will enable UVMCC to have a unified multidisciplinary transgender medicine enterprise.

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 continue to focus on pancreatic islet biology,

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. Unfortunately because of the COVID-19 pandemic these efforts have been temporarily halted but will be continued at the end of 2022 and onwards to 2023 Dr. Kelly was the course director for and a presenter at "*Osteoporosis Update for Primary Care,*" Dr. Schnure was the course director for the "*2nd Annual Diabetes for Primary Care Conference,*" These conferences included local and nationally recognized experts in treating diabetes, heart disease, and metabolic bone disease.

Dr. Isabelle Desjardins, the Chief Medical Officer at UVMMC, named Dr. Schnure 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 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.

Dr. Jennifer Kelly during these trying times has been spokesperson for gender and social equity and chairperson of the faculty engagement committee.

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, UVMMMC

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

Research and clinical interests:

- Diabetes mellitus
- Thyroid disorders
- Thyroid cancer
- Male hypogonadism

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

Chairperson 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

Eric Klett, MD

Associate Professor of medicine

Research and clinical interests:

- Transgender medicine
- Lipid metabolism
- General endocrinology

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

Kelsey Sheahan, DO

Assistant Professor of Medicine

Research and clinical interests:

- Diabetes care
- Diabetes access
- Obesity
- Transgender medicine

Fellows

Samantha Steinmetz-Woods (will complete fellowship June 2023)

David Felske (will complete fellowship in June 2014)

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

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

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

Jennifer J. Kelly, DO, FACE

Shire/Takeda

PARADIGHM (Physicians Advancing Disease Knowledge in Hypoparathyroidism): A Registry for Patients with Chronic Hypoparathyroidism (2018-present)

Role: Site Principal Investigator

Repository of Dual-Energy X-Ray Absorptiometry (DXA) Scans for Image Manipulation and Enhancement (2019-present)

Role: Site Principal Investigator

Osteoporosis Center DXA Data Repository (2019-present)

Role: Site Principal Investigator

Publications

Camacho PM, Petak SM, Binkley N, Diab DL, Eldeiry LS, Farooki A, Harris ST, Hurley DL, **Kelly J**, Lewiecki EM, Pessah-Pollack R, McClung M, Wimalawansa SJ, Watts NB. American Association of Clinical Endocrinologists/American College of Endocrinology Clinical Practice Guidelines for the Diagnosis and Treatment of Postmenopausal Osteoporosis – 2020 Update Executive Summary. *Endocr Pract.* 26(5):564-570, 2020.

Camacho PM, Petak SM, Binkley N, Diab DL, Eldeiry LS, Farooki A, Harris ST, Hurley DL, **Kelly J**, Lewiecki EM, Pessah-Pollack R, McClung M, Wimalawansa SJ, Watts NB. American Association of Clinical Endocrinologists/American College of Endocrinology Clinical Practice Guidelines for the Diagnosis and Treatment of Postmenopausal Osteoporosis – 2020 Update. *Endocr Pract.* 26(Suppl 1):1-46, 2020.

Gilbert MP. Screening for Diabetic Retinopathy. Healo Educational Lab Case Series. https://cme.healio.com/endocrinology/education-lab/ace-the-case/2019/03_march/ace-the-case-patient-with-15-year-history-of-type-2-diabetes-mellitus/cme-information. Available August 15, 2019 through August 14, 2020.

Gilbert MP. Ace the Case: A 55-Year-Old, Postmenopausal Woman with an Elevated Calcium Level. https://cme.healio.com/endocrinology/education-lab/ace-the-case/2019/01_january/a-

55-year-old-postmenopausal-woman-with-an-elevated-calcium-level/cme-information. Available September 16, 2019 through September 15, 2020.

Gilbert MP. Ace the Case: Patient with a 20-Year History of Type 2 Diabetes Mellitus and Concern Regarding the Risk of Coronary Heart Disease.

https://cme.healio.com/endocrinology/education-lab/ace-the-case/2019/03_march/patient-with-a-20-year-history-of-type-2-diabetes-mellitus/cme-information. Available October 15, 2019 through October 14, 2020.

Gilbert MP. Ace the Case: A Patient with New-Onset Primary Hypothyroidism. Healio Educational Lab Case Series. <https://cme.healio.com/endocrinology/ace-the-case/20190601/ace-the-case-a-patient-with-new-onset-primary-hypothyroidism/overview>. Available November 15, 2019 through November 14, 2020.

Gilbert MP, Pratley RE. GLP-1 analogs and DPP-4 inhibitors in Type 2 diabetes therapy: Review of head-to-head clinical trials. *Front Endocrinol (Lausanne)*. 2020 Apr 3;11:178.

Kelly JJ. Bone turnover markers in osteoporosis—letter to the JAMA editor in response to “Bauer DC. Clinical use of bone turnover markers. *JAMA*. 2019;322(6):569-570.” *JAMA*. 2019;322(23):2344.

Kelly JJ and Garapati SS. Combination therapies in the treatment of osteoporosis. *Curr Opin Endocrinol Diabetes Obes*. 26(6):292-295, 2019.

Leahy JL, Aleppo G, Fonseca VA, Garg SK, Hirsch IB, McCall AL, McGill JB, Polonsky WH. Optimizing Postprandial Glucose Management in Adults with Insulin-Requiring Diabetes: Report and Recommendations. *J Endocr Soc*. 2019 Oct 7;3(10):1942-1957.

Pratley RE, Emerson SS, Franek E, **Gilbert MP**, Marso SP, McGuire DK, Pieber TR, Zinman B, Hansen CT, Hansen MV, Mark T, Moses AC, Buse JB, on behalf of the DEVOTE Study Group. Cardiovascular safety and severe hypoglycaemia benefit of insulin degludec versus insulin glargine U100 in patients with type 2 diabetes aged 65 years or older: results from DEVOTE (DEVOTE 7). *Diabetes Obes Metab*. 2019;21:1625-1633.

Shahady E, **Leahy JL.** Sodium-Glucose Cotransporter 2 Inhibitor Protection Against Adverse Cardiovascular and Renal Outcomes in Patients with Type 2 Diabetes. *Clin Diabetes*. 2019 Jul;37(3):211-220.

Sheahan KH, Wahlberg EA, Gilbert MP. An overview of GLP-1 agonists and recent cardiovascular outcomes trials. *Postgrad Med J*. 2020 Mar; 96(1133):156-161.

Sheahan KH, Huffman GC, DeWitt JC, Gilbert MP. Metastatic lung cancer presenting as monocular blindness and panhypopituitarism secondary to a pituitary metastasis. *Am J Case Rep* 2020 Apr; 21:e920948 Doi: 10.12659/AJCR.920948.

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.

Sheahan K, Atherly A, Dayman CE, **Schnure JJ**. The Impact of Rapid Inpatient Endocrinology Consultations on Hospital Outcomes. American Diabetes Association 80th Scientific Session, Virtual Poster Session, Chicago, IL, June 12-16. Diabetes 2020;69 Supplement (1):143-LB.

Sheahan K, Rankins C, **Nathan MH**, **Kelly J**. A Case of Isolated Elevated Free Triiodothyronine; poster presented at the American Association of Clinical Endocrinologists (AACE) 2020 Annual Scientific and Clinical Congress. Endocr Pract. 2020 May; 26(Suppl 4):281.

Sheahan K, Tompkins B, Kennedy AG, Repp AB, **Gilbert MP**. Impact of a Nursing Strike on Glycemic Control of Hospitalized Patients with Diabetes. American Diabetes Association 80th Scientific Session, Virtual Poster Session, Chicago, IL, June 12-16. Diabetes 2020;69 Supplement (1):1201-P.

Vennard-Barrett K, Kennedy AG, Repp AB, Tompkins B, **Gilbert MP**. Predictors and Consequences of Inappropriate Thyroid Ultrasound. Poster #456. 89th Annual Meeting of the American Thyroid Association, Chicago IL, October 30-November 3, 2019.

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

“Post-Transplant Diabetes Mellitus” presented at Transplant Surgery monthly meeting at UVMMC on January 30, 2020.

“Diabetes Updates and Management for the Anesthesiologist” presented at Anesthesia Grand Rounds at UVMMC on May 21, 2020.

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.

Annual Report July 1, 2020-June 30, 2021

Division of Gastroenterology and Hepatology

Richard Zubarik, MD, Section Chief

<http://www.med.uvm.edu/medicine/gastro/home>

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.

2021-22 has been a tough year for the gastroenterology division. We continued to navigate the COVID pandemic. Two of our division members will be leaving our unit this fall.

Despite these challenges the cohesion, compassion, comradery, ingenuity and grit of the UVMCC gastroenterology helps ensure that we can provide exemplary gastroenterology care to our community.

The clinical demands of our community and the Network are great. As a group we have done all we can in the last year to meet these demands. We are the clinical center of excellence in the region for therapeutic endoscopy, advanced hepatology, and advanced inflammatory bowel disease. In order to meet the clinical needs for colorectal cancer screening we have hired a locum tenens to perform standard endoscopy. Dr. Ganguly has also created an automated system to monitor adenoma detection rate, which is used as a National Benchmark for endoscopic quality. Fortunately, all of our endoscopists exceed the expectations of this benchmark.

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. We have combined conferences with ID, pathology, radiology, and at multi-disciplinary clinics to educate our fellows, residents, medical students as well as to ensure state-of-the-art patient care. We also have journal clubs, quality assurance meetings, and noon conferences.

Research efforts have been difficult to re-ignite after COVID and with the commitments to clinical care. However, we continue to perform research in IBD, hepatology, the performance of endoscopy, and diagnosis of pancreatic cancer.

In summary, the gastroenterology division faces challenges with the increasing clinical demands and the shortage of gastroenterology faculty. However, we are doing the best we can to meet the clinical needs of our community as well as our other goals of research and education.

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

Jason Heffley, MD

Assistant Professor of Medicine

- Endoscopic Ultrasound and GI Malignancies
- Therapeutic Endoscopy
- 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

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

Stacy Shen, MD

GI Fellow

Takahiro Nakamura, MD

GI Fellow

Edwin Goncharuk, MD

GI Fellow

Marc Vecchio, MD

GI Fellow

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 Zubarik, 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 Pharmsolutions: 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 Zubarik, 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 Cholangiogram 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 Patel¹, Brendan T Everett², Dmitriy Akselrod³, **Joseph D Frasca**², Stuart R Gordon¹
 Fatal Aortoesophageal Fistula Complicating Placement of a 20-mm Lumen-Apposing Metal Stent for Refractory Esophagojejunal Anastomotic Stricture. ACG Case Rep J. 2021 Mar 19;8(3):e00548. eCollection 2021 Mar. PMID: 33758764

Rodriguez N, Kennedy AG, Tompkins BJ, VanOpdorp J, Heffley J, **Ganguly E**. Quality Improvement opportunities exist for Helicobacter pylori treatment and confirmatory testing. Clinics and Research in Hepatology and Gastroenterology 2021 Jun 1:45(5):101720. PMID: 34087425

Lidofsky SD. 2020. Jaundice. In Feldman M Friedman LS Brandt LJ. (eds.) Sleisenger and Fordtran's Gastrointestinal and Liver Disease 11th ed. pp.313-323. Philadelphia, Elsevier.

Jessica W. Crothers,^{1,5} Nathaniel D. Chu,^{2,3} Le Thanh Tu Nguyen,^{2,3} Magen Phillips,⁴ Cheryl Collins,⁴ Karen Fortner,⁴ Roxana Del Rio-Guerra,⁶ Brigitte Lavoie,⁷ Peter Callas,⁸ Mario Velez,⁴ Aaron Cohn,⁴ Ryan J. Elliott,⁹ Wing Fei Wong,⁹ Elaine Vo,¹⁰ Rebecca Wilcox,^{1,5} Mark Smith,¹⁰ Zain Kassam,¹⁰ Ralph Budd,^{4,5} Eric J. Alm,^{2,3} **Gary M. Mawe**,⁷ and Peter L. Moses^{5,10}. Daily, oral FMT for long-term maintenance therapy in ulcerative colitis: results of a single-center, prospective, randomized pilot study. BMC Gastroenterol. 2021; 21: 281. PMID: 34238227

John R Konen¹², Melody M Haag¹, Daria Guseva³, Molly Hurd¹, Alisha A Linton¹, Brigitte Lavoie¹, Colleen B Kerrigan¹², Emily Joyce¹, Stephan C Bischoff³, Steve Swann⁴, Luana Griffin⁴, Jun Matsukawa⁴, Matthew D Falk⁴, Tony S Gibson⁴, Grant W Hennig⁵, Jill Wykosky⁴, **Gary M Mawe**¹⁵ Prokinetic actions of luminally acting 5-HT₄ receptor agonists
 Neurogastroenterol Motil. 2021 Apr;33(4):e14026 Epub 2020 Nov 1. PMID: 33185015

Karolyn G Lahue¹, Montana K Lara², Alisha A Linton², Brigitte Lavoie², Qian Fang³, Mahalia M McGill¹, Jessica W Crothers⁴, Cory Teuscher^{3,4}, **Gary M Mawe**², Anna L Tyler⁵, J Matthew Mahoney^{2,6}, Dimitry N Kremmentsov⁷ Identification of novel loci controlling inflammatory bowel disease susceptibility utilizing the genetic diversity of wild-derived mice. Genes Immun. 2020 Nov;21(5):311-325. Epub 2020 Aug 26 PMID: 32848229

Sprouse-Blum, AS, B Lavoie, M Haag, SM Mawe, EA Tolner, AMJM van den Maagdenberg, S-P Chen, K Eikermann-Haerter, L Ptacek, **GM Mawe**, and RE Shapiro (2020) No gastrointestinal dysmotility in transgenic mouse models of migraine. Headache. 60:396-404 PMID: 31876298

Spear, E.T. and **G.M. Mawe** (2020) Enteric neuroplasticity and dysmotility in inflammatory disease: key players and possible therapeutic targets. *American Journal of Physiology* 317:G853-G861. PMID: 31604034

Jason D Heffley¹, **Richard Zubarik**¹. A standardized protocol improves testing rates for *Helicobacter Pylori* among inpatients with peptic ulcer disease. *Helicobacter* 2021 Jun;26(3):e12800. . Epub 2021 Mar 15. PMID: 33720493

General Internal Medicine & Geriatrics

Jennifer Gilwee, MD, Division Chief

<http://www.med.uvm.edu/medicine/generalinternalmedicinegeriatrics/home>



The Division of General Internal Medicine specializes in diagnosing, treating, and preventing medical problems in adults of all ages. Our general internal medicine physicians work with their teams in the outpatient clinics to care for a large proportion of the adult patients in our area. We strive to address all of the factors that can affect the health of our population.

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 40 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 work is being spread across our UVM Health Network in the coming year.

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 Chair, 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 continued to host nearly all of the third year outpatient internal medicine clerkship students throughout our four clinic sites.

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. John Miller), Outpatient Medicine Clerkship (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. Drs. Halle Sobel and Emily Greenberger are Associate Program Directors. Our Adult Primary Care Burlington site houses the Internal Medicine Resident Clinic – where the Internal Medicine residents practice under the supervision of our preceptors 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 protocol redesign, impact of primary care mental health integration, assessing and mitigating risk of suicide and innovative models in medical education and curriculum development.

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
Course director, Convergence

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

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

Emily Hadley Strout, MD
Assistant Professor Medicine

Adult Primary Care - Essex

Dragos Banu, MD (Site clinical leader)
Assistant Professor

Tania Bertsch, MD
Associate Professor of Medicine (*Emeritus*)

Gary Gilmond, MD
Assistant Professor of Medicine

Diane Haddock, MD
Assistant Professor of Medicine

Patricia King, MD, PhD
Professor of Medicine (*Emeritus*)

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 (*Emeritus*)

Christopher Wargo, MD

Assistant Professor of Medicine

Adult Primary Care – South Burlington

Dennis Beatty, MD

Associate Professor of Medicine

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

Course director, Prep for Practice

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

Carolyn Koulouris, MD

Assistant Professor of Medicine

Lucy Miller, MD (Site Clinical Leader)

Assistant Professor of Medicine

Other Division Members:

Timothy Plante, MD, MHS

Assistant Professor of Medicine

Jason Sanders, MD

Senior Associate Dean for Clinical Affairs, LCOM

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

Dimitrina Banu, PA

Tracey Niquette, NP

Adult Primary Care - Essex

Sarah Bushweller, PA

Alison Hall, PA

Rachel Rudder, NP

David Spence, PA

Adult Primary Care - South Burlington

Rachel Brodie, PA

Sarah McLaughlin, NP

Desiree Price, NP

Chantal Tousignant, 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

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:

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)

PCS-1409-24372. Integrating Behavioral Health and Primary Care for Co-Morbid Behavioral and Medical Problems. Total Direct Costs: \$18, 523, 145.

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 remuneration 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:

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)

TITLE

[Efficacy of combination therapy with the JAK inhibitor baricitinib in the treatment of COVID-19](#)

BL Thoms, J Gosselin, B Libman, B Littenberg, RC Budd
SN comprehensive clinical medicine 4 (1), 1-13

[Further Experience with the Practice Integration Profile: A Measure of Behavioral Health and Primary Care Integration](#)

JR Hitt, SA Brennhofer, MP Martin, CR Macchi, D Mullin, C van Eeghen, ...
Journal of Clinical Psychology in Medical Settings 29 (2), 274-284

[DELAY IN SEEKING BEHAVIORAL HEALTH CARE AFTER THE ONSET OF COVID-19 IS ASSOCIATED WITH POOR PHYSICAL AND MENTAL HEALTH](#)

G Rose, J Clifton, LN Bonnell, LW Natkin, **B Littenberg**
ANNALS OF BEHAVIORAL MEDICINE 56 (SUPP 1), S150-S150

[A MEASURE FOR INTEGRATED BEHAVIORAL HEALTH IN PRIMARY CARE: IMPROVING CLARITY AND UTILITY OF A VALID MEASURE](#)

G Rose, TL Weldon, ML McEntee, JR Hitt, R Kessler, **B Littenberg**, ...
ANNALS OF BEHAVIORAL MEDICINE 56 (SUPP 1), S26-S26

[Walking habits during the COVID-19 pandemic are associated with functional health among primary care patients](#)

L Bonnell, M Wingood, **B Littenberg**, J Clifton, N Gell
The Annals of Family Medicine 20 (Supplement 1)

[Older adults' willingness to take magnesium to treat depression](#)

B Littenberg, L Natkin, E Tarleton, H Mason, A Miller, J Clifton
The Annals of Family Medicine 20 (Supplement 1)

[Integrating behavioral health & primary care for multiple chronic diseases: Clinical trial of a practice redesign toolkit](#)

B Littenberg, P Reynolds, L Natkin, C van Eeghen, P Callas, W Pace, ...
The Annals of Family Medicine 20 (Supplement 1)

TITLE

[Association between prevalence of obstructive lung disease and obesity: Results from The Vermont Diabetes Information System](#)

ME Ramos-Nino, **CD MacLean**, **B Littenberg**

Asthma Research and Practice 7 (1), 1-6

Loskutova, N.Y., Lutgen, C., Smail, C., Staton, E.W., Nichols, S.D. and **Pinckney, R.G.**, 2022. Stimulant Prescribing Error Assessment Rubric Development. *Journal of Patient Safety*, 18(1), pp.e282-e289.

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 4 physicians and 1 nurse practitioner care for many geriatric patients in Chittenden County, attending to older adults living independently, in assisted living, in local nursing homes, and in need of hospice care. 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

Amelia Gennari, MD

Associate Professor of Medicine
Associate Chief for Clinical Affairs

- Geriatric Medicine

Elizabeth Rosy Hill, MD

Assistant Professor of Medicine
Associate Medicine Clerkship Director

- Geriatric Medicine

Michael LaMantia, MD, MPH

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, MPH

Associate Professor of Medicine
Associate Chief for Education
Medical Director, Birchwood Terrace Nursing Home

- Geriatric Medicine

Alexandra Messerli, MD

Assistant Professor of Medicine

- Geriatric Medicine

Nurse Practitioners, Physician Assistants, and Mental Health Specialists:

Birchwood Nursing Center (Skilled Nursing Facility)

Elisa Vautier, NP

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

1. Cheung KL, Smoger S, Kurella Tamura M, LaMantia MA, Rabinowitz T, Stapleton R, Gramling R. Content and processes of palliative care consultations in rural dialysis units. *Journal of Palliative Medicine*. 2022.



<http://www.uvm.edu/medicine/medicine/hemonc/>

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 UVMCC 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, non-malignant hematology conditions and patients with thrombotic and bleeding disorders. Recruitments for new faculty starting this summer and fall include Dr. Furtado (CVPH), Dr. Landry, Dr. Gerson and Dr. Mansour. Dr. Gillett and Dr. Holcombe joined the division this year, both with a focus on GI cancers. Promotions this year have included Dr. Steven Ades to full professor and Dr. Farrah Khan to associate professor. Several faculty also received awards including Dr. Holcombe (J. Walter Juckett Endowed Chair in Cancer Research); Dr. Adrianzen-Herrera (Department of Medicine Green and Gold junior faculty professorship); Dr. Maura Barry (American Society for Clinical oncology Education Scholar).

Several members of the faculty were appointed to new leadership positions this year- highlights include: Dr. Kim Dittus, leader for Supportive Care Transdisciplinary Team; Dr. Farrah Kahn, leader for the Lung Cancer Transdisciplinary Team; Dr. Hibba tul Rehman, Chair of the Pharmacy and Therapeutics Heme/Onc subcommittee; Dr. Neil Zakai, Chair of Mentored Research Award Committee Hemophilia and Thrombosis Research Society.

The clinical care enterprise is comprised of faculty, 9 APPs, 3 genetic counselors and over 50 nurses and staff in the outpatient UVMCC clinic. In 2021-2022 the division provided over 23,000 outpatient provider visits and saw over 2,800 new patient visits. Divisional faculty supervised nearly 15,000 infusions and procedures in the Hematology/Oncology clinic and the UVMCC infusion center. Inpatient services offered by the division include a hematology consult service, an oncology consult service and a hematologic malignancies 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; all solid tumor types)
- 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)
- Familial Cancer Genetics, (Drs. Greenblatt, PI with 3 cancer geneticists)
- Oncology Rehabilitation, (Dr. Dittus, Medical Director)
- The Prevention of Cancer Associated Thrombosis Program (Dr. Holmes PI)
- Cancer Clinical Trials (Dr. Ades, Medical Director Clinical Trials Office)

Research within the division focuses on epidemiologic and translational research as well as clinical trials. Eight new grants were funded with Hematology/Oncology faculty serving as the PIs including three awards to Dr. Adrianzen-Herrera from the Northern New England Clinical Oncology Society, the Hemostasis and Thrombosis Research Society and the UVM Health Network, an award from the NIH to Dr. Mary Cushman, an award to Dr. Kim Dittis supporting integrative oncology as part of the Osher Center for Integrative Health, a U24 award from the National Cancer Institute to Dr. Marc Greenblatt, an R21 award from NCI to Dr. Chris Holmes and a Cancer Center Research Support Grant from the Juckett Foundation to Dr. Holcombe. 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 65 manuscripts in the last year and were involved in numerous local, national and international abstract presentations.

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 and quality improvement projects. Division highlights in education include Dr. Molly Barry being named a Master Teacher in the Larner College of Medicine Teaching Academy.

Faculty

Jose Acostamiedo, MD-Clinical Practice Physician

Physician at CVPH

Research and clinical interests: Lung Cancer and Melanoma

Steven Ades, MD, MSc – Professor

Leader, UVM Medical Upper Gastrointestinal 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 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
Member, Department of Medicine Research 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, Grand Rounds Committee, Division of Hematology and Oncology
Member, Hematology/Oncology Fellowship Applicant Review and Interview Committee
Member, Hematology/Oncology P&T 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 - UVMHC Protocol Review and Monitoring Committee (PRMC)
Member - UVM Health Network Covid-19 Hematology/Oncology Re-entry committee
Member - UVMHC Hematology/Oncology Grand Rounds Committee
Leader - Genitourinary Oncology Transdisciplinary team
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, UVMHC 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
Master Teacher, 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
Medical Director, Inpatient Hematology/Oncology
Director, Supportive Services at the UVM Cancer Center
Member, Cancer Control Committee, Chair of survivorship subcommittee UVM Medical 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
Co-Director, Familial Cancer Program of the UVM Cancer Center
Assistant Director, Hematology/Oncology Fellowship Program
Member, UVMCC-Hem-Onc Grand Rounds

Research and clinical interests: Cancer genetics and gastrointestinal cancers

Randall F. Holcombe, MD, MBA – Professor of Medicine (Tenure)

Chief, Hematology/Oncology Division
Director, University of Vermont Cancer Center
J. Walter Juckett Chair in Cancer Research

Research and clinical interests: Health services research, cancer care delivery, GI clinical trials, GI oncology

Chris Holmes, MD, PhD – Professor of Medicine

Deputy Division Chief, Hematology and Oncology
Director, Vermont Regional Hemophilia Treatment Center
Assistant Director, Thrombosis and Hemostasis Program

Research and clinical interests: Venous thrombosis, bleeding, 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

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, University of Vermont Cancer Center Data Safety and Monitoring Committee (DSMC)

Director, Regional Clinical Trials, University of Vermont Cancer Center

Program Co-Leader, Host Factors and Tumor Progression (HFTP) University of Vermont Cancer Center

Member, Clinical Trials Executive Committee, University of Vermont Cancer Center

Member, University of Vermont Cancer Center Leadership Committee

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: UVMCC Department of Medicine Faculty Development Committee, Faculty Engagement Committee

Member, UVMCC 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 UVMCC

Research and clinical interests: Breast Cancer

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: Transfusion medicine clinical practice, 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, UVMCC Credentials Committee
Chair, Pharmacy and Therapeutics Hem/Onc Subcommittee

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

Paul Unger, MD, FACP—Associate Professor

Site Leader, Community Oncology Porter
Chair, UVMCC Credential Committee

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

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
Chair, Clinical Innovations Grant Committee UVM Medical Center

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

Kara Landry, MD—3rd year fellow
Mansour Gergi, MD—3rd year fellow
Rahul Anil, MD—2nd year fellow
Asad Anwar, MD—2nd year fellow
Rohit Singh, MD—1st year fellow
David Alfonso Alejos Castillo, MD—1st year fellow

NP's and PA's

Jamie Kelly, PA
Penny Gibson, PA
Jordan Tolstoj, PA
Anne Berkowitz, NP
Janet Ely, NP
Emily Parenteau, MSN, FNP
Jessica Okrant, NP
Rebecca Sokolowski, PA

Graduate students, post-doctoral fellows, MD PHD students

Ellen Mats-MS1 UVM, granted student summer fellowship to create lab manual for microbiome project. Mentored by Shahid Ahmed

Angela Russo-MS1 UVM manuscript writing. Mentored by Shahid Ahmed

Areeba Memon International medical student, Aga Khan University, manuscript writing. Mentored by Shahid Ahmed

Debora Kamin Mukaz, PhD. Post-doctoral associate. Mechanisms of racial disparities in diabetes and hypertension incidence affecting African-Americans. Mentored by Mary Cushman

Samuel Short, BA. MD Candidate research: (1) Proenkephalin and risk of stroke and cognitive impairment in a biracial cohort. (2) Endothelial Markers and Incident Chronic Kidney Disease. (3) Biomarkers of Stroke Risk in Atrial Fibrillation. UVM Cardiovascular Research Institute of Vermont (CVRI) Summer Research Award 2020. Carolyn L. Kuckein Student Research Fellowship (2021-2). – American Society of Hematology. Hematology Opportunities for the Next Generation of Research Scientists (HONORS) Award (2021-3). Hemostasis and Thrombosis Research Society Student Research Award, 2022. American Heart Association Student Scholarship in Cerebrovascular Disease, 2022. Mentored by Mary Cushman

Brittney Palermo, BA. MD candidate research: Interleukin-6 and Diabetes Incidence in a Biracial Cohort. UVM Cardiovascular Research Institute of Vermont (CVRI) Summer Research Award 2022. Mentored by Mary Cushman

Maeve Dillon-Martin, UVM Class of 2022 Mentored by Marc Greenblatt

Erica Lamkin, Microbiology and Molecular Genetics Accelerated Master's Program. Chair, Thesis Committee. Mentored by Randall Holcombe

Katlyn An, Graduate Student, University of Hawaii Clinical and Translational Science Master's Program. Sponsor and principal mentor. Mentored by Randall Holcombe

Jennifer Toner, MD UVM Cancer Center Summer Research Fellow Mentor, Summer 2022. Mentored by Peter Kaufman

Ryan Thomas, MD Hematology/Oncology Fellow. Mentored by Jacqueline Poston

Asad Anwar, MD, Research Mentor. Mentored by Hibba Rehman

Mansour Gergi, MD Hematology/Oncology Fellow Fellowship Research. Oral presentation at ISTH 2022, poster presentations at ASH. Manuscript Revise and resubmit to JTH. Mentored by Neil Zakai

Ryan Thomas, MD Internal Medicine Resident, UVMMC. Residency Research Project (Oral Presentation for grand rounds 2022, manuscript in progress) Mentored by Neil Zakai

Robin Alsher, MD Internal Medicine Resident at UVMHC. Residency Research Project-just begun.
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, American Society of Clinical Oncology

Diego Adrianzen Herrera, MD

Member, American Society of Clinical Oncology (ASCO): Career Conversations Mentor, Trainee and Early Career Council

Member, American Society of Hematology, Diversity Equity and Inclusion Committee

Member/Expert Panelist, American Society of Hematology Guidelines on Acute Lymphoblastic Leukemia in Adolescents and Young Adults

Member, Northern New England Clinical Oncology Society

Shahid Ahmed, MD, MBBS

Member, ALLIANCE Cooperative Group Immuno-Oncology Committee

Member, NNECOS Grant Review Committee

Member, American Society of Clinical Oncology

Member, American Society of Hematology

Member, Northern New England Clinical Oncology Society

Associate – Mednet

Melanoma expert panel - Mednet

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

ASCO Education Scholar 2021-2022

Mary Cushman, MD, MSc

Member, Media 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

Chair, Subcommittee on Women in Science and Medicine, 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

Chair, InSiGHT-ClinGen Hereditary Polyposis Colorectal Cancer Variant Curation Expert Panel (VCEP),
Co-Chair APC Gene Sub-VCEP
Executive Board, Human Genome Organization (HUGO)
President, Human Genome Variation Society (HGVS)
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

Randall Holcombe, MD, MBA

Member, Board of Directors, Association of American Cancer Institutes
Chair, Data Safety and Monitoring Committee, Colon Cancer. Merck, Inc
Member, American Society of Clinical Oncology
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, American Society of Hematology
Member, Northern New England Clinical Oncology Society
Member, Thrombosis Committee, American Thrombosis and Hemostasis Network, Centers for Disease Control
Member, VENUS Clinical Trial Network

Sakshi Jasra, MD

Member, American Society of Hematology
Member, American Society of Clinical Oncology

Member, American Society of Transplantation and Cellular Therapy
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
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
Member, American Association for Cancer Research

Jacqueline Poston, MD

Member, American Society of Hematology
Member, AABB
AABB Committee Member on the AABB Circular of Information Committee
AABB Committee Member on the AABB Clinical Transfusion Medicine Committee

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
Member, American College of Physicians

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

Eswar Tipirneni, MD

Member, American Association for Cancer Research
Member, Northern New England Clinical Oncology Society
Member, American Association of Physicians of Indian Origin
Member, American Society of Clinical Oncology
Member, American Society of Hematology
Member, European Society for Medical 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
Member, Rural Health Task Force in Montana, ASCO

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”

Faculty, American Society of Hematology Clinical Research Training Institute (2016, 2017, 2018, 2019, 2020, 2021, 2022)
Member 2019-2022, American Society of Hematology Organizing Committee for Highlights of ASH (organizing 12 domestic and 6 international meetings)
Chair, American Society of Hematology Organizing Committee for the Highlights of ASH (organizing 12 domestic meetings and 3 international meetings)

Hemophilia and Thrombosis Research Society (HTRS)
Vice-Chair 2020-2021 Mentored Research Award Committee
Chair 2022 – 2023 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 Acostamadiedo, MD

Editorial Board Colombian Society of Hematology Oncology Magazine (ACHO)

Diego Adrianzen Herrera, MD

Study Section Member for the American Society of Hematology Minority Recruitment Initiative Programs

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

Sakshi Jasra, MD

Reviewer, Clinical Cancer Research

Peter Kaufman, MD

Editorial Board, Critical Reviews in Eukaryotic Gene Expression

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

Ad-Hoc Reviewer Nature Publication Journals: Breast Cancer

Ad-Hoc Reviewer, Breast Cancer Research and Treatment

Jacqueline Poston, MD

Reviewer, Transfusion Medicine

Neil Zakai, MD

Associate Editor, Research and Practice of Thrombosis and Haemostasis

Study Sections and Federal Advisory Boards

Julian Sprague, MD

Study Section Member for the ASH Hematology-Focused Fellowship Training Program

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

Diego Adrianzen-Herrera, MD

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

University of Vermont Health Network
Identifying Patient and Treatment Factors Associated with Cardiovascular Disease Risk and Mortality in Patients with Myelodysplastic Syndromes
Adrianzen-Herrera (PI) 01/01/2022-12/31/2024
Role: PI

Hemostasis and Thrombosis Research Society
Identifying Patient and Treatment Factors Associated with Cardiovascular Disease Risk and Mortality in Patients with Myelodysplastic Syndromes
Adrianzen Herrera (PI) 07/01/2022-07/01/2024
Role: PI

Shahid Ahmed, MD, MBBS

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

Mary Cushman

NINDS
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%
02/15/18-01/31/23

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

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

NIH-NIMHD 08/14/18-03/31/22
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 03/01/19-02/28/23
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 05/15/19-02/28/23
R01 HL141290
Thrombosis and Bleeding Risk Assessment in Medical Inpatients
N Zakai, PI, University of Vermont
Role: Co-Investigator, 5%

NIH – NIGMS 08/06/20-08/05/25
P20 GM135007
Vermont Center for Cardiovascular and Brain Health
Center of Biomedical Research Excellence (COBRE)
M Cushman, MPI, (25%)

NHLBI (C4R) 10/01/20-09/13/22
RTI 22-312-0217571-66178
Collaborative Cohort of Cohorts for COVID-19 Research
E Oelsner, PI, Columbia University
M Cushman MPI subcontract 3%

NIH - NIA 01/15/21-12/31/25
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%

NIH – NIA 04/01/21-03/31/26
U01 AG071448
The National Longitudinal Study of Adolescent Health Wave VI Core Project
R Hummer, PI, University of North Carolina, Chapel Hill
M Cushman PI subcontract 3%

NIH – NHLBI
OT2HL162011
G Barr/E Oelsner (PIs)
Collaborative Cohort of Cohorts for COVID-19 Recovery Research
10/01/21-05/31/25

Kim Dittus

VCC 55060
Dittus/Stein (Co-PI)
VDH Survivorship III – Vermont Department of Health Award
Role: PI
07/01/21-06/29/22

Marc Greenblatt

NIH-NHGRI
U01 HG007437-01
Berg, Jonathan (PI)
A Knowledge Base for Clinically Relevant Genes and Variants
Role: Co-Investigator
09/01/13-08/31/21

UVM Cancer Center Pilot Project
Point of Care Testing for Patients with Advanced Cancer (PoC-TAC): A feasibility study
Role: PI
Greenblatt (PI)
01/2020 – 12/2021

U24 CA258119-01
NCI
InSiGHT-ClinGen Polyposis /Colon Cancer Variant Curation Expert Panel (VCEP)
Role: PI
Greenblatt, Marc (PI)
06/2021 – 05/2024

R01 CA264971
NCI
Upgrading rigor and efficiency of germline cancer gene variant classification for the 2020s
Role: Co-Investigator
Tavtigian SV (PI)
03/2022-02/2027

Randall Holcombe

7UG1CA189823
Alliance for Clinical Trials in Oncology/NCI
Improving quality of life for colorectal cancer patients and their caregivers
Cassel (PI)/Holcombe (Co-I)
10/01/20-07/31/22

This is a cancer control grant through the Alliance supporting research to conduct a randomized controlled trial testing differences between caregivers of colon cancer patients who are provided with an evidence-based caregiver training curricula versus no additional training for the caregivers of colon cancer patients. The hypothesis is that caregivers and patient dyads who are provided training will report improvements in their quality of life and improved coordination of their therapeutic care. Dr. Holcombe serves as co-investigator.

1F32HS027286
AHRQ
Improving rural cancer care delivery
Okado (PI)/Holcombe (1^o Mentor)
07/09/20-07/08/22

I serve as primary mentor for Dr. Okado for this fellowship award and oversee research activities and career development.

SWOG Early Exploration & Development Fund. Holcombe (PI) 05/01/21-08/31/22
Southwest Oncology Group

Patient-centered video education intervention to improve rural cancer care delivery

This is an interventional pilot study with an educational intervention to improve care coordination for rural cancer patients.

UVMCC Cancer Research Support Grant 07/01/22-06/30/27
Juckett Foundation

Research support for the UVM Cancer Center focused on several areas, with subprojects as follows:
1) Cancer Epidemiology & COE Research Initiative, 2) Clinical & Translational Research Initiative, 3) Health Services Cancer Care Delivery Research Initiative, and 4) Innovations Research Education Program.

Chris Holmes

NNE-CTR/NIGMS Holmes, Chris (PI) 06/2020 -05/2022

Improving VTE Risk Assessment: Education and Prophylaxis in Rural Cancer Clinics

Role: 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-NHLBI 05/15/19-02/28/23

R01 HL141290

Thrombosis and Bleeding Risk Assessment in Medical Inpatients

N Zakai, PI, University of Vermont

Role: Co-Investigator

NCI//NIH

R21CA267074

Holmes (PI)

12/01/21-11/30/23

Platelet FcGammaR1a and Risk of Venous Thromboembolism in Cancer

Role: PI

NCI

Schrag & Connors (PI's)

08/09/17-07/09/21

32105 AFT-28

The benefits, harms and burdens of DOAC vs LMWH +/- Warfarin for Venous Blood Clots in Cancer: A Pragmatic Randomized Trial (CANVAS Trial); Alliance Foundation Trial

Peter Kaufman, MD

University of Vermont Cancer Center Thomas (PI)
CID Grant Award
A multi-disciplinary care initiative for patients with brain metastases.
Role: Co-Investigator

Alliance Clinical Trial
Alliance Champion, E2112
A Randomized Phase III Trial of Endocrine Therapy Plus Entinostat or Placebo in Patients with
Hormone Receptor Positive Advanced Breast Cancer

Alliance Clinical Trial
A071701
Genomically Guided Trial in Brain Metastases
Role: National Co-Investigator

Industry Sponsored Kaufman (International Co-Chair) 6/10/19-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

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

Role: Co I

Julian Sprague, MD

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

Eswar Tipirneni, MD

NNE-CTR/NIGMS

Holmes (PI)

06/2020-05/2022

Improving VTE Risk Assessment: Education and Prophylaxis in Rural Cancer Clinic

Role: Site PI

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%

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

Kaufman PA, Hurvitz SA, O'Shaughnessy J, Mason G, Yardley DA, Brufsky AM, Rugo HS, Cobleigh M, Swain SM, Tripathy D, Morris A, Antao V, Li H, Jahanzeb M. Baseline characteristics and first-line treatment patterns in patients with HER2-positive metastatic breast cancer in the SystHERs registry. *Breast Cancer Res Treat.* 2021 Jul;188(1):179-190. doi: 10.1007/s10549-021-06103. PMID: 33641083

Parikh NS, Koh I, VanWagner LB, Elkind MSV, **Zakai NA**, **Cushman M**. Liver Fibrosis is Associated with Ischemic Stroke Risk in Women but not Men: The REGARDS Study. *J Stroke Cerebrovasc Dis* 2021 Jul;30(7):105788. doi: 10.1016/j.jstrokecerebrovasdis.2021.105788. PMID: 33866274

Mukaz DK, Dawson E, Howard VJ, **Cushman M**, Higginbotham JC, Judd SE, Kissela BM, Safford MM, Soliman EZ, Howard G. Rural/urban differences in the prevalence of stroke risk factors: A cross-sectional

analysis from the REGARDS study. *J Rural Health*. 2021 Jul 16;10.1111/jrh.12608. doi: 10.1111/jrh.12608. PMID: 34270125

Khialani D, Vasan S, **Cushman M**, Dahm AEA, Sandset PM, Rossouw J, van Hylckama Vlieg A. Venous thrombosis with oral postmenopausal hormone therapy: roles of activated protein C resistance and tissue factor pathway inhibitor. *J Thromb Haemost* 2021 Jul;19(7):1729-1737. doi: 10.1111/jth.15319. PMID: 33774921

Evensen LH, Folsom AR, Pankow JS, Hansen JB, Allison MA, **Cushman M**, Lutsey PL. Hemostatic factors, inflammatory markers and risk of incident venous thromboembolism: The Multi-Ethnic Study of Atherosclerosis. *J Thromb Haemost* 2021 Jul;19(7):1718-1728. doi: 10.1111/jth.15315. PMID: 33773045

Valderrabano RJ, Buzkova P, Chang P-Y, **Zakai NA**, Fink HA, Robbins JA, Wu JY, Lee JS, Cardiovascular Health Study group. Associations of hemoglobin and change in hemoglobin with risk of incident hip fracture in older men and women: the cardiovascular health study. *Osteoporos Int*. 2021 Aug;32(8):1669-1677. doi: 10.1007/s00198-021-05873-y. PMID: 33576845

Zakai NA, Walker RF, MacLehose RF, Koh I, Alonso A, Lutsey PL. Venous thrombosis recurrence risk according to warfarin versus direct oral anticoagulants for the secondary prevention of venous thrombosis. *Res Pract Thromb Haemost*. 2021 Aug 17;5(6):e12575. doi: 10.1002/rth2.12575. PMID: 34430789

Singleton MJ, Yuan Y, Dawood FZ, Howard G, Judd SE, **Zakai NA**, Howard VJ, Herrington DM, Soliman EZ, **Cushman M**. Multiple blood-biomarkers and stroke risk in atrial fibrillation: the REasons for Geographic And Racial Differences in Stroke study. *J Am Heart Assoc* 2021 Aug 3;10(15):e020157. doi: 10.1161/JAHA.120.020157. PMID: 34325516

Thibord F, Song C, Pattee J, Rodriguez BAT, Chen MH, O'Donnell CJ, Kleber ME, Delgado GE, Guo X, Yao J, Taylor KD, Ozel AB, Brody JA, McKnight B, Gyorgy B, Simonsick E, Leonard HL, Carrasquilla GD, Guindo-Martinez M, Silveira A, Temprano-Sagrera G, Yanek LR, Becker DM, Mathias RA, Becker LC, Raffield LM, Kilpeläinen TO, Grarup N, Pedersen O, Hansen T, Linneberg A, Hamsten A, Watkins H, Sabater-Lleal M, Nalls MA, Trégouët DA, Morange PE, Psaty BM, Tracy RP, Smith NL, Desch KC, **Cushman M**, Rotter JI, de Vries PS, Pankratz ND, Folsom AR, Morrison AC, März W, Tang W, Johnson AD. FGL1 as a modulator of plasma D-dimer levels: exome-wide marker analysis of plasma tPA, PAI-1 and D-dimer. *J Thromb Haemost* 2021 Aug;19(8):2019-2028. doi: 10.1111/jth.15345. PMID: 33876560

Nicoli CD, Carson, AP, Plante TB Long DL, McClure LA, Schulte J, **Cushman M**. Pro-neurotensin/neuromedin N and risk of incident metabolic syndrome and diabetes mellitus in the REGARDS cohort. *J Clin Endocrinol Metab* 2021 Aug 18;106(9):e3494. doi: 10.1210/clinem/dgab355. PMID: 34013344

Plante TB, Long DL, Guo B, Howard G, Carson AP, Howard VJ, Judd SE, Jenny NS, **Zakai NA**, **Cushman M**. C-reactive protein and hypertension incidence in black and white Americans: REasons for Geographic And Racial Differences in Stroke (REGARDS) study. *Am J Hypertension* 2021 Aug 9;34(7):698-706. doi: 10.1093/ajh/hpaa215. PMID: 33326556

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Gereg C, Conant JL, **Jasra S**, Devitt KA, Gardner JA. Acute Myeloid Leukemia with Myelodysplasia-Related Changes Presenting as Vitamin B12 Deficiency: A Cautionary Tale. *J Assoc Genet Technol*. 2021;47(4):218-223. PMID: 34897112

Division of Hospital Medicine: Update for July 1, 2021 - June 30, 2022

Chief: Caroline Lyon MD, MPH, FSHM



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, residents, 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 scholarship 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. Our service provides 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 half-time 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 Dr. Mohit Jindal. The AHMS faculty continued to care for the majority of COVID-19 inpatients.

Our Hospitalists have been engaged in numerous institutional quality improvement and safety initiatives. In the last few years, we have standardizing venous thromboembolism prophylaxis use in medical inpatients, 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, and improved communication with primary care providers at discharge.

Education:

Our faculty teaches Adult 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. Drs. Preetika Muthukrishnan and Caleb Burr provide outstanding leadership in 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, and Dr. Carrie Lyon is a member of the Resident Research Committee. 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 and Drs. Tara Scribner and David Rand are Assistant Program Directors for the Internal Medicine Residency. Our faculty members have been recognized numerous times by the resident physicians for teaching excellence.

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 Clerkship Director and on the Active Learning Advisory Committee. Dr. Lee-Anna Burgess is the Assistant Acting Internship Director

and 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. Jason Bartsch, Maria Burnett, Lee-Anna Burgess, Caleb Burr, Markus Degirmenci, Caitlin Greenberg, Peter Kaminski, Carrie Lyon, Rachel McEntee, Sadie Mills, Preetika Muthukrishnan, Mark Pasanen, and Tara Scribner teach in the Foundations courses, and Drs. Maria Burnett, Naomi Hodde, and David Rand are faculty mentors in the Professionalism, Communication and Reflection course.

We educate our colleagues locally, regionally and nationally in a variety of venues. Our annual University of Vermont Continuing Medical Education Course in Hospital Medicine, directed by Drs. Jason Bartsch, Maria Burnett, and Carrie Lyon was held virtually this year and included talks by several members of our faculty.

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, we have diverse scholarly interests among our faculty. This has included externally funded clinical trials of immunizations and high value laboratory ordering practices. Internal funding has supported Dr. Elly Riser's work on teaching trainees about opioid use disorder and medication assisted treatment and Dr. Elie Donath's work 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. Dr. Carrie Lyon is a co-director of the UVM TGIR COBRE and Vaccine Testing Center's Clinical Researchers Training Program of which Drs. Mohit Jindal and Sadie Mills are participants.

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. 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, Faculty Practice Finance Committee, Faculty Practice Clinical Operations and Care Coordination Committee, Rapid Response and Resuscitation Committee, Unit-based Care Planning, Master Facilities Planning, 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 and recently became board certified in Health Care Quality and Management through the American Board of Quality Assurance and Utilization Review Physicians. Dr. Zech Gardner chairs 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 Network Associate Chief of Medical Informatics Officer. 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

Sarah Gillett, MD, PhD

Assistant Professor, Medicine

Steven Grant, MD

Associate Professor of Medicine

Associate Chief Medical Officer for Care Coordination and Patient Transitions

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

Network Associate Chief of Medical Informatics Officer

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

Ashley Zwickl, PA

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:

Dr. Amanda Kennedy received the 2022 DOM Faculty Mentor Award.

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

Muthukrishnan P, Burnett M, DeVoe SG, Kennedy AG, Pasanen ME, Tompkins B, Repp AB. *An Active-Learning Quality Improvement Curriculum for Faculty in Hospital Medicine.* J Contin Educ Health Prof. 2022 Jan 1;42(1):70-73.

Presentations:

Lee-Anna Burgess “Things We Do For No Reason,” ACP Chapter Meeting, October 2021 and UVMMC Grand Rounds, November 2021.

Mark Pasanen “Things We Do For No Reason,” ACP Chapter Meeting, October 2021 and UVMMC Grand Rounds, November 2021.

Caleb Burr “Quick Hits: Updates in Hospital Medicine,” University of Vermont Hospital Medicine CME Conference. 2022.

Allen Repp “On Safari: Zebras and Other Rare Sightings in Vermont,” University of Vermont Hospital Medicine CME Conference. 2022.

Elly Riser “Caring for Patients with COVID-19 in the Hospital,” virtual lecture for high school student interest group, Burlington, VT. 2021.

Elly Riser “Office-Based Opioid Treatment for Opioid Use Disorder,” Physician Assistant Academy of Vermont Annual CME Conference. 2022.

Elly Riser “Acute Pain Management in Patients with Opioid Use Disorder,” University of Vermont Hospital Medicine Conference. 2022.

Elly Riser “Transforming Our Communities; Supporting People Who Use Drugs,” virtual meeting of the Addiction, Drug, and Alcohol Institute of the University of Washington. 2021.

Scribner, Tara. “Quick Hits: Updates in Consult Medicine,” University of Vermont Hospital Medicine CME Conference. 2022.



The Infectious Diseases (ID) Division is comprised of thirteen attending physicians and 3 mid-level providers at the Burlington campus, as well as three attendings and a mid-level at our Network sites, all dedicated to the diagnosis, management, prevention and investigation of infectious diseases. The COVID-19 pandemic continued to loom over our Division this year, and the dedication of Dr. Cindy Noyes, and the whole Infectious Disease team, to rise to this challenge has been remarkable. The ID division played a key role in the UVMHC response and worked closely with Employee Health and Infection Prevention to care for patients and protect staff. On a broader scale, 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 550 patients living 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 provide expertise on 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 Larner 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.

In addition to daily teaching rounds with medical students, residents, pharmacists, and fellows, the faculty are actively involved in teaching several courses in the Larner College of Medicine. The ID Division boasts an excellent 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, Katherine Peterson, 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. We are very excited that a new research faculty member, John Openshaw, has been recruited and will be starting in late 2022.

The Huston laboratory has been continuously funded by the NIH as well as various NGOs with an overarching focus on drug development for the intestinal parasite *Cryptosporidium*. Lab personnel currently include a research faculty member, research staff, and three Cell, Molecular, and Biomedical Sciences PhD candidates. Projects within the lab span from anticryptosporidial drug lead discovery and optimization in collaboration with medicinal chemists to more basic projects focused on drug target identification, evolution of drug resistance, and the use of drug-like compounds as chemical probes to study *Cryptosporidium* biology. In addition to these research activities, Dr. Huston is co-director of and heads the faculty mentoring program for the Translational Global Infectious Diseases COBRE that is led by Dr. Kirkpatrick in the Department of Microbiology and Molecular Genetics.

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, including a large dengue vaccine trial. In addition, the VTC has implemented two separate polio vaccine studies. The VTC has continued to remain involved with the global efforts at COVID vaccine development, as it enters into the second year of 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 13 attending physicians, the Clinical part of the Infectious Diseases Division includes 26 individuals statewide, including 3 midlevel providers, 2 fellows, 1 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. As mentioned above, there are also two, fully staffed, laboratories contributing to our success both nationally and internationally.

New clinical initiatives in 2022 include a multidisciplinary clinic with Pulmonary to take care of cystic fibrosis patients suffering from nontuberculous mycobacterial infections, and the provision of E consults for our primary care sites.

The Division has been recognized with an impressive array of awards this year, including Dr. Cindy Noyes receiving the prestigious Vision Award. The Physician Award for Community Service was awarded to Dr. Kristen Pierce. The Gender Equity Outstanding Achievement in Medicine and Science was awarded to Dr. Beth Kirkpatrick. The Distinguished Clinician award went to Dr. Timothy Whitman. The Distinguished Merit award was awarded to both Dr. W. Kemper Alston and Dr. Cindy Noyes. The Leonard Tow Humanism award went to Dr. Tim Lahey.

Faculty

W. Kemper Alston, MD, MPH

Professor of Medicine

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

Sean Bullis, MD

Assistant Professor of Medicine

- Clinical investigator, Vaccine Testing Center
- Travel Clinic

Jean Dejace, MD

Assistant Professor

- Director, Infectious Disease Fellowship Training Program
- Attending Physician for Infectious Disease

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
- Member, Infectious Disease Society of America, Education Committee

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

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
- Director, Influenza Preparedness

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

- Associate Director, Department of Medicine Inpatient Medicine Clerkship Program
- Attending Physician for Infectious Disease
- Course Director, Clinical Reasoning- 4th Year Medical Student Elective

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
- Medical Director, UVMMC Adult Infusion Center

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

Peter Hyson, MD

Infectious Disease 2nd Year Fellow

- Infectious Disease Fellowship Training Program July 1, 2021 – June 30, 2023

Katherine Peterson, DO

Infectious Disease 2nd 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:

W. Kemper Alston, MD, MPH

- Lobbied Vermont Congressional members on behalf of the Infectious Diseases Society of America
- Wrote board exam questions for Infectious Diseases Society of America

Andrew Hale, MD

- Faculty Member for Remington Winter Course in Infectious Diseases

Christopher Huston, M.D.

- External Advisory Board, University of Virginia ID Training Program (NIAID)

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/Foundation Science Task Force
-

Cindy Noyes, MD

- Member, Society for Healthcare Epidemiology of America, Journal Club

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
 - 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
 - 2022, ZRG1 IDIA-L (2) M (topics on Mycology and Parasitology)

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:

W. Kemper Alston, MD, MPH

Meritorious Service Award, Dept. Of Medicine, UVMCOM and UVMCMC, in recognition of exceptional service and citizenship.

Larner College of Medicine 2020-2021 Professionalism Accolade, chosen by a medical student.

Andrew Hale, MD

UVMCMC Foundations Above and Beyond Award 2022

Beth Kirkpatrick, MD

Larner College of Medicine, University of Vermont

Gender Equity Outstanding Achievement in Medicine and Science award

Timothy Lahey, MD

Leonard Tow Humanism in Medicine Faculty Award

Cindy Noyes, MD

Vision Award 2021, University of Vermont Medical Center

Meritorious Service Award, Dept. Of Medicine, UVMCOM and UVMCMC, in recognition of exceptional service and citizenship

Kristen Pierce, MD

Vermont Medical Society Leadership award

Physician Award for Community service for 2021

Timothy Whitman, DO

University of Vermont Medical Center, Department of Medicine

Distinguished Clinician Award

Grants – list all active by faculty member, PI

W Kemper Alston, MD (PI)

Cindy Noyes, MD (Epidemiologist)

Tuberculosis/ Healthcare associated infections/ Emerging Diseases/ Emergency Preparedness. Vermont Department of Health

2/15/2020 – 2/14/2024

\$49,088 annually (\$196,352)

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

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

R01 AI143951 Christopher Huston, MD (PI)
National Institutes of Allergy and Infectious Diseases (NIAID)
Project title: Preclinical optimization of a parasitocidal 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

Love (PI) (Calibr at Scripps) Christopher Huston, MD (PI Sub-contract)
Wellcome Trust
Project 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

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)
1/2019-3/2022

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

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

7/1/2021 – 6/30/2022

\$49,040 Federal sub-award, UMASS

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 Part C Grant for HIV Care
5/1/2022 – 4/30/2023
\$ 516,163 Federal HRSA

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

Devika Singh, MD (PI)
Ryan White Care Act Part B Sub Award
1/1/2022– 12/31/2022
\$340,000 Federal HRSA/CDC

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

Ahern JW, **Noyes CD, Smith LM, Alston WK**. Twenty years of infection prevention: A longitudinal perspective from an academic medical center. *Infection Control and Hospital Epidemiology* 2022;43:115-7, doi:10.1017/ice.2021.312. PMID 34350822

Noyes CN, Raymond MJ, Wojewoda CM, **Alston WK**. Impact of SARS-CoV-2 Vaccination on the Incidence of COVID-19 among Healthcare Workers at an Academic Medical Center in Vermont. *Antimicrobial Stewardship and Hospital Epidemiology* 2022; 2, e31, 1-3. doi:10.1017/ash.2022.15.

Feinberg N, Campbell B, Bazylewicz M, Brown W, **Singh D, Whitman T, Alston WK**, Ulano A, Sawatzky B, **Hale A**. Brain abscess with pyogenic ventriculitis. *IDCases* 2022;28:e01503. PMID 35469210.

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Hale T, Angrist N, **Hale AJ**, Kira B, Majumdar S, Petherick A, Phillips T, Sridhar D, Thompson RN, Webster S, Zhang Y. Government Responses and COVID-19 deaths: Global evidence across multiple pandemic waves. *PLoS One.* 2021 July 9;16(7):e0253116. Doi: 10.1371/journal.pone.0253116. eCollection 2021. PMID 34242239

Bougioukas L, Campbell B, Crooker K, Freed JA, Wilcock J, **Singh D, Hale AJ**. Invasive *Aspergillus flavus* sinusitis in an immunocompetent patient using intranasal cocaine. *ID*

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Ricotta DN, Freed JA, **Hale AJ**, Trgen E, Smith CC, Huang CG. A Resident-as-leader Curriculum for Managing Inpatient Teams. Teach Learn Med. 2022 Jan 13;1-10. Doi: 10.1080 / 10401334.2021.2009347 PMID 35023796

Hale AJ, Mathur S, **Dejace J**, Lidofsky SD. Statewide Assessment of the Hepatitis C Virus Care Cascade for incarcerated persons in Vermont. Public Health Rep. 2022 Mar 9;333549221077070. Doi: 10.1177/00333549221077070. PMID 35264027

Huston CD. The Clofazimine for Treatment of Cryptosporidiosis in HIV – infected adults (CRYPTOFAZ) and lessons learned for Anticryptosporidial Drug Development. Clin Inf Dis 2021 July 15;73(2):192-194. Doi: 10.1093 / cid/ciaa425 PMID 32277815

OBoh E, Schubert TJ, **Teixeira JE**, Stebbins EE, Miller P, Philo E, Thakellapallil H, Campell SD, Griggs DW, **Huston CD**, Meyer MJ. Optimization of the Urea Linker of Triazolopyridazine MMV665917 Results in a New Anticryptosporidial Lead with Improved Potency and Predicted hERG Safety Margin. J Med Chem. 2021 Aug 12;64(15): 11729-11745. Doi: 10.1021 /acs.jmedchem. 1c01136. Epub 2021 Aug 3. PMID 34342443

Falsey AR, Sobieszczyk ME,.....**Kirkpatrick BD**, Astra Zeneca AZD1222 clinical Study Group (**includes Pierce KK**). Phase 3 Safety and Efficacy of AZD1222 (ChAdOx1 nCoV-19) Covid-19 Vaccine. N Engl J Med. 2021 Dec 16;385 (25): 2348-2360. Doi: 10.1056/NEJMoa2105290. Epub 2021 Sept 29. PMID 34587382

Bullis SSM, Grebber B, Cook S, Graham NR, Carmolli M, Dickson D Diehl SA, **Kirkpatrick BD**, Lee B. SARS CoV-2 seroprevalence in a US school district during Covid-19. BMJ Paediatr Open. 2021 Oct 27;5(1) : e001259. Doi: 10.1136/bmjpo-2021-001259. eCollection 2021. PMID 34725646

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DIVISION OF NEPHROLOGY

Annual Report – July 1, 2021-June 30, 2022

A. Executive Summary:

The past year continued to be a challenging one for the Division. We saw a continued reduction in available Nephrology Faculty FTEs. Three senior faculty will have reduced FTE to about 0.25 starting in July 2022. Nevertheless, the Division of Nephrology has continued to do even more with less.

Vermont population is an ageing population. Vermont is the fourth state in the US with the oldest population, after Maine, Florida, and West Virginia. According to US Census data, population estimates as at July 1, 2021, out of a total population of 645,570, 20% of Vermonters are persons aged 65 years and over.¹ The U.S. Census Bureau estimates that more than 29 percent of Vermont's population will be 60 and older by the year 2030, an increase of 40 percent from 2012.¹ An ageing population easily translates to an increasing number of patients with chronic kidney disease (CKD) and therefore an increasing end stage renal disease (ESRD) burden. This results in an ever-increasing medical workload for the specialty, Nephrology. We are currently understaffed in the Division of Nephrology, and therefore the state of Vermont is lacking for nephrologists. In the just released State of Vermont Wait Times Report/Health Services Wait Times Report Findings, dated February 16, 2022, that was prepared for the Agency of Human Services Green Mountain Care Board Department of Financial Regulation, our division ranked last in most categories of assessment of patient wait times in the Secret Shopper report.² In the past one year, we have not succeeded in recruiting faculty to fill two vacant positions in the Division.

1. <https://www.census.gov/quickfacts/VT>

2. <https://dfr.vermont.gov/press-release/state-releases-medical-wait-times-report>

New Interim Chief, Division of Nephrology:

Richard Solomon MD, Professor of Medicine had most successfully steered the leadership of the Division of Nephrology, Department of Medicine, University of Vermont, The Robert Larner, M.D. College of Medicine, Burlington, VT for many years. He relinquished the position of Division Chief, effective October 1, 2021. Macaulay Onuigbo MD, Professor of Medicine, assumed the position of Interim Chief, Division of Nephrology, Department of Medicine, University of Vermont, The Robert Larner, M.D. College of Medicine, Burlington, VT on October 1, 2021.

New Division of Nephrology NP hire:

The Division hired a new Nurse Practitioner, Amy Coggins NP, and she will be starting work in mid-June 2022. It is the hope that her joining the staff will help reduce the increasing workload on the remaining faculty. If we are not able to secure new faculty hirings in the next 3-6 months, we would have no choice but to plan to hire 2 additional Nurse Practitioners to help mitigate the staff shortage in the Division.

Research Activities in the Division of Nephrology

The Division has continued to pull its weight in research. In recognition of this, Dr. Solomon was the recipient of the Dean's Excellence in Research Award Oct 2021. Dr. Kat Cheung has continued work in a number of competitive grants including the COBRA grant on neural and brain microcirculatory health and has continued her participation as a sub-PI for an NIH grant involving training of dialysis providers to effectively discuss end of life issues with patients using a 'best case-worst case scenario' format. Dr. Solomon continues to be the PI for a number of pharmaceutical sponsored trials in IgA nephropathy, diabetes, glomerular diseases were continued in the past year while we completed trials in diabetes, IgA, and metabolic acidosis. We hired a new research coordinator in the past year, and we are up to speed in this section. The Division is now recruiting for Phase 3 trials on ADPKD, IgA nephropathy and FSGS.

Furthermore, Dr. Solomon is currently a National PI on a trial of the Sonogenix LOTUS system for preventing AKI in patients undergoing PCI. Dr. Solomon is also on the Scientific Advisory Committee for a trial of the RenalGuard forced diuresis system to prevent AKI in patients undergoing cardiopulmonary bypass (being conducted in Europe). Dr. Solomon is in the final year of an NIH grant (co-PI) to study different strategies for preventing AKI in cardiac cath labs through education and feedback (two papers submitted). Dr. Solomon has applied with David Kaminsky MD, Pulmonary & Critical Care Medicine, for local funding of a study of the Sonogenix LOTUS system and lung function.

Dr. Onuigbo recently submitted a grant application to the Northern New England Center for Translational Research (NNE-CTR) as the PI for a multidisciplinary innovative translational Pilot study of a new App system to facilitate and enable convenient, patient-centered population CKD health management.

The Division of Nephrology Fellowship Program

On the educational front, we still do not have a renal fellowship program. The interim chief of the Division, Dr. Onuigbo, following a wholesome review of the delisted Nephrology Fellowship Program curriculum other Divisions and Departments, has submitted a comprehensive 22-page UVMC Division of Nephrology GME New Program Business Plan with all the relevant stakeholders in the Department of Medicine, the UVM ACGME Office, and relevant with the hope of starting our newly relisted Nephrology Fellowship Program by July 1, 2023.

The Division of Nephrology Observer ship Program

Since the COVID-19 pandemic, 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 UVM Internal Medicine Residency and is now completing his first-year residency training here.

The Division of Nephrology Patient Satisfaction Grades

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 never-ending COVID-19 pandemic, the Division has continued to score well on provider satisfaction. We however must continue to work to reduce Nephrology Office third next available by limiting CKD follow up visits to the best frequency, without loss of adequate care. As a result, we were able to reduce third next available from over 5 months in early January 2022 to just over 3 months in early June 2022.

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

Patient care – inpatient, office practice and outpatient in-center hemodialysis volumes

The past year continued to be a challenging one for the Division. We saw a continued reduction in available Nephrology Faculty FTEs. Three senior faculty will have reduced FTE to about 0.25 starting in July 2022. Nevertheless, the Division of Nephrology has continued to do even more with less.

The Division of Nephrology Office Practice catered to 5,648 patient visits in the last 12 months, through April 2022. This breaks down to a total of 127 patients every week, Monday – Friday. These 127 weekly visits have the breakdown into 24 in-person visits, 37 Zoom visits and 66 Phone visits. These patient data represent an ever-increasing trend when compared to the previous four years as shown in the table below:

PERIOD/YEAR	NEPHROLOGY OFFICE VISITS
Feb-Dec 2019	3966
2020	4448
2021	5199
JAN – APRIL 2022	1559

The UVM Internal Medicine Division of Nephrology outpatient in-center Hemodialysis Program oversees ESRD care in 6 Hemodialysis Units, one Acute Unit at UVM Internal Medicine, and five satellite outpatient units, one at Joy Drive in South Burlington, VT, one in CVMC, Berlin, VT, one in NVMC, St. Albans, VT, one at Rutland Medical Center, and one up north in Newport, VT. Presently, we have a total of 240

ESRD patients undergoing thrice-weekly hemodialysis in all these units. This necessitates Medicare-mandated weekly or four-times monthly in-person provider visits at these HD Units.

The following table displays data for the number of unique patient counts, all hemodialysis treatments, hemodialysis treatments for acute kidney injury (AKI), in our outpatient in-center hemodialysis units, month by month, from May 2021 to April 2022. AKIs constitute just under 1.2% and transient ESRD patients constitute just under 0.5% of total hemodialysis treatments.

	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	Total
Unique patient count	255	258	263	259	259	251	242	234	233	228	231	240	370
All Treatments	2948	2962	3087	2976	3022	3003	2851	2971	2719	2497	2832	2813	34681
AKI treatments	50	66	49	33	43	45	37	8	23	12	12	21	399
Transient Treatments	11	12	35	18	23	25	7	9	0	0	4	11	155

The data for hemodialysis treatments at all our outpatient hemodialysis centers, shown annually, from 2017 to the end of 2021 appear in the table below:

Year	Joy Dr	St Albans	MCHV Acute (outpatient dialysis)	Berlin	Home Program	Rutland	Newport	Total including MCHV & Home	Total excluding MCHV & Home
2017	11,583	5,420	1,868	5,701	5,700	6,864	2,889	40,025	32,457
2018	11,426	5,357	1,562	6,319	6,220	7,699	3,102	41,685	33,903
2019	12,307	6,136	1,435	7,289	6,086	8,096	2,833	44,182	36,661
2020	12,111	6,446	1,218	6,896	5,488	7,930	2,653	42,742	36,036
2021	12,178	6,288	798	6,783	4,943	7,272	2,313	40,575	34,834

Patient Care – Worked RVUs and Arrived Visits

Worked RVUs Year to Date May 2022

Budget = 20,036

Actual = 24,431 (Variance = +22%)

FY21 Actual 23,150

Arrived Visits Year to Date May 2022

Budget = 3360

Actual = 4,076 (Variance = +21%)
FY21 Actual 4,256

UVMHC Home Dialysis Program

The **UVMHC Home Dialysis Program** has continued to grow into a robust agile program. The Program currently has 31 patients consisting of 16 PD patients and 15 Home HD patients. This translates to an annual total of 372 monthly Home Dialysis mandated visits, together with daily/weekly/PRN management needs as indicated for each patient provided by faculty in conjunction with the RN and Dialysis Tech Staff. The Home Dialysis Program is poised to continue to offer excellent and top of the line Home Dialysis experience to an ever-increasing percentage of the ESRD population in Vermont.

The CKD Navigator Program.

The Home Program presented a poster titled “Family-Friendly & Work-Friendly Hybrid Hemodialysis: Combination Home Hemodialysis and In-Center Hemodialysis Regimen” at the National Kidney Foundation Spring Meeting, April 2022, Boston, MA. This poster was also presented at the UVM 2022 Department of Medicine Quality Showcase Virtual Poster Session held on Friday, May 13, 2022.

Update from the Director, Renal Services and Endoscopy, renal Administration, Jayesh Shukla MS MBA on 5/23/2022:

This week we have three patients receiving training in the home dialysis program. These three patients are from our CKD Navigator program. They were monitored closely by our wonderful CKD navigators through the progression of chronic kidney disease. These patients were educated about their disease and possible options of renal replacement therapy. These patients chose home dialysis as their preferred modality well before they needed to initiate dialysis. These patients initiated dialysis on their preferred modality, in an outpatient setting, avoiding hospitalization or dialysis in the acute setting. Not only that, the patient who had chosen home hemodialysis, started with a working AV Fistula avoiding a central venous catheter.

Short of a kidney transplant, this is the best possible outcome for the patients and for the healthcare system (provider and payor).

The CKD Navigator Program established in July 2020 (Review as at early May 2022)

The Division started an ACO funded The CKD Navigator Program in July 2020, to work specifically with patients who are nearing end stage renal disease.

The establishment of **The CKD Navigator Program** in July 2020 in the UVMHC Division of Nephrology is a major innovation that when fully operational would enhance convenient and cost-effective advanced CKD Care and the new fellows would be educated and tutored in this new program and the fellows would contribute integrally to this Nephrology Fellowship

Program. There are very few Nephrology Fellowship Programs in the USA that have such integrated CKD Navigator Programs.

Following previous considerations for the establishment of such a Program, with such efforts dating back to 2011, Jeff Rimmer, MD, Professor of Medicine, and UVMHC Hemodialysis Program Medical Director, finally was able to successfully roll out the CKD Navigator Program in July 2020.

The initial plan was for a 0.1 FTE Nephrologist (JMR) to develop project design. Staffing was planned for 2.0 FTE Navigators with 1.0 RN-Navigator, 0.5 FTE Navigator-dietician and 0.5 FTE Navigator-social worker. Each member of the team would function as a navigator; doing initial contact, general education and then continuing to function as the long-term advocate/contact assigned to each project participant. Navigators would use their special expertise to develop education materials and to conduct at least one detailed medical assessment, nutritional assessment, and social assessment with each participant.

Outcomes were reviewed in April 2022, 18 months after the start of the pilot project.

In the first four months, staff was hired, navigator roles were defined, and educational materials were developed. These processes were sufficiently advanced to begin engagement of chronic kidney disease patients. All aspects of the project have evolved continuously as the program matures.

Active patient engagement started toward the end of the fourth month of the project. During the initial 14 months of outreach, 150 patients with an eGFR of <20 ml/1.73 m²/min were contacted. 104 patients agreed to participate for an engagement rate of 69.3 %. Fifty-nine participants completed education and assessment and completed a life goals assessment. Among these participants primary choices were 30.5% for peritoneal dialysis, 29% in-center hemodialysis, 19% preemptive transplantation, 10.0% supportive care with no renal replacement therapy, 8.5% home hemodialysis and 3.0 % were unable to make a decision.

Fifteen participants reached a program endpoint consisting of dialysis, transplantation, or death. Ten of those fifteen participants or 66.7% reached an endpoint that they had chosen as most appropriate in the LGA process. Six of eleven participants (54.5%) started dialysis with via an appropriate long-term access. An additional three of eleven (27.3%) had an AV access maturing at the time of dialysis. Two of 10 patients starting dialysis required admission. Two of the fifteen who had chosen dialysis died of unrelated causes before access placement was felt necessary. A patient who had elected home hemodialysis was found to have inadequate conditions at home and is on in-center hemodialysis. A participant who elected in-center hemodialysis suffered an MI associated with access surgery and died. One of the participants

developed encephalopathy while in supportive care and was brought to the hospital where it was felt that he wished dialysis. A central venous placed. He received two weeks of dialysis then elected to stop treatment and transferred to hospice care.

Patient	LGA Choice	Actual Endpoint	Hospitalization	Access/other
1	HHD	HHD	N	AVF
2	HHD	ICHD	N	AVF
3	HHD	HHD	N	AVF
4	ICHD	ICHD	N	CVC/1stStage
5	ICHD	ICHD	N	AVF
6	ICHD	ICHD	N	CVC/AVF
7	ICHD	Death	Y	MI/CVC/CRRT/DEAD
8	ICHD	ICHD	Y	CVC/AVF
9	PD	PD	N	PDC
10	PD	PD	N	PDC
11	PD	Death	Y	Sepsis-unrelated
12	HHD	Death	Y	Lymphoma/Covid19
13	SC	Death	Y	Hospital/CVC/6 treatments/Hospice
14	SC	Death	N	Hospice
15	SC	Death	N	Hospice

It is difficult to determine whether we are seeing improved outcomes in our population with advanced chronic kidney disease. Our numbers are small and follow up has been short. When outcomes in the UVMHN CKD navigator program are compared with one of the premier CKD management programs in the United States, the DCI CKD-Reach program, outcomes appear quite comparable except for pre-emptive kidney transplantation. The UVM navigator program now has several participants in the process of living donor work up and it will be interesting to see program results in an additional six months.

	Start at Home	Preemptive Tplant	Start with Perm Access	Hospitalized at Start
National	11.2%	2.9%	19.2%	54%
CKD-Reach	46.0%	7.0%	71.0%	19.0%
CKD Navigator UVMHN	40%	0%	54.0% used 81.9% in place	20.0%

Supportive care without planned renal replacement therapy is a difficult therapy to discuss. It is well recognized that the elderly with advanced chronic kidney disease and other serious medical problems have a steep decline in quality of life and little survival advantage when they undergo dialysis. Despite this, this pathway is sometimes presented as a therapy intended to

reduce costs obscuring its real value in reducing suffering. From the beginning, the navigator program has adhered to presenting facts to participants and allowing them to make their own decisions. With this approach, 10% of participants completing the LGA process have selected the supportive care pathway. Of patients who reached an endpoint 3 (20%) had selected supportive care. Two of these entered hospice care and passed uneventfully. Unfortunately, one of the three became confused and was started on dialysis when hospitalized. After two weeks of dialysis his confusion cleared, and he elected to stop dialysis and enter hospice care.

The UVMHC Kidney Transplant Program

As a result of dwindling kidney transplant rates in the UVMHC Kidney Transplant Program, the interim Division Chief, Macaulay Onuigbo MD spent over 40 hours in March 2022, meeting with all the stakeholders – the two surgeons, the two transplant nephrologists, the nurse manager, the coordinators, the transplant dietitian & QI Manager, and the transplant NP. Further insights were gathered from the senior nephrology faculty who have been here for the past two decades and over – Richard Solomon MD, immediate past Division Chief, Dr. Jeff Rimmer, Dr. Virginia Hood and Dr. Wolfgang Weise. The result of the fact-finding investigation by the interim Chief of the Division was submitted to Polly Parson, Chair, Department of Medicine on March 30, 2022. The contents and recommendations of this report are now under review by senior leadership of the Department of Medicine, Department of Surgery and the UVMHC leadership.

The UVMHC Kidney Transplant Program is the only kidney transplant program in the state of Vermont. The trajectory of the number of kidney transplant procedures has relentlessly been on the decline in recent years. The COVID-19 pandemic was a contributor to this downtrend in the past two years. Furthermore, the recent changes to the United Network for Organ Sharing (UNOS) organ allocation system meant that small programs like the UVMHC Kidney Transplant Program will experience potentially lethal drop off in the availability of deceased kidney donor organs for Vermonters and for the residents of Vermont. We must explore and develop new strategies and means to vastly expand our living donor (LD) volumes or we will soon lose accreditation of the program in the next two years. This will be an immoral and unacceptable option for Vermonters and residents of Vermont.

As a result of the investigation report and recommendations from the discovery work cited above, the impetus was rekindled to promptly fill up the needed Kidney Transplant Program Coordinators' positions. In the month of May 2022, UVMHC Kidney Transplant Program, thanks to the energy and servitude of Heather Crego MHA BSN RN CCTC, Manager, Nephrology and Transplant, we successfully hired and are onboarding a two new transplant coordinators. A new Medical Assistant (MA) was also hired for the Kidney Transplant Program. We are on the cusp of rejuvenating the UVMHC Kidney Transplant Program. All hands must be on deck to reach our collective goals. All the other barriers and obstacles to LD operationalities must be promptly resolved and taken care of.

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)

Amy Coggin NP, a new hired staff, started work on Monday, June 13, 2022.

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 Nigerian Physicians in the Americas (Onuigbo)
- ESRD Network 1 Board of Directors (Rimmer)
- ESRD Network 1 Medical Review Committee (Rimmer)
- Leadership in Professional Societies: National Kidney Foundation Education Committee (Agrawal).
(https://www.kidney.org/professionals/research/education_committee)

G2: Larner College of Medicine, Department of Medicine

- Teaching Academy-Portfolio Review Committee, LCOM (Agrawal)
- UVM Center for Aging, Executive Council (Cheung)
- Department of Medicine Faculty Engagement and Communication Committee (Cheung)
- Department of Medicine, Resident Research Committee (Cheung)
- Chair, Practitioner Health Advocacy Committee (PHAC), LCOM (Fitzgerald)
- Member, Medical Student Wellness Committee, LCOM (Fitzgerald)
- Member, Professionalism, Communication and Reflection Committee, LCOM (Fitzgerald)
- Member, Diversity of Inclusion, Department of Medicine, LCOM (Onuigbo)
- Member, Larner College of Medicine Gender Equity Steering Committee (Onuigbo)
- Member, The Robert Larner, M.D. College of Medicine Teaching Academy Educational Scholar Mentoring Group (Onuigbo)
- Department of Medicine, Quality Assurance and Improvement Committee (Onuigbo)

- University of Vermont Medical Center, Pharmacy and Therapeutics Committee (Onuigbo)
- University of Vermont Medical Center, Medical Records Committee (Onuigbo)
- Department of Medicine, Faculty Development Committee (Prikis)
- Department of Medicine, Quality Improvement Committee (Rimmer)
- Department of Medicine, Operations Committee, (Kumar)
- Epic Dialysis Module “Power Team” (Rimmer)
- Co-Chair, Department of Medicine Diversity, Equity, and Inclusion (DEI) Committee (Onuigbo)

H. Editorships and Editorial Boards

- Associate Editor, Journal of Medical Case Reports. Nov 2014 to present (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

Member of the NIH expert panel assessing biomarkers of acute kidney injury (Solomon)

J. Major Faculty Awards

1. Dean's Excellence in Research Award Oct 2021 (Solomon)

K. Grants (all grant accounts show a positive balance) – active 2021-2022

Federal

- **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)
 - 8/2020-7/2023Trajectories 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 ○ \$495,000 ○
Costs:

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.
- **UVMMG (MG191 - \$50,000):** A pilot crossover study of the impact of increased urine flow rate by oral hydration versus bolus intravenous furosemide infusion on urinary oxygen tension. (Narasimhadevara, Onuigbo, Solomon)

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

Journal Publications:

1. Onuigbo M. Section, In: Netter Book Editor, 9-12-2021. The Netter Collection of Medical Illustrations, Volume 3: Respiratory System. 3rd ed/Vol. 3 Respiratory. Elsevier Publishers, 2022. Editor, Kaminsky D.
2. Nair D, Brereton L, Hoge C, Plantinga LC, Agrawal V, Soman SS, Choi MJ, Jaar BG; National Kidney Foundation Education Committee. Burnout Among Nephrologists in the United States: A Survey Study. *Kidney Med.* 2022 Jan 12;4(3):100407. doi: 10.1016/j.xkme.2022.100407. eCollection 2022 Mar. PMID: 35386610
3. Thoms BL, Agrawal V, Umyarova ER, Gibson PC, Solomon RJ. Antineutrophil Cytoplasmic Autoantibody-Associated Vasculitis with Kidney Involvement in a Patient with AL Amyloidosis. *Case Rep Nephrol Dial.* 2021 Jul 8;11(2):183-189. doi: 10.1159/000517142. eCollection 2021 May-Aug. PMID: 34327221
4. Daureman, HL and Solomon, R. Innocent, guilt and acute kidney injury, *JACC* 2021, 75: 1321-1323, PMID: 32192659.
5. Phuong N, Solomon RJ, DeSarno MJ, LeWinter MM, Zimmer J, Dauerman HL Acute Kidney Injury and Renin-Angiotensin System Inhibition Following Transcatheter Aortic Valve Replacement. *J Invasive Cardiol.* 2021 Aug;33(8):E662-E669. PMID: 34338656.
6. Lahoud RN, Dauerman HL, Callas P, Henderson A, Martin JA, Solomon RJ. Nitric oxide acute kidney injury (NO-AKI) pilot trial. *J Thrombosis Thrombolysis.* 2022.
7. Pitt B, Filippatos G, Agarwal r, Anker SD, Bakris GL, Rossing P, Joseph A, Kolkhof P, Mowack C, Schloemer P, Ruilope LM, FIGARO-DKD investigators. Cardiovascular events with Finerenone in Kidney disease and Type 2 Diabetes. *N Engl J Med* 2021, 385: 2252-2263 PMID 34449181.
8. Onuigbo MAC. Postoperative Acute Kidney Injury in Abdominal Operations: a Critical Appraisal. *Indian J Surg* (2021). <https://doi.org/10.1007/s12262-021-03031-6>
9. Onuigbo M, & Izuora A. (2021). The Impact of Elective Withdrawal of Long-Term Renin Angiotensin Aldosterone System Blockade in Chronic Kidney Disease Patients with

- Progressive Acute Kidney Injury: A Prospective 40-Months' Single-Unit Cohort Study. Medical Research Archives, 9(9). <https://doi.org/10.18103/mra.v9i9.2549>
10. Onuigbo MA. COVID-19 infection recurrence in ESRD. Indian J Nephrol 2022;32:184-5
 11. Onuigbo MA, Ross A (August 14, 2021) Pseudohyperkalemia and the Need for Imperative Caution with the Newly Introduced Potent Potassium Binders: Two Cases. Cureus 13(8): e17179. DOI 10.7759/cureus.1717
 12. Onuigbo MAC, Libman B, Lazarovich M. Benralizumab substitution monotherapy in symptomatic relapsing asthma dominant eosinophilic granulomatosis with polyangiitis. Immunopathol Persa. 2022;x(x):e0x. DOI:10.34172/ipp.2022. xx. [<http://immunopathol.com/Files/Inpress/ipp-31373.pdf>]
 13. Bahadoram M, Labaykee S, Lakkakula BVKS, Keikhaei B, Nekouei Shahraki M, Mohammadi Jouabadi S, Onuigbo M, Ahmadizar S, Mahmoudian-Sani MR, Peymani P. World Kidney Day 2021 with the theme of living well with kidney disease; a review of current concepts. J Prev Epidemiol. 2021;6(1):e08. doi: 10.34172/ jpe.2021.08.
 14. MACAULAY ONUIGBO. Mask Up America!!! - Stop This Deceptive Self-Destructive COVID-19 CHARADE!!!: The rantings of a perplexed US Nephrologist!!!. Authorea. March 30, 2022. DOI: 10.22541/au.164864293.36799088/v1.

Abstracts:

1. Onuigbo MA, Tan H, Sherman SE. Alternating Episodes of True Hyperkalemia and Pseudohyperkalemia in Adult Sickle Cell Disease: A Nephrologist's Dilemma. EMJ Nephrol. 2021;9[1]:55-57. Abstract Review No. AR6.
2. Onuigbo MA, Olabode K, Sengodan M. 'Sweet Hypoxia' with Acute Kidney Injury: The Unpredictability of Acute Hypoxic Respiratory Failure in COVID-19 Infection – a Community Hospital Experience. EMJ Nephrol. 2021;9[1]:48-49. Abstract Review No: AR2.
3. Onuigbo, M. POS-647 COMBINED HOME-HEMODIALYSIS PLUS IN-CENTER HEMODIALYSIS HYBRID REGIMEN AS A FAMILY-FRIENDLY WORK-FRIENDLY OPTION - THE FIRST OF ITS KIND. Kidney International Reports, Volume 7, Issue 2, S277, February 2022.
4. Onuigbo, M. POS-143 BENRAZILUMAB SUBSTITUTION MONOTHERAPY IS EFFECTIVE IN SYMPTOMATIC ASTHMA EXACERBATIONS OF EOSINOPHILIC GRANULOMATOSIS WITH POLYANGIITIS. Kidney International Reports, Volume 7, Issue 2, S61, February 2022.
5. Onuigbo, M. POS-094 PSEUDOHYPERKALEMIA AND THE NEWLY INTRODUCED POTENT POTASSIUM BINDERS: A CALL FOR IMPERATIVE CAUTION – TWO CASE SERIES. Kidney International Reports, Volume 7, Issue 2, S40, February 2022.
6. Onuigbo, M. POS-040 RENAL OUTCOMES FOLLOWING ELECTIVE WITHDRAWAL OF LONG-TERM STABLE RAAS-BLOCKADE IN CHRONIC KIDNEY DISEASE PATIENTS PRESENTING WITH PROGRESSIVE ACUTE KIDNEY INJURY. Kidney International Reports, Volume 7, Issue 2, S16 - S17, February 2022.
7. Onuigbo M, de Waal D. Family-Friendly & Work-Friendly Hybrid Hemodialysis: Combination Home Hemodialysis and In-Center Hemodialysis Regimen. Poster presented at the National Kidney Foundation Spring Meeting, April 2022, Boston, MA.

INVITED SPEAKER

National and International:

Regional:

1. Lecture to Appletree Point Primary Care, Burlington in October 2021 titled “Renal Issues in Primary Care”. (Weise)
2. Guest Review to final year Nurse Practitioner students at the University of Vermont College of Nursing and Health Sciences, Lecture titled “Nephrology and the NP” on 10/26/2021. (Onuigbo)

M. Innovations/Prototype Development

Macaulay Onuigbo MD, Professor of Medicine and Medical Director of UVMHC Home Dialysis Program, in collaboration with the University of Vermont Center for Biomedical Innovation (UVM CBI), five Senior Engineering students from the UVM, under the supervision of Yves Dubief PhD, Associate Professor of Mechanical Engineering, UVM, successfully designed and fabricated the first functional prototype of an artificial intelligence-modulated **Hemodialysis Filter Rotator** that would enable anticoagulation-free hemodialysis using the NxStage HD machine. This prototype was successfully displayed and presented at the Mechanical, Electrical and Biomedical Engineering Senior Experience in Engineering Design (SEED) UVM Design Night, held on Thursday, April 28, 2022.

Division of Pulmonary and Critical Care Medicine

Anne Dixon MA, BM BCh, Director

<http://www.med.uvm.edu/medicine/pulmonary>



Division Director's Statement

The Pulmonary Critical Care 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. Many members of the Division serve important leadership roles within the University of Vermont Medical Center and the University of Vermont: Dr. Allen, Director of Adult Critical Care Services; Dr. Antkowiak, Director of the Medical Intensive Care Unit; Dr. Carney, Associate Dean for Public Health; Dr. Clouser, Network Medical Officer for the Network Regional Transport System; Dr. Garrison, Co-Director of the Lung Cancer Screening Program; Dr. Huggett, Director of the Teaching Academy and Assistant Dean for Medical Education; Dr. Kaminsky, Director of the Pulmonary Function Testing Lab; Dr. Kinsey, Director of Interventional Pulmonary; Dr. Menson, Medical Director of Pulmonary Rehabilitation; Dr. Poynter as Director of the Cellular, Molecular and Biomedical Sciences Graduate Program, Associate Director of the Vermont Lung Center, and Director of the T32 training grant; Dr. Teneback as Director of the Adult Cystic Fibrosis Center and Director of the UVM Cystic Fibrosis Therapeutic Development Center.

Members of the Division continued to be very productive academically. In fact this year, the faculty published over 100 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.

Members of the Division continue to have major national leadership roles: Dr. Gil Allen on the Society of Critical Care Medicine Congress Planning Committee; Dr. Carney, member of the American College of Physicians Board of Regents; Dr. Dixon Chairs the American Lung Association Scientific Advisory Committee and the American Board of Internal Medicine Pulmonary Board Examination Committee; Dr. Huggett co-Chairs the Society of Directors of Research in Medical Education Diversity, Equity and Inclusion Committee ; Dr. Matt Kinsey on the Board of Directors of the American Association of Bronchology and Interventional Pulmonology; Dr. Morrissette on the ATS working group on Pre-ICU Care and the EPIC Electronic Health Record Critical Care Steering Committee; Dr. Stapleton on the ATS Finance Committee, the ATS Respiratory Health Awards Diversity Working Group and numerous Data Safety Monitoring Boards; and, Dr. Weiss as the Chief Scientific Officer for the International Society of Cell and Gene Therapies, the Board of Directors for the same organization and numerous Data Safety Monitoring Boards. Members of the Division Chair and 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 Dr. Robert Crapo Memorial Lifetime Achievement Award in Pulmonary Diagnostics from the Respiratory Structure & Function Assembly at ATS 2022. Dr. Dixon was recognized as a University Scholar. Dr. Josh Farkas received the UVMHC teacher of the Year Award from the Emergency Medicine Residency Program. Dr. Huggett was awarded the “Distinguished Career Award for Excellence in Teaching and Educational Scholarship” from the International Association of Medical Sciences Educators (IAMSE). Award presented June 2022 in Denver, Colorado. Dr. Kaminsky received the UVM Larner College of Medicine Class of 2022, Clinical Teacher of the Year, and an American Thoracic Society Presidential Commendation Award for his leadership in developing standards on pulmonary function testing that take into account racial inequities in interpretation.

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

Director of Pulmonary Hypertension

Physician Site Leader for Pulmonary Clinic

Chair of the DOM Early Career Research Committee

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

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

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

Katherine Menson, MD

Assistant Professor of Medicine

Associate Program Director, Internal Medicine Residency

Medical Director, UVM Tobacco Centers of Regulatory Science (TCORS)

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

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

Director, Adult Cystic Fibrosis Center

Director, Cystic Fibrosis Therapeutic Development Center

Cystic fibrosis clinical care and research

Zachary Weintraub, MD

Assistant Professor of Medicine

Daniel Weiss, MD, PhD

Professor of Medicine

Fellows

Morgan ClarkColler Carbajal, MD

Syed Moin Hassan, MD
Elena Kozakewich, MD
Patrick Neilan, DO
Joseph Watson, MD
Shawn Wayne, 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

Dylan Casey, PhD - student in Data Science
Axel Masquelin, PhD - student in Biomedical Engineering
Vitor Mori, PhD, post-doc - (Daymon Runyon Fellow)

Anne E. Dixon, MA, BM, BCh

Ravishanker Chandrasakaren, PhD – post-doc

C. Matthew Kinsey, MD, MPH

Axel Masquelin - grad student
Vitor Mori - post-doc
Heng Tan - medical student

Matthew Poynter, PhD

JJ Bivona (PhD candidate in Cellular, Molecular, and Biomedical Sciences (CMB) PhD
Amanda Fastiggi (PhD candidate in Cellular, Molecular, and Biomedical Sciences (CMB)
PhD Program
Paola Pena (PhD candidate in Cellular, Molecular, and Biomedical Sciences (CMB) PhD

Renee Stapleton, MD, PhD

Amanda Gallenkamp, UVM Medical Student (research mentor)
Sadie Casale, UVM Medical Student (research mentor)
Christian Pulcini, MD MPH, Assistant Professor (research/faculty mentor)
Katharine Cheung, MD PhD, Assistant Professor (research/faculty mentor)
Elena Kozakewich, MD, Assistant Professor (research/faculty mentor)

Daniel Weiss, MD, PhD

Nigel Farrow PhD - post-doctoral fellow

Evan Hoffman - CMB graduate student

Joy Barua - CMB graduate student

Steven O'Driscoll - Biomedical engineering (BME) masters student

Alicia Tanneberger - BME masters student

Brad Young - BME masters student

Isaac Downs - BME masters student

Will Hadden - Pharmacology masters student

Zachary Weintraub, MD

Mentor for Joseph Watson, pulmonary fellow.

Endowed Professorships:

Kathryn Huggett, PhD

Robert Larner, M.D. '42 Professor of Medical Education

Leadership in Professional Societies:

Gilman Allen, MD

Program Planning Committee for SCCM Annual Congress

Jason H. T Bates, PhD DSc

Elected member of the Nominating Committee of the Respiratory Structure & Function
Assembly of the American Thoracic Society

Anne E. Dixon, MA, BM, BCh

Chair, American Thoracic Society Nomination Committee

Chair, American Lung Association Scientific Advisory Committee

Chair, American Board of Internal Medicine Pulmonary Board Examination Committee

Kathryn Huggett, PhD

Member - Society of Directors of Research in Medical Education (SDRME) 2022

Conference Planning Committee 2021 - 2022
Co-Chair - Society of Directors of Research in Medical Education (SDRME) Diversity,
Equity and Inclusion SIG 2021 - Present
Co-Host - International Association of Medical Science Educators (IAMSE) Café
(monthly web-based professional development sessions) 2022 - Present

C. Matthew Kinsey, MD, MPH

American Association of Bronchology and Interventional Pulmonology Board of
Directors

Katherine Menson, DO

ATS Working Group for Pulmonary Rehabilitation Reimbursement

Katelin Morrissette, MD

ATS working group on Pre-ICU Care
Epic EHR Critical Care Steering Board

Renee Stapleton, MD, PhD

American Thoracic Society

Critical Care Assembly Nominating Committee Chair, May 2021-present

ATS Finance Committee, May 2021-present

Respiratory Health Awards Diversity Working Group, 2021-present

International Consensus on the use of High Flow Therapy (HFT) with Nasal Cannula,
member, completed 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-June 2022

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

Committee Chairmanships and Membership 2021-2022

Member, Respiratory Tract Committee, Am Society of Gene Therapy

Chief Scientific Officer, International Society of Cell and Gene Therapies (ISCT)

ISCT Board of Directors

ISCT Presidential Task Force on Stem Cell Medical Tourism

Chair, ISCT Awards Committee

Chair: ISCT Clinical Translational Committee

Editorships and Editorial Boards:

Jason H.T. Bates, PhD DSc

Editorial Board: Journal of Applied Physiology

Anne E. Dixon, MA, BM, BCH

UpToDate section editor

Springer Respiratory Medicine book series, Editor

Kathryn Huggett, PhD

AMA Journal of Ethics, Editorial Board Member

Charles Irvin, PhD

International COPD Journal editorial board

David Kaminsky, MD

Editorial board of Respiratory Care journal.

Marta Kokoszynska, MD

Netters Anatomy - ILD section

Katherine Menson, DO

Journal of Cardiopulmonary Rehabilitation and Prevention

Matthew Poynter, PhD

Editorial Board Member for the American Journal of Respiratory Cell and Molecular Biology

Renee Stapleton, MD, PhD

Murray & Nadel's Textbook of Respiratory Medicine. Co-Editors: V. Courtney Broaddus, Lynn M. Schnapp, Joel D. Ernst, Talmadge E. King Jr, Stephen C. Lazarus, Renee D. Stapleton. Elsevier Saunders, Philadelphia, 2021.

Renee D. Stapleton, and Lorenzo Berra, eds. Critical Care Secrets, 7th Edition. Philadelphia, PA, Elsevier, expected 2023

Daniel Weiss, MD, PhD

Editorial Boards:

Molecular Therapy
American Journal of Respiratory and Cell Molecular Biology
Cytotherapy

Study Sections and Federal Advisory Boards:

Jason H.T. Bates, PhD DSc

Chair of NIH Study Section reviewing SBIR/STTR proposals

Member of the Scientific Advisory Council for the Parker B Francis Family Foundation

Anne E. Dixon, MA, BM, BCh

Chair, VA pulmonary merit review

Ad Hoc Member RIBT study section, NHLBI

Ad hoc Member NHLBI Early Phase Clinical Trial Review, November 2021

Chair, American Board of Internal Medicine Pulmonary Examination Committee

Charles Irvin, PhD

LRP Panel 1 NIMHD

CTSA Innovation Review Meeting of U01 and R21 NCATS

David Kaminsky, MD

ALA Early Career Investigator Award Study Section

Mathew Poynter, PhD

NHLBI Institutional Training Mechanism Study Section, NITM OA 1

Renee Stapleton, MD, PhD

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

Member of NIH COVID Guidelines panel, November 2021-present

Daniel Weiss, MD, PhD

Canadian Cystic Fibrosis Foundation grant review 2008-present

Ontario Institute for Regenerative Medicine grant review 2015-present

Department of Defense grant review 2018-present

Data Safety Monitoring Boards

RegeneVox. Phase I/IIa clinical trial of stem cell based tissue engineered partial laryngeal implants in adult patients with end-stage laryngotracheal stenosis with 24 months follow-up.

University College, London

2014-present

TACTICAL. Targeted stem cells expressing TRAIL as a therapy for lung cancer. University College, London

2016-present

SAPPHIRE. Study of Angiogenic Cell Therapy for Progressive Pulmonary Hypertension: Intervention with Repeat dosing of eNOS-enhanced EPCs. University of Ottawa

2017-present

MACoVIA. Effect of the ARDS inflammatory lung environment on MAPC-based cell therapies. Athersys Inc. Cleveland OH.

2020-present

SBI-101-02: A Multi-center, Randomized, Case-controlled, Ascending-dose Study of Extracorporeal Mesenchymal Stromal Cell Therapy (SBI-101 Therapy) in COVID-19 Subjects with Acute Kidney Injury Receiving Renal Replacement Therapy. Sentien Biotechnologies, Lexington MA.

AMETHYST. "Advanced Mesenchymal Enhanced cell Therapy for Septic patients" Northern Therapeutics, Ottawa

2021-present

Major Faculty Awards:

Gilman Allen, MD

Nominated for Gold Humanism Award last year.

Jason H.T. Bates, PhD DSc

Dr. Robert Crapo Memorial Lifetime Achievement Award in Pulmonary Diagnostics from the Respiratory Structure & Function Assembly at ATS 2022

Anne E. Dixon, MA, BM, BCh

University Scholar Award, 2022-2023

Joshua Farkas, MD

UVMC Teacher of the Year Award, from the Emergency Medicine Residency Program

Kathryn Huggett, PhD

Recipient of the “Distinguished Career Award for Excellence in Teaching and Educational Scholarship” from the International Association of Medical Sciences Educators (IAMSE).
Award presented June 2022 in Denver, CO.

David Kaminsky, MD

UVM Larner College of Medicine Class of 2022, Clinical Teacher of the Year
American Thoracic Society 2022 Presidential Commendation Award

Grants – list all active by faculty member, PI

Jessica Badlam, MD

ROR-PH-301 (ADVANCE) 08/2018 to 12/2022

“A Study Evaluating the Efficacy and Safety of Ralinepag to Improve Treatment Outcomes in Pulmonary Arterial Hypertension Patients”

Sponsor: United Therapeutics

Role: Primary Investigator

AC-055-315 (UNISUS) 06/2020 to 10/2023

“Outcome study assessing a 75 mg dose of Macitentan in patients with Pulmonary Arterial Hypertension”

Sponsor: Actelion

Role: Primary Investigator

Jason H.T. Bates, PhD DSc

T32 HL076122

PI: Poynter/Irvin

05/01/19 – 04/30/24

NIH/NHMBI

Role: Co-I

0.6 calendar month

Multidisciplinary Training in Lung Biology

\$436,482 annual direct costs

R01 HL130847

PI: Bates/Dixon

03/15/16-2/28/22

NIH/NHLBI

Role: Co-PI

0.12 calendar months

Non-Allergic Late-Onset Asthma of Obesity: Pathophysiology and Therapy

\$398,322 annual direct costs (now in second no-cost extension year)

U01 HL139466

PI: Suki/Bates

09/01/2018 – 08/31/2023

NIH/NIBIB

Role: Site-PI

3 calendar months

A multi-scale computational model of the extracellular matrix of the lung

\$498,852 annual direct costs

R01 HL142702 PI: Bates/Nieman/Gaver 09/10/2018 – 06/30/2022
NIH/NHLBI Role: Co-PI 3 calendar months
Preserving epithelial barrier integrity in ventilator-induced lung injury.
\$555,311 direct costs in year 1.

P20 GM125498 PI: Kirkpatrick 12/01/2018-11/30/2023
NIH/NIGMS Role: Core Leader 3 calendar months
Translational research to prevent and control global infectious diseases (Translational Global
Infectious Diseases Research Center, TGIR)
\$1,500,000 annual direct costs

GM 125498 Supplement PI: Kirkpatrick 08/01/2021-07/31/3033
NIH/NIGMS Role: Project Leader 1 calendar month Multi-
scale modeling of SARS-CoV-2 dissemination dynamics
\$200,620 annual direct costs

UVM Ventures 2021 PI: Jason Bates 03/01/2021-06/01/2021
Role: PI 0 calendar months
Vermontilator for the Developing World
\$85,970 direct costs

AWD0000677 PI: C. Matthew Kinsey 7/1/2021-6/30/2023
Johnson and Johnson Role: Co-investigator 1.8 calendar months
Evaluation of Intratumoral Drug Delivery
\$397,130.00 direct costs

Anne E. Dixon, MA, BM, BCh

Inversago
4/1/2022-3/31/2023 Dixon (PI)
Cannaboid receptor antagonists in obese asthma
The objective of this proposal is to investigate the potential efficacy of a peripheral cannaboid
receptor antagonist for the treatment of obese asthma in a mouse model of obesity and allergic
airway disease.

R01HL133920 Poynter/Dixon (MPI)
08/15/16-07/31/2022 (NCE)
NIH/NHLBI Role: MPI
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 HL130847

Bates/Dixon (MPI)

03/01/16 – 02/29/2022 (NCE)

NIH/NHLBI

Role: MPI

Non-Allergic Late-Onset Asthma of Obesity: Pathophysiology and Therapy

The goal of this project is to test the hypothesis that late onset, non-allergic asthma developing in the setting of obesity is related to increased airway closure related to changes in the mechanics of the small airways, and that this can be treated with volume elevating therapy.

R01HL136917

Dixon/Anathy (MPI)

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.

American Lung Association

Irvin (PI)

08/01/00-05/31/2023

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.

Kathryn Huggett, PhD

AAMC NEGEA grant Haidet, P (PI) 07/01/18-12/31/22*

Student Perspectives about Learning: An Important Influence on Evaluations of Teaching?

Role: Co-Investigator

Direct Costs Year 1-2: \$5,995.00

*Extension granted for Covid-19

Charles Irvin, PhD

American Lung Association

Irvin (PI)

07/01/1999-06/30/2022

Airways Clinical Research Center (ACRC)

T32 HL076122

Poynter (PI), Role: MPI
04/01/2004-04/30/2024
Multidisciplinary Training in Lung Biology

R35 HL135828
Janssen-Heininger (PI), Role: Co-Investigator
01/01/2017-12/31/2023
S-glutathionylation chemistry in fibrotic lung remodeling

R25 GM116701
Irvin (PI)
04/01/2016-02/28/2022
NIH/NIGMS
Fostering entrepreneurship in biomedical research

UT2 GM130176
Reder (PI), Role: Academic MPI
09/01/2018-08/31/2022 (now in NCE)
DRIVEN: Accelerating Medical Entrepreneurship in the Northeast

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
07/01/21-06/30/23

UVM Medical Center Foundation Grant
Longitudinal Analysis of Lung Function in COVID-19 Patients
PI: Kaminsky
10/12/20-12/31/22

American Lung Association - Asthma Clinical Research Center
PI: Charles G. Irvin, Ph.D.
Role on Project: Co-Investigator (5%)
7/1/04-6/30/24

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

NHLBI PAR 18-643

Deep Functional Phenotyping of the ALA Lung Health Cohort

MPIs: Irvin, Kaminsky, McCormack, Washko

10/1/22-09/30/27 (anticipated; score = 3rd percentile)

C. Matthew Kinsey, MD, MPH

Johnson and Johnson Investigator Initiated Trial Award

Kinsey, C. Matthew (PI) ~\$700,000/yr

11/01/2020-10/31/2022

Phase 1 Trial of Intratumoral Cisplatin for Early Stage Resectable Lung Cancer

Johnson and Johnson Research Agreement

Kinsey, C. Matthew (PI) \$524,00/yr

9/01/2021-8/31/2023

Ex-Vivo Evaluation of Intratumoral Interstitial Fluid Pressure from Clinically Occurring Resected Canine Tumors

1K23HL133476-01, NIH National Heart, Lung, and Blood Institute

Kinsey, C. Matthew (PI) \$179,248/yr

09/01/16-06/30/21

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

Katherine Menson, DO

UVM TCORS PI: Higgins

NIH/FDA Role: Medical Director

Smoking addiction in vulnerable populations and assessment of adverse health outcomes.

Matthew Poynter, PhD

1 R01 HL142081 (Poynter) 04/01/2018 – 03/31/2023 2.40 calendar

NIH/NHLBI ADC: \$293,984

Ketone Body Supplementation in Obese Asthma

Role: PI

R01-HL133920 (Poynter & Dixon) 08/15/2016 – 07/30/2023 3.60 calendar

NIH ADC: \$497,229

Obese Allergic Asthma and the Impact of Weight Loss On Airway Epithelial Function

Role: Co-PI

NDC 2777 (Kraft) 11/01/2017 – 12/31/2020 0.96 calendar
 National Dairy Council ADC: \$171,505
Full-Fat Yogurt and Glucose Tolerance
 Role: Co-I

T32-HL076122 (Poynter & Irvin) 05/01/2019 - 04/30/2024 0.60 calendar
 NIH/NHLBI ADC: \$574,615
Multidisciplinary Training in Lung Biology
 Role: Co-PI

2 R01 HL085646-09 (van der Vliet) 09/01/2017 - 08/31/2022 0.6 calendar
 NIH/NHLBI ADC: \$265,225
Dual Oxidase in Airway Epithelial Injury and Inflammation
 Role: Co-I

R01 HL122383-06 (Anathy) 05/01/2020 – 04/30/2024 0.94 calendar
 NIH/NHLBI ADC: \$250,000
Endoplasmic reticulum stress signaling in allergen induced airway remodeling
 Role: Co-I

R01 HL143452 (Stapleton, Toth, Files, & Poynter) 09/15/2018 - 06/30/2022 1.80 calendar
 NIH/NHLBI ADC: 595,143
Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)
 Role: MPI

R03 AI151525 (Wargo) 04/23/2020 - 04/22/2022 0.40 calendar
 NIH/NIAID ADC: \$100,000
Klebsiella pneumoniae pathogenesis in the obese lung
 Role: Co-I

VLC Pilot Project (Poynter) 05/01/2021 - 04/30/2023 0.12 calendar
 Vermont Lung Center ADC: \$50,000
Exploiting Exercise Enhanced Protein Synthesis to Augment mRNA Vaccine Translation
 Role: PI

VCC Pilot Project (Toth) 01/02/2022 - 12/31/2022 <0.60 calendar
 Vermont Cancer Center ADC: \$50,000
A Novel in vitro System to Determine the Role of Macrophages in Cancer Cachexia
 Role: Co-I

R61HL155160/R33 (Ma) 09/20/2021 – 08/31/2022 0.66 calendar
NIH/NHLBI (prime institution: Univ of IL) UVM ADC: \$53,706
The ALOHA Trial: DASH Diet, Weight Loss and Physical Activity Combination Interventions for Obese Adults with Uncontrolled Asthma
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, 4/01/2017-3/31/2023
NIH/NHLBI
Role: Contact PI

Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)
R01 HL143452, 09/15/2018-06/30/2023
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, 5/01/2016-2/28/2023
NIH/NIA
Role: PI

Novel Arm Restraint for Critically Ill Patients To Reduce Immobility, Sedation, Agitation and Cognitive Impairment
R42 AG059451, 4/01/18-6/30/23
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 (PI Baron)
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

Northern New England Clinical and Translational Research Network (MPIs Stein and Rosen)

U54GM115516, 07/01/2022-06/30/2027

Role: Translational Research Coordinator

Charlotte Teneback, MD

Cystic Fibrosis Therapeutic Development Network 3/2/2020-3/1/2025

Supports local CF clinical research, funding both PI and staff time, as part of a national network of research sites

Co-PI (with Thomas Lahiri MD)

Direct cost (year 1): \$124,119

Total costs (5 years) TBD annually

Vertex Pharmaceuticals 2021-present

VX20-121-103: A phase 3, randomized, double-blind controlled study evaluating the efficacy and safety of VX-121 Combination therapy in patients with cystic fibrosis who are homozygous for F508del

Role: Local PI.

Direct costs (est): \$151,970.76

Vertex Pharmaceuticals 2021-present

VX20-121-102: A Phase 3, Randomized, Double-blind, Controlled Study Evaluating the Efficacy and Safety of VX-121 Combination Therapy in Subjects with Cystic Fibrosis who are Heterozygous for F508del and a Minimal Function Mutation (F/MF)

Role: Local PI.

Direct costs (est): \$93,901.37

Daniel Weiss, MD, PhD

WEISS18P0

Weiss (PI)

04/01/2019-03/31/2023

Cystic Fibrosis Foundation

Role of Glycoproteins in Lung Recellularization

PRMRP Expansion Award
Weiss (PI)
07/01/2019-06/30/2022
Department of Defense
Clinical Development of a Novel Pleural and Tracheal Sealant

VLC Pilot Project 2019
Weiss/van der Velden (MPI)
04/01/2020-03/31/2022
Institutional source
Effects of human lung derived hydrogel organoid culture on lung progenitor cell behaviors

ETRA 736479 (COVID & Emerging Threat Award)
Weiss (PI)
07/01/2020-06/30/2022
American Lung Association
Mechanisms of SARS-CoV-2 induced type 2 alveolar epithelial cell pathogenesis

P20 GM125498
Parent award: Kirkpatrick (PI), Pilot award: Thali/Weiss, role: Pilot Award MPI
07/01/2020-06/30/2021
Translational research to prevent and control global infectious diseases (Translational Global Infectious Diseases Research Center, TGIR)
Pilot Award: Alveolar epithelial cell-based air-liquid interface to study SARS-CoV-2 biology and pathogenesis

W81XWH2110291
Jakus (PI), role: Subaward PI/co-Investigator
05/01/2021-04/30/2023
Bi-Phasic, Regenerative Tracheal Implants From 3D-Printed Advanced Biomaterials with Integrated Vascularizing and Epithelializing Factors

R21 HD104069
Finck (PI), role: Subaward PI/co-Investigator
04/01/2021-03/31/2023
Ex vivo bioengineering of functional biomimetic airways for treatment of neonatal and pediatric respiratory conditions

Path for a Cure
Feinberg (PI), role: Collaborator
11/01/2020-10/31/2022

Carnegie Mellon University (CFF)

ECM Shrinkwrapped Airway Epithelial Cells Towards Function Engraftment

United Therapeutics

Weiss (PI)

07/01/2021-06/30/2023

Effect of UNEX-42 (MSC-derived EVs) on SARS-CoV2 Spike Protein Airway and Alveolar Epithelial Biology

United Therapeutics

Weiss (PI)

09/01/2021-08/31/2023

Modeling Pulmonary Hypertension Drug Mechanisms of Actions in Pulmonary Vascular Smooth Cells: Correlation of in silico and in vitro studies

Zachary Weintraub, MD

PACE (Program for Adult Care Excellence in Cystic Fibrosis) Award, Role: PI.

Publications:

Al-Dorzi HM, Stapleton RD, Arabi YM. Nutrition priorities in obese critically ill patients. *Opin Clin Nutr Metab Care* 2022;25:99-109.

Allen, G.B. Mechanical Ventilation in Acute Respiratory Failure Complicating COPD. In: PJ Barnes, TE King, PE Parsons, and MH Sanders, editors. *UpToDate®*. Wolters Kluwer Health, 2012 to present.

Amass T, Van Scoy LJ, Hua M, Ambler M, Armstrong P, Baldwin MR, Bernacki R, Burhani M, Chiurco J, Collier P, Cooper Z, Cruse H, Csikesz N, Engelberg RA, Fonseca L, Halvorson, K, Hammer R, Heywood J, Hochendoner S, Huang J, Jin Y, Johnson L, Kelly M, Kerr E, Lane T, Lee M, Likosky K, McGuirl D, Milinic Y, Moss M, Nielsen E, Peterson R, Puckey SJ, Rea O, Rhoads S, Sheu C, Witt PD, Wykowski J, Stapleton RD, Curtis JR. Stress Related Disorders of Family Members of Patients Admitted to the Intensive Care Unit with COVID-19. *JAMA Intern Med.* 2022 Jun 1;182(6):624-633. doi: 10.1001/jamainternmed. 2022.1118.

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Antunes MA, Braga CL, De Oliveira TB, Kitoko JZ, De Castro LL, Xisto DG, Coleho MS, Rocha N, Martins EG, Galina A, Weiss DJ, Silva JRL, Lopes-Pacheco M, Cruz FF, Rocco PRM. Mesenchymal Stromal Cells from Emphysematous Donors and Their Extracellular Vesicles Are Unable to Reverse Cardiorespiratory Dysfunction in Experimental Severe Emphysema. In press *Frontiers in Cell and Developmental Biology*, section Stem Cell Research. 2021.

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;321(1):R79-R90.

Ather, J.L., Van der Vliet, K., Mank, M.M., Reed, L.F., Dixon, A.E., and M.E. Poynter. Obese Adipose Tissue Modulates Pro-Inflammatory Responses of Mouse Airway Epithelial Cells. *American Journal of Physiology – Regulatory, Integrative, and Comparative Biology*, 2021 Jul 1;321(1):R79-R90. PMC8321787. Highlighted on APSselect, a monthly selection of the best research articles in each of the APS journals.

Baalachandran, R. Pulmonary manifestation of systemic diseases - The Netter Collection of Medical Illustrations – Respiratory System

Bates, J.H.T., Measuring volume, flow and pressure in the clinical setting. In: *Cardiopulmonary Monitoring: Basic Physiology, Tools and Bedside Management*. S. Magder, A. Malhotra, C. Hardin and K. Hibbert, Eds. Springer, pp. 473-484, 2021.

Bates JHT, Hamlington. KL, Garrison G, and Kinsey CM. Prediction of Lung Cancer Risk Based on Age and Smoking History. *Computer Methods and Programs in Biomedicine*. 216: 106660, 2022.

Bhakta NR, Kaminsky DA, Bime C, Thakur N, Hall GL, McCormack MC, Stanojevic S. Addressing race in pulmonary function testing by aligning intent and evidence with practice and perception. *Chest* 2021 Aug 23;S0012-3692(21)03692-8. doi: 10.1016/j.chest.2021.08.053. Online ahead of print. PMID: 34437887

Bhatawadekar SA, Dixon AE, Peters U, Daphtary N, Hodgdon K, Kaminsky DA, Bates JHT. Positive expiratory pressure: A potential therapy to mitigate acute bronchoconstriction in the asthma of obesity. *J Appl Physiol* (1985). 2021 Dec 1;131(6):1663-1670. doi: 10.1152/jappphysiol.00399.2021. Epub 2021 Oct 14. PMID: 34647827.

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Internet Textbook

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- Subarachnoid hemorrhage
- Neuroprognostication after cardiac arrest
- Respiratory acidosis
- Respiratory alkalosis
- Liberation from invasive ventilation
- Right ventricular failure due to pulmonary hypertension

- Acute Respiratory Distress Syndrome
- Sympathetic Crashing Acute Pulmonary Edema
- Waveform capnography
- Acute Ischemic Stroke
- Type-I Myocardial Infarction
- Left ventricular outflow tract obstruction
- Pericardial tamponade
- Baclofen intoxication and withdrawal
- Spinal Epidural Abscess
- Neurogenic Pulmonary Edema
- Catatonia
- Neurologic emergencies in pregnancy
- Cervical artery dissection
- Movement disorder emergencies
- Neuro-oncology emergencies
- EEG interpretation and ictal-interictal continuum
- Acute demyelinating disorders
- Neurological complications of COVID

Division of Rheumatology and Clinical Immunology

Bonita Libman, M.D., Division Chief

<http://www.med.uvm.edu/medicine/rheumatology>



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 8,000 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, effect of exercise and distance from physical therapy on chronic low back pain, and new patient referral factors predictive of inflammatory arthritis diagnosis. We are actively engaged in QI projects such as VCHIP transition of care program for pediatric patients and reproductive counseling for patients on DMARDs.

Faculty

Narandra Bethina, M.D.

Associate Professor of Medicine

Associate Program Director, Rheumatology Fellowship Training Program

Director, Division of Rheumatology Musculoskeletal Ultrasound Clinic

- Musculoskeletal Ultrasound
- Rheumatoid Arthritis
- Psoriatic Arthritis
- Scleroderma
- Sjogren's Syndrome

- Gout
- Autoimmune Disorders
- Polymyalgia Rheumatica/Temporal Arteritis

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 ($\gamma\delta$ T cells)
- T cell homeostatic proliferation in autoimmune diseases
- Metabolic regulation of cell death in the immune system

Jeanne Gosselin, M.D.

Assistant Professor of Medicine

- Rheumatoid Arthritis
- Systemic Lupus Erythematosus
- Psoriatic Arthritis
- Sarcoidosis/Neurosarcoidosis
- Giant Cell Arteritis/Polymyalgia Rheumatica
- Gout
- Vasculitis
- Musculoskeletal Ultrasound

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

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.

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)

Faculty Awards

Grants

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

Peer Reviewed Publications

Thoms BL, Gosselin J, Libman B, Littenberg B, Budd RC. Efficacy of Combination Therapy with the JAK Inhibitor Baricitinib in the Treatment of

COVID-19. SN Compr Clin Med. 2022;4(1):42. doi: 10.1007/s42399-022-01121-4. Epub 2022 Jan 21. PMID: 35079694; PMCID: PMC8776555.

Sidhu KS, Amiel E, **Budd RC**, Matthews DE. Determination of cell volume as part of metabolomics experiments. Am J Physiol Cell Physiol. 2021 Dec 1;321(6):C947-C953. doi: 10.1152/ajpcell.00613.2020. Epub 2021 Oct 6. PMID: 34613842; PMCID: PMC8714993.

Budd RC, Scharer CD, Barrantes-Reynolds R, Legunn S, Fortner KA. T Cell Homeostatic Proliferation Promotes a Redox State That Drives Metabolic and Epigenetic Upregulation of Inflammatory Pathways in Lupus. Antioxid Redox Signal. 2022 Mar;36(7-9):410-422. doi: 10.1089/ars.2021.0078. Epub 2021 Nov 9. PMID: 34328790; PMCID: PMC8982120.

Maneval J, Bryant B, Ulano A, Waheed W, **Nevares A**. Isolated Myeloperoxidase-Antineutrophil Cytoplasmic Antibody-Associated Hypertrophic Pachymeningitis. J Clin Rheumatol. 2022 Apr 1;28(3):e672-e674. doi: 10.1097/RHU.0000000000001845. PMID: 35325906.

Amat M, Glassman R, Basu N, Doolin J, Flier L, Gonzalez MR, **Gosselin J**, Knapp S, Yun P, Graham KL. Defining the Resident Continuity Clinic Panel Along Patient Outcomes: a Health Equity Opportunity. J Gen Intern Med. 2021 Sep;36(9):2615-2621. doi: 10.1007/s11606-020-06420-x. Epub 2021 Jan 21. PMID: 33479930; PMCID: PMC8390708.

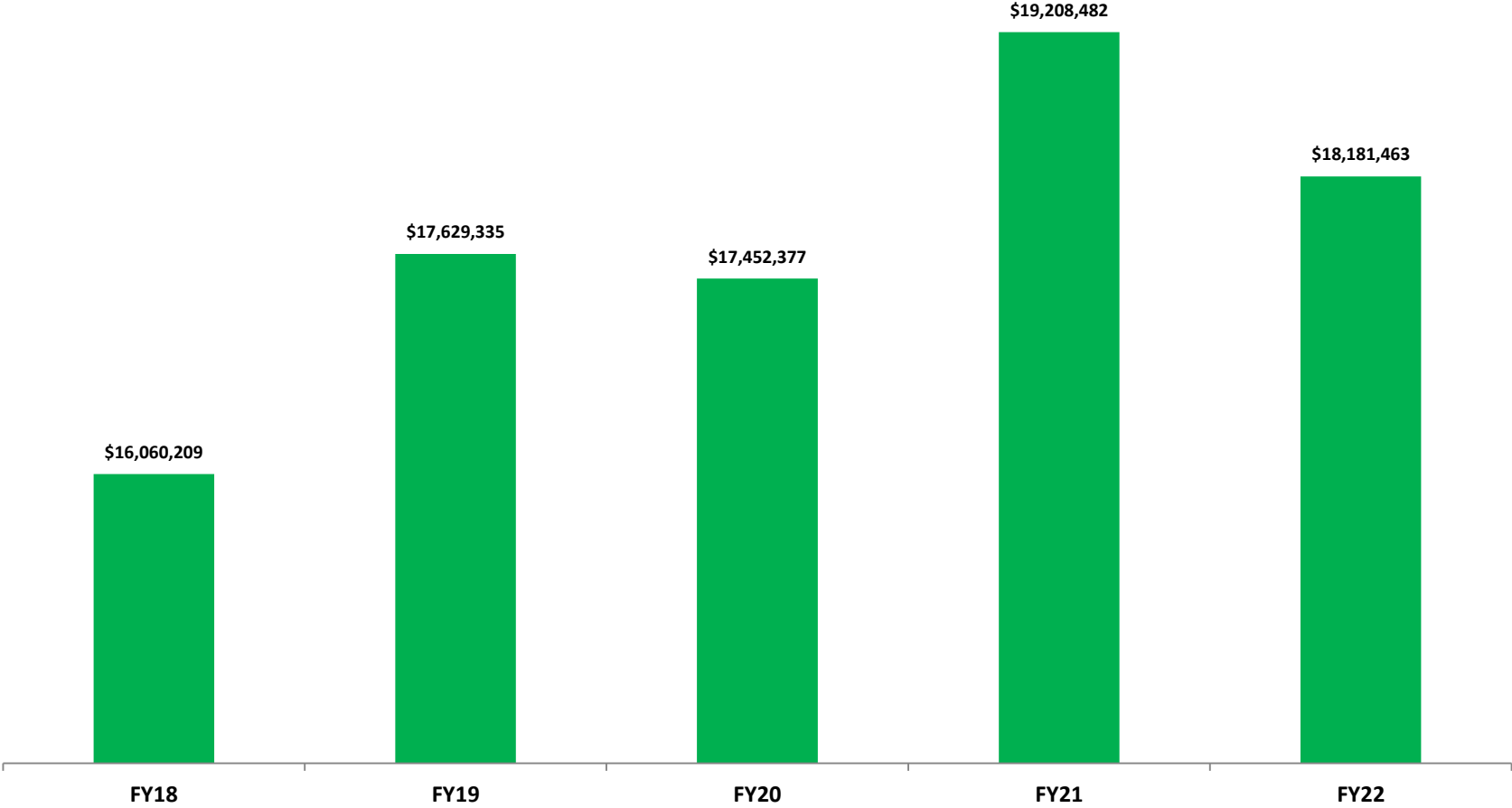
Book Chapters and Non-Peer Reviewed Publications

Onuigbo M, **Libman B**, Lazarovich M. Benralizumab substitution monotherapy in symptomatic relapsing asthma-dominant eosinophilic granulomatosis with polyangiitis. *Immunopathologia Persa* Feb 2022

“Tenosynovitis”: review with Barbara Brody, for CreakyJoints.org, August 2021

“Quality of Life and Arthritis”: review with Barbara Brody, for CreakyJoints.org <https://creakyjoints.org/support/quality-of-life-chronic-illness/>, November 2021

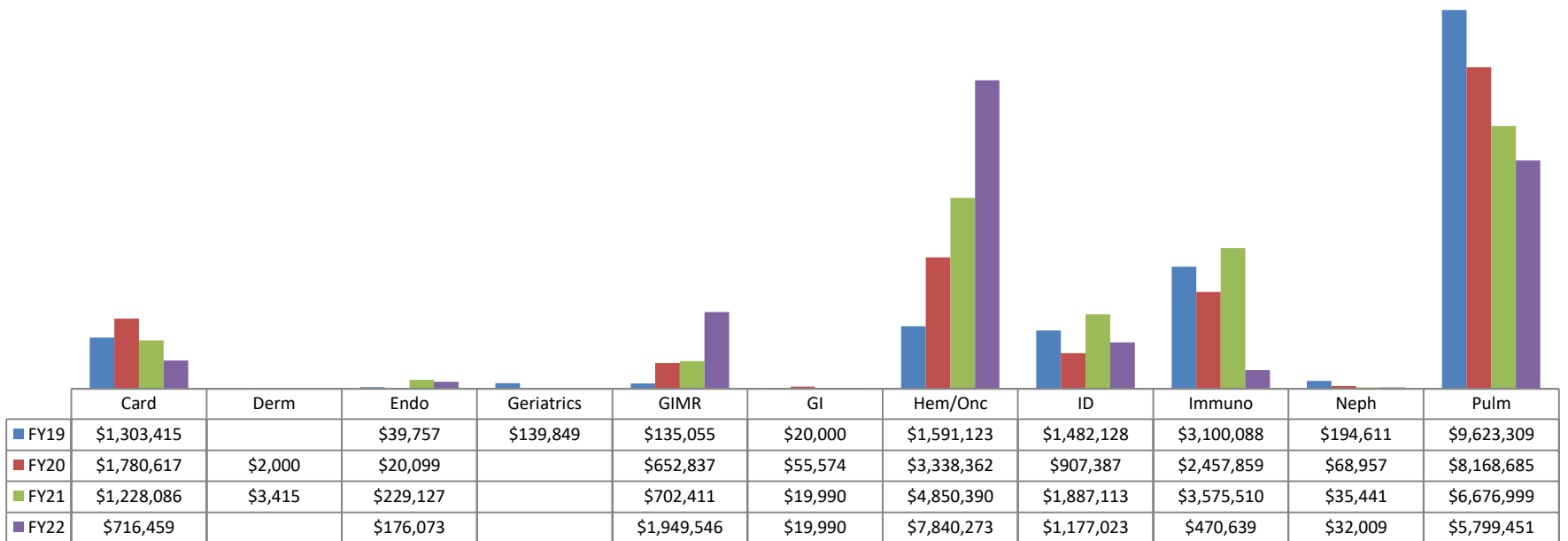
Department of Medicine UVM Research Funding (External & Internal*), FY18-FY22



*FY22 and forward includes both external and internal awards

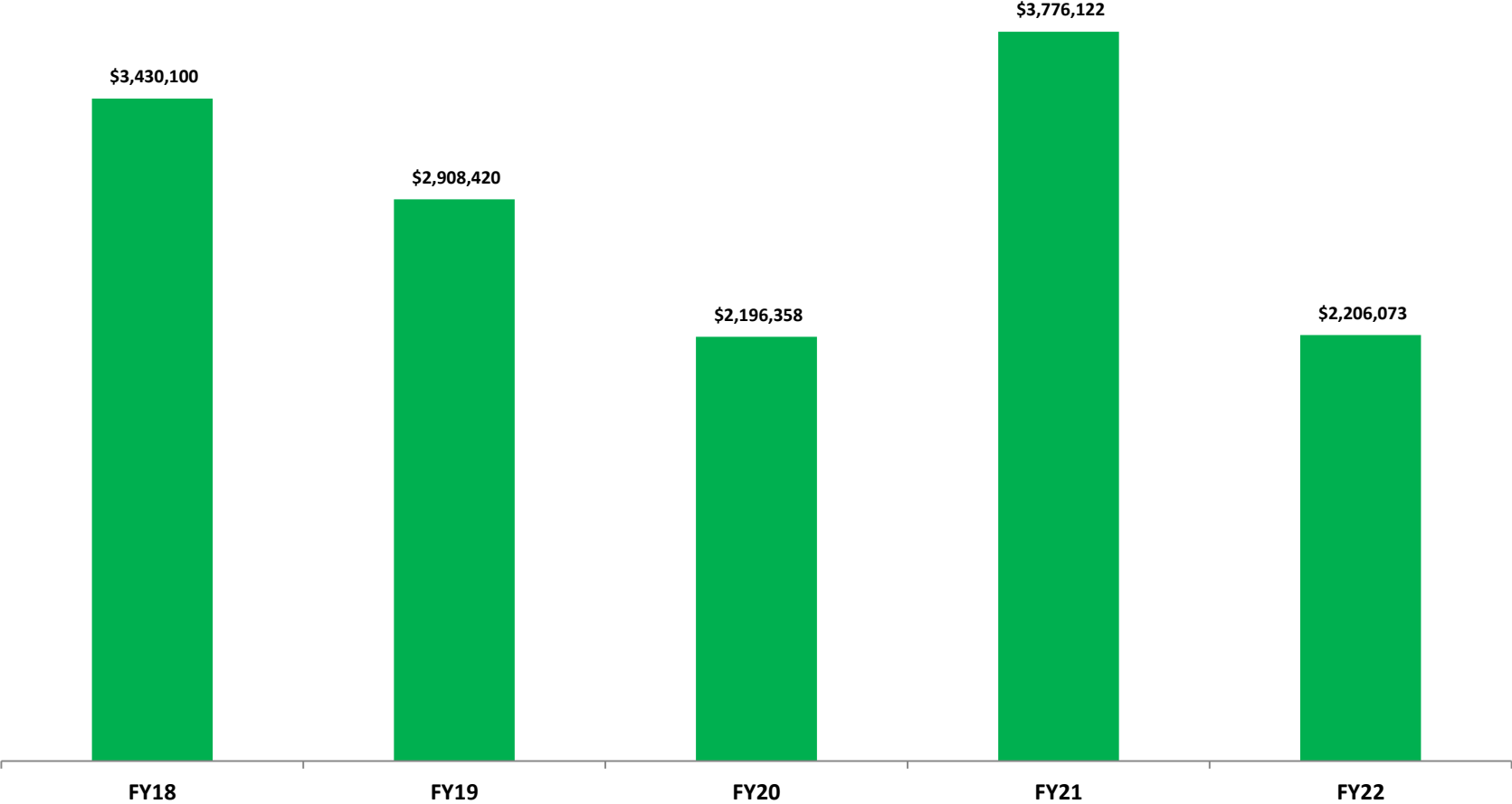
Department of Medicine

UVM Research Funding (External & Internal*) by Division, FY2018-FY2022



*FY22 and forward includes both external and internal awards

Department of Medicine
UVM Medical Center Research Revenue (Direct & Indirect), FY18-FY22



Department of Medicine

FY 2022 External UVM Research Funding by Division, by PI

Department	Principal Investigator	Sponsor	Project Title	Start Date	End Date	Direct	Indirect	Total Awarded
Cardiology	Correa De Sa, Daniel D.	CoreMap, Inc.	CoreMap Mapping of Atrial Fibrillation	03/23/2018	07/23/2023	\$ 8,744	\$ 4,896	\$ 13,640
Cardiology	Correa De Sa, Daniel D.	CoreMap, Inc.	CoreMap Mapping of Atrial Fibrillation	01/01/2022	12/31/2022	\$ 13,670	\$ 3,827	\$ 17,497
Cardiology	Correa De Sa, Daniel D.	CoreMap, Inc.	CoreMap Mapping of Atrial Fibrillation	01/01/2022	12/31/2022	\$ 5,055	\$ 1,416	\$ 6,471
Cardiology	Correa De Sa, Daniel D.	CoreMap, Inc.	CoreMap Mapping of Atrial Fibrillation	01/01/2022	12/31/2022	\$ 13,670	\$ 3,827	\$ 17,497
Cardiology	Correa De Sa, Daniel D.	CoreMap, Inc.	Epicardial Mapping of AF	04/15/2022	04/14/2024	\$ 9,414	\$ 2,636	\$ 12,050
Cardiology	Keating, Friederike K.	Rutgers University	Myocardial Ischemia and Transfusion (MINT) - CCC	06/01/2020	05/31/2023	\$ 14,000	\$ -	\$ 14,000
Cardiology	Keating, Friederike K.	University of Pittsburgh	Randomized Evaluation of Bromocriptine in Myocardial Recovery Therapy for Peripartum Cardiomyopathy (REBIRTH)	08/01/2021	07/31/2022	\$ 900	\$ 504	\$ 1,404
Cardiology	Lewinter, Martin M.	Kiniksa Pharmaceuticals Corp.	Inflammatory Markers in Pericardial Fluid	06/14/2021	12/02/2021	\$ 5,000	\$ 2,800	\$ 7,800
Cardiology	Lustgarten, Daniel Lawrence	Medtronic Inc	Pilot Pace HFpEF – Physiologic Accelerated Pacing as a Treatment in Patients with Heart Failure with Preserved Ejection Fraction	05/27/2020	05/31/2023	\$ 59,707	\$ 16,717	\$ 76,424
Cardiology	Spees, Jeffrey L.	IonOptix LLC	Beta Testing Instrumentation and Procedures for Industry	11/01/2021	09/30/2022	\$ 26,667	\$ 10,667	\$ 37,334
Cardiology	Spees, Jeffrey L.	Samba Biologics Incorporated	VasaPlex-based biologics for treatment of reperfusion injury after myocardial infarction	03/11/2022	03/09/2023	\$ 191,643	\$ 107,320	\$ 298,963
Cardiology Total						\$ 348,470	\$ 154,610	\$ 503,080
Endocrinology	Jetton, Thomas Lawrence	Agricultural Research Service/ARS/USDA	Impact of Food and Particulates on Metabolic Risk	09/01/2020	08/31/2023	\$ 176,073	\$ -	\$ 176,073
Endocrinology Total						\$ 176,073	\$ -	\$ 176,073
Gastroenterology	Jensen, Gordon Lee	Geisinger Clinic	Rural Aging Study (Geisinger)	08/01/2021	07/31/2022	\$ 18,172	\$ 1,818	\$ 19,990
Gastroenterology Total						\$ 18,172	\$ 1,818	\$ 19,990
Gen Internal Med	Atherly, Adam J.	Natl Cancer Institute/NCI/NIH	Evidence based Interventions to address Structure, System and Population Inequities in COVID-19 Screening	01/01/2022	12/31/2022	\$ 462,797	\$ 156,227	\$ 619,024
Gen Internal Med	Atherly, Adam J.	OneCare Vermont	Value Based Care Analysis	01/01/2022	12/31/2022	\$ 54,546	\$ 5,454	\$ 60,000
Gen Internal Med	Atherly, Adam J.	UVM Health Network	Analysis of Potential Approaches to Population-Based Hospital Budgeting in Vermont	02/01/2022	01/31/2023	\$ 65,322	\$ 13,064	\$ 78,386
Gen Internal Med	Littenberg, Benjamin	PCORI Patient Cntrd Outcomes Res Inst	Funding to Support Return of Aggregate Results to PCORI Study Participants	03/12/2021	06/30/2022	\$ 4,490	\$ -	\$ 4,490
Gen Internal Med	Oshita, Jennifer Y	National Institutes of Health/NIH	Healthcare Outcomes and Accommodations for Persons with Communication Disabilities	09/01/2021	08/31/2022	\$ 42,761	\$ -	\$ 42,761
Gen Internal Med	Oshita, Jennifer Y	National Institutes of Health/NIH	Healthcare Outcomes and Accommodations for Persons with Communication Disabilities	09/01/2021	08/31/2022	\$ 2,500	\$ -	\$ 2,500
Gen Internal Med	Pinckney, Richard G.	Arizona State University	A Valid Measure of Medical Provider Readiness to Practice Integrated Care	07/01/2021	06/30/2022	\$ 7,101	\$ 568	\$ 7,669
Gen Internal Med	Sobel, Halle G.	Substance Abuse Mental Health/SAMHSA	Increasing the Pipeline of MAT Prescribers: DATA Waiver Training for All Vermont Medical Students at The Larner College of Medicine	09/30/2021	09/29/2022	\$ 96,080	\$ 7,686	\$ 103,766
Gen Internal Med (Office of Primary Care)	Kennedy, Amanda G.	Vermont AHS Department of Health	UVM AHEC Academic Detailing FY22	07/01/2021	06/30/2022	\$ 181,159	\$ 68,841	\$ 250,000
Gen Internal Med (Office of Primary Care)	Kennedy, Amanda G.	Vermont AHS Department of Health	UVM AHEC Academic Detailing FY23	07/01/2022	06/30/2023	\$ 181,159	\$ 68,841	\$ 250,000
Gen Internal Med (Office of Primary Care)	MacLean, Charles Duncan	Health Resources Services Admin/HRSA	HRSA AHEC	09/01/2021	08/31/2022	\$ 284,722	\$ 5,028	\$ 289,750
Gen Internal Med (Office of Primary Care)	MacLean, Charles Duncan	Health Resources Services Admin/HRSA	HRSA AHEC	09/01/2021	08/31/2022	\$ 6,250	\$ -	\$ 6,250
Gen Internal Med (Office of Primary Care)	MacLean, Charles Duncan	Vermont AHS Department of Health	Opioid Prescribing Quality Improvement	09/01/2021	08/31/2022	\$ 68,116	\$ 25,884	\$ 94,000
Gen Internal Med (Office of Primary Care)	MacLean, Charles Duncan	Vermont AHS Department of Health	Opioid Prescribing Quality Improvement	09/01/2021	08/31/2022	\$ 6,000	\$ -	\$ 6,000
Gen Internal Med Total						\$ 1,463,003	\$ 351,593	\$ 1,814,596

Department	Principal Investigator	Sponsor	Project Title	Start Date	End Date	Direct	Indirect	Total Awarded
Hematology Oncology (VCC)	Adrianzen Herrera, Diego	Hemostasis Thrombosis Research Society	Identifying Patient and Treatment Factors Associated with Cardiovascular Disease Risk and Mortality in Patients with Myelodysplastic Syndromes	07/01/2022	06/30/2023	\$ 75,900	\$ 6,600	\$ 82,500
Hematology Oncology (VCC)	Adrianzen Herrera, Diego	Hemostasis Thrombosis Research Society	Identifying Patient and Treatment Factors Associated with Cardiovascular Disease Risk and Mortality in Patients with Myelodysplastic Syndromes	07/01/2023	06/30/2024	\$ 75,900	\$ 6,600	\$ 82,500
Hematology Oncology	Cushman, Mary	American Heart Association - National	Improving Stroke Risk Prediction in Atrial Fibrillation: Assessing Refinement of CHA2DS2-VASc Score with Novel Biomarkers of Stroke Risk	06/01/2022	05/30/2023	\$ 2,000	\$ -	\$ 2,000
Hematology Oncology	Cushman, Mary	American Society of Hematology	Evaluating the Longitudinal Association of Endothelial Dysfunction Markers with Incident Chronic Kidney Disease in a Cohort of Black and White Adults	07/01/2021	06/30/2022	\$ 5,000	\$ -	\$ 5,000
Hematology Oncology	Cushman, Mary	Hemostasis Thrombosis Research Society	2022 HTRS Student Research Award	05/01/2022	03/01/2023	\$ 1,000	\$ -	\$ 1,000
Hematology Oncology	Cushman, Mary	Mount Sinai School of Medicine	Use of High Density Lipoprotein Proteome in the Prediction of Cognitive Impairment and Alzheimer's Disease: (REGARDS)	01/01/2021	12/31/2021	\$ 12,035	\$ 6,740	\$ 18,775
Hematology Oncology	Cushman, Mary	Natl Inst Gen Medical Sciences/NIGMS/NIH	Vermont Center for Cardiovascular and Brain Health (**CO-PI Cushman/Nelson)	06/01/2021	05/31/2022	\$ 1,509,604	\$ 812,801	\$ 2,322,405
Hematology Oncology	Cushman, Mary	Natl Inst Gen Medical Sciences/NIGMS/NIH	Vermont Center for Cardiovascular and Brain Health (**CO-PI Cushman/Nelson)	06/01/2022	05/31/2023	\$ 1,515,791	\$ 800,042	\$ 2,315,833
Hematology Oncology	Cushman, Mary	University of Alabama at Birmingham	VCID and Stroke in a Bi-Racial National Cohort	02/01/2021	01/31/2022	\$ 485,103	\$ 271,658	\$ 756,761
Hematology Oncology	Cushman, Mary	University of Alabama at Birmingham	VCID and Stroke in a Bi-Racial National Cohort	02/01/2022	01/31/2023	\$ 276,410	\$ 154,790	\$ 431,200
Hematology Oncology	Cushman, Mary	University of Minnesota	Epidemiology of Venous Thrombosis and Pulmonary Embolism	03/01/2022	02/28/2023	\$ 22,796	\$ 12,766	\$ 35,562
Hematology Oncology	Cushman, Mary	University of North Carolina Chapel Hill	National Longitudinal Study of Adolescent to Adult Health (Add Health): Wave VI Cognition and Early Risk Factors for Dementia Project	01/01/2022	12/31/2022	\$ 52,876	\$ 29,611	\$ 82,487
Hematology Oncology	Cushman, Mary	University of North Carolina Chapel Hill	The National Longitudinal Study of Adolescent Health Wave VI Core	01/01/2022	12/31/2022	\$ 298,861	\$ 159,272	\$ 458,133
Hematology Oncology (VCC)	Dittus, Kim L.	Vermont AHS Department of Health	Dittus VDH Survivorship III	07/01/2021	06/29/2022	\$ 39,062	\$ 10,937	\$ 49,999
Hematology Oncology	Greenblatt, Marc Steven	University of Utah	Upgrading Rigor and Efficiency of Germline Cancer Gene Variant Classification for the 2020s	03/01/2022	01/31/2023	\$ 35,996	\$ 20,158	\$ 56,154
Hematology Oncology (VCC)	Holcombe, Randall	J Walter Juckett Cancer Research Fdtn	UVM Cancer Research Support Grant	04/02/2022	06/30/2023	\$ 4,710	\$ 376	\$ 5,086
Hematology Oncology (VCC)	Holcombe, Randall	J Walter Juckett Cancer Research Fdtn	UVM Cancer Research Support Grant	04/02/2022	06/30/2023	\$ 247,645	\$ 19,812	\$ 267,457
Hematology Oncology (VCC)	Holcombe, Randall	J Walter Juckett Cancer Research Fdtn	UVM Cancer Research Support Grant	04/02/2022	06/30/2023	\$ 247,645	\$ 19,812	\$ 267,457
Hematology Oncology	Holmes, Chris Elaine	Maine Medical Center	Improving VTE Risk Assessment, Education, and Prophylaxis in Rural Cancer Clinics: RURAL-VTEPACC	07/01/2021	06/30/2022	\$ 40,000	\$ 22,240	\$ 62,240
Hematology Oncology	Holmes, Chris Elaine (Schneider, David)	Natl Cancer Institute/NCI/NIH	Platelet FcGammaRIIa and Risk of Venous Thromboembolism in Cancer	12/01/2021	11/30/2022	\$ 116,875	\$ 65,450	\$ 182,325
Hematology Oncology	Kamin Mukaz, Debora	American Heart Association - National	Residential Segregation, Thrombo-Inflammation and Risk of Hypertension	01/01/2022	12/31/2022	\$ 69,390	\$ -	\$ 69,390
Hematology Oncology	Kamin Mukaz, Debora	American Heart Association - National	Residential Segregation, Thrombo-Inflammation and Risk of Hypertension	01/01/2023	12/31/2023	\$ 71,562	\$ -	\$ 71,562
Hematology Oncology (VCC)	Wood, Marie E.	Alliance NCTN Foundation	Alliance Cancer Control Program - Prevention Committee Co-Chair Salary Support	08/01/2021	01/31/2022	\$ 23,995	\$ 13,438	\$ 37,433

Department	Principal Investigator	Sponsor	Project Title	Start Date	End Date	Direct	Indirect	Total Awarded
Hematology Oncology	Zakai, Neil A.	Assn of University Ctrs on Disabilities	Understanding Risk Factors and Burden of COVID-19 Related Thrombosis or Bleeding Complications (Year 2)	08/01/2021	07/31/2022	\$ 290,310	\$ 162,573	\$ 452,883
Hematology Oncology	Zakai, Neil A.	Assn of University Ctrs on Disabilities	Understanding Risk Factors and Burden of COVID-19 Related Thrombosis or Bleeding Complications (Year 2)	08/01/2021	07/31/2022	\$ 274,829	\$ -	\$ 274,829
Hematology Oncology	Zakai, Neil A.	Assn of University Ctrs on Disabilities	Understanding Risk Factors and Burden of COVID-19 Related Thrombosis or Bleeding Complications (Year 2)	08/01/2021	07/31/2022	\$ 672,288	\$ -	\$ 672,288
Hematology Oncology	Zakai, Neil A.	Natl Heart Lung and Blood Inst/NHLBI/NIH	Thrombosis and Bleeding Risk Assessment in Medical Inpatients	03/01/2022	02/28/2023	\$ 391,287	\$ 173,732	\$ 565,019
Hematology Oncology	Zakai, Neil A.	Natl Heart Lung and Blood Inst/NHLBI/NIH	Thrombosis and Bleeding Risk Assessment in Medical Inpatients	03/01/2022	02/28/2023	\$ 43,478	\$ 19,303	\$ 62,781
Hematology Oncology	Zakai, Neil A.	Oregon Health Sciences University	Identification of the Role of HDL Function in Human Cardiovascular Disease through Proteomics and Genetics	01/01/2021	12/31/2021	\$ 35,506	\$ 19,883	\$ 55,389
Hematology Oncology	Zakai, Neil A.	Oregon Health Sciences University	Identification of the Role of HDL Function in Human Cardiovascular Disease through Proteomics and Genetics	01/01/2022	12/31/2022	\$ 46,844	\$ 26,232	\$ 73,076
Hematology Oncology	Zakai, Neil A.	University of California San Francisco	Metabolic effects and mechanisms for heart failure in South Asians	06/07/2021	05/31/2022	\$ 42,681	\$ 15,781	\$ 58,462
Hematology Oncology	Zakai, Neil A.	University of California San Francisco	Understanding health disparities in Pakistani, Bangladeshi and Asian Indian immigrants: the role of socioeconomic position, acculturation and resilience resources	07/02/2021	03/31/2022	\$ 31,240	\$ 9,206	\$ 40,446
Hematology Oncology Total						\$ 7,058,619	\$ 2,859,813	\$ 9,918,432
Hematology Oncology Total less 1/2 of Cushman/Nelson COBRE						\$ 5,545,922	\$ 2,053,392	\$ 7,599,313
Immunobiology	Botten, Jason W.	Celdara Medical, LLC	A Novel Broad-Spectrum Agent for Treatment of Viral Infections	01/01/2022	12/31/2022	\$ 74,831	\$ 41,905	\$ 116,736
Immunobiology	Budd, Ralph Charles	Natl Inst Gen Medical Sciences/NIGMS/NIH	Vermont Immunology/Infectious Diseases Center	08/01/2020	07/31/2022	\$ 198,015	\$ 110,888	\$ 308,903
Immunobiology Total						\$ 272,846	\$ 152,793	\$ 425,639
Infectious Disease	Dejace, Jean	Baystate Medical Center	Drug Injection Surveillance and Care Enhancement for Rural Northern New England (DISCERNNE)	08/01/2021	07/31/2022	\$ 24,494	\$ 13,717	\$ 38,211
Infectious Disease	Huston, Christopher D.	Natl Inst Allergy Infectious/NIAID/NIH	Repurposing the EMD-Serono Mini-Library for Cryptosporidium Drug Development	02/01/2022	01/31/2023	\$ 400,411	\$ 40,910	\$ 441,321
Infectious Disease	Huston, Christopher D.	Natl Inst Allergy Infectious/NIAID/NIH	Preclinical Optimization of a Parasitocidal Drug for Cryptosporidiosis	03/01/2022	02/28/2023	\$ 567,441	\$ 130,050	\$ 697,491
Infectious Disease Total						\$ 992,346	\$ 184,677	\$ 1,177,023
Nephrology	Cheung, Katharine Lana	University of Wisconsin	Best Case/Worst Case: A Multisite Randomized Clinical Trial of Scenario Planning for Patients with End-Stage Kidney Disease	03/01/2021	02/28/2022	\$ -	\$ -	\$ -
Nephrology	Solomon, Richard Jay	Dartmouth College	IMPROVE AKI: A Cluster-Randomized Trial of Team-Based Coaching Interventions to IMPROVE Acute Kidney Injury	06/01/2021	05/31/2022	\$ 20,519	\$ 11,490	\$ 32,009
Nephrology Total						\$ 20,519	\$ 11,490	\$ 32,009
Pulmonary	Antkowiak, MaryEllen Cleary	ContraFect Corporation	A Randomized, Double-Blind, Placebo-Controlled Study of the Efficacy and Safety of a Single Dose of Exebacase in Adult Patients Receiving Standard of Care Antibiotics for the Treatment of Staphylococc	07/12/2021	07/11/2022	\$ 8,300	\$ 4,648	\$ 12,948
Pulmonary	Antkowiak, MaryEllen Cleary	ContraFect Corporation	A Randomized, Double-Blind, Placebo-Controlled Study of the Efficacy and Safety of a Single Dose of Exebacase in Adult Patients Receiving Standard of Care Antibiotics for the Treatment of Staphylococc	07/12/2021	07/11/2022	\$ 6,000	\$ -	\$ 6,000
Pulmonary	Bates, Jason H. T.	Natl Heart Lung and Blood Inst/NHLBI/NIH	Preserving Epithelial Barrier Integrity in Ventilator-Induced Lung Injury	07/01/2021	06/30/2023	\$ 543,808	\$ 89,230	\$ 633,038

Department	Principal Investigator	Sponsor	Project Title	Start Date	End Date	Direct	Indirect	Total Awarded
Pulmonary	Dixon, Anne Elizabeth	Inversago Pharma Inc.	Peripheral Cannabinoid Receptor-1 (CB1R) Antagonists in Obese Asthma	04/01/2022	03/31/2023	\$ 98,901	\$ 55,385	\$ 154,286
Pulmonary	Dixon, Anne Elizabeth	Natl Heart Lung and Blood Inst/NHLBI/NIH	Mitochondrial Redox Perturbations in Obese Allergic Asthma	08/01/2021	07/31/2022	\$ 531,929	\$ 236,029	\$ 767,958
Pulmonary	Dixon, Anne Elizabeth	University of Illinois	Prevent COPD Exacerbations (RELIANCE)	06/01/2019	05/31/2023	\$ 6,000	\$ 2,400	\$ 8,400
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	09/20/2021	08/31/2022	\$ 49,011	\$ 25,437	\$ 74,448
Pulmonary	Irvin, Charles G.	American Lung Association	Airways Clinical Research Center (ACRC) Core Award	07/01/2020	06/30/2021	\$ 35,000	\$ -	\$ 35,000
Pulmonary	Irvin, Charles G.	American Lung Association	Airways Clinical Research Center (ACRC) Core Award	07/01/2021	06/30/2022	\$ 165,000	\$ -	\$ 165,000
Pulmonary	Irvin, Charles G.	American Lung Association	BI LHC Supplement Grant	01/01/2022	12/31/2022	\$ 9,166	\$ -	\$ 9,166
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) trial	05/01/2021	06/30/2023	\$ -	\$ -	\$ -
Pulmonary	Irvin, Charles G.	American Lung Association	Deep Phenotyping of the Lung Health Cohort - Ancillary Study Preliminary Data	07/01/2021	06/30/2023	\$ 15,000	\$ -	\$ 15,000
Pulmonary	Irvin, Charles G.	American Lung Association	Losartan Effects on Emphysema Progress Trial (LEEP)	04/16/2017	06/30/2023	\$ 9,000	\$ -	\$ 9,000
Pulmonary	Kaminsky, David Alan	Maine Medical Center	Feasibility of Home Monitoring in Patients with COPD Exposed to Wood Smoke	03/01/2022	06/30/2022	\$ 41,303	\$ 22,964	\$ 64,267
Pulmonary	Kinsey, Charles Matthew	Johnson Johnson Enterprise Innovations	A Phase I Trial of Intratumoral Cisplatin for Early Stage, Resectable, Non-Small Cell Lung Cancer	04/15/2021	04/14/2023	\$ 58,080	\$ 32,525	\$ 90,605
Pulmonary	Kinsey, Charles Matthew	Johnson Johnson Enterprise Innovations	A Phase I Trial of Intratumoral Cisplatin for Early Stage, Resectable, Non-Small Cell Lung Cancer	04/15/2021	04/14/2023	\$ 67,710	\$ 37,918	\$ 105,628
Pulmonary	Kinsey, Charles Matthew	Johnson Johnson Enterprise Innovations	A Phase I Trial of Intratumoral Cisplatin for Early Stage, Resectable, Non-Small Cell Lung Cancer	10/15/2020	04/14/2023	\$ 122,166	\$ 68,413	\$ 190,579
Pulmonary	Kinsey, Charles Matthew	Johnson Johnson Enterprise Innovations	Evaluation of Intratumoral Drug Delivery	10/15/2021	10/14/2022	\$ 228,239	\$ 96,090	\$ 324,329
Pulmonary	Kinsey, Charles Matthew	Johnson Johnson Enterprise Innovations	Evaluation of Intratumoral Drug Delivery	10/15/2022	10/14/2023	\$ 168,891	\$ 94,579	\$ 263,470
Pulmonary	Kinsey, Charles Matthew	Natl Heart Lung and Blood Inst/NHLBI/NIH	Ct Characteristics Of Emphysema For Evaluation Of Pulmonary Nodules	08/01/2021	03/09/2022	\$ 60,200	\$ 4,816	\$ 65,016
Pulmonary	Kinsey, Charles Matthew	Quantitative Imaging Solutions, LLC	Detection of Platinum Concentration	09/15/2021	09/14/2022	\$ 25,330	\$ 14,185	\$ 39,515
Pulmonary	Masquelin, Axel Herve	Natl Cancer Institute/NCI/NIH	Detecting lung cancer from CT images and patient history using deep neural nets	01/01/2022	03/27/2023	\$ 30,974	\$ -	\$ 30,974
Pulmonary	Masquelin, Axel Herve	Natl Cancer Institute/NCI/NIH	Detecting lung cancer from CT images and patient history using deep neural nets	01/01/2022	03/27/2023	\$ 2,500	\$ -	\$ 2,500
Pulmonary	Masquelin, Axel Herve	Natl Cancer Institute/NCI/NIH	Detecting lung cancer from CT images and patient history using deep neural nets	01/01/2022	03/27/2023	\$ 717	\$ -	\$ 717
Pulmonary	Mori, Vitor	Damon Runyon Cancer Research Foundation	EBUS-TBNI of Cisplatin Optimization in Heterogeneous Lung Tumors	05/01/2022	04/30/2023	\$ 2,000	\$ -	\$ 2,000
Pulmonary	Mori, Vitor	Damon Runyon Cancer Research Foundation	EBUS-TBNI of Cisplatin Optimization in Heterogeneous Lung Tumors	05/01/2022	04/30/2023	\$ 80,000	\$ -	\$ 80,000
Pulmonary	Poynter, Matthew E	Natl Heart Lung and Blood Inst/NHLBI/NIH	Multidisciplinary Training in Lung Biology	05/01/2022	04/30/2023	\$ 17,500	\$ -	\$ 17,500
Pulmonary	Poynter, Matthew E	Natl Heart Lung and Blood Inst/NHLBI/NIH	Multidisciplinary Training in Lung Biology	05/01/2022	04/30/2023	\$ 322,057	\$ 16,805	\$ 338,862
Pulmonary	Stapleton, Renee D.	Brigham and Womens Hospital	Therapeutic Modulation of Zinc for Lung Injury and Mechanobiology	04/01/2022	03/31/2023	\$ 48,750	\$ 27,300	\$ 76,050
Pulmonary	Stapleton, Renee D.	Fred Hutchinson Cancer Center	1/2 Ganciclovir to Prevent Reactivation of Cytomegalovirus in Patients with Acute Respiratory Failure and Sepsis	09/01/2021	08/31/2022	\$ 5,430	\$ 3,041	\$ 8,471

Department	Principal Investigator	Sponsor	Project Title	Start Date	End Date	Direct	Indirect	Total Awarded
Pulmonary	Stapleton, Renee D.	Fred Hutchinson Cancer Center	Ganciclovir to Prevent Reactivation of Cytomegalovirus in Patients with Acute Respiratory Failure and Sepsis	09/01/2021	08/31/2022	\$ 148,082	\$ 82,926	\$ 231,008
Pulmonary	Stapleton, Renee D.	Natl Heart Lung and Blood Inst/NHLBI/NIH	Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)	07/01/2021	06/30/2023	\$ 596,582	\$ 150,696	\$ 747,278
Pulmonary	Stapleton, Renee D.	Natl Heart Lung and Blood Inst/NHLBI/NIH	Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)	07/01/2021	06/30/2023	\$ 63,581	\$ -	\$ 63,581
Pulmonary	Weintraub, Zachary	Cystic Fibrosis Foundation	Program for Adult Care Excellence (PACE)	10/01/2021	09/30/2022	\$ 37,104	\$ 2,968	\$ 40,072
Pulmonary	Weintraub, Zachary	Seattle Children's Hospital	Prospective Evaluation of a Standardized Approach to Diagnosis (PREDICT) and Treatment (PATIENCE) of Nontuberculous Mycobacteria Disease in Cystic Fibrosis	01/01/2021	12/31/2026	\$ 5,211	\$ 417	\$ 5,628
Pulmonary	Weintraub, Zachary	Seattle Children's Hospital	A Phase 1b, Multi-center Study of IV Gallium Nitrate in Patients with Cystic Fibrosis who are Colonized with Nontuberculous Mycobacteria (The ABATE Study)	08/15/2020	06/30/2023	\$ 7,563	\$ 4,235	\$ 11,798
Pulmonary	Weiss, Daniel Jay	American Lung Association	Mechanisms of SARS-CoV-2 induced type 2 alveolar epithelial cell pathogenesis	07/01/2021	06/30/2022	\$ 100,000	\$ -	\$ 100,000
Pulmonary	Weiss, Daniel Jay	Natl Heart Lung and Blood Inst/NHLBI/NIH	Stem Cells, Cell Therapies, and Bioengineering in Lung Biology and Lung Diseases	04/24/2021	06/30/2022	\$ 30,000	\$ -	\$ 30,000
Pulmonary	Weiss, Daniel Jay	United Therapeutics Corporation	Modeling Pulmonary Hypertension Drug Mechanisms of Actions in Pulmonary Vascular Smooth Cells: Correlation of in silico and in vitro studies	07/09/2021	07/08/2022	\$ 340,686	\$ 119,240	\$ 459,926
Pulmonary	Weiss, Daniel Jay	United Therapeutics Corporation	Increasing Functional Recellularization of Decellularized Pig Lungs with Human Lung Cells	02/10/2022	02/01/2023	\$ 299,092	\$ 104,681	\$ 403,773
Pulmonary	Weiss, Daniel Jay	United Therapeutics Corporation	Increasing Functional Recellularization of Decellularized Pig Lungs with Human Lung Cells	02/10/2022	02/01/2023	\$ 27,000	\$ -	\$ 27,000
Pulmonary	Weiss, Daniel Jay	University of Connecticut	Ex-vivo Bioengineering of Functional Biomimetic Airways	04/01/2021	03/31/2022	\$ 24,782	\$ 13,878	\$ 38,660
Pulmonary Total						\$ 4,438,645	\$ 1,310,806	\$ 5,749,451
Total Awarded to Medicine						\$ 14,788,693	\$ 5,027,600	\$ 19,816,293
Grand Total Medicine less 1/2 of Cushman/Nelson COBRE						\$ 13,275,996	\$ 4,221,179	\$ 17,497,174

**Department of Medicine
FY 2022 Internal Research Funding to DOM Faculty**

Department	Principal Investigator	Source	Project Title	Start Date	End Date	Total Awarded
Cardiology	Khadanga, Sherrie	Wohlgemuth Fellowship	Remote Smoking Cessation in Hospitalized Cardiac Patients: Bridging the Post-Discharge Care Gap	6/1/2022	5/31/2024	\$ 40,000
Cardiology	Khadanga, Sherrie	UVMMG Award	Neuromuscular Electrical Stimulation in Heart Failure Patients to Improve Functional Recovery Following Hospitalization (NeuHF-Recover)	1/1/2022	12/31/2023	\$ 50,000
Cardiology	Toth, Michael/Stapleton, Renee	LCOM Internal Grant Program	Novel Intervention Bridging Inpatient and Post-Discharge Setting to Improve Functional Recovery from Hospitalization in Older Adults	6/1/2022	5/31/2023	\$ 73,379
Cardiology	Toth, Michael	UVM Cancer Center	A Novel in vitro System to Determine the Role of Macrophages in Cancer Cachexia	1/1/2022	12/31/2022	\$ 50,000
Gen Internal Med	Donath Elie/ Li, Jim	UHC Inc. Award	An AI-Based Clinical Text Classification Paradigm for Chest Pain	10/1/2021	9/30/2022	\$ 9,750
Gen Internal Med	Riser, Elly/Sobel, Halle	UHC Inc. Award	Developing and Addiction Medicine Elective at the Larner College of Medicine	10/1/2021	9/30/2022	\$ 4,241
Gen Internal Med	Greenberger, Emily	Frymoyer Award	Fostering the Qualities of Excellent Clinical Teachers in Medicine: Interprofessional Collaboration for Feedback, Coaching and Assessment in Medical Education	7/1/2022	6/30/2024	\$ 48,790
Gen Internal Med	Hodde, Naomi	Frymoyer Award	What's in the Secret Sauce? Investigating and Designing IPE Best Practices for Serious Illness Communication Trainings	7/1/2021	6/30/2023	\$ 45,440
Gen Internal Med	Wahlberg, Elizabeth/Hadley Strout, Emily	UHC Inc. Award	Integration of Mentorship and At-The-Elbow Electronic Medical Record Support into a Panel Management Curriculum for Internal Medicine Residents	10/1/2021	9/30/2022	\$ 26,729
Heme/Onc	Adrianzen-Herrera, Diego	DOM Green and Gold Early Career Professorship	Identifying Patient and Treatment Factors Associated with Cardiovascular Disease Risk and Mortality in Myelodysplastic Syndromes	9/1/2021	8/31/2023	\$ 20,000
Heme/Onc	Adrianzen-Herrera, Diego	UVMMG Award	Identifying Patient and Treatment Factors Associated with Cardiovascular Disease Risk and Mortality in Myelodysplastic Syndromes	1/1/2022	12/31/2023	\$ 49,860
Heme/Onc	Landry, Kara	UVM Cancer Center	Strategy for Management of Patients with Hereditary Cancer Syndromes in a Rural Environment	11/1/2022	10/31/2024	\$ 171,100
Immunobiology	Botten, Jason	UVM SPARK	Development of broad-spectrum antiviral therapeutics	7/26/2022	6/30/2023	\$ 45,000
Pulmonary	Badlam, Jessica	DOM Pilot Award	Pregnancy and Reproductive Risk Factors for Pulmonary Arterial Hypertension in Women	6/1/2022	5/31/2023	\$ 50,000
						\$ 684,289

Department of Medicine**FY 2022 External UVM Research Applications Submitted by DOM Faculty**

Department	FY21 Count	FY21 Dollars	FY22 Count	FY22 Dollars	\$ Change	% Change
Cardiology	23	\$ 27,315,811	13	\$ 14,304,290	\$ (13,011,521)	-47.6%
Dermatology	1	\$ 176,035	0	\$ -	\$ (176,035)	-100.0%
Endocrinology	6	\$ 6,493,695	4	\$ 8,820,112	\$ 2,326,417	35.8%
Gastroenterology	0	\$ -	1	\$ 6,300	\$ 6,300	100.0%
GIM/Medicine	11	\$ 4,833,919	15	\$ 12,584,765	\$ 7,750,846	160.3%
Geriatrics	1	\$ 325,680	0	\$ -	\$ (325,680)	-100.0%
Hematology Oncology (includes through VCC)	30	\$ 15,292,171	20	\$ 7,812,317	\$ (7,479,854)	-48.9%
Immunobiology	8	\$ 1,774,024	4	\$ 7,312,671	\$ 5,538,647	312.2%
Infectious Disease	5	\$ 2,887,274	2	\$ 588,000	\$ (2,299,274)	-79.6%
Nephrology	1	\$ 72,435	1	\$ 75,777	\$ 3,342	4.6%
Pulmonary	40	\$ 20,852,891	25	\$ 32,897,713	\$ 12,044,822	57.8%
Medicine Total	126	\$ 80,023,935	85	\$ 84,401,945	\$ 4,378,010	5.5%

Division	PI	Sponsor	Proposal Number	Long Project Title	Submitted Date	Requested Start Date	Requested End Date	Requested Direct Costs	Requested Indirect Costs	Requested Total Costs
Gen Internal Med	Plante, Timothy B.	Johns Hopkins University	FP00001940	Examining the Impact, Pathways, and Cost of County-Level Structural Racism on Hypertension	8/16/2021	4/1/2022	3/31/2026	\$ 106,635	\$ 59,715	\$ 166,350
Gen Internal Med	Plante, Timothy B.	Johns Hopkins University	FP00002307	Improving Participation Among diverse populations in Cardiovascular clinical Trials (IMPACT)	1/18/2022	4/1/2022	3/31/2026	\$ 851,915	\$ 85,192	\$ 937,107
Gen Internal Med	Plante, Timothy B.	Johns Hopkins University	FP00002428	Assessing Measurement Invariance across Time and Place for a Novel County-Level Structural Racism Measure in the US	2/8/2022	12/1/2022	11/30/2025	\$ 82,938	\$ 46,445	\$ 129,383
Gen Internal Med	Plante, Timothy B.	National Institutes of Health/NIH	FP00000748_Res	The Inflammatory Basis of Hypertension	7/12/2021	4/1/2022	3/31/2027	\$ 716,443	\$ 57,316	\$ 773,759
Gen Internal Med	Plante, Timothy B.	National Institutes of Health/NIH	FP00002822	The Inflammatory Basis of Hypertension	6/15/2022	4/1/2023	3/31/2028	\$ 717,571	\$ 57,406	\$ 774,977
Gen Internal Med	Van Eeghen, Constance O.	Maine Medical Center	FP00002775	Opioid Prescribing Patterns and Analysis of Secular Trends	6/13/2022	8/15/2022	6/30/2023	\$ 49,656	\$ 27,609	\$ 77,265
Gen Internal Med	Van Eeghen, Constance O.	SUNY Stony Brook	FP00001950	Stony Brook University's Center for Advancing Excellence in the Health Workforce Resiliency and Wellness	8/19/2021	12/1/2021	11/30/2024	\$ 385,758	\$ 216,024	\$ 601,782
Heme/Onc	Cushman, Mary	American Heart Association - National	FP00002634	Improving Stroke Risk Prediction in Atrial Fibrillation: Assessing Refinement of CHA2DS2-VASc Score with Novel Biomarkers of Stroke Risk	4/4/2022	6/1/2022	5/30/2023	\$ 2,750	\$ -	\$ 2,750
Heme/Onc	Cushman, Mary	Cornell University	FP00002401	Trial of Apixaban vVersus Aspirin in Cancer Patients with Cryptogenic Ischemic Stroke (TEACH2)	3/7/2022	1/1/2023	12/31/2028	\$ 126,496	\$ 70,838	\$ 197,334
Heme/Onc	Cushman, Mary	Hemostasis Thrombosis Research Society	FP00002693	SShort HTRS Student Research Award	4/15/2022	5/1/2022	3/1/2023	\$ 8,000	\$ -	\$ 8,000
Heme/Onc	Cushman, Mary	Kaiser Permanente	FP00002013	Venous Thromboembolism Sequelae in a Population-based Inception Cohort	9/24/2021	7/1/2022	6/30/2027	\$ 69,240	\$ 38,775	\$ 108,015
Heme/Onc	Cushman, Mary	Kaiser Permanente	FP00002351	Venous Thromboembolism Sequelae in a Population-based Inception Cohort	1/11/2022	9/1/2022	8/31/2027	\$ 69,240	\$ 38,775	\$ 108,015
Heme/Onc	Cushman, Mary	National Institutes of Health/NIH	FP00002055	Assessing Cognition and Subclinical Risk Factors of Alzheimer's Disease in Young Women	10/1/2021	6/1/2022	5/31/2023	\$ 173,818	\$ 97,338	\$ 271,156
Heme/Onc	Cushman, Mary	National Institutes of Health/NIH	FP00002410	Assessing Cognition and Subclinical Risk Factors of Cognitive Impairment in Young Women	2/1/2022	7/1/2022	6/30/2023	\$ 140,000	\$ 78,400	\$ 218,400
Heme/Onc	Cushman, Mary	Natl Inst Gen Medical Sciences/NIGMS/NIH	FP00002642	Vermont Center for Cardiovascular and Brain Health	4/8/2022	6/1/2022	5/31/2023	\$ 88,022	\$ 49,292	\$ 137,314
Heme/Onc	Cushman, Mary	Natl Inst Gen Medical Sciences/NIGMS/NIH	FP00002717	Laser speckle visualization of brain perfusion: expanding shared resources for in-vivo imaging	5/6/2022	6/1/2022	5/31/2023	\$ 92,496	\$ -	\$ 92,496
Heme/Onc	Cushman, Mary	University of Alabama at Birmingham	FP00002184	VCID and Stroke in a Bi-Racial National Cohort	10/29/2021	2/1/2021	1/31/2022	\$ 485,103	\$ 271,658	\$ 756,761
Heme/Onc	Cushman, Mary	University of Minnesota	FP00002233	Epidemiology of Venous Thrombosis and Pulmonary Embolism Yr 2 progress report	11/17/2021	3/15/2022	3/14/2023	\$ 22,797	\$ 12,766	\$ 35,563
Heme/Onc	Cushman, Mary	University of North Carolina Chapel Hill	FP00002869	ADRD: National Longitudinal Study of Adolescent to Adult Health (Add Health): Wave VI Cognition and Early Risk Factors for Dementia Project	6/23/2022	1/1/2023	12/31/2025	\$ 169,566	\$ 94,958	\$ 264,524
Heme/Onc	Kamin Mukaz, Debora	American Heart Association - National	FP00001879	Residential Segregation, Thrombo-Inflammation and Risk of Hypertension	9/15/2021	1/1/2022	12/31/2023	\$ 140,952	\$ -	\$ 140,952
Heme/Onc	Zakai, Neil A.	Assn of University Ctrs on Disabilities	FP00002611	Understanding Risk Factors and Burden of COVID-19 Related Thrombosis or Bleeding Complications	3/30/2022	8/1/2022	7/31/2023	\$ 1,237,350	\$ 162,649	\$ 1,399,999
Heme/Onc	Zakai, Neil A.	University of Colorado	FP00002213	Role of inflammation in racial differences in coronary heart disease	11/22/2021	7/1/2022	6/30/2027	\$ 327,567	\$ 183,437	\$ 511,004
Heme/Onc	Zakai, Neil A.	University of Minnesota	FP00002450	Pulmonary Hypertension: Epidemiology, Interventions and Outcomes	2/8/2022	12/1/2022	11/30/2026	\$ 165,434	\$ 92,642	\$ 258,076
Heme/Onc (UVMCC)	Adrianzen Herrera, Diego	Hemostasis Thrombosis Research Society	FP00002250	Identifying Patient and Treatment Factors Associated with Cardiovascular Disease Risk and Mortality in Patients with Myelodysplastic Syndromes	12/10/2021	7/1/2022	6/30/2024	\$ 151,800	\$ 13,192	\$ 164,992
Heme/Onc (UVMCC)	Dittus, Kim L.	Alliance Foundation Trials, LLC	FP00002648	A randomized, multicenter, double-blind, Phase 3 study of amcnestrant (SAR439859) versus tamoxifen for the treatment of patients with hormone receptor-positive, human epidermal growth factor 2-negative or positive, stage IIB-III breast cancer who have d	4/22/2022	4/1/2022	3/31/2035	\$ 59,202	\$ 17,764	\$ 76,966
Heme/Onc (UVMCC)	Holcombe, Randall	American Cancer Society, Inc.	FP00002543	University of Vermont Cancer Center ACS-IRG Application	3/30/2022	1/1/2023	12/31/2025	\$ 360,000	\$ -	\$ 360,000

Division	PI	Sponsor	Proposal Number	Long Project Title	Submitted Date	Requested Start Date	Requested End Date	Requested Direct Costs	Requested Indirect Costs	Requested Total Costs
Heme/Onc (UVMCC)	Holcombe, Randall	J Walter Juckett Cancer Research Fdtn	FP00002900	UVMCC Clinical Research Program Support Grant	6/24/2022	10/1/2022	9/30/2025	\$ 2,500,000	\$ 200,000	\$ 2,700,000
Immunobiology	Botten, Jason W.	Celdara Medical, LLC	FP00002614	A human monoclonal antibody therapy for treatment of hantavirus cardiopulmonary syndrome	4/11/2022	9/1/2022	8/31/2025	\$ 353,810	\$ 198,134	\$ 551,944
Immunobiology	Botten, Jason W.	National Institutes of Health/NIH	FP00002116	The role of mammarenavirus defective interfering particles in protecting host fitness and the host-driven post-translational modifications that regulate their formation and function	10/25/2021	7/1/2022	6/30/2027	\$ 1,859,562	\$ 1,035,405	\$ 2,894,967
Immunobiology	Botten, Jason W.	National Institutes of Health/NIH	FP00002863	The role of mammarenavirus defective interfering particles in protecting host fitness and the host-driven post-translational modifications that regulate their formation and function	6/23/2022	4/1/2023	3/31/2028	\$ 2,349,803	\$ 1,301,539	\$ 3,651,342
Immunobiology	Botten, Jason W.	University of New Mexico	FP00002814	Mapping the virus-host interactions that drive vascular dysfunction in orthohantavirus infections	6/7/2022	4/1/2023	3/31/2025	\$ 140,912	\$ 73,506	\$ 214,418
Infectious Disease	Huston, Christopher D.	Howard Hughes Medical Institute	FP00002248	Investigating the role of cyclic-GMP phosphodiesterases (PDE5) in Cryptosporidium parvum to identify target –to facilitate drug optimisation- and mode of action of lead anticryptosporidium compounds (PDE5 inhibitors).	12/13/2021	9/1/2022	8/31/2025	\$ 159,000	\$ -	\$ 159,000
Infectious Disease	Huston, Christopher D.	National Institutes of Health/NIH	FP00002495	Methods to study Cryptosporidium drug resistance	3/17/2022	9/1/2022	8/31/2024	\$ 275,000	\$ 154,000	\$ 429,000
Nephrology	Onuigbo, Macaulay A	Maine Medical Center	FP00002837	The CKD EXPRESS © APP SYSTEM: An AI-Driven CKD Manager - The Digital Kidney Doctor	6/13/2022	8/15/2022	6/30/2023	\$ 48,700	\$ 27,077	\$ 75,777
Pulmonary	Badlam, Jessica Beatrice	Team PHEnomenal Hope, Inc.	FP00002587	Pregnancy and Reproductive Risk Factors for Pulmonary Arterial Hypertension in Women	3/21/2022	7/1/2022	6/30/2023	\$ 48,764	\$ -	\$ 48,764
Pulmonary	Bates, Jason H. T.	National Science Foundation/NSF	FP00002017	PIPP Phase I: Robust Multi-scale Decision Making and Uncertainty Reduction for Pandemic Preparedness	9/30/2021	5/1/2022	10/31/2023	\$ 650,922	\$ 343,656	\$ 994,578
Pulmonary	Dixon, Anne Elizabeth	American Lung Association	FP00002278	Mitochondrial Redox Perturbations in the Pathogenesis of Severe COVID-19	12/14/2021	7/1/2022	6/30/2024	\$ 200,000	\$ -	\$ 200,000
Pulmonary	Dixon, Anne Elizabeth	Inversago Pharma Inc.	FP00002453	Peripheral Cannabinoid receptor-1 (CB1R) antagonists in obese asthma	2/17/2022	4/1/2022	3/31/2023	\$ 98,901	\$ 55,385	\$ 154,286
Pulmonary	Dixon, Anne Elizabeth	National Institutes of Health/NIH	FP00002809	Late-Onset Non-Allergic Obese Asthma: Mechanisms and Management	6/7/2022	4/1/2023	3/31/2028	\$ 2,493,349	\$ 1,379,476	\$ 3,872,825
Pulmonary	Irvin, Charles G.	American Lung Association	FP00001819	Deep Phenotyping of the Lung Health Cohort-- Ancillary Study Preliminary Data	7/20/2021	7/1/2021	6/30/2022	\$ 15,000	\$ -	\$ 15,000
Pulmonary	Irvin, Charles G.	American Lung Association	FP00002656	Airways Clinical Research Center	4/11/2022	7/1/2022	6/30/2023	\$ 165,000	\$ -	\$ 165,000
Pulmonary	Irvin, Charles G.	Celdara Medical, LLC	FP00002331	DRIVEN to Scale: Developing the Masterclass for Biotech Entrepreneurship	12/22/2021	7/1/2022	6/30/2025	\$ 714,000	\$ 271,320	\$ 985,320
Pulmonary	Irvin, Charles G.	Dartmouth College	FP00002037	Arsenic Enhances Pro-Inflammatory and Inhibits Pro-resolution Pathways in Response to Influenza Infections Across Generations	9/17/2021	7/1/2022	6/30/2027	\$ 59,240	\$ 33,175	\$ 92,415
Pulmonary	Irvin, Charles G.	National Institutes of Health/NIH	FP00002010	Fostering entrepreneurship in biomedical research	10/14/2021	7/1/2022	6/30/2027	\$ 2,504,995	\$ 172,240	\$ 2,677,235
Pulmonary	Irvin, Charles G.	National Institutes of Health/NIH	FP00002068	Deep Functional Phenotyping of the ALA Lung Health Cohort	11/5/2021	7/1/2022	6/30/2027	\$ 2,741,545	\$ 868,421	\$ 3,609,966
Pulmonary	Irvin, Charles G.	National Institutes of Health/NIH	FP00002171	IDEA Entrepreneurship Training and Community Development	10/27/2021	7/1/2022	6/30/2027	\$ 2,499,995	\$ 172,240	\$ 2,672,235
Pulmonary	Kinsey, Charles Matthew	Quantitative Imaging Solutions, LLC	FP00001898	Detection of Platinum Concentration	8/9/2021	9/1/2021	8/31/2022	\$ 25,330	\$ 14,185	\$ 39,515
Pulmonary	Masquelin, Axel Herve	Natl Cancer Institute/NCI/NIH	FP00002201	Improving the Generalizability of Deep Neural Networks by Teaching them Lung Cancer Pathophysiology	11/23/2021	7/1/2022	6/30/2028	\$ 334,061	\$ 21,864	\$ 355,925
Pulmonary	Morrisette, Katelin Marie	Agency Healthcare Research Quality/AHRQ	FP00002628	Enabling Artificial Intelligence Tools to Improve Point of Care Ultrasound based Diagnosis	6/23/2022	4/1/2023	3/31/2028	\$ 687,618	\$ 337,226	\$ 1,024,844
Pulmonary	Poynter, Matthew E	Howard Hughes Medical Institute	FP00002224	Elucidating the Effects of Adipocyte-derived Factors and Ketone Therapeutic Interventions on Airway Epithelium in theContext of Intrinsic and Non-Intrinsic Obese Asthma	12/13/2021	9/1/2022	8/31/2025	\$ 159,000	\$ -	\$ 159,000

Division	PI	Sponsor	Proposal Number	Long Project Title	Submitted Date	Requested Start Date	Requested End Date	Requested Direct Costs	Requested Indirect Costs	Requested Total Costs
Pulmonary	Stapleton, Renee D.	Healthy Design Ltd. Co.	FP00002511	Novel Therapy Video Game System for Critically Ill Patients to Reduce Cognitive Impairment, Immobility, Sedation, and Agitation	4/11/2022	9/1/2022	8/31/2025	\$ 721,532	\$ 216,147	\$ 937,679
Pulmonary	Stapleton, Renee D.	National Institutes of Health/NIH	FP00002085	Novel intervention bridging inpatient and post-discharge settings to improve functional recovery from hospitalization in older adults (the NeuSTAR trial)	11/5/2021	7/1/2022	6/30/2027	\$ 2,910,668	\$ 972,224	\$ 3,882,892
Pulmonary	Teneback, Charlotte C.	Cystic Fibrosis Foundation	FP00002316	Therapeutics Development Center	1/18/2022	4/1/2022	3/31/2023	\$ 105,525	\$ 12,663	\$ 118,188
Pulmonary	Teneback, Charlotte C.	National Jewish Health	FP00002309	Prospective healthcare-associated links in transmission of nontuberculous mycobacteria in patients with cystic fibrosis	12/21/2021	7/1/2022	6/30/2025	\$ 11,161	\$ 1,339	\$ 12,500
Pulmonary	Weintraub, Zachary	Seattle Children's Hospital	FP00001734	A Phase 1b, Multi-center Study of IV Gallium Nitrate in Patients with Cystic Fibrosis who are Colonized with Nontuberculous Mycobacteria (The ABATE Study)	7/14/2021	7/1/2021	12/31/2022	\$ 71,695	\$ 40,149	\$ 111,844
Pulmonary	Weiss, Daniel Jay	National Science Foundation/NSF	FP00002506	RECODE: Defining Environmental Design Criteria for Directed Differentiation of Type 1 from Type 2 Lung Alveolar Epithelial Cells	4/4/2022	10/1/2022	9/30/2025	\$ 1,287,116	\$ 212,884	\$ 1,500,000
Pulmonary	Weiss, Daniel Jay	United Therapeutics Corporation	FP00001997	Increasing functional recellularization of decellularized pig lungs with human lung cells	12/8/2021	1/1/2022	12/31/2022	\$ 308,591	\$ 98,557	\$ 407,148
Pulmonary	Weiss, Daniel Jay	US Department of Defense/DOD	FP00002186	Continued Clinical Development of a Novel Pleural and Tracheal Sealant	12/2/2021	7/1/2022	6/30/2025	\$ 1,893,582	\$ 906,406	\$ 2,799,988
Pulmonary	Weiss, Daniel Jay	US Department of Defense/DOD	FP00002762	Continued Clinical Development of a Novel Pleural and Tracheal Sealant	6/7/2022	3/1/2023	2/28/2027	\$ 3,996,839	\$ 2,063,727	\$ 6,060,566
							FY'22 Totals	\$ 60,931,185	\$ 23,470,760	\$ 84,401,945