Department of Medicine

ANNUAL REPORT
July 1, 2018 – June 30, 2019

Submitted by:
Polly E. Parsons, MD
E.L. Amidon Chair and Professor
Department of Medicine

Date: September 9, 2019
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair’s Executive Summary</td>
<td>3</td>
</tr>
<tr>
<td>Department of Medicine Standing Committees</td>
<td>5</td>
</tr>
<tr>
<td>Medical Service – UVMMC Practice Sites</td>
<td>17</td>
</tr>
<tr>
<td>Department of Medicine Arrived Clinic Visits</td>
<td>17</td>
</tr>
<tr>
<td>Medical Education</td>
<td>20</td>
</tr>
<tr>
<td>Cardiovascular Division</td>
<td>30</td>
</tr>
<tr>
<td>Dermatology Division</td>
<td>50</td>
</tr>
<tr>
<td>Endocrinology Division</td>
<td>56</td>
</tr>
<tr>
<td>Gastroenterology &amp; Hepatology Division</td>
<td>65</td>
</tr>
<tr>
<td>General Internal Medicine &amp; Geriatrics Division</td>
<td>70</td>
</tr>
<tr>
<td>Hematology/Oncology Division</td>
<td>78</td>
</tr>
<tr>
<td>Hospital Medicine Division</td>
<td>97</td>
</tr>
<tr>
<td>Immunobiology Division</td>
<td>103</td>
</tr>
<tr>
<td>Infectious Diseases Division</td>
<td>110</td>
</tr>
<tr>
<td>Nephrology Division</td>
<td>122</td>
</tr>
<tr>
<td>Pulmonary and Critical Care Medicine Division</td>
<td>129</td>
</tr>
<tr>
<td>Rheumatology and Clinical Immunology Division</td>
<td>149</td>
</tr>
<tr>
<td>Research Funding</td>
<td>157</td>
</tr>
</tbody>
</table>
Chair’s Executive Summary

The Department of Medicine had another incredible year: We welcomed 21 faculty over the past year (July 1, 2018-June 30, 2019), with an additional 18 faculty already hired to start later in 2019 and early 2020, and celebrated the numerous achievements and recognition awards of our faculty, staff, house staff and students.

The Department continues to further its integration into the new Health Network through the recruitment of new faculty and the expansion of clinical services. New faculty have joined the divisions of Cardiology, Dermatology, General Internal Medicine & Geriatrics, Hematology Oncology, Hospital Medicine, Infectious Diseases, Nephrology, Pulmonary & Critical Care Medicine, and Rheumatology. They are helping to further collaborate between community and faculty colleagues and increase access to services in the region. We have been all-hands-on-deck with managing access improvements (increasing demand for outpatient clinical services by development enhanced clinical and referral pathways, and management of discharged inpatients to see them in a timely manner); moving into a new Inpatient bed tower (Miller Building) which enhanced patient care by moving patients into innovative single bed rooms, but expanded our core medicine census by roughly 20-25 beds per day; and preparing for an upgrade and expansion of our electronic health record across the Network.

Under the leadership of the Vice Chairs – Allen Repp, MD (Quality); Benjamin Suratt, MD (Faculty Affairs); and Charles Irvin, PhD (Research), the department has substantially increased our focus and opportunities in quality (http://www.med.uvm.edu/medicine/quality); faculty development (http://www.med.uvm.edu/medicine/subspecialty/Academic-Affairs/faculty-development-committee); and research (http://www.med.uvm.edu/medicine/research). The department recognizes the substantial contributions of our faculty with departmental awards for mentorship, quality and clinical excellence. This year, Drs. Cushman and Irvin received the Mentor awards, Drs. Allen received the award for Quality Scholarship and Drs. Noyes and Sprague were recognized as Distinguished Clinicians.

Education is a core mission for the department. Faculty continue to engage innovative new programs at UVM as well as at our affiliate sites. To further enhance and integrate our education mission, the Education Council, chaired by Kathryn Huggett, PhD., meets monthly to review education topics, issues, and initiatives. Faculty continue to be highly engaged in the Teaching Academy: Dr. Amanda Kennedy was recognized as a Distinguished Educator, and Drs. Kelsey Donovan, Eric Ganguly, Hadley-Strout, Kelly and Thornton were all inducted as members. Three faculty, Drs. Chen, Hill and Onuijgo completed the 2018-19 Teacher Academy Medical Education Fellowship Program. In recognition of their substantial contributions to education, The Larner College of Medicine Class of 2019 honored Drs. Farkas and Kaminsky with the Alpha Omega Alpha Honor Society Faculty Award and Drs. Florian Foerg and Rand with the Clinical Teacher of the Year Award, Dr. Bertsch with the 2019 Frederick Morin Educational Leadership Award, and Dr. Pinckney with the CMIE Educator of the Year, 2018-2019: The Department E. L. Amidon recipient was Dr. Hale and the Mark A. Levine MD Award recipient was Dr. Jindal.
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. Neil Zakai’s project entitled “Thrombosis and Bleeding Risk Assessment in Medical Inpatients”, Dr. Ben Suratt’s project entitled “Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME), Dr. Anne Dixon’s project entitled “Mitochondrial Redox Perturbations in Obese Allergic Asthma”, Dr. Chris Huston’s project entitled “Preclinical Optimization of a Parasiticidal Drug for Cryptosporidium” and Dr. Jason Botten’s project entitled “Mapping the Zika Virus Phosphoproteome”. In recognition of their contributions to research, Dr. Bates was named a Research Laureate at the College of Medicine and Dr. Renee Stapleton was the recipient of the Research Mentor Award from the College of Medicine. Members of our faculty received new patents and licenses and are the founders of start-ups.

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 and advisory councils, FDA review panels and editorial boards. They are invited from around the world to present at scientific meetings and to be visiting professors, and they are elected to leadership in national societies. They also receive significant recognition from their national and international colleagues: Dr. Bates received the Joseph Rodarte Award from the American Thoracic Society and Dr. Lahey received the 2019 Albert Schweitzer Fellowship Leadership Award.

It is impossible to list all of the significant contributions of all of our faculty, trainees, students and staff but they can be found throughout this report. Without the incredible dedication, expertise and excellence of our entire department we could not succeed.

Physician Leader and Chair
Polly E. Parsons, MD
Vice Chairs
- Education Council: Kathryn Huggett, MD
- Research: Charles Irvin, PhD
- Academic Affairs: Benjamin Suratt, MD
- Quality: Allen Repp, MD
Director: Allen Mead
Director, GIM & Geriatrics: Tammy Stockton, RN
Director, Hematology/Oncology: Jake Hammond
Supervisor, Med Ops Support Svcs.: Laurie St. Gelais
Financial Administrator: Jessica Hendela
Grants Manager: Tina Mazuzan
Financial Associate: Marlene Frank
HR Administrator: Bridget Tully

Department of Medicine, University of Vermont Division Chiefs
- R. Budd, MD, Immunobiology
- B. Libman, MD, Rheumatology
- W. Kemper Alston, MD, Infectious Diseases
- G. Goldman, MD, Dermatology
- J. Schnure, MD, Endocrinology, Metabolism, & Diabetes
- B. Littenberg, MD, General Internal Medicine Research
- J. Gilwee, MD, General Internal Medicine & Geriatrics
- C. Holmes, MD, Interim, Hematology/Oncology
- A. Dixon, MD, Pulmonary and Critical Care Medicine
- D. Schneider, MD, Cardiovascular
- R. Solomon, MD, Nephrology
- R. Zubari, MD, Gastroenterology

Total faculty: 216
By rank –
Assistant Professors: 107
Associate Professors: 47
Professors: 55
Clinical Practice Physicians: 5
Faculty Scientists: 2

By gender – 94 female; 122 male

By track – Tenured: 38
Research Scholar Pathway: 5
Tenure Pathway: 4
Clinical Scholar Pathway: 156
Education Scholar Pathway: 6
Clinical Practice Physician – 5
Faculty Scientist: 2

Faculty Actions:
FALL 2018 – Five (5) promotions; One (1) reappointment; 10 annual review reappointments
SPRING 2019 – 38 full reappointments; 13 annual review reappointments; 22 volunteer pathway faculty reappointments.

Promotions (7/1/19):
Joshua Farkus – to Associate Prof. CSP
Prospero Gogo – to Professor, CSP
Macaulay Onuigbo – to Professor, CSP
Renee Stapleton – to Professor, with Tenure
Christine Weinberger – to Associate Prof. CSP
Department of Medicine – Standing Committees

Medicine Credentials Committee

G. Goldman, Chair
M. Lazarovich, MD
K. Pierce, MD
D. Schneider, MD
J. Schnure, MD
R. Solomon, MD
J. Vecchio, MD
M. Wood, MD

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

P. Gogo, Chair
H. Dauerman
E. Terrien
M. Watkins
T. Fortner
S. Beausoleil

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

D. Kaminsky, Chair
F. Keating
N. Ferrentino
G. Garrison
M. Gilbert
P. Gogo
D. Kaminsky
B. Libman
M. Pasanen
K. Pierce
P. Spector
Committee Mission:
The primary mission of the Fellowship Directors’ Education Committee is to provide a forum and improve the training, education and overall experience for all Fellows throughout the UVMMC and to support, and develop the potential of each Fellow; in doing so, the Fellows will become an asset to the medical community providing outstanding care and contributions.

Resident Research Committee
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

H. Sobel, Chair
J. Bartsch
R. Clouser
S. Eldakar-Hein
C. Farnham
E. Ganguly
F. Keating
K. Parker
M. Pasanen
J. Powelson
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
Shaden Eldakar-Hein, MD - 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
M. Pasanen, MD - Chair
G. Nair (Chief Resident)
H. Wright, MD (Chief Resident)
E. Kozakewich (Chief Resident)
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**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allen Repp, MD</td>
<td>Committee Chair</td>
</tr>
<tr>
<td>Allen Mead, MHSA</td>
<td>Administration</td>
</tr>
<tr>
<td>Pam Stevens, RN, MSN</td>
<td>Jeffords Institute for Quality</td>
</tr>
<tr>
<td>Amanda Kennedy, PharmD</td>
<td>Dept. of Medicine Quality Scholar</td>
</tr>
<tr>
<td>Stephen DeVoe, MPH, MS</td>
<td>Dept. of Medicine Quality Program Project Director</td>
</tr>
<tr>
<td>Peter VanBuren, MD</td>
<td>Cardiovascular Medicine</td>
</tr>
<tr>
<td>Melanie Bui, MD, PhD</td>
<td>Dermatology</td>
</tr>
<tr>
<td>Juan Pablo Perdomo Rodriguez, MD</td>
<td>Endocrinology and Diabetes</td>
</tr>
<tr>
<td>Richard Zubarik, MD</td>
<td>Gastroenterology and Hepatology</td>
</tr>
<tr>
<td>Marie Sandoval, MD</td>
<td>General Internal Medicine and Geriatrics</td>
</tr>
</tbody>
</table>
Farrah Khan, MD  
Hematology and Oncology

Preetika Muthukrishnan, MD  
Hospital Medicine

Maria Burnett, MD  
Hospital Medicine

Timothy Whitman, DO  
Infectious Disease

Jeffrey Rimmer, MD  
Nephrology

Gil Allen, MD  
Pulmonary Disease and Critical Care

Scott Legunn, MD  
Rheumatology and Clinical Immunology

Kramer Wahlberg, MD  
Chief Residents

Maria Airoldi, RPh  
Pharmacy

Susan Bellemare, RN  
Pharmacy

Tammy Berrings, RN  
Nursing

Peg Gagne, RN  
Nursing

Committee Mission:
To monitor, assess and continuously improve the quality and safety of health care provided by the UVMMC by reviewing, evaluating, and continuously improving the care delivered by the Medicine Health Care Service.

Faculty Engagement Committee

J. Kelly, Chair
K. Cheung
F. Khan
A. Nevares
C. Noyes
J. Pierson
S. Reddy
M. Sandoval
T. Stockton
B. Suratt
T. Thornton
M. Zeglin
L. Pitrowiski – Admin support

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

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

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
R. Budd, Chair  
C. Irvin

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

Medicine Operations Committee

F. Keating, Chair  
J. Kelly  
N. Bethina  
S. Patil  
S. Grant  
D. Haddock  
T. Holmes  
J. Powelson  
L. Smith  
A. Kumar  
R. Zubarik  
R. Clouser  
A. Mead
Committee Mission:
The Department of Medicine Operations Committee serves to improve operational efficiency and cross-divisional collaboration. To that end, the committee reviews operational data and compares practices across the Divisions, and advises the Departmental leadership (Chair and Unit Chiefs) regarding operational matters.

Department of Medicine Faculty Development Committee

The Faculty Development 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 burnout
- The Quarterly Faculty Development newsletter for the DOM

The current membership of the committee is listed below. Please contact Ben Suratt or your divisional representative with questions.

<table>
<thead>
<tr>
<th>Member</th>
<th>Division/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph Pierson, MD</td>
<td>Chair</td>
</tr>
<tr>
<td>Benjamin Suratt, MD</td>
<td>Ex officio, Vice Chair of Medicine for Academic Affairs</td>
</tr>
<tr>
<td>Lisa Pitrowiski</td>
<td>Administration</td>
</tr>
<tr>
<td>Maura Barry, MD</td>
<td>Hematology/Oncology</td>
</tr>
<tr>
<td>Narandra Bethina, MD</td>
<td>Rheumatology</td>
</tr>
<tr>
<td>Jason Botten, PhD</td>
<td>Immunobiology</td>
</tr>
<tr>
<td>Garth Garrison, MD</td>
<td>Pulmonary &amp; Critical Care Medicine</td>
</tr>
<tr>
<td>Nicholas Ferentino, MD</td>
<td>Gastroenterology</td>
</tr>
<tr>
<td>Member</td>
<td>Division/Position</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Matthew Gilbert, DO</td>
<td>Endocrinology</td>
</tr>
<tr>
<td>Farrah Khan, MD</td>
<td>Hematology/Oncology</td>
</tr>
<tr>
<td>Robert Lobel, MD</td>
<td>Cardiology</td>
</tr>
<tr>
<td>Rachel McEntee MD</td>
<td>Hospitalist Medicine</td>
</tr>
<tr>
<td>John Miller, MD</td>
<td>Primary Care Medicine</td>
</tr>
<tr>
<td>Kristen Pierce, MD</td>
<td>Infectious Disease</td>
</tr>
<tr>
<td>Marios Prikis, MD</td>
<td>Nephrology</td>
</tr>
<tr>
<td>Mario Velez, MD</td>
<td>Gastroenterology</td>
</tr>
<tr>
<td>Christine Weinberger, MD</td>
<td>Dermatology</td>
</tr>
</tbody>
</table>
Department of Medicine Reappointment, Promotions, and Tenure Committee

The Reappointment, Promotions, and Tenure Committee is composed of 3 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.

The current membership of the committee is listed below. Please contact Ben Suratt with questions.

**Tenure Pathway and Promotions Subcommittee**

<table>
<thead>
<tr>
<th>Member</th>
<th>Division/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jason Bates, PhD</td>
<td>Chair</td>
</tr>
<tr>
<td>Harold Dauerman, MD</td>
<td>Cardiology</td>
</tr>
<tr>
<td>Christopher Huston, MD</td>
<td>Infectious Disease</td>
</tr>
<tr>
<td>Benjamin Littenberg, MD</td>
<td>GIM</td>
</tr>
<tr>
<td>Caroline Lyon, MD</td>
<td>Hospitalist Medicine</td>
</tr>
<tr>
<td>Charles Maclean, MD</td>
<td>GIM</td>
</tr>
<tr>
<td>Joseph Pierson, MD</td>
<td>Dermatology</td>
</tr>
<tr>
<td>Renee Stapleton, MD, PhD</td>
<td>Pulmonary &amp; Critical Care Medicine</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Member</th>
<th>Division/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kristen Pierce, MD</td>
<td>Chair</td>
</tr>
<tr>
<td>Tanya Bertsch, MD</td>
<td>GIM</td>
</tr>
<tr>
<td>Shaden Eldakhar-Hein, MD</td>
<td>Hospitalist Medicine</td>
</tr>
<tr>
<td>Matthew Gilbert, DO</td>
<td>Endocrinology</td>
</tr>
<tr>
<td>Peter Kaufman, MD</td>
<td>Hematology/Oncology</td>
</tr>
<tr>
<td>Chi-Chi Lau, MD</td>
<td>Rheumatology</td>
</tr>
<tr>
<td>Doris Strader, MD</td>
<td>Gastroenterology</td>
</tr>
<tr>
<td>Peter Van Buren, MD</td>
<td>Cardiology</td>
</tr>
<tr>
<td>Timothy Whitman, DO</td>
<td>Infectious Disease</td>
</tr>
</tbody>
</table>

Volunteer Pathway Reappointment Subcommittee

<table>
<thead>
<tr>
<th>Member</th>
<th>Division/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claudia Berger, MD</td>
<td>Chair</td>
</tr>
<tr>
<td>Roberta O'Brien, MD</td>
<td>GIM</td>
</tr>
<tr>
<td>Garth Garrison, MD</td>
<td>Pulmonary &amp; Critical Care Medicine</td>
</tr>
</tbody>
</table>

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

C. Irvin, PhD, chair
R. Budd, MD
M. Poynter, PhD
M. Toth, PhD
J. Gupta, PhD
A. Atherly, MD
M. Cushman, MD
M. Bui, MD PhD
S. Lidofsky, MD PhD
M. Meyer, MD
R. Solomon, MD
A. Repp, MD
C. MacLean, MD
C. Lyon, MD
T. Mazuzan – Staff
M. Rowen – Staff

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 of 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
T. Holmes, MD
G. Goldman, MD
C. Weinberger, MD
M. Bui, MD
A. Fischer, MD
K. Morley, MD
Medical Service
Patient Days: 54,759 (inpatients and bedded outpatients)
Ambulatory Care Visits: 249,178 (183,362 specialty care and 65,816 primary care)
Work RVUs: 595,365 work RVUs

UVMMC Practice Sites:
Ambulatory Care Center – Medicine has a presence in five Modules:
- Medicine: Infectious Disease (including Travel Medicine), Osteoporosis Center, Rheumatology and Clinical Immunology, and Pulmonary (including PFTs), 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, and
- Surgery: Gastroenterology

University Health Center
- Nephrology
- Sleep Medicine

Tilley Drive, South Burlington
- Cardiology and Cardiac Rehabilitation, Oncology Rehabilitation, Pulmonary Rehabilitation
- Endocrinology and Endocrine Clinical Research

Fanny Allen Hospital
- Memory Clinic
- Vermont Lung Center (Pulmonary Research)

UVMMC Outreach Sites:

Vermont
Brattleboro (BMH) – Infectious Disease
St. Albans (Northwestern Medical Center) – Nephrology, Cardiology, and Endocrinology
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
Massena (MMH) – Cardiology
Plattsburgh (CVPH) – Cardiology, Infectious Disease, Dermatology

Primary Care Sites (General Internal Medicine and Geriatrics):
South Burlington
Essex Junction
Burlington (University Health Center)
Williston

Nursing Homes and Other Locations:
Elderwood Nursing Facility
The Arbors at Shelburne
The Department also participates in many multidisciplinary clinics:

**Department of Medicine Multidisciplinary Clinics and Case Conferences/Tumor Boards**
(examples of participants in parentheses)

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

**Under Development**
• Hepatitis C e-consults (Gastroenterology and General Internal Medicine)
Medical Education 2018-2019

Education Council:

Members: Jan Carney, MD; Katie Huggett, PhD (Chair); David Kaminsky, MD; Roberta O’Brien, MD; Joe Pierson, MD; Mark Pasanen, MD

Staff: Ellen Dimick

The Department of Medicine Education Council includes representation from clerkships, residency programs, fellowship programs, the MPH program, and the Teaching Academy. The Education Council is charged to integrate teaching activities across the department. Specific goals are: Increase satisfaction of all students/trainees; Faculty development: Enhance the quality of teaching and increase scholarship; Identify new opportunities, e.g., courses, graduate degrees, and electives; and Assess effectiveness of programs, e.g., the academic half-day and the inpatient medicine clerkship.

For the period July 1, 2018 to April 2019, the committee met seven times. Business items included sharing of education activities across the department; updates on pertinent topics (e.g., Active Learning); discussion of new developments (e.g., AAIM Sub-internship 2.0 Curriculum) and focused discussion of program quality (e.g., the inpatient internal medical clerkship). Meeting topics listed below.

August 2018

1. Follow-up on June discussion of Clinician Educator Fellowship concept
2. Promoting Teaching Academy membership
3. Education news in the Department
   o New APD
   o New chair for resident research committee
   o VT LIC for medical students
4. Compiling and sharing a list of upcoming education-related opportunities at LCOM and beyond
5. White Coat Ceremony 2018

September 2018

1. Next steps and projects for the Education Council
2. Careers in medicine programming for medical students
3. Information for slides for the DOM prior to Grand Rounds AAIM Sub-internship 2.0 Curriculum

October 2018

1. Dr. Jesse Moore, Director of Active Learning for LCOM
2. Dr. Garrison and Dr. Pasanen will discuss the
3. Late 4th year rotation to prepare folks going into Internal Medicine
4. Teaching Academy Award Nominations
December 2018
1. Reviewed faculty list for educator development and leadership roles
2. Dr. Garrison and Dr. Pasanen discussed the AAIM Sub-internship 2.0 Curriculum
3. Annual identification of faculty for education awards and opportunities

February 2019
1. Dr. Bartsch provided a progress report on enhancements to the medical student clerkship.
2. Continued to propose Grand Rounds topics and speakers.

March 2019
1. Added to the list of Potential Grand Rounds topics and speakers: Lisa Rosenbaum, MD: Contributor to NEJM
2. Update on new Residents and Students as Teachers elective.
3. Follow-up on last month’s discussion of the M3 Inpatient Clerkship. Dr. Huggett will share this with Dr. Parsons along with the summary of focus group and survey results when available in late April/early May. The group agreed it may be useful to invite 1-2 outside consultants (e.g., experienced clerkship directors) to visit, review the clerkship and student feedback, and make recommendations.
4. Continued the discussion of department members who should be encouraged to apply or considered for opportunities, awards, etc.

April 2019
1. LCOM updates (e.g., Commencement information)
2. LCME updates
3. Update on Inpatient Medicine focus group and survey
4. Planning for 2019-2020 visiting speakers, including potential GR guests
5. Plan to invite Dr. Rahimyar to join May meeting (via zoom). Dr. Rahimyar is the new Clerkship Director – IM/WCHN-NV (now Nuvance), pending MCC approval.
6. GME Updates. Dr. Kaminsky shared information from the recent quarterly meeting of fellowship program directors.

Internal Medicine Residency Program:

1. Leadership

Mark Pasanen, M.D., FACP – Program Director
Shaden Eldakar-Hein, M.S., M.D., FACP – Associate Program Director
Halle Sobel, M.D., FACP – Associate Program Director
Kate Parker and Christine Farnham – Program Administrators

2. Summary of Program Highlights 2018-2019

Enhancements to Curriculum:
Starting in 2015, we have completely revamped our approach to didactic education – with a move to focus our curriculum around subspecialty-specific blocks. This included a decision to switch to an academic half-day model – in which residents have protected academic time for learning. Residents are split into two cohorts (first-year residents and senior residents), allowing our curriculum to be targeted at the learner level. In addition, as part of this change, we encouraged our faculty to develop more interactive teaching methods – which has been well received by both faculty and residents. The switch to an academic half-day model allowed for a more comprehensive curriculum, including robust Improvement Science and Wellness initiatives. In addition, in the past year, we have moved Morning Report to Noon – now “Noon Report” to allow for increased attendance, and better engagement. This has also been a very successful change.

Board Preparation:
In the class that graduated in 2018, the ABIM board pass rate was 100%. This brings our 3-year pass rate up to 95%, which is above the national average. 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 2nd and 3rd year residents with subscriptions to NEJM Knowledge (+), a mobile question-based board review product with an adaptive learning interface as part of our commitment to ABIM Board success.

Continuity Clinic Update:
We continue to take advantage of the block schedule to optimize education. With the leadership of Drs. Halle Sobel and Rich Pinckney – along with a core of faculty preceptors, small group learning sessions continue to be developed and are extremely well received by residents – all part of a comprehensive 3-year curriculum. Residents are educated on practice management, patient safety and quality improvement and continue to complete personal practice improvement projects. At the core of the experience is providing care for a diverse population of primary care patients. In addition, we have incorporated the PEAC self-learning modules and the Yale Ambulatory Curriculum, both focused on common ambulatory issues, into the formal educational experience.

Wellness:
Over the last 3 years, we have initiated a Resident Wellness Committee, with the goal of promoting resiliency by creating opportunities for our residents to engage in activities with each other and our community. Events have included attending a Lake Monsters game, picking apples and making cider, paddle-boarding, paint-and-sip, along with dinners at the Hope Lodge (cooked and served by our residents every other month).

Improvements in Evaluation/Assessment:
With leadership from Dr. Sobel, our robust Clinical Competency Committee reviews all of our residents at least bi-annually, providing milestone-based evaluations and feedback. In addition, this group now provides insight and guidance for residents who benefit from more structured support. Over the past year, we have refined our evaluations, with the goal of getting the most important information in the most efficient way possible.

Recruitment:
With leadership from Dr. Eldakar-Hein, we had another fabulous resident recruitment cycle. Given the significant increase in the number of programs each student applies to, we have increased the number of resident candidates we interviewed. Numerous faculty volunteered their time, resulting in one of our most successful recruitment seasons on record.

Procedural/Ultrasound Training:
One of our priorities over the past 2 years has been to improve our resident procedural and ultrasound skills. We have initiated an ultrasound elective, and have developed a simulation-based checklist for paracentesis (including a video). In addition, we continue to collaborate with colleagues in the Department of Medicine and other departments with the goal of getting our residents opportunities to perform desired procedures.

3. List of All Residents (as of July 1, 2019 – Graduating Residents and Match Results below)

**PGY-3**

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin Gilkey</td>
<td>University College Cork, Ireland</td>
</tr>
<tr>
<td>Edwin Goncharuk</td>
<td>University of New England College of Osteopathic Medicine</td>
</tr>
<tr>
<td>Benjamin Irvine</td>
<td>University of Wisconsin School of Medicine and Public Health</td>
</tr>
<tr>
<td>Darren Knox</td>
<td>University of Wisconsin School of Medicine and Public Health</td>
</tr>
<tr>
<td>Daniel Krakauer</td>
<td>Virginia Tech Carillion School of Medicine</td>
</tr>
<tr>
<td>Yao Li</td>
<td>Albany Medical College</td>
</tr>
<tr>
<td>Steven O'Neill</td>
<td>West Virginia University School of Medicine</td>
</tr>
<tr>
<td>Katherine Peterson</td>
<td>University of New England College of Osteopathic Medicine</td>
</tr>
<tr>
<td>Louis-Bassett Porter</td>
<td>Pennsylvania State University School of Medicine</td>
</tr>
<tr>
<td>Elly Riser</td>
<td>University of Washington School of Medicine</td>
</tr>
<tr>
<td>Brendan Thoms</td>
<td>Imperial College of Medicine, United Kingdom</td>
</tr>
<tr>
<td>Shawn Wayne</td>
<td>University of Wisconsin School of Medicine</td>
</tr>
<tr>
<td>Andrew Wilks</td>
<td>Tufts University School of Medicine</td>
</tr>
<tr>
<td>Christopher Wargo</td>
<td>University of Queensland, Australia</td>
</tr>
<tr>
<td>Scott Young</td>
<td>University of Washington School of Medicine</td>
</tr>
</tbody>
</table>

**PGY-2**

**Categorical**

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eric Anderson</td>
<td>Medical College of Wisconsin</td>
</tr>
<tr>
<td>Jennifer Bergeron</td>
<td>Tufts University School of Medicine</td>
</tr>
<tr>
<td>Kenyon “KC” Bolton</td>
<td>Robert Larner, MD, College of Medicine at the University of Vermont</td>
</tr>
<tr>
<td>Benjamin Depo</td>
<td>State University of New York Upstate</td>
</tr>
<tr>
<td>Matthew Gervais</td>
<td>Pennsylvania State University College of Medicine</td>
</tr>
<tr>
<td>J. Curtis Gwilliam</td>
<td>Robert Larner, MD, College of Medicine at the University of Vermont</td>
</tr>
<tr>
<td>Sundas Khan</td>
<td>Lewis Katz School of Medicine at Temple University</td>
</tr>
<tr>
<td>Carrie Mahurin</td>
<td>University of North Dakota School of Medicine and Health Sciences</td>
</tr>
<tr>
<td>Emily McPherson</td>
<td>University of New England School of Osteopathic Medicine</td>
</tr>
<tr>
<td>Jacqueline Parker</td>
<td>Weill Cornell Medicine</td>
</tr>
<tr>
<td>Kevin Qin</td>
<td>University of Toledo College of Medicine and Life Sciences</td>
</tr>
<tr>
<td>Samantha Steinmetz-Wood</td>
<td>Royal College of Surgeons in Ireland</td>
</tr>
<tr>
<td>Andrew Wall</td>
<td>Albany Medical College</td>
</tr>
<tr>
<td>Joshua Zimmer</td>
<td>Quillen College of Medicine at East Tennessee State University</td>
</tr>
</tbody>
</table>
4. Resident and Faculty Awards

- The Harriet P. Dustan, M.D. Award
  *Kramer Wahlberg, M.D.*

- The Frank L. Babbott, M.D. Memorial Award
  *Kramer Wahlberg, M.D.*

- Richard E. Bouchard, M.D.
  Excellence in Primary Care Award
  *Emily Hadley Strout, MD*

- E.L. Amidon, M.D. Award
  Outstanding Teacher of the Year
  Subspecialty Medicine
  *Andrew Hale, M.D.*

- Mark A. Levine, M.D. Award
  Outstanding Teacher of the Year
  General Internal Medicine
  *Mohit Jindal, M.D.*

5. Resident presentations at local/regional/national meetings and publications

**Resident Research Day: May 28, 2019**

**Oral Presentations:**

Sean Bullis, MD
*Prognosis Following Valve Replacement Surgery for Infective Endocarditis Among Persons Who Inject Drugs*
Sean Bullis MD, Krystine R. Spiess DO, W. Kemper Alston MD, MPH

Alejandro Castro, MD
*Yogic Breathing and Mindfulness Improve Symptom Burden During Dialysis*
Alejandro Castro MD, Amy Castro-Brown DO, Katharine Cheung MD, Jacqueline Hoops RN

Kramer Wahlberg, MD
A Higher Heart Rate Improves Quality of Life and Functional Capacity in Patients with Left Ventricular Diastolic Dysfunction
Kramer Wahlberg MD, Maren E. Arnold MS, Daniel Lustgarten MD, PhD, Markus Meyer MD

**Poster Presentations:**

Gurpinder Gill, MD
*Predictive Characteristics for Patients No-showing to their Outpatient Medicine Appointments*
Gurpinder Gill MD, Richard Pinckney MD

Gary Gilmond III, MD
*Development and Utility of an Adult ADHD Symptom Scale*
Gary Gilmond III MD, Richard Pinckney MD, MPH

Emily Hadley Strout, MD
*Internal Medicine Resident Experiences with a 5-month Ambulatory Panel Management Curriculum*
Emily Hadley Strout MD, Alison Landrey MD, Charles MacLean MD, Halle Sobel MD

Shah Khan, MD
*Suicide Prevention with Emergency Department Administration of Ketamine (S.P.E.A.K.)*
Shah Khan MD, Kelley-Anne Klein MD, Steven Runyan DO, Debra Lopez MD, Allison Holm PhD, Kyle Dewitt PharmD, Deanna Ryerson PhD, Chris Lewis, Eike Blohm MD

Elizabeth Levine, MD
*Utility of Routine Screening Tests for Specific Infectious Diseases in the New American Refugee Population of Chittenden County, Vermont*
Elizabeth Levine MD, Mary Ramundo MD

Brennan Rigby, MD
*Review of Hospital Cardiopulmonary Arrest Patient Outcomes Measured Before and After Initiation of Resident “Mock Code Blue” Curriculum: An Analysis of ACLS Team Leadership Simulation Effectiveness on Inpatient Cardiopulmonary Arrest Mortality and Adherence to AHA Guidelines at the University of Vermont Medical Center*
Brennan Rigby MD, Elena Kozakewich MD, Carrie Mahurin MD, Johanna Sheehey-Jones, Joan Skelly, Amy Lynn Teleron MD, FACP

Avneet Singh, MD
*Implementing a Protocol for Thorough Neuro-prognostication in the Post-Cardiac Arrest Patient*
Ryan Clouser DO, Michael Theriault MD, Gilman Allen MD, Brett Erdreich MD

Michael Stutzman, MD
*Effects of Nostalgia-Directed Music Therapy on Nursing Home Residents with Dementia*
Elizabeth Wahlberg, MD
*Improving Inpatient Glycemic Management for Patients with Type 2 Diabetes: Results of a Quality Improvement Initiative*
Elizabeth Wahlberg MD, Preetika Muthukrishnan MD, Maria Burnett MD, Kaitlyn Vennard DO, Matthew Gilbert DO, Allen Repp MD

Sasha Waldstein, MD
*Integration of Palliative Care into the Inpatient Oncology Service*
Sasha Waldstein MD, Benjamin Smith, Jose Ruades MD, Johannes C Nunnink MD

**Vermont ACP Scientific Meeting** October 2019

<table>
<thead>
<tr>
<th>Presenter</th>
<th>Mentor(s)</th>
<th>Title</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andrew Wilks, MD</td>
<td>Dan Douce MD, Chris Holmes MD PhD</td>
<td>Prophylactic anticoagulation and bleeding risk in ambulatory cancer patients on cancer-directed therapy</td>
<td>Research</td>
</tr>
<tr>
<td>Kramer Wahlberg, MD</td>
<td>Shea Lambirth MD, Zechariah Gardner MD</td>
<td>Improving Patient’s Ability to Identify Their Physicians Through the Use of Physician Facecards and Whiteboards</td>
<td>Research</td>
</tr>
<tr>
<td>Daniel Krakauer, MD</td>
<td>Elizabeth Doughty, BS, Kitty Victoria, MD, Farrah Khan, MD, Julian Sprague, MD, PHD, Neil A. Zakai, MD, MSc</td>
<td>Thrombotic Thrombocytopenic Purpura or Immune Thrombocytopenic Purpura? A Tale of Two Thrombocytopenias</td>
<td>Clinical Vignette</td>
</tr>
<tr>
<td>Elizabeth Wahlberg, MD</td>
<td>Allen Repp, MD, MSc</td>
<td>Identifying Drivers of Severe Hyperglycemia in Hospitalized Adults with Type 2 Diabetes</td>
<td>Research</td>
</tr>
<tr>
<td>Charles Cubberley, MSIII</td>
<td>Sherrie Khadanga, MD; Charles MacLean, MD; Johannes Steiner, MD</td>
<td>Piloting a Social Determinants of Health Survey in a Population of Heart Failure Patients at UVM Medical Center</td>
<td>Research</td>
</tr>
<tr>
<td>Julia Powelson, MD</td>
<td>Maryellen Antkowiak, MD, Hibba Rehman, MD</td>
<td>Cardiotoxicity of carfilzomib: a case report</td>
<td>Clinical Vignette</td>
</tr>
<tr>
<td>Brennan Rigby, MD</td>
<td>Kristen Pierce, MD</td>
<td>Relapse or Resistance? A Story of Babesiosis</td>
<td>Clinical Vignette</td>
</tr>
</tbody>
</table>

**Publications:**

**Hadley Strout, E, Landrey, AR, MacLean, CD, Sobel, HG.** Internal medicine resident experiences with a five-month ambulatory panel management curriculum, Journal of Graduate Medical Education. 10:5, 2018.

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. Academic Psychiatry. Accepted April 2019

**National/Regional Presentations:**
Tarleton E.K., **Hadley Strout E.,** LaMantia M.A. “Nutritional Assessment of Older Adults with Hip Fracture: A Systematic Review” Poster/Abstract.
- May 2nd, American Geriatrics Society 2019 Annual Scientific Meeting, Portland, OR
- April 19th, 2019 University of Vermont Department of Medicine Quality Showcase, Burlington, VT
- May 15th, 2019 University of Vermont Health Network Jeffords Institute for Quality 15th Annual Quality Forum, Burlington, VT

Wahlberg EA, Repp AB
“Perceived Barriers to Guideline-Based Diabetes Care in Hospitalized Adults”
- Poster presentation at the 2019 ACP National Meeting; April, 2019, Philadelphia, PA

- Presented at 2019 National Kidney Foundation (NKF) Meeting. May, 2019 Boston, MA.

Wahlberg KJ, Lambirth S, Gardner Z. Improving Patients’ Ability to Identify Their Physicians Through the Use of Physician Facecards and Whiteboards.
- Poster presentations at the following:
  - University of Vermont Medical Center Department of Medicine Quality Forum. Burlington, VT. April 19, 2019
  - University of Vermont Medical Center Graduate Medical Education Recognition Day Scholarly Activity Poster Session, February 5, 2019. Burlington, VT.
  - Vermont ACP Chapter Meeting, October 12, 2018. Stowe, VT.

Wahlberg KJ, Arnold ME, Lustgarten D, Meyer M. A Higher Heart Rate Improves Quality of Life and Functional Capacity in Patients with Diastolic Dysfunction.

Beatty D, Eldakar-Hein S, Fries T, Onuigbo M, Wahlberg KJ. Diagnosing and Remediating the Clinical Learner.

- Oral presentation and workshop at the 2018 APDIM Fall Meeting, Orlando, FL. October 26, 2018.
6. Graduating Residents – where are they going/ which fellowships

Sean Bullis, Fellowship, Infectious Disease, University of Vermont Medical Center
Alejandro Castro, Hospitalist, University of Vermont Medical Center
Gurpinder Gill, Primary Care, Brigham and Womens’ Hospital, Boston, MA
Gary Gilmond, Primary Care, University of Vermont Medical Center
Emily Hadley Strout, Primary Care, University of Vermont Medical Center
Shah Khan, Emergency Medicine, North Country Hospital, Newport, VT
Elizabeth Levine, Primary Care, TBD
Julia Powelson, Chief Medical Resident, University of Vermont Medical Center
Brennan Rigby, Chief Medical Resident, University of Vermont Medical Center
Avneet Singh, Fellowship, Pulmonary/Critical Care, The Ohio State University Med Center
Michael Stutzman, Chief Medical Resident, University of Vermont Medical Center
Elizabeth Wahlberg, Chief Medical Resident, University of Vermont Medical Center
Kramer Wahlberg, Chief Medical Resident, University of Vermont Medical Center
Sasha Waldstein, Fellowship, Hematology/Oncology, Pennsylvania State University

Chief Medical Residents

Elena Kozakewich, Fellowship, Pulmonary/Critical Care, University of Vermont Medical Center
Gatha Nair, Fellowship, Cardiology, Rush Medical Center
Heather Wright, Fellowship, Hematology/Oncology, Dartmouth Hitchcock Medical Center

7. MATCH RESULTS - Spring 2019

PGY-1

Categorical

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

Preliminary

Alexander Marchese (Radiology), Robert Larner, M.D., College of Medicine at the University of Vermont
Margaret Johnston (Dermatology), Robert Larner, M.D., College of Medicine at the University of Vermont
Santana VanDyke (Dermatology), University of Virginia School of Medicine
Patrick Hartnett (Neurology), Donald and Barbra Zucker School of Medicine at Hofstra/Northwell
Parisa Heidari (Neurology), Tehran University of Medical Sciences School of Medicine
Eric Newman (Neurology), University of Queensland School of Medicine
Katherine Zerebiec (Neurology), Medical School at Jagiellonian University Medical College
Inpatient Internal Medicine Clerkship

The Inpatient Internal Medicine Clerkship is a 6 week clerkship with students rotating both at UVMMC and the Western Connecticut Health Network (WCHN) which includes hospitals in both Danbury and Norwalk Connecticut. Over the course of the 6 weeks, students work as full members on the hospitalist services, expanding their medical knowledge, improving their diagnostic and therapeutic decision making, interpreting clinical information, and solidifying basic clinical skills including patient interviewing, physical examination, and communication through case presentations and written documentation as well as developing proficiency in communicating effectively with colleagues and patients. The rotation includes several active learning sessions on important internal medicine syndromes including renal and electrolyte disorders, diabetes and congestive heart failure among others, and over the course of the 6 weeks students also have physical exam rounds, EKG sessions, work with a clinical tutor and participate in ethics discussions with the hospital ethicists. In general the rotation is highly rated and for the medical school classes of 2019 and 2020, 93 and 95% of the students respectively, rated the clerkship good to excellent at the end of the clerkship.

Outpatient Medicine Clerkship

The Outpatient Medicine Clerkship is a 3 ½ week rotation. The one day didactic session attended by all students is divided into a morning Skills Session where the focused history, physical exam and oral presentation are practiced by students using Standardized Patients with Faculty Mentors providing feedback. The afternoon session is a case based discussion of chronic disability caused by COPD. Pulmonary faculty then lead a discussion of management of COPD, pulmonary function testing as well as interactive experience with hand held spirometry. Following this didactic day students are sent to outpatient clinic settings (the majority >70%) in Vermont the remaining students to the WCHN Clinics in Danbury and Norwalk. Students in Vermont primarily are mentored by full time faculty in the Division of General Medicine. In addition in the past 2 years full time faculty in the Endocrine, Cardiology, Rheumatology and Geriatric divisions have also taken students for some half day session expanding student exposure to the variety of career options in Medicine. Approximately 15% of the students in Vermont are mentored by part time faculty usually at sites away from Burlington. Overall the Outpatient Medicine Clerkship has received consistently positive evaluations by students. In 2018-2019, 95% of students rated the experience as good to excellent at the end of the clerkship.

Medicine Acting Internship

The Internal Medicine Acting Internship (AI) is a required 4th year rotation with students placed at UVMMC and the WCHN hospitals in Danbury and Norwalk, CT. At UVMMC, students are placed on the teaching general medicine, cardiology, hematology, and oncology services. WCHN students are on the teaching general medicine services. The goals of the rotation are focused around improving core skills expected of all clinical interns including gathering history, documenting in the chart, entering orders, and understanding and recommending appropriate labs or studies. During the course, weekly non-lecture based didactic sessions cover a wide breadth of topics including chest x-ray interpretation, ECG interpretation, intern skills (hand-offs, prerounding, asking for help, etc) and evidence-based medicine. While the rotation has been well reviewed overall, over the last two years, we have transitioned the focus of the rotation to more specifically target intern skills which helps engage students who are not planning careers in internal medicine. We have also eliminated the written exam at the end of the rotation and have redesigned the end of rotation clinical skills exam to better match their intern experience. In 2018-2019, 97% of students rated the experience as good to excellent at the end of the clerkship.
The 2018-2019 academic year was a successful year for the cardiovascular division with the addition of new faculty as well as growth of our clinical, research, and education programs.

The Division provides advanced care for patients with cardiovascular disease. A robust catheter based structural heart disease program that is led by Harold Dauerman implanted over 200 aortic valves (transcatheter aortic valve replacement – TAVR) and more than 20 mitral clips – a catheter based technique to treat mitral regurgitation. Dan Lustgarten, Daniel Correa de Sa and Rony Lahoud offer left atrial occlusion to patients with atrial fibrillation who have prohibitive risk of anticoagulation. Nathaniel Thompson has expanded our program to treat ventricular tachycardia with catheter based ablation. We offer circulatory support for critically ill patients with extracorporeal membrane oxygenation. In June 2019, the opening of the Miller Building allowed cardiology to move into the new Cardiovascular Care Unit that will allow advanced cardiac care in a patient-centric manner with single occupancy rooms that offer advanced monitoring.

Sherrie Khadanga joins our faculty in July 2019. Sherrie trained at the University of Vermont and her clinical and research focus will be cardiovascular rehabilitation and prevention. Magdalena Zeglin will join our faculty in August 2019. Magda is an accomplished interventional cardiologist who returns to Vermont where she completed her general cardiology and interventional cardiology training.

Clinical integration and coordination of cardiovascular services across the network remains a focus for the cardiovascular service line. As Network Director of Interventional Cardiology Harold Dauerman oversees the cardiovascular catheterization laboratories at both UVMCC and CVPH. Electrophysiology services at Champlain Valley Physicians Hospital (CVPH) are provided by faculty practice electrophysiologists, Pierre Znojkiewicz, as well as Joseph Winget and Robert Lobel. Johannes Steiner provides a subspecialty clinic at CVPH for patients with advanced heart failure. William Hopkins offers subspecialty care at CVPH for patients with pulmonary hypertension and congenital heart disease.

Prospero Gogo was promoted to Professor of Medicine. Johannes Steiner was recognized as an outstanding teacher with the Golden Shovel, an honor selected by the fellows in cardiovascular training.

Scholarly activities are a major focus of the division. The cardiovascular division has active training programs in cardiovascular disease, cardiovascular intervention, and electrophysiology. Clinical and translational research remain active with both investigator initiated research as well as participation in multicenter clinical trials. The faculty of the cardiovascular division authored 56 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
Endowed Philip Ades MD Professor of Cardiovascular Prevention
Director, Cardiac Rehabilitation
Research and clinical interests
- cardiac rehabilitation
- preventive cardiology
- ischemic heart disease

Mark Capeless, MD
Professor of Medicine
Research and clinical interests
- clinical cardiac electrophysiology

Kevin Carey, MD
Assistant Professor of Medicine
Research and clinical interests
- coronary intervention
- cardiac catheterization
- ischemic heart disease

Daniel Correa de Sa, MD
Assistant Professor of Medicine
Research and clinical interests
- clinical cardiac electrophysiology
- catheter ablation
- pacemaker and ICD implantation

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

John Fitzgerald, MD
Assistant Professor of Medicine
Research and clinical interests
- preventive cardiology
- ischemic heart disease
- valvular heart disease

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

Eric Gauthier, MD
Assistant Professor of Medicine
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
- percutaneous treatment of structural heart disease

William E. Hopkins, MD
Associate Professor of Medicine
Director, Adult Congenital Heart Disease Program
Research and clinical interests
- adult congenital heart disease
- genetic heart disease
- valvular heart disease
- echocardiography
Roger Ischac, MD
Assistant Professor of Medicine
Clinical interests
- ischemic heart disease
- cardiac catheterization
- coronary intervention

Friederike Keating, MD
Professor of Medicine
Director, Nuclear Cardiology and Stress Laboratory
Program Director, Cardiovascular Fellowship
Leader, Women’s Cardiac Care Program
Clinical interests
- cardiovascular disease in women
- cardiovascular imaging
- general cardiology
Research interests
- nuclear cardiology
- medical education
- platelet biology / transfusion

Robert J. Kelm, Jr., PhD
Associate Professor of Medicine
Associate Professor of Biochemistry
Research interests
- molecular biology of cell differentiation
- mechanisms of cardiovascular remodeling
- regulation of gene expression
- protein-nucleic acid interactions

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

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

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

Markus Meyer, MD  
Associate Professor of Medicine  
Research and clinical interests  
- cardiac imaging and stress testing  
- general cardiology  
- heart failure and cardiomyopathy

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  
Director, Stem Cell Core Facility  
Research interests  
- adult stem cell biology  
- regenerative medicine  
- repair of cardiac and CNS tissues  
- vascular biology

Johannes Steiner, MD  
Assistant Professor of Medicine  
Research and clinical interests  
- advanced heart failure  
- echocardiography
- structural heart disease

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

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

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

**Michael J. Toth, PhD**
Professor of Medicine
Research interests
- skeletal muscle physiology
- heart failure
- aging
- physical disability
- muscle disuse

**Peter Van Buren, 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

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

Fellows
Trace Barrett
David Cleary
Jan Denkmann
Christine DeStephan
Nicole Habel
Jonathan Halevy
Margaret Infeld

Sherrie Khadanga
Drew Messerschmidt
Lakshmi Nambiar
Newton Phuong
Ashwini Sharma
Daniel Silverman

Nurse Practitioners and Physician Assistants
Gregory Ehle, PA
Catherine Falduo, APRN
Susan Ann Hamlyn-Prescott, APRN
Ann Laramee, APRN
Margaret MacDonald, NP

Allison Mack, APRN
Cheryl McNeil, APRN
Deborah Moyer, APRN
Nancy Strong, APRN

Graduate Students, Post-doctoral Fellows, MD PhD Students
Philip A. Ades, MD
Sherrie Khadanga, MD
**Leadership in Professional Societies**

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

**Friederike Keating, MD**  
President and Governor for Vermont, Northern New England Chapter of the American College of Cardiology,  
Chair, Choosing Wisely Workgroup of the Board of Governors, American College of Cardiology  
Health Policy Council, American Society of Nuclear Cardiology  
Cardiovascular Training Section, Leadership Council, American College of Cardiology

**Robert J. Kelm, Jr., PhD**  
UVM Institutional Biosafety Committee, Chair  
Student Progress Committee, Cellular, Molecular, and Biomedical Sciences Graduate Program, Chair  
Graduate Studies Committee, Department of Biochemistry, Chair  
Biochemistry Graduate Program, Director

**Rony Lahoud, MD**  
American College of Cardiology, Fellow  
Society of Cardiac Angiography and Intervention, Fellow, Member of Communications Steering Committee  
Cardiovascular Research Technologies (CRT) – Invited Faculty at 2018 Annual Meeting

**Martin M. LeWinter, MD**  
Fellow, 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

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

Jeffrey L. Spees, PhD
Grant Review, Maine Medical Center, 2017, 2018
Member, NIH ZRG1 CVRS-L (80), R15 SEP for Cardiovascular and Respiratory Sciences, 2017
Member, Florida Department of Health Peer Review Committee, 2018
Co-chair, NIH ZRG1 CVRS-L (80), R15 SEP for Cardiovascular and Respiratory

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

Editorships and Editorial Boards

Philip A. Ades, MD
Consulting Editor (former Editor-in-Chief): Journal of Cardiopulmonary Rehabilitation
Consulting Editor: Prevention, Rehabilitation and Prevention
Editorial Boards: Circulation

Harold L. Dauerman, MD
Senior Guest Editor, Circulation Cardiovascular Interventions
Associate Editor, Journal of the American College of Cardiology

Prospero B. Gogo, MD
Reviewer: American Journal of Cardiology and Coronary Disease

Rony Lahoud, MD
Editorial Board: Cardiovascular Revascularization Medicine
Reviewer: Journal of American Heart Association, Coronary Artery Disease

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

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

**Peter Spector, MD**
Editorial Boards: *Journal of Cardiovascular Electrophysiology*

**Johannes Steiner, MD**

**Marc D. Tischler, MD**

**Michael J. Toth, PhD**

**Matthew W. Watkins, MD**
Advisory Board, Green Mountain Care Board, State of Vermont, FAHC physician representative
Clinical advisory role in the design and implementation of the Vermont State global health care reform.
Northern New England Cardiovascular Disease Study Group (NNE)
Multi-institutional, regional collaboration focusing on improving patient outcomes in Interventional Cardiology and Cardiac Surgery. Recent projects include regional analysis of length of stay, STEMI outcomes and management of cardiogenic shock.

**Peter Van Buren, MD**
Medtronic Co-Management Council of Advisors

---

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

**William E. Hopkins, MD**
16th Annual Update in Pulmonary Hypertension 2018
Cambridge, MA
“Difficult Cases in Patients with WHO Group 2 Pulmonary Hypertension”

**Friederike Keating, MD**
ACC/AGS/NIA Diagnostic Testing in Older Adults with CVD
Cardiovascular Milestones 2.0 Workgroup, ACGME
Choosing Wisely – Board of Governors, American College of Cardiology
Cardiology Fellowship - A guide for residents and medical students – American Heart Association Scientific Sessions

**Rony Lahoud, MD**
American College of Cardiology, Invited Speaker at 2019 Annual Meeting
Society of Cardiac Angiography and Intervention, Invited Panelist at 2019 Annual Meeting
Northern New England Cardiovascular Group Study Group – Invited Faculty Speaker – Fall 2018 meeting
CME invited talk at the EXPLORE 2018 Cardiology Conference at SUNY Plattsburgh

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

Major Faculty Honors and Awards

Martin M. LeWinter, MD
Cited in “Best Doctors in the Northeast” and “Best Doctors in America”

Markus Meyer, MD
Kramer Wahlberg MD: Resident Research Award

Grants

Philip A. Ades, MD
NIH: The National Institute of General Medical Sciences - P20GM103644-01A1
Vermont Center for Behavior and Health
Role: Associate Director and Co-Principal Investigator (Steven Higgins, PI)

National Institute on Drug Abuse and U.S. Food and Drug Administration - P50DAO36114
Tobacco Centers of Regulatory Science Award
Role: Investigator (Steven Higgins, PI)

Harold L. Dauerman, MD
RUC-4, a novel intravenous antiplatelet agent, for patients with ST elevation myocardial infarction. A Phase II Trial. Sponsored by Celecor.
Role: National Steering Committee

Role: Site principal investigator. Grant funding 250,000 dollars

EVLOLVE SHORT DAPT, A National Registry of 3 Months Dual Antiplatelet Therapy in Conjunction with SYNERGY Biodegradable Polymer Drug Eluting Stent for Patients at High Risk of Bleeding, National Steering Committee. Funded by Boston Scientific.
Role: Site Principal Investigator. Grant funding 300,000 dollars

Transcatheter Aortic Valve Replacement to UNload the Left ventricle in patients with ADvanced heart failure: a randomized trial (TAVR UNLOAD. Funded by Edwards.
Role: Site principal investigator. Grant funding 250,000 dollars
GALILEO: A Randomized Trial of Antiplatelet versus Antithrombotic Strategy with Rivaroxaban to Improve Outcomes after TAVR. Funded by Bayer Healthcare. Role: Site principal investigator. Grant funding 100,000 dollars

CoreValveTranscatheter Aortic Valve Replacement in Patients at Low Risk for Surgical Aortic Valve Replacement. Funded by Medtronic. Role: Site principal investigator. Grant funding 250,000 dollars

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

Robert J. Kelm, Jr., PhD
NIH/NHLBI T32 HL007594-26-30 Hemostasis and Thrombosis Program for Academic Trainees Role: Research Mentor and Principal Investigator/Program Director

American Heart Association Founders Affiliate Grant-in-Aid 16GRNT31160006 Role of PURB in Controlling the Phenotypic Plasticity of Vascular Smooth Muscle Cells Role: Principal Investigator

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

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

Martin M. LeWinter, MD
NIH RO1 HL118524 Myofilament Basis of Diastolic Dysfunction in HFpEF (9/1/2014-6/30/2019) Role: Principal Investigator

Rilonacept Inhibition of Interleukin-1 Alpha and Beta for Recurrent Pericarditis: A Pivotal Symptomatology

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, multicenter registry
Role: Principal Investigator

Markus Meyer, MD
NIH NHLBI 1 R01 HL122744-01A1
Tachycardia-Induced Sarcolemmal Calcium Extrusion Defect in Patients with Diastolic Dysfunction (2015-2020)
Role: Principal Investigator

Jeffrey Spees, PhD
NIH/NHLBI R01 HL132264
Vascular Protection by HGF/IgG Protein Complexes that Activate RYK
Role: Principal Investigator

Peter S. Spector, MD
UVM Spark award “Seeing Atrial Fibrillation through a clearer lens”

Michael J. Toth, PhD
NIH R21 AR069199
Prevention of Skeletal Muscle Adaptations to Traumatic Knee Injury and Surgery
Role: Principal Investigator

NIH R21 CA191532
Alternative Exercise Modalities to Improve Skeletal Muscle Function in Cancer Survivors
Role: Principal Investigator

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

LCOM/CEMS Biomedical Engineering Pilot Award
Cyber-physical System Innovations to Monitor and Improve Compliance with At-home Neuro-muscular Rehabilitation
Role: Co-Principal Investigator (with Christian Skalka)

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 BIO-TRONIK CRT-D.
Role: Principal Investigator

Publications


Azarbal A, Malenka DJ, HuangYL, Ross CS, Solomon RJ, DeVries JT, Flynn JM, Butzel DM, Dauerman HL. Acute Kidney Recovery after Transcatheter Aortic Valve Replacement: A Re-
report from the Northern New England Cardiovascular Disease Study Group. *American Journal of Cardiology*, 2018


Hopkins, WE, Golper, TA, Beathard, GA. Pulmonary hypertension in hemodialysis patients. In: UpToDate, Post, TW (Editor-in-Chief), Wolters Kluwer Health 2019.


LeWinter MM. Determinants of passive myocardial stiffness along the spectrum of
aortic stenosis. JACC Basic Transl Sci. 2018;3:347-349


Lustgarten, D. His bundle-CRT: Elegant old science finds its modern clinical application. Journal of the American College of Cardiology. 2018 December 72(24);3123-5


Tandan S, Meltzer SN, Davila CD, Konstam MA, LeWinter MM. Eosinophilic myocarditis with rapid progression to cardiogenic shock, managed with mechanical support and high-dose corticosteroids. Circ Heart Fail. 2018;11(6):e004910.


Wahlberg, K, Arnold, M, Lustgarten, DL, Meyer, M. Effects of a Higher Heart Rate on Quality of Life and Functional Capacity in Patients with Left Ventricular Diastolic Dysfunction. Accepted for publication. American Journal of Cardiology, 2019

Dermatology at the University of Vermont Medical Center is a division of the Department of Medicine. We currently have six general dermatologists, four surgical dermatologists, a pediatric dermatologist and five experienced physician assistants. We provide general dermatology care to the community as well as specialized consultation with particular strengths in the treatment of psoriasis, cutaneous lupus, dermatomyositis, cutaneous lymphoma, and all forms of skin cancer including melanoma. In 2018 we saw 32,920 patients and generated 75,213 wrRVU. Notably we are now seeing over 500 new patients per month, up from approximately 350 four years ago.

With nostalgia we bid farewell to Dr. Jamie Alpert on her retirement. After 25 years of service she is missed by all. Luckily, she has stayed on as Emeritus Faculty and she volunteers twice per month as an attending physician in our residents’ clinic.

We have two new physicians working and two new physician assistants. Dr. Ankit Gor splits his time between the UVMMMC and CVPH in Plattsburgh. Dr. Aliza Fischer is half time at UVMMG and half time at CVMC in Berlin. In the coming year we anticipate expanding our services to Middlebury, and perhaps elsewhere in the State as well. Our two new physician assistants, Emilie Rainville and Andrea Dekker have hit the ground running with full schedules to accommodate new and returning patient visits.

Under the direction of Dr. Julie Lin, telemedicine consults have been established through EPIC. We are starting slowly but know that this service will expand and assist in the care of patients, especially when we are able to offer Emergency Room Telemedicine.

Pediatric Dermatology under the direction of Keith Morley, MD have grown enormously. We offer seamless care of pediatric dermatology patients including surgery and laser procedures which are usually only available in major cities.

Melanie Bui, MD has received a funding award from the Department of Medicine for her work on somatic mutations in pre-cancerous actinic keratoses. She is mentoring a small army of Medical Students and will be applying for a K grant this year.

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

Dr. Pierson has done yeoman’s work on the dermatology residency. He also served as the course director the New England Dermatology Society Meeting, hosted by the University of Vermont in April 2019 and is on the editorial board of the Journal of the American Academy of Dermatology. Through
an anonymous donation we have received $300,000 in funding to fund an additional resident in der-
matology. This collaboration with the GME office will improve patient care and enrich the experi-
ence for our residents as well. An analysis we performed last year demonstrates that about 1/3 of our
residents and fellows choose academic practice, and 1/3 practice dermatology in rural, underserved
communities

Dr. Glenn Goldman is the Vice President and President Elect of the American College of Mohs Sur-
gery. He also serves on the Board of Directors of the American Society for Dermatologic Surgery
where he serves as Chair of the International Travelling Mentorship Program. Dr. Todd Holmes con-
tinues as the Chair of the ITMP International Fellowship Program. Dr. Goldman and his fellow travel-
elled to Isreal in June to perform advanced Mohs surgery with his recently-trained fellow, Dr. Yoav
Metzger. This puts UVMMG at the forefront of international education in dermatologic surgery. Dr.
Goldman has been granted an endowed professorship which will be announced in the early summer.

Dr. Goldman, Dr. Weinberger, Dr. Holmes, Dr. Lin, Dr. McGevna, Dr. Bui and Dr. Pierson serve on
a number of UMMC committees. Dr. Julie Lin continues her involvement in EPIC, where she is the
EPIC representative from the Department of Medicine.

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

Faculty

Glenn Goldman, MD
Professor of Medicine
Director, Dermatology Division
Director, Mohs Surgery and Dermatologic Oncology Fellowship
Secretary Treasurer, 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

Joseph Pierson, MD, Col US Army
Associate Professor of Medicine
- General Medical Dermatology
- Residency Education in Dermatology

Residency selection process
Julie Lin, MD
Associate Professor of Medicine
Department of Medicine PRISM Representative
- Cutaneous Lymphoma
- Electronic Medical Records
- Bioinformatics
- Teledermatology

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

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

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

Laura McGevna, MD
Assistant Professor of Medicine
- UVM Medical Graduate
- General Medical Dermatology
- Women’s Dermatology
- Residency Education in Dermatology

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

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

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

Aliza Fischer, MD
• General and Surgical Dermatology
• CVMC Berlin Outreach

Fellows  MSDO 2018-2019
Kathryn Potter, MD

Residents
Patrick Benson, MD, PGY-4, Co-Chief
Corey DeWitt, MD, PGY-4, Co-Chief
Dema Alnimi, MD, PGY-3
Katelyn Shea, MD, PGY-3
Lucy Ledyard, MD, PGY-2
Alexandra Charos, MD, PGY-2

Physician Assistants:
Deb Roseman, PA:
Deb has been with us for over 15 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.

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

Rich Callahan, PA
Rich is experienced in dermatology and provides both medical and minor surgical dermatology care. He brings with him many patients from his former practice. Rich joined the UVMMC Medical Records Committee as a full-time sitting member this year. Rich continues to instruct Family Practice residents on a regular basis as part of both their core and elective educational curriculum, and presented a lecture at the 2018 Family Practice Review Course. He continues to lecture at our Dermatology for Primary Care meeting as well.

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

Andrea Decker, PA
Andrea has worked for UVMMC for over a decade as a physician assistant, most recently in the emergency room. She has moved to dermatology where her excellent skills will be used for our patients in general dermatology.
Editorships and Editorial Boards
Dr. Morley Editor for Pediatric Section of VisualDx
Dr. Pierson Editorial Board, Journal of the American Academy of Dermatology

Leadership in Professional Societies:

Vermont Dermatologic Society
Dr. Goldman President
Dr. Bui Treasurer

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 Vice President and President Elect

Study Sections and Federal Advisory Boards:

Resident and Fellow Publications

Trivedi A, Pierson JC. Addressing the Average Lifespan of Skin Diseases is Critical to Good Patient Care. Dermatology Online J. 2018 Jun 15;24(6). PMID:30142722


Grants

Melanie Bui, MD

Bui (PI)
6/1/18 – 12/31/19
Department of Medicine Translational Research Pilot Project
Measurement of somatic mutations in actinic keratosis before and after field therapy.
The goal of this study is to characterize the somatic mutation landscape in actinic keratosis at baseline and after treatment with topical fluorouracil.

Bui (PI)
4/18/18 – 4/18/20
Acelity Investigator Initiated Study, KCI
Measurement of somatic mutations in actinic keratosis before and after field therapy.
The goal of this study is to characterize the somatic mutation landscape in actinic keratosis at baseline and after treatment with topical fluorouracil.
The 2018-2019 academic year was one 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. Our 7 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 CVPH in Plattsburgh, NY. In addition, we continue to expand our telemedicine program delivered in conjunction with Northwest Medical Center in Saint Albans, VT.

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. 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 DEXA Bone Density Machine will move into the Orthopedics and Rehabilitation Center on Tilley Drive in the summer of 2019, which will increase our ability to focus on screening and prevention for at-risk patients. Following the DEXA move, a new joint clinic will provide metabolic bone care to a much broader range of patients. Dr. Kelly is also involved in a research project with Dr. David Lunardini from Orthopedics examining the use of abaloparatide in healing C2 fractures.

Beginning in late summer 2019, Dr. Kaitlyn Vennard Barrett will join our faculty; she will continue the work in the telemedicine initiative that she started during her fellowship with our Division as well as join our metabolic bone disease 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.

The Endocrine Clinic continues its participation in a trial of the Insulia® Diabetes Management Companion, a state-of-the-art prescription-only medical device that provides patients with insulin dose recommendations and educational coaching messages in response to blood glucose values and other diabetes-related data.

A Division-initiated analysis of the cost-effectiveness of inpatient consultation (Drs. Schnure and Kelsey Sheahan (our 2nd year Fellow) in underway as well as other ongoing clinical research projects, including a study investigating the various treatment modalities for enteral and parenteral feeding for inpatients (Drs. Gilbert and Barrett).

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

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. The Division’s educational mission is also evidenced by faculty participation in LCOM initiatives: Dr. Schnure continues his service with The Teaching Academy, which promotes education and scholarship of faculty members, and Dr. Kelly was recently elected to serve as well. Dr. Gilbert continues to serve as Chair of the Inpatient Glycemic Control Committee, whose mission includes education of hospital physicians and staff on glucose management strategies. Dr. Jetton serves as Director of a new graduate course, Science Communication, which is
now 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, as well as working one-on-one in his lab to train undergraduate, graduate, and medical students in research techniques.

Clearly, the 2018-2019 year was a busy and productive 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  
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

**Sree Susmitha Garapati, MD, FACE**  
Assistant Professor of Medicine  
Clinical interests:  
- In-patient and out-patient diabetes management  
- Thyroid disease, including thyroid ultrasound and biopsy  
- Adrenal and pituitary diseases  
- PCOS  
- Male hypogonadism

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

**Dhananjay (Jay) Gupta, PhD**  
Research Assistant Professor  
Research interests:  
- Pathogenesis of type 2 diabetes and islet biology  
- Epigenetic regulation of adaptive islet beta cell response with changing metabolic milieu
Thomas L. Jetton, PhD
Professor of Medicine
Research interests:
- Nutrient and neural regulation of β-cell mass homeostasis
- Diet influence on intestinal microbiota and autoimmune disease susceptibility
Teaching interests:
- Human Structure and Function
- Gastrointestinal Physiology
- Regulation of Energy Homeostasis
- Science Communication

Jennifer Kelly, DO, FACE
Associate Professor of Medicine
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

John (Jack) L. Leahy, MD
Professor of Medicine
Sarah Nichols Gruenig Green & Gold Professor in Diabetes Research
Co-Director, Division of Endocrinology and Diabetes
Research and clinical interests:
- Diabetes mellitus
- Islet beta-cell physiology and dysfunction

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

Juan Pablo Perdomo Rodriguez, MD
Assistant Professor of Medicine
Research and clinical interests:
- Hyperthyroidism (overactive thyroid disorders)
- Thyroid nodules and cancer
- Cushing disease
- Adrenal insufficiency in pregnancy
- Hyperaldosteronism
- Hyperparathyroidism and osteoporosis
- Adrenal tumors

Fellows

Kaitlyn Vennard (F5; began training 7/1/2017; completed 6/30/2019)
Kelsey Sheahan, MD (F5, began training 8/28/2018; expected completion 8/27/2020)
Amy Shah (F4, will begin training 7/1/2019; expected completion 6/30/2021)

**Nurse Practitioners and Certified Diabetes Educators**

Margaret Costello, FNP, MS
Ann Gotham, ANP, MSN, ScM
Kristen Bolton, MS, RD, CDE
Chassidy Deslauriers, MBA, RD, CDE
Mary Spence, RN, CDE
Linda Tilton, MS, RD, CDE

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

None

**Endowed Professorships**

**Sarah Nichols Gruenig Green & Gold Professor in Diabetes Research**

Held by John (Jack) L. Leahy, MD
Leadership in Professional Societies

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 member

Muriel H. Nathan, MD, PhD
New England Thyroid Club, senior member

Editorships and Editorial Boards

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

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

John (Jack) L. Leahy, MD
Founding member and member of the Editorial Board: BetaCellsInDiabetes.org
Associate Editor: Journal of the Endocrine Society
Editorial Board: Journal of Biological Chemistry

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

Study Sections and Federal Advisory Boards

Dhananjay (Jay) Gupta, PhD
Grant Review Panel, Diabetes UK
Thomas L. Jetton, PhD
Federal review boards:
  EMNR-Study Section (SBIR and STTR), ad hoc reviewer
  NIDDK/NIH, ad hoc reviewer
  NIH (S10 SIG/SIFAR), ad hoc reviewer

John (Jack) L. Leahy, MD
American Diabetes Association, Grant Review Panel
Hillblom Foundation, Scientific Advisory Board

Major Faculty Awards
None

Grants and Research

Dhananjay (Jay) Gupta, PhD
Department of Medicine (UVM) Catalyzation of Grant Competitiveness Award
  Role: Principal Investigator

Department of Medicine (UVM) Translational Pilot Project Award
  Mechanism of Diabetes Effects on ARDS (Acute Respiratory Distress Syndrome) (2017-2018)
  Role: Co-Investigator (Benjamin Suratt, MD, Principal Investigator)

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


Gilbert MP. Ace the Case: A 65-Year-Old Man with a History of Diabetes Mellitus and Chronic Kidney Disease, Stage


Presentations
Matthew P. Gilbert, DO, MPH
“Effect of Liraglutide on Cardiovascular Outcomes in Elderly Patients in the LEADER trial.” Poster and oral presentations at the 54th Annual Meeting of the European Association for the Study of Diabetes (EASD), Berlin, Germany. October 1-5, 2018.

“Pumps, Sensors & Meds, Oh My! Treatments for Type 1 and Type 2 Diabetes.” Community Medical School, Larner College of Medicine, The University of Vermont, Burlington, VT. November 13, 2018.


Jennifer Kelly, DO, FACE
“Sequence of Medications Used to Treat Osteoporosis” and “Medications for Osteoporosis: Friend or Foe.” Larner College of Medicine Osteoporosis Update for Primary Care, Colchester, VT. September 2018.

“Diabetes Medications and Treatment 2018.” Vermont Chapter of the American Association of Diabetes Educators Annual Conference, Killington, VT. October 2018.


John (Jack) L. Leahy, MD

Joel J. Schnure, MD
“Recurrent Severe Hypoglycemia in a Pancreatic Insufficient Adult with CF.” Presented as part of “Physician Grand Rounds” at the North American Cystic Fibrosis 32nd Annual Meeting, Denver, CO. October 18, 2018.
The Division of Gastroenterology and Hepatology at the University of Vermont College of Medicine/University of Vermont Medical Center has eight Gastroenterologists, one Advanced Practice Provider, four GI Fellows, and two Ph.D.’s. Clinical care, teaching, and both basic science and clinical research are all essential elements to our Unit.

Exceptional clinical care is a cornerstone to our Unit. We provide both inpatient and outpatient consultative care. Our outpatient clinics are located in the Digestive Disease Center located on the 5th floor of the Ambulatory Care Center. Clinics are dedicated to liver disease and each aspect of luminal gastroenterology. This year, in order to better serve our patients with inflammatory bowel disease, we began the process of developing a patient oriented Inflammatory Bowel Disease Center. We are also restructuring how we provide specialty care to patients with liver disease so that we can better serve our patients across the University of Vermont Health Network.

Our endoscopy Unit performs over 12,500 procedures each year. We perform both general gastroenterology as well as advanced therapeutic procedures. Our collective ADR for colorectal cancer screening is , and all of our endoscopists who perform colonoscopy are above the National Benchmark of. Dr. Eric Ganguly, who has served at our institution for 12 years, with a particular interest in therapeutic endoscopy, has accepted the position of Chief of Endoscopy at UVMMC. This year we installed a system throughout our endoscopy unit which enables us to integrate real-time endoscopic, fluoroscopic, endosonographic and cytologic imaging. We have also implemented endovault, which is a new electronic endoscopy report generating system.

The Gastroenterology and Hepatology Unit takes pride in the quality of medical education it provides. Nationally we educate other Gastroenterologists through participating in educational committees in the American Association of Liver Disease and the American Society for Gastrointestinal Endoscopy. Faculty formally teach Medical Residents locally by presiding at Morning Report and leading the Academic Half Day Educational Series section dedicated to Gastroenterology and Hepatology. Clinical gastroenterology conferences include a weekly GI Core Conference, bi-weekly GI Pathology Conference and GI journal clubs, and a monthly Quality Care Review Committee Meeting. Members of the GI faculty are also key contributors at weekly GI Multidisciplinary Cancer Conferences.

Fellowship training remains extremely strong. The Gastroenterology Board passage rate of our fellows over the last 20 years is 100%. Our longstanding Gastroenterology Fellowship Director, Dr. Nicholas Ferrentino, has recently improved the program by incorporating a wider spectrum of physicians into the training of our fellows. Collaborative conferences with other Divisions at our institution, broadening the scope of our Gastroenterology lecture series, and providing opportunity for sub-specialized training at other Institutions are all occurring to enhance the education of our Gastroenterology Fellows.

Research in our unit is flourishing. Ongoing clinical research projects regarding non-alcoholic steatohepatitis, hepatitis C, hepatitis B, Resident education, Barrett’s esophagus, esophageal dilation, Intestinal motility, chronic constipation, serotonin signaling, and hepatobiliary disorders are being performed. This year Dr. Lidofsky was the co-recipient of the Frymoyer Scholar Award to study optimization of hepatitis C care in Vermont.

I am honored to be part of this prolific Unit, with its diverse research interests, devotion to teaching, and tireless clinical service to the community.

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

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

**Gordon Jensen, MD, Ph.D.**
Professor of Medicine and Nutrition
Senior Associate Dean of Research
- Nutrition assessment and therapy in chronic illness
- Short bowel syndrome

**Steven Lidofsky, MD, Ph.D.**
Professor of Medicine and Pharmacology
Director, Hepatology Section
Co-Director, Gastrointestinal Research
Director, MD-Ph.D. Program
- Liver Cell Biology
- Portal Hypertension
- Hepatocellular Carcinoma
- Viral Hepatitis
- Metabolic Syndrome and the Liver

**Gary Mawe, Ph.D.**
Professor of Neurological Sciences; Adjunct Professor of Medicine and of Pharmacology
- Neural Regulation of the Digestive Tract
  (understanding changes in enteric neural circuits that contribute to altered gut function in inflammatory bowel disease and irritable bowel syndrome)

**Doris Strader, MD**
Professor of Medicine
- Hepatitis C
- Portal hypertension
- Eosinophilic Esophagitis
- General Hepatology and General Gastroenterology

**Richard Zubarik, MD**
Professor of Medicine
Director of Gastroenterology & Hepatology Division
- Pancreatic Disorders
- Endoscopy Quality
- Therapeutic Endoscopy and EUS
- Endoscopic Ultrasound
Maia Stamieszkin, NP
Nurse Practitioner
• IBS
• FODA Map

Sonja Dawsey, MD
GI Fellow

Brendan Everett, MD
GI Fellow

Joseph Frasca, MD
GI Fellow

Jason Heffley, 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
• Oral Session Moderator Digestive Disease Week 2019

Gary Mawe, Ph.D.
• Strategic Planning Committee, American Neurogastroenterology and Motility Society, 2015-present
• Fundamentals of Neurogastroenterology - 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. 2012-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

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**
Gary Mawe, Ph.D.
- Autoimmune mechanisms of gastrointestinal dysmotility in multiple sclerosis (G. Mawe, Principal Investigator). NIH RO1 Grant Number R01 DK113800; 9/1/2017-8/31/2021. 40% effort. The goal of this project is to determine the mechanism responsible for altered intestinal motility in multiple sclerosis.
- Studies of the prokinetic and anti-inflammatory actions of luminally restricted 5-HT4 receptor agonists (G. Mawe, Principal Investigator). Takeda Pharmaceuticals; requested funding period: 7/1/2017-6/30/2020. 10% effort. The goal of this project is to test the effectiveness of non-absorbable 5-HT4 agonists for the treatment of constipation and colitis.

Steven Lidofsky, MD, Ph.D.
- University of Vermont Cancer Center/Lake Champlain Cancer Regional Organization Award: Magnetic resonance-based determination of hepatic steatosis for optimization of outcomes following surgical resection of liver metastases
- Frymoyer Scholar Award (with Andrew Hale, co-PI): Optimizing care for Vermon ters infected with hepatitis C virus through a statewide educational curriculum

**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)
- Conatus: A phase 2 multi-center double-blind randomized placebo-controlled trial of emricasan in subjects with NASH fibrosis
- Shire: A phase 2 multi-center double-blind randomized placebo-controlled trial of volixibat in subjects with nonalcoholic steatohepatitis
- Gilead: A phase 3 multi-center double-blind randomized placebo-controlled trial of selonsertib in subjects with nonalcoholic steatohepatitis and advanced hepatic fibrosis
- Target Pharmasolutions: A multi-center study of the management and outcomes of subjects with nonalcoholic fatty liver disease
- Conatus: A phase 2 multi-center double-blind randomized placebo-controlled trial of emricasan in subjects with NASH cirrhosis and severe portal hypertension
- 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

**Other Research**
Richard Zubari k, 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)


The Division of General Internal Medicine & Geriatrics specializes in diagnosing, treating, and preventing medical problems in adolescents, adults, and the elderly. Our general internal medicine physicians work with their teams in the outpatient clinics to care for a large proportion of patients in our area. Our geriatricians provide expert consultation in the care of older adults and are responsible for the care delivered at a number of skilled nursing facilities.

Our faculty physicians teach general internal medicine and geriatrics 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 clinical service includes approximately 35 physicians, nurse practitioners and physician assistants. We have four outpatient sites in Chittenden County. We also see patients at area skilled nursing facilities.

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 NCQA recognized as level 3 Patient Centered Medical Homes. In the era of new patient structures, we have been transitioning to more value-based care models from the traditional fee-for-service model.

Our physicians care for many geriatric patients in Chittenden County, attending to elderly patients living independently, in assisted living, in local nursing homes, and at hospice. Our geriatrics section does consultations for the care of older adults through our Adult Primary Care Williston location.

This year GIM & Geriatrics faculty and providers will conduct approximately 70,000 patient encounters.

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

- American College of Physicians (ACP) Board of Regents member, Executive Council for the ACP Board of Governors member, President-Elect of the New England Society of General Internal Medicine, Chair of the Vermont Board of Medical Practice, President of the Board of Directors of the Federation of State Medical Boards, 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, Vermont Blueprint for Health Executive Committee

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 primary care to tertiary care, communication skills to statistics, and from pre-medical students to post-graduate continuing medical education.

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 Doctoring in Vermont (Dr. Beatty), Convergence (Dr. King), Doctoring Skills (Dr. Rubin) and Outpatient Medicine Clerkship (Dr.
O’Brien). Administrative leadership positions at the College of Medicine include Associate Dean for Clinical Education (Dr. Bertsch), Associate Dean for Primary Care (Dr. Maclean).

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

Our educational endeavors extend to graduate students in analysis of clinical research, nurse practitioners in palliative care fellowship programs, and nurse practitioner students in clinical compassion. We educate our colleagues locally, regionally and nationally in a variety of venues. An example of this is the Vermont Academic Detailing Program which delivers educational outreach to Vermont’s primary care providers. Additionally, our geriatricians are key presenters at the annual Vermont Geriatrics Conference which is a one-day symposium covering practical and innovative approaches to the medical care of older adults.

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 innovative models for primary care, high value laboratory ordering practices, narcotic prescribing practices in the outpatient setting, the impact on the electronic medical record on patient-provider interactions, increasing advanced care planning documentation and many initiatives around chronic disease management.

Faculty

Adult Primary Care - Burlington

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

Mia Hockett, MD, MPH
Assistant Professor of Medicine

Robert Karp, MD
Associate Professor in Medicine (Emeritus)
  • Geriatric 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

John Miller, MD
Assistant Professor of Medicine

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

Alan Rubin, MD (see Division of GIM-Research)
Professor of Medicine

Halle Sobel, MD
Associate Professor of Medicine
Co-Director, Internal Medicine Resident Clinic

Adult Primary Care - Essex

Karen Abernathy, MD
Assistant Professor of Medicine

Tania Bertsch, MD
Associate Professor of Medicine
Associate Dean for Clinical Education

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

Patricia King, MD, PhD
Professor of Medicine
Convergence Course Director, Vermont Integrated Curriculum, UVM College of Medicine

Charles MacLean, MD (see Division of GIM-Research)
Professor of Medicine
Associate Dean for Primary Care
  • Health services research and epidemiology

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

Adult Primary Care – South Burlington

Dennis Beatty, MD
Assistant Professor of Medicine
Doctoring in Vermont Course Director, Vermont Integrated Curriculum, UVM College of Medicine

Jennifer Gilwee, MD
Assistant Professor of Medicine
Division Chief, General Internal Medicine and Geriatrics

Jason Gramling, MD
Assistant Professor of Medicine

Diane Hakey, MD
Assistant Professor of Medicine

Jonathan Hayden, MD
Associate Professor of Medicine (Emeritus)
Alison Landrey, MD  
Assistant Professor of Medicine

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

Susan Weinstein, DO  
Assistant Professor of Medicine

David Ziegelman, MD  
Assistant Professor of Medicine

**Adult Primary Care - Williston**

Anne Brená, MD  
Assistant Professor of Medicine

Elizabeth Rosy Hill, MD  
Assistant Professor of Medicine  
- See also Geriatric Medicine

Alexandra Messerli, MD  
Assistant Professor of Medicine  
- See also Geriatric Medicine

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

Dennis Plante, MD *(Emeritus)*  
Associate Professor of Medicine

Jonathan Benjamin Wilfong, MD  
Assistant Professor of Medicine

**Geriatric Medicine**

Zail Berry, MD  
Associate Professor of Medicine  
Medical Director, The Arbors

Jaina Clough, MD  
Assistant Professor of Medicine  
Medical Director of Hospice for Visiting Nurses Association

Elizabeth Rosy Hill, MD  
Assistant Professor of Medicine  
- Geriatric Medicine
Michael LaMantia, MD
Associate Professor of Medicine
- Chief, Section of Geriatrics
- Holly and Bob Miller Chair of Memory and Aging

Isaura Menzies, MD
Associate Professor of Medicine
Medical Director of Elderwood Skilled Nursing Facility
- Geriatric Medicine

Alexandra Messerli, MD
Assistant Professor of Medicine
- Geriatric Medicine

Lynn Wilkinson, MD
Clinical Assistant Professor of Medicine
- Medical Director, Birchwood Terrace Health Care

Nurse Practitioners, Physician Assistants, and Mental Health Specialists:

**Adult Primary Care - Burlington**
Laurel Kelliher, NP
Tracey Niquette, NP

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

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

**Adult Primary Care - Williston**
Genevieve Flanders, PA

**Starr Farm (Skilled Nursing Facility)**
Katharine Murphy PhD, MS, APRN

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

Leadership in Professional Societies:

Patricia King, MD, PhD
- Chair, Board of Directors, Federation of State Medical Boards
- Chair, Composite Committee of United States Medical Licensing Exam
Halle Sobel, MD
• President-Elect, New England Chapter of Society of General Internal Medicine

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

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

Editorships and Editorial Boards:

Michael LaMantia, MD
• Deputy Editor, Journal of General Internal Medicine

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

Jennifer Gilwee, MD
• Abstract Reviewer: SGIM

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:

• Fredrick Morin Educational Leadership Award, 2019:
  o Dr. Tania Bertsch

• CMIE Educator of the Year, 2018-2019
  o Dr. Richard Pinckney

• Proud to be GIM award, 2019
  o Dr. Halle Sobel

Grants

Beatty, Dennis, MD: Frymoyer Grant 7/1/17-6/30/19: Clinical Reasoning Curriculum Development and Implementation.

Berger, Claudia, MD: UVMMC Innovation Grant: Implementing Nurse-lead Annual Wellness Exams,

Sobel, Halle MD: Frymoyer Grant 7/1/17-6/30/19: Medication Assisted Treatment (MAT) Integration into a Primary Care Internal Medicine Residency: A Novel Interprofessional Addiction Treatment Curriculum

Plante, Timothy, MD: U54 GM115516 Rosen, Stein (MPis) 01/01/2018 - 12/31/2018
NIH - NIGMS

Leveraging Health Records to Explain Rural Cardiovascular Disease Disparities

The Rural/Urban Disparities in Cardiovascular Assessment (RUDICA) pilot project was selected by the Northern New England Clinical and Translational Research (NNE-CTR) network. The aims are to identify the reasons for a greater burden of cardiovascular disease in rural adults. We will merge a deidentified database of the electronic health records from the University of Vermont Health Network and MaineHealth to determine if cardiovascular burden is due to low levels of screening and management of known risk factors for cardiovascular disease. From these findings, we will formulate methods to address these disparities and reduce the burden of cardiovascular disease among rural adults.

Role: Subaward PI
Direct costs year 1: $50,000

Plante, Timothy, MD: U54 GM115516 Rosen, Stein (MPIs), Harder (sub-PI) 07/01/2018 - 06/30/2019
NIH - NIGMS

Hospital Utilization for Opioid Overdose: A Community Engaged Multidisciplinary Approach to Measure the Impact of Policy Change and Inform Interventions

This project aims to leverage claims data and the RUDICA database to identify unintended consequences of opioid policy reform in Vermont and Maine. I am leading the RUDICA analysis.

Role: Co-investigator, 5% salary support

LaMantia, Michael, MD: K23 Award, Delirium Evaluation in the Emergency Department

LaMantia, Michael, MD: NNECTR Pilot Grant- Feasibility of a Community Health Worker Intervention for Functional Decline in Rural Older Adults

Littenberg, B (PI), Pinckney, R (Co-Investigator), PCS-1409-24372. Integrating Behavioral Health and Primary Care for Co-Morbid Behavioral and Medical Problems. Total Direct Costs: $18, 523, 145.

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


   Chapter 1: Clinic Director’s Roles and Expectations: Halle Sobel and Mark Pasanen
   Chapter 2: Supervising and Supporting Faculty: Alaka Ray, Priya Radhakrishnan and Halle Sobel
   Chapter 11: Population Health Management for Residents:
Robert Fortuna and Halle Sobel


10. Plante TB, Juraschek SP, Miller ER 3rd, Appel LJ, Cushman M, Littenberg B. Comparison of Frequency of Atherosclerotic Cardiovascular and Safety Events with Systolic Blood Pressure <120 mmHg vs 135-139 mmHg in a Systolic Blood Pressure Intervention Trial Primary Prevention Subgroup. Am J Cardiol. 2018 Oct 1;122(7):1185-1190.
Hematology Oncology Division

Chris Holmes, MD, Interim Director
http://www.uvm.edu/medicine/medicine/hemonc/

A. Executive Summary

The Division of Hematology and Oncology has had a successful clinical and academic year with a continued dedication to our tri-partite mission of teaching, research and high quality, patient centered care. The division has 17 faculty members who care for patients with oncologic and hematologic malignancies, benign hematology, as well as thrombotic and bleeding disorders. The clinical care enterprise is also comprised of 6 APPs and over 50 nurses and staff in the outpatient clinic. One new faculty member was recruited to the group, Dr. Peter Kaufmann, an internationally known expert in clinical trials and breast cancer. Four additional successful physician recruitment were accomplished in 2018 with physicians to start summer 2019. In 2018-2019, the division provided over 38,500 outpatient visits, 2750 new patients visits in addition to ~ 14,800 infusion and procedures. Inpatient services offered by the division include a hematology consult service, an oncology consult service and a heme-malignancy inpatient service. In addition to specialized hematology services and subspecialty oncologic care, the division also provides unique services to our patient population including:

- The Thrombosis & Hemostasis Program, (Dr. Cushman, Director)
- The Apheresis Program, (Dr. Sprague, Director)
- The VT Regional Hemophilia Treatment Center (federal designation, Dr. Holmes, PI)
- An autologous Stem Cell Transplant Program (Dr. Sprague, Director)
- The High Risk Breast Program, a clinical research program, (Dr. Wood, PI)
- Familial Cancer Genetics, (Drs. Wood and Greenblatt, PI’s with 2 cancer geneticists)
- Oncology Rehabilitation, (Dr. Dittus, Medical Director)
- Lymphedema Care and Expertise, (Dr. O’Brien, PI)
- Prevention of Cancer Associated Thrombosis (VTEPACC, Dr. Holmes PI)

The division 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 have engaged in research resulting in 7 national abstracts, 4 local meeting presentations and 7 publications in 2018. In addition to mentoring and teaching fellows, multiple faculty members serve as research and professional mentors to both medical students and internal medicine residents. A division highlight of the year was the selection of Dr. Sprague as the Distinguished Clinician Award from the Department of Medicine.

Research within the division focuses on epidemiologic and translational research as well as clinical trials. In the past year, faculty members have served as the site PI on 25 interventional clinical trials and have ongoing investigator initiated studies with ~500 patient recruitments. Investigators within the Division receive funding from clinical trials (national cooperative group and pharmaceutical trials), NIH NCI, NHLBI, AHA, and NINDS. The division faculty and fellows published 78 manuscripts in the last year and were involved in numerous local, national and international abstract presentations. Additional faculty accomplishments include Dr. Neil Zakai received an R01 award entitled Thrombosis and Bleeding Risk Assessment in Medical Inpatients from NHLBI; Dr. Mary Cushman was selected as a 2019 University Scholar as well as the Department of Medicine Researcher of the Year and was
recognized nationally as one of the top 1% of cited researchers in Clinical Medicine and Dr. Steven Ades received a pilot project award from the UVM Cancer Center.

Members of the division members also hold key leadership positions within the University of Vermont Cancer Center including Dr. Holmes (recently appointed Deputy Director of Clinical Affairs while retaining her role as Associate Director of Clinical and Translational Research); Dr. Wood (recently appointed Associate Director of Cancer Control and Population Health Science); Dr. Ades (Medical Director of Clinical Trials); Dr. Greenblatt (Molecular Mechanisms of Malignancy Program Leader) and Dr. Kaufman (recently appointed as a co-leader of the Host Factor and Tumor Progression Program). Dr. Cushman serves on the Board of Directors of the Cardiovascular Research Institute at the University of Vermont.

Nationally and internationally division members are also found in numerous leadership positions including: Dr. Steven Ades served as site PI for the NCI Alliance Network; Dr. Marie Wood served as the Chair of the ASCO Continuing Education Committee and president elect of the Northern New England Clinical Oncology Society; Dr. Chris Holmes served on the Executive Board of the Health and Human Services, New England Comprehensive Hemophilia Diagnostic & Treatment Centers; Dr. Mary Cushman continued as the Editor in Chief of Research and Practice in Thrombosis and Haemostasis and served as the chair of the Task Force on Women in Science and Medicine for the American Heart Association; Dr. Neil Zakai served as of the co-chair of the Transformational Project Award Clinical-Population Sciences Committee for the American Heart Association and co-chair of the Research Committee of the Hemophilia and Thrombosis Research Society; Dr. Greenblatt served as a member of the International Scientific Advisory Council for the Human Variome Project and Dr. Nunnick served as a member of the Board of Directors for the American Society of Clinical Oncology.

Faculty

**Jose Acostamadiedo, MD—Clinical Practice Physician**

Physician at CVPH

Research and clinical interests: Lung Cancer and Melanoma

**Steven Ades, MD, MSc — Associate Professor**

Leader, UVM Medical Upper Gastrointestinal Oncology Transdisciplinary Team

Co-Leader, UVM Medical Center Genitourinary Oncology Transdisciplinary Team

Medical Director, UVM Cancer Center Clinical Trials Office

Member, Vermont Cancer Center Protocol Review and Monitoring Committee

Member, UVM Faculty Senate Financial & Physical Planning Committee

Member, UVM Medical Center Hematology/Oncology Fellowship Program Evaluation Committee

Member, UVM Medical Center Hematology/Oncology Fellowship Clinical Competency Committee

Member, Hematology/Oncology Division Chief Search Committee

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

**Maura Barry, MD—Assistant Professor**

Associate Program Director, Hematology/Oncology Fellowship Program

Member, UVMMC Department of Medicine Faculty Development Committee,

Member, UVM Medical Center Hematology/Oncology Fellowship Program Evaluation Committee

Member, UVM Internal Medicine Residency Program Evaluation Committee

Member, UVM Medical Center Hematology/Oncology Fellowship Clinical Competency Committee

Member, Hematology/Oncology Division Chief Search Committee

Member, Larner College of Medicine Committee on Fitness

Member, Larner College of Medicine Teaching Academy

Member, UVM Medical Center EPIC Advisory Council

Member, UVM Medical Center EPIC Oncology Power Team

EPIC Specialty Champion

Research and clinical interests include: GI and head and neck cancers, supportive care, wellness.
Mary Cushman, MD, MSc – Professor, Medicine and Pathology
Director, Thrombosis and Hemostasis Program
Research and clinical interests include: Etiology of cardiovascular diseases, stroke, cognitive impairment and other chronic diseases; racial disparities; venous thrombosis and post thrombotic syndrome

Kim Dittus, MD, PhD – Associate Professor
Medical Director of Oncology Rehabilitation
Director, Inpatient Hematology/Oncology
Chair Clinical Committee, Program in Integrative Health
Member, Cancer Control Committee, UVM Medical Center
Faculty Search Committee
- Chair, Solid Tumor Oncology Position
Outcome: Dr. Shahid Ahmed
Research and Clinical interests include: Breast Cancer, Cancer survivorship, diet/nutrition, exercise

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

Chris Holmes, MD, PhD – Associate Professor
Interim Division Chief, Hematology/Oncology Division
Interim Deputy Director for Clinical Affairs for the University of Vermont Cancer Center
Director, Vermont Regional Hemophilia Treatment Center
Assistant Director, Thrombosis and Hemostasis Program
Section Chief, Hematologic Malignancies
Associate Director, Clinical and Translational Research, UVM Cancer Center
Research and clinical interests include: venous thrombosis, platelet function, coagulation and cancer

Peter Kaufman, MD – Professor
Member, Vermont Cancer Center Data Safety and Monitoring Committee (DSMC)
Director, Regional Clinical Trials, Vermont Cancer Center
Program Co-Leader, Host Factors and Tumor Progression (HFTP) Vermont Cancer Center
Member, Clinical Trials Executive Committee, Vermont Cancer Center
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: UVMMC Department of Medicine Faculty Development Committee, Faculty Engagement Committee, Quality Assurance Committee
Member, UVMMC Department of Medicine Quality Assurance and Improvement Committee
Research and clinical interests include: Lung cancer, breast cancer, mesothelioma, sarcoma and supportive/palliative care

J. Chris Nunnink, MD, FASCO – Associate Professor
Member, UVM Medical Center Clinical Integration Committee
Member, UVM Medical Center CIC Committee representing Oncology
Co-Chair, UVM Medical Center Head and Neck Multidisciplinary Clinic
Director, UVM Cancer Center Network Development
Clinical interests include: Oropharyngeal Cancer and GU Cancer

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

**Hibba tul Rehman, MD—Assistant Professor**
Research interests include: 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 include: Myeloma and neurotoxicity, hematologic malignancies

**Eswar Tipirneni, MD—Clinical Practice Physician**
Physician at CVMC

**Elvira Umyarova, MD—Assistant Professor**
Research and clinical interests include: Malignant hematology, stem cell transplant, clinical trials

**Marie Wood, MD – Professor**
Director, Familial Cancer Program  
Assistant Director, Hematology/Oncology Division  
Associate Director, Cancer Control  
Co-leader, University of Vermont Cancer Center, Control & Populations Health Science Program  
Research and clinical interests include biomarkers of breast cancer risk, genetic testing in rural areas, breast cancer screening and prevention

**Neil Zakai, MD, MSc – Associate Professor of Medicine and Pathology**
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  
Faculty Search Committees  
- Chair, Malignant Hematologist Faculty Search Committee  
  Outcome: Hired Dr. Diego Adrianzen Herrera  
- Chair, Malignant Hematologist Faculty Search Committee  
  Outcome: Hired Dr. Sakshi Jasra  
- Chair, Oncology Search Committee  
  Outcome: Hired Dr. Peter Kaufman  
Chair, Medication Safety Subcommittee for the Pharmacy & Therapeutics Committee  
Research and clinical interests include: 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**
Daniel Douce, MD – 3rd year fellow  
Saranya Kodali, MD – 3rd year fellow  
Kitty Victoria, MD – 2nd year fellow  
Waqas Jehangir, MD – 2nd year fellow  
Ximena JordanBruno, MD – 1st year fellow  
Sarah Gillett, MD – 1st year fellow
NP’s and PA’s
Jamie Kelly, PA
Penny Gibson, PA
Jordan Tolstoi, PA
Anne Berkowitz, NP
Janet Ely, NP
Emily Parenteau, MSN, FNP

Graduate students, post-doctoral fellows, MD PHD students
Kara Landry, MD. Internal Medicine Residency Research. N-Terminal pro-B-type Natriuretic Peptide and Risk of Recurrent Stroke. Mentored by Mary Cushman
Sarah Gillett, MD, PhD. Internal Medicine Residency Research. Hepatocyte Growth Factor and Stroke Risk. Mentored by Mary Cushman
Charles Nicoli. Medical Student Research. Proneurotensin and Racial Disparities in Cognitive Impairment. Mentored by Mary Cushman
Kara Landry, MD Mentored by Marie Wood
Nick Farina, PhD Mentored by Marie Wood
Alexander Karabachev, Mentored by Marc Greenblatt
Louise-Basset Porter, Mentored by Kim Dittus

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

Maura Barry, MD
Member, American Society of Clinical Oncology
Member, Northern New England Clinical Oncology Society
Member, Multinational Association of Supportive Care in Cancer

Mary Cushman, MD, MSc
Board Director, North American Society on Thrombosis and Hemostasis
Board Director, Founders Affiliate, American Heart Association
Member, Quality Committee, American Society of Hematology
Member, Media Experts Committee, American Society of Hematology
Chair, Guideline Panel, Prevention of Venous Thromboembolism in Medical Patients. American Society of Hematology
Member, Leadership Council of the International Society on Thrombosis and Haemostasis, ex officio non-voting
Publishing Committee (ex officio), International Society on Thrombosis and Hemostasis
Medical Advisory Committee, Foundation for Women & Girls with Blood Disorders
Planning Committee, 2020 HTRS/NASTH Research Colloquium, Developing a Sustainable Research Career in Hemostasis and Thrombosis
Chair, Task Force on Women in Science and Medicine, American Heart Association
Chair, 2020 Women’s Triennial Health Tracking Study in Cardiovascular Disease and Stroke. American Heart Association
Kim Dittus, MD, PhD
Member, Cancer Control Committee, UVM Medical Center

Marc Greenblatt, MD
President, Human Genome Variation Society (HGVS)
Member, International Scientific Advisory Council, Human Variome Project
Member, International Society of Gastrointestinal Hereditary Tumors (InSiGHT) Core Member, Variant Interpretation Committee
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, International Mismatch Repair Consortium (IMRC)
Member, Cancer and Leukemia Group B-Alliance for Clinical Trials
Member, Vermont Medical Society

Chris Holmes, MD, PhD
Member, Thrombosis Committee, American Thrombosis and Hemostasis Network, Centers for Disease Control
National Chair, Hemophilia Transitions, American Society of Hematology Workgroup on Transitions; American College of Physicians Pediatric to Adult Care Transition Initiative
Executive Board Member, National Network, Health and Human Services New England Comprehensive Hemophilia Diagnostic and Treatment Centers
Director, Community Counts-Vermont, Centers for Disease Control (CDC) Public Health Monitoring Program, Division of Blood Disorders
Member, Institutional Review Board, Committee on Human Research in the Medical Sciences (CHRMS), University of Vermont

Peter Kaufman, MD
Committee Member, Breast Cancer Core Committee, Alliance for Clinical Trials in Oncology
Breast Cancer Committee Liaison to Neuro-Oncology, Alliance for Clinical Trials in Oncology
Alliance Champion, E2112, A Randomized Phase III Trial of Endocrine Therapy Plus Entinostat or Placebo in Patients with Hormone Receptor Positive Advanced Breast Cancer
Co-Investigator, A071701, Genomically Guided Trial in Brain Metastases (CTEP Approved)

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

J. Chris Nunnink MD, FASCO
Member, American Society of Clinical Oncology Board of Directors
Member, American Society of Clinical Oncology Strategic Planning Committee
Member, American Society of Clinical Oncology Clinical Guidelines Committee
Member, Northern New England Clinical Oncology Society Board of Directors
Patricia O’Brien, MD  
Member, NNECOS Educational Planning Committee

Hibba tul Rehman, MD  
Member, American Society of Clinical Oncology  
Member, American Society of Hematology

Julian Sprague, MD  
Member, American Society of Hematology  
Member, American Society of Clinical Oncology  
Member, Committee on Training, American Society of Hematology  
Liaison, Committee on Quality from the Committee on Training, American Society of Hematology

Elvira Umyarova, MD  
Member, American Society of Hematology

Marie Wood, MD  
Co-Chair, Alliance, Prevention Committee  
Member, Alliance Foundation, Board of Trustees  
Member, NCI Prevention Steering Committee  
Member, American Society of Clinical Oncology, CME Committee  
Member, Northern New England Clinical Oncology Society Board of Directors  
Member, American College of Physicians  
Member, National Surgical Adjuvant Breast and Bowel Project  
Chair, ASCO Continuing Education Committee

Neil Zakai, MD  
American Heart Association (AHA)  
Member, Executive Committee, American Heart Association Council on Epidemiology and Prevention  
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 VTE Guideline Panel: Prevention of VTE in Medical Patients  
Member, American Society of Hematology “Consult a Colleague” Program-  
• Content expert “Hemostasis/Thrombosis”  
• Content expert “Anemias”  
• Taught class on observational epidemiology August 2018, San Diego CA  
Member, American Society of Hematology Organizing Committee for Highlights of ASH (organizing 6 domestic and 3 international meetings)  
Hemophilia and Thrombosis Research Society (HTRS)  
• Abstract Reviewer Hemophilia and Thrombosis Research Society April 2019 Meeting (New Orleans, LA)  
• Mentored Research Award Grant Reviewer 2018/19  
International Society of Thrombosis and Haemostasis  
• Working group: Standardization of data elements for research on anticoagulation
Editorships and Editorial Boards

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

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

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

Marie Wood, MD
Editorial Board, The Breast
Editorial Board, Journal of the National Cancer Institute
Editor in Chief, ASCO University (eLearning platform)
Section Editor, Current Breast Concur Reports

Neil Zakai, MD
Editorial Board, Research and Practice of Thrombosis and Haemostasis

Study Sections and Federal Advisory Boards

Chris Holmes
NIH, Patient-Centered Outcomes Research Institute (PCORI), merit review panel member, Management of Care Transitions for Emerging Adults with Sickle Cell Disease
NIH, National Heart, Lung, and Blood Institute (NHLBI), ad-hoc member, Clinical Trials Review Committee (CLTR)
Center for Disease Control/American Thrombosis and Hemostasis Network Community Project Review Committee

Marie Wood
Member, NCI Steering Committee

Grants

Steven Ades
PROMISE Trial Ades (PI) 01/01/19-12/31/20
UVMCC 1902-Prostate Cancer Circulating miRNAs for Precision-based Medicine
ADC: $50,000
Role: PI

Maura Barry
University of Vermont Medical Center Foundation
Victoria Buffum Endowment
Quality of Life Assessment for Head and Neck Cancer Patients Undergoing Treatment in The First Year of Survivorship
Role: PI

University of Vermont Medical Group Yang (PI) 01/01/17-12/31/17
Delineating Tumors of Pancreatic Origin
Role: Co-PI

Mary Cushman
NINDS 02/15/18-01/31/23
U01 NS041588
VCID and Stroke in a Bi-Racial National Cohort
G Howard, Co-PI, University of Alabama at Birmingham
J Manly, Co-PI Columbia University
ADC (current Vermont subcontract): $393,924
Role: Co-PI, 25%

NHLBI R01 HL59367
Epidemiology of Venous Thrombosis and Pulmonary Embolism
AR Folsom, PI, University of Minnesota
ADC (current Vermont Contract: $97,565)
Role: Subcontract PI, 15, 10, 10 in current project

NHLBI HHSN2682015000031
Multiethnic Study of Atherosclerosis
R. McClelland, PI, University of Washington
ADC (current Vermont Subcontract): $95,644 (current cycle)
Role: Subcontract PI, 5%

NIH P01HD03192116A1
The National Longitudinal Study of Adolescent Health - Wave V
K Harris, PI, University of North Carolina, Chapel Hill
ADC: (Vermont Subcontract): $405,472
Role: Subcontract PI, 12.5%

NIH NICHD 09/09/16-05/31/20
Social Context, Life Course and Genetic Transcription in Add Health
K Harris, PI, University of North Carolina, Chapel Hill
ADC (subcontract): $20,694
Role: Subcontract PI, 2%

NIH-NIA 06/01/16-05/31/21
Transitions to Family Caregiving and its Impact on Health Indicators
ADC: $131,170
Role: Subcontract PI, 10%

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
ADC (subcontract): $52,259
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
R01 HL141290
Thrombosis and Bleeding Risk Assessment in Medical Inpatients
N Zakai, PI, University of Vermont
ADC: $446,834
Role: Co-Investigator, 5%

Kim Dittus
NIH-NIGMS
1P20GM103644-01A1
Vermont Center on Behavior and Health, COBRE
Junior Investigator Project: Predictors of Weight Loss Success in Overweight Breast Cancer Survivors
Role: PI, Junior Investigator Project

AC-IRG
Gell (PI) 04/01/17-03/31/18
BeMobile: A Randomized Control Trial of a Novel, Technology-Based Intervention to Support Physical Activity in Cancer Survivors
Role: Mentor

Marc Greenblatt
NIH-NHGRI
Berg, Jonathan (PI)
U01 HG007437-01
A Knowledge Base for Clinically Relevant Genes and Variants
Role: Co-Investigator

Department of Medicine Eureka Grant, “Computational Analysis of Pathogenicity of Variants in Hereditary Disease Genes”

Chris Holmes
1R01HL141290-01A1
Zakai (PI)
NHLBI
Thrombosis and Bleeding Risk Assessment in Medical Inpatients
Role: Co-Investigator

20694075
01/01/16-12/31/18
The Joint Commission Oversight
Pfizer & Bristol-Myers Squibb Funding
Transition of Care for Patients with Venous Thromboembolism at ATHN Affiliated Sites
Rajpurkar and DeSancho (Co-Is)
Role: Site PI

ATHN2011001-1-1
Brettler (PI) 09/30/11-09/29/18
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: Sub-Investigator

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

Hibba tul Rehman
IRG-14-196-01 Rehman (Co-PI) 08/01/17-07/31/18
ACS-Institutional Research Grant
Genetic Analysis of Viral Etiology in Lung Cancer
Role: Co-PI

O32836 Rehman (PI) 01/01/17-12/31/18
Screening for Inhibitors of the Fibrolamellar Hepatocellular Carcinoma DnaJ-PRKACA
Role: PI

Marie Wood
Alliance 31828 Wood (PI) 08/01/17-11/04/21
Prevention Committee Co-Chair/Concept
Role: PI

NNECOS Wood (PI) 04/01/18-03/31/19
DNA Repair Landscape of Discordant Sibling Pairs from Hereditary Breast Cancer Families
Role: (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
ADC: $446,834
Role: PI 30%

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
ADC: 441.530
Role: Subcontract—Co investigator 10%

R01HL131579 Lutsey (PI) 01/01/17-11/30/20
NIH/NHLBI
Contemporary Venous Thromboembolism Treatment
Recent introduction of novel oral anticoagulant drugs have transformed the management of venous thromboembolism (VTE), however we have little real-world experience with the side-effects of these
medications. This grant uses data from two large U.S. commercial claims databases (OptumInsight and MarketScan) to see whether real-life outcomes differ between traditional treatment of VTE and novel treatments and if bleeding and recurrent thrombosis differ
ADC: $75,797
Role: Co-Investigator

R01 HL132947     Reiner (PI)     04/01/17-03/31/21
NIH
Thrombosis Genetics in African Americans
The primary objective of this project is to measure several emerging thrombosis and inflammation plasma biomarkers that are likely to reflect and/or account for increased thrombogenicity and therefore may contribute to higher rates of CVD in African Americans, and to assess the association of thrombosis biomarkers and biomarker-associated genetic variants with more complex subclinical and clinical CVD endpoints available in JHS and other African American cohorts, including REGARDS
ADC: $200,150
Role: Subcontract Investigator

R01 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 levels
ADC: $31,427
Role: Subcontract Investigator

R01  Allison (PI)     07/01/18-06/30/22
NIH
Treatment of Venous Leg Ulcers with Factor Xa Inhibition: Efficacy and Mechanisms
This proposal will explore clinical aspects of venous leg ulcers, post-thrombotic syndrome and anticoagulation treatment, and will relate biomarker levels to ulcer characteristics and healing
ADC: $198,536
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
ADC: $8,863
Role: Subcontract PI

Publications


Saver JL, Cushman M. Striving for Ideal Cardiovascular and Brain Health: It Is Never Too Early or Too Late. JAMA 2018 Aug; 320:645-7. PMID: 30140858


Plante TB, Juraschek SP, Miller ER, Appel LJ, Cushman M, Littenberg B. Comparison of Frequency of Atherosclerotic Cardiovascular and Safety Events with Systolic Blood Pressure <120 mm Hg vs 135-139 mm Hg in a Systolic Blood


Valderrabano RJ, Buzkova P, Chang PY, Zakai NA, Fink HA, Robbins JA, Lee JS, Wu JY, Cardiovascular Health Study Group. Association of bone mineral density with hemoglobin and change in hemoglobin among older men and


The Division of Hospital Medicine at the Larner College of Medicine at the University of Vermont pursues excellence in academic Hospital Medicine by:
- Delivering compassionate, responsive, integrated care to medical inpatients 24 hours a day
- Teaching the science, art, and joy of medicine to students, trainees, and colleagues
- Promoting knowledge through research and educational efforts
- Cultivating a collegial and sustainable practice environment
- Collaborating with members of the hospital and university community to improve the quality, safety and value of inpatient care

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

**Service:**

The Internal Medicine Hospitalist Service specializes in the diagnosis and treatment of hospitalized adults, both as the primary service and in the role of consultant – with our service providing 24x7 attending coverage. We serve as physician leadership for the rapid response team (CATS 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 at Fanny Allen Rehabilitation Center.

In the past year, the Internal Medicine Hospitalist Service faculty conducted nearly 40,000 patient encounters. This includes a Medical Oncology service – which works closely with Oncology to provide inpatient care to patients with solid tumors. In addition, we continue to provide enhanced services overnight, including providing night coverage for the Family Medicine and Hematology/Oncology services, along with Medical Consults and cross-coverage of our increasing number of non-resident patients. We continue to significantly expand our use and teaching of bedside ultrasound techniques under the expert guidance of Drs. Mohit Jindal and Tara Scribner. Evidence of strong clinical performance includes a low overall re-admission rate of <5%. In 2018, we were very proud that Dr. Florian Foerg was recognized as the Distinguished Clinician Award for the Department of Medicine.

Our Hospitalists have been engaged in numerous institutional quality improvement and safety initiatives. Our most recent successful project focused on reducing the frequency of hyperglycemia in adult hospitalized patients. In the last few years, we have also significantly reduced the number of unnecessary labs performed on our inpatients, improved the completion of accurate problem lists at the time of discharge, improved commu-
communication with primary care at discharge and decreased the wait time of orders for patients admitted through the Emergency Department. We are currently engaged in work providing training in Improvement Science for to the entire division.

Education:
Our faculty teaches General Internal Medicine and Hospital Medicine to medical students, resident physicians, professional colleagues, and community members.

Hospitalists serve as the teaching attending for the four General Medicine teaching teams throughout the year – offering clinical supervision, bedside and didactic education, along with feedback and evaluation to resident physicians and medical students. Additionally, our inpatient faculty physicians lead the Medicine Consult elective for residents and medical students, including residents from Orthopedic Surgery.

Our faculty are regular participants and facilitators at Resident Report and Intern Report. Dr. Amy Teleron continues to take the lead in our Adult Code training for our residents, with a focus on team dynamics and communication – resulting in recognized improvement in code performance. Through the leadership of Dr. Jason Bartsch, we have developed the Hospital Medicine academic half-day curriculum. Several of our faculty also serve as preceptors for the Internal Medicine Resident Clinic. Drs. Repp, Muthukrishnan and Burnett, along with Amanda Kennedy, PharmD, have developed an incredibly robust and effective Improvement Science curriculum. Amanda Kennedy also oversees our comprehensive Internal Medicine Resident research program. In addition, Drs. Rand, Burgess, McEntee and Hodde have been developing and delivering teaching in communication skills.

Dr. Pasanen and Dr. Eldakar-Hein serve as the Program Director and Associate Program Director for the Internal Medicine Residency, respectively. Our faculty members have been recognized numerous times by the resident physicians for teaching excellence. Most recently, Dr. Mohit Jindal received the Mark A. Levine Award for Outstanding Teacher of the Year in General Internal Medicine in 2019.

At the UVM College of Medicine, our primary teaching is in the hospital setting, focusing on the Internal Medicine Inpatient Clerkship, Internal Medicine Acting Internship and the Clinical Tutor program (which is directed by one of our Hospitalists, Dr. Bartsch). However, our faculty are also involved in other teaching activities including Foundations courses, Convergence and Professionalism, Communication and Reflection. Over the last year, Dr. Eldakar-Hein served as the Course Director for the Professionalism, Communication and Reflection course. In recognition of her commitment to our students, Dr. Eldakar-Hein was recently selected as an Interim Assistant Dean of Students. In addition, two of our faculty, Drs. Foerg and Rand, were recognize as winners of the Clinical Teacher of the Year Awards.

We educate our colleagues locally, regionally and nationally in a variety of venues. This includes successfully delivery of our 8th annual University of Vermont Continuing Medical Education Course in Hospital Medicine, attracting a national audience and with faculty largely from the Division of Hospital Medicine and other divisions of the Department of Medicine.

The Internal Medicine Hospitalist Service 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. In 2018, Dr. Allen Repp was awarded the Clinical Resident Mentor Award by the Department of Medicine.

Research
In addition to our clinical work and focus on quality and safety, we have a diversity of scholarly interests among our faculty. This has included externally funded clinical trials of immunizations and high value laboratory ordering practices. In addition, internal funding currently supports work on teaching trainees to facilitate code status discussions. Previous funding has supported work on teamwork with a focus on communication during rapid response
calls. Other areas of interest include opioid-related adverse events in inpatients, interosseus access by EMTs prior to hospitalization, adult code communication and performance and VTE prevention in acute medically ill patients.

Faculty

Division of Hospital Medicine

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

Lee-Anna Burgess, MD
Assistant Professor of Medicine

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

Markus Degirmenci, MD
Assistant Professor of Medicine

Shaden Eldakar-Hein, MD, MS
Associate Professor of Medicine
Associate Program Director, Internal Medicine Residency
Interim Assistant Dean of Students, Lerner College 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
Director for Baird 4 Unit-based Care

Steve Grant, MD
Associate Professor of Medicine
Associate Director, Hospitalist Service
Associate Chief Medical Officer for Care Coordination and Patient Transitions

Naomi Hodde, MD
Assistant Professor of Medicine

Mohit Jindal, MD
Assistant Professor of Medicine
Director of Ultrasound Education, Division of Hospital 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

Carrie Lyon, MD, MPH
Associate Professor of Medicine
Director, Hospital Medicine CME course

Rachel McEntee, MD
Assistant Professor of Medicine

Sadie Mills, MD
Assistant Professor of Medicine

Chad Mitchell, MD
Assistant Professor of Medicine

Preetika Muthukrishnan, MD
Assistant Professor of Medicine
Co-Director of Quality and Safety, Division of Hospital Medicine
Co-director for Baird 4 Unit-based Care

Mark Pasanen, MD
Associate Professor of Medicine
Program Director, Internal Medicine Residency Program
Chief, Division of Hospital Medicine

David Rand, DO
Assistant Professor of Medicine
Co-director for Miller 5 Unit-based Care

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

Tara Scribner, MD
Assistant Professor of Medicine

Paul Slavik, MD
Assistant Professor of Medicine

Amy Lynn Teleron, MD
Assistant Professor of Medicine
Medical Director, Clinical Emergency Response Team
Medical Director Emergency Response Nurse Team

Eric Westphal, PA

Dennis Woods, MD
Assistant Professor of Medicine
Leadership in Professional Societies:

The Internal Medicine Hospitalist Service faculty members are extensively 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 Governor and current Governor, along with 3 members of the advisory council membership) and past president of the UVM Medical Alumni Executive Committee. Dr. Repp serves on the Society of Hospital Medicine Performance Measurement and Reporting 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, Committee for Advancement, Rapid Response and Resuscitation committee, Patient Experience/Patient-Family Centered Care workgroup, Accountable Care Unit workgroup, Operations/Workforce, Quality Improvement, Ethics and EPIC/IT. In addition, we have had active engagement in the Adult Hospital Medicine Specialty Council – directed by Dr. Mark Pasanen.

There are numerous specific examples of leadership within the faculty. Dr. Steven Grant serves as the Associate Chief Medical Officer for Care Coordination and Patient Transitions. Drs. Chad Mitchell, Mohit Jindal and Steve Grant serve a critical role in Utilization Review, providing real-time reviews in coordination with Case Management. Drs. Rachel McEntee has been instrumental in helping to optimize EPIC, our electronic health record, through her work and leadership as a Physician Informaticist. Dr. Amy Teleron has provided leadership in significantly improving our Rapid Response and Resuscitation training and implementation. Dr. Repp serves as Vice Chair of Quality for the Department of Medicine.

We have worked closely with other departments in an effort to optimize patient care. This has included Co-Management services with the Orthopedics Spine Service, in addition to existing Co-Management on the Trauma Service. We have also developed a shared model of care with the Renal Transplant Service.

Editorships and Editorial Boards:

Allen Repp, MD, MS
- Reviewer: Journal of Hospital Medicine
- Editorial Board: JSM Clinical Case Reports

Major Faculty Awards:

- Dr. Florian Foerg: Distinguished Clinician Award from the Department of Medicine 2018
- Dr Allen Repp: Resident Mentor Award from the Department of Medicine 2018
- Class of 2019 Larner College of Medicine Clinical Teacher of the Year Award went to Florian Foerg, M.D. and David Rand, D.O.

Grants:


UHC Grant 2018: Dr. Rachel McEntee – “Improving Electronic Medical Record User Satisfaction”

Vermont Child Health Improvement Program (VCHIP), 07/01/2018-06/30/2019, Robinson (PI), Dr. Repp Co-Investigator.Pediatric to Adult Specialty Care Transition Project to improve Medicaid eligible youth and young adult access to and utilization of high quality care in pediatric and adult specialty care clinics.
Publications – peer reviewed, chapters, etc. (not abstracts)

Repp AB, Bartsch JC, Pasanen ME. What the “non-teaching” service can teach us. Acad Med. 2018; 93(1):41-44


Wahlberg K, Lambirth S, Gardner Z. Improving patients’ ability to identify their physicians through the use of physician facecards and whiteboards. BMJ Open Qual. 2019;8(2)
The Division of Immunobiology currently has seven research faculty, five graduate students, and two postdoctoral fellows. Research covers a variety of areas, including the immune response to infections and vaccines, virus-host interactions, autoimmune mechanisms, and inflammation in cancer. Research support includes numerous individuals grants as well as a Center of Biomedical Research Excellence (COBRE) Award from NIH. Now in its 13th year, the COBRE grant supports the activities of the Vermont Center for Immunology and Infectious Diseases (VCIID), which now numbers 25 faculty in 8 departments in 3 colleges and is in close alliance with the Vaccine Testing Center. The VCIID has a weekly joint Research-in-Progress meeting, seminar series, and a journal club. This provides a regular forum for students and postdoctoral fellows to present their research progress as well as for faculty to review hypotheses and specific aims of planned grants. During the first 10 years of COBRE funding, VCIID faculty published 419 articles and received over $92 million in funding. This also provided funds to allow the College of Medicine to build a new BSL3 facility in partnership with the Vermont Department of Health (opened spring, 2016), and to recruit new faculty to the theme of the host response to infection. We also have a T32 Training Grant from NIH, also in its 13th year, to support the salaries of our graduate students.

Faculty

Ralph Budd, MD
University Distinguished Professor of Medicine and Microbiology & Molecular Genetics
Director, Vermont Center of Immunology & Infectious Diseases
- Key Research Interests: Autoimmune mechanisms, immune cell death, Lyme arthritis, caspase regulation, immune metabolism

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

Emily Bruce, PhD
Faculty Scientist
- Key Research Interests: Understanding how viruses (arenaviruses, hantaviruses, influenza virus) interact with host cellular machinery to facilitate virus particle assembly and release and the identification of neutralizing antibodies against these viruses.

Karen Fortner, PhD
Faculty Scientist
• Key Research Interests: Regulation of T lymphocyte homeostasis through cell death, metabolism, and inhibitory functions; T cell homeostasis and function in obesity and liver disease; autoimmunity

Mercedes Rincón, PhD
Professor of Medicine and Microbiology & Molecular Genetics
• Key Research Interests: T cell activation and metabolic regulation, allergy/asthma, influenza, T cell development, breast cancer, cancer and inflammation

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

Tina Thornton, PhD
Assistant Professor of Medicine
• Key Research Interests: Understanding the interactions of signaling pathways that control early thymocyte development and survival, the interaction of the p38 MAPK pathway and GSK3 in the context of DNA damage signaling.

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

Devin Champagne (graduate student) – Role of MCJ as an endogenous inhibitor of mitochondrial respiration in T cell immune response, cancer and fatty liver diseases (received PhD 5/2019)

Annalis Norman (graduate student) – Identification of human monoclonal antibodies for treatment of hantavirus disease in humans; identification of key host proteins required for arenavirus propagation.

Inessa Manuelyan (graduate student) – Identification of key human proteins required for Zika and dengue virus propagation.

Felipe Valenca Pereira (postdoc) – Thymocyte development

Abbas Raza (graduate student) – Genetic of histamine sensitivity and role of SLAM family genes in EAE.

Michael Secinaro (graduate student) – The regulation of caspases by the metabolic state of T cells (received PhD 5/2019)

Christopher Ziegler (postdoc) – Posttranslational modification as a means to regulate viral protein function and identification of key host proteins required for arenavirus propagation.

Leadership in Professional Societies:

(Budd) Chair of T Cell Biology Section of the American College of Rheumatology Annual meeting, 2017

Editorships and Editorial Boards:

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

(Rincón) J. Immunology; International Journal of Biological Sciences
Study Sections and Federal Advisory Boards:

(Budd) 2018 NIH Immunity and Host Defense
2018 ZAI1 ZK-1 (J1) 1 Autoimmunity Centers of Excellence
2019 T32 Grant Reviews AITC NIAID
2019 COBRE Phase I Grant Review NIGMS

(Botten) Reviewed for Foundation Innovations en Infectiologie (FINOVI), France. Received invitations to review for (i) Broad Agency Announcement (BAA) “8 Cell Epitope Discovery and Mechanisms of Antibody Protection, NIH/NIAID, (ii) Infectious Diseases-2 (ID-2) peer review panel of the 2019 Peer Review Medical Research Program (PRMRP) for the Department of Defense (DoD) Congressionally Directed Medical Research Programs (CDMRP), and (iii) Focused Program-Emerging Infectious Diseases (FP-EID) peer review panel of the 2019 Peer Review Medical Research Program (PRMRP) Focused Program Award for the Department of Defense Congressionally Directed Medical Research Programs (CDMRP).

(Rincón) Charter member, Cellular and Molecular Immunology NIH study section. CMI-A
Chair of study section
2018 Jesus Serra Foundation, scientific committee member.
2018 Ad Hoc Member of the NCI MCT1 study section
2018 Ad-Hoc Reviewer for NIH MIST study section
2019 Ad-Hoc Reviewer for NIH CMI-A study section
2019 Reviewer for NIH Small Business: Innovative Immunology Research (IMM-M10) study section.
2019 Appointed Permanent Member of NCI MCT1 study section.

(Teuscher) Ad hoc reviewer for NIH reviewers pool

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

Major Faculty / Research Awards:


(Botten) PhD student Inessa Manuelyan selected for a slot on the Vermont Lung Center T32 training grant

(Botten) Postdoc Chris Ziegler was an invited speaker at the 2018 International New Horizons in ESCRT Biology Meeting at the University of London.

(Botten) Two patents awarded in 2019

(Bruce) Invited participant at the 2019 Viruses and Cells meeting in Barga, Italy

Grants – list all active by faculty member, PI

Budd:

R21 AI 119979  Budd (PI)
Title: Metabolic Regulation of Caspases and Survival in T Cells
Dates of Award: 04/01/16-09/30/19
Role: PI
Current Yr funding: $0 No Cost Extension
Source: NIH/NIAID

P30 GM118228  Budd (PI)
Title: Vermont Immunology / Infectious Diseases Center
Dates of Award: 08/05/2016 – 07/31/21
Role: PI
Current Yr funding: $1,405,830
Source: NIH/NIGMS

T32 AI 055402  Budd (PI)
Title: Vermont Immunology / Infectious Diseases Training Grant
Dates of Award: 09/01/05 – 08/31/21
Role: PI
Current Yr funding: $151,904
Source: NIH/NIAID

Botten:

SPARK2017 (Botten, J.)  2017-2019
SPARK-VT Competition, UVM
Title: Therapeutic antibodies for treatment of hantavirus cardiopulmonary syndrome
The goal of this award is to develop human monoclonal antibodies for treatment of New World hantavirus disease.
Current Yr Funding: $50,000

P30GM118228 (Budd, R.)  08/01/18 - 07/31/19
NIH/NIGMS
Centers of Biological Research Excellence (COBRE), Vermont Immunobiology/Infectious Disease Center
Dr. Botten is the PI of a pilot project to develop a therapeutic molecule to target ERGIC-53-sensitive viruses.
Current Yr Funding: $50,000

R41AI132047 (STTR) (Botten, J.) 08/08/2017-07/31/2019
NIH/NIAID
Therapeutic antibodies for treatment of hantavirus cardiopulmonary syndrome
Major goal is to capture the repertoire of antibodies generated against Andes hantavirus during acute infection and identify those that could be used to therapeutically treat disease.
Total costs of UVM sub with indirect costs: $108,653
Therapeutic antibodies for treatment of hantavirus cardiopulmonary syndrome

The major goal of this research supplement is to provide support for a scientist in my group to reenter the workforce full time and use a novel approach (that is complementary to the approach used in the parent grant) to identify therapeutic antibodies for treatment of hantavirus disease.

Total costs with indirect costs: $151,317

A novel antibody therapy for Sin Nombre virus infection

Major goal is to capture the repertoire of antibodies generated against Sin Nombre hantavirus during acute infection and identify those that could be used to therapeutically treat disease.

Total costs of UVM Sub with indirect costs: $99,000

Mechanisms of Protection and Durability for a Live Attenuated Tetravalent Dengue Vaccine

Tetravalent dengue vaccination must offer safe and durable protection against all four serotypes of dengue viruses. We leverage four vaccine trials and viral challenges evaluating the NIH dengue vaccine to explore and confirm immune mechanisms associated with protection.

Total costs of UVM Sub with indirect costs: $640,554

Mechanisms of Protection and Durability for a Live Attenuated Tetravalent Dengue Vaccine

Rincón:

Fostering Entrepreneurship in Biomedical Research

Title: Fostering Entrepreneurship in Biomedical Research
Dates of Award: 04/01/16-02/28/21
Role: PI
Current Yr funding: $440,063
Source: NIH/NIGMS

GSK3B in TCR Repertoire and Immune Diseases

Title: GSK3B in TCR Repertoire and Immune Diseases
Dates of Award: 08/05/16-07/31/20
Role: PI
Current Yr funding: $388,775
Source: NIH/NIAID

R41 DK117760
Title: A Novel Approach to Treat Non-Alcoholic Steatohepatitis (NASH)
Dates of Award: 07/05/17-06/30/20
Role: PI
Current Yr funding: $0 No Cost Extension
Source NIH (sub award through Mitotherapeutix)

R21 CA223389
Title: A Novel Target to Overcome Chemoresistance in Breast Cancer
Dates of Award: 06/01/18-05/31/20
Role: PI
Current Yr funding: $203,580
Source: NIH

UT2GM130176-01
Title: DRIVEN: Accelerating Medical Entrepreneurship in the Northeast
Dates of Award: 09/01/18-08/31/19
Role: PI
Current Yr funding: $39,644
Source: NIH (sub through Celdara Medical)

Teuscher:

R21AI128595
Title: Genome-wide physical mapping of IAV-QTL using wild-derived inbred mice
Dates of Award: 12/1/16 – 11/30/19
Role: PI
Current Yr funding: $0 No Cost Extension
Source: NIH

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


The Infectious Diseases (ID) Division is comprised of twelve attending physicians and 3 mid-level providers dedicated to the diagnosis, management, prevention and investigation of infectious diseases. During this past year, Dr. Mary Ramundo retired and two new faculty were recruited, Timothy Lahey and Timothy Whitman. Dr. Lahey also serves as the Director of Clinical Ethics at the UVMMC. Drs. Dejacce and Hale spend 25% of their time doing inpatient clinical work at Champlain Valley Physicians Hospital in Plattsburgh, NY.

Last year the Division performed over 1,600 new inpatient consultations on the medical center campus. We also staff a busy outpatient clinic seeing new consultations, hospital follow-ups, and caring for travelers, those with HIV, hepatitis C, tuberculosis and refugees, among others. This effort includes the care of over 500 patients with HIV in four federally funded Comprehensive Care Clinics in Vermont. In total the ID Division performed over 16,000 work RVUs last year. The Division has contracts with the Vermont Department of Health to collaborate on antibiotic stewardship, the diagnosis and treatment of tuberculosis, and biological and pandemic influenza preparedness. The Division has a contract with the VT Department of Corrections to consult on hepatitis C. The ID staff includes the UVM Medical Center Hospital Epidemiologists and Director of Infection Prevention, Director of Antibiotic Stewardship, Director of Clinical Ethics, the Larner College of Medicine Clerkship Director for the Department of Medicine, and the Director of the Vaccine Testing Center at UVM.

In addition to daily teaching rounds with medical students, residents and fellows, the faculty are actively involved in teaching several courses in the Larner College of Medicine. The ID Division accepts one fellow per year into a two-year fellowship training program. The graduating fellows have a 100% board certification pass rate over the past 19 years. Our fellows have presented abstracts at national ID meetings, published peer reviewed articles, and authored book chapters.

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 (Jose Teixeira, PhD), graduate and visiting students, laboratory technicians, and often the 2nd year ID Fellow.

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

Investigations of the Kirkpatrick laboratories and Vaccine Testing Center (VTC) continue in the Department of Microbiology and Molecular Genetics (MMG), in tight collaboration with the division of Infectious Diseases. It focuses on improving global health through the assessment of candidate vaccines, microbial diseases, and the understanding of human protective immune responses following vaccination and infection. The team continues to work on development of the NIH’s live attenuated tetravalent dengue vaccine, performs extensive work on dengue human immunology and correlates of protection, Zika vaccine development and immunology, rotavirus immune correlates of protection and human experimental challenge models for Cryptosporidium.

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.

**Faculty**

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

Jean Dejace, MD
Assistant Professor
• Attending Physician for Infectious Disease
• CVPH attending

Andrew Hale, MD
Assistant Professor
• Attending Physician for Infectious Disease
• Director, Infectious Elective Rotation
• Course Director, How the Hospital Works, 4th yr medical student course
• Course Director, Comparative Physiology, Mount Desert Island Biological Laboratories
• Course Director, Respiratory and Renal Pathophysiology at the UVM Larner College of Medicine
• Chair, Vermont Hepatitis C Taskforce

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
• Research Committee, UVM Larner College of Medicine
• Reappointment, Promotions and Tenure Committee, Department of Medicine, UVM College of Medicine
• New Research Building Advisory Group, UVM Larner College of Medicine

Beth D. Kirkpatrick, MD, FIDSA, FASTMH
Professor of Medicine with Tenure
Chair, Department of Microbiology and Molecular Genetics
• Director, UVM Vaccine Testing Center
• Research Interests: Vaccine development, vaccine immunology, enteric and flavivirus infections, human experimental infection models.
• College of Medicine Advisory Committee. UVM Larner College of Medicine.
• Physician-Scientist Working Group. UVM Larner College of Medicine

Tim Lahey, MD, MMSc
Professor of Medicine
• Director, Clinical Ethics
• Attending Physician for Infectious Disease
• Ombudsperson for Graduate Medical Education

Cindy Noyes, MD
Assistant Professor of Medicine
- Attending Physician for Infectious Disease
- Associate hospital epidemiologist
- Associate Director, Infection Prevention

Kristen K. Pierce, MD
Associate Professor of Medicine
- Director, Infectious Disease Fellowship Training Program
- Attending Physician for Infectious Disease
- Lead Clinical Investigator, Vaccine Testing Center
- Research Interests: Development of Live Attenuated Flavivirus Vaccines
- Institutional Review Board

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

Devika Singh, MD, MPH
Assistant Professor of Medicine
- Director, Part C HRSA Award, Part B HRSA Sub Award, and NEAETC Sub Award
- Attending Physician for Infectious Disease
- HIV care provider, Rutland Regional Medical Center, Comprehensive Care Clinic

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

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

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

Fellows

Daniela Dimarco, MD
Infectious Disease 2nd Year Fellow
- Infectious Disease Fellowship Training Program July 1, 2017 – June 30, 2019
- Poster presentation topic: Improving Hospital Preparedness for Measles

Prateek Ghatage, MBBS
Infectious Disease 1st Year Fellow
- Infectious Disease Fellowship Training Program July 1, 2018 – June 30, 2020
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:

Rajiv Jumani – PhD Student, (Huston Laboratory)
Md Mahumul Hasan – PhD Student (Huston Laboratory)
Huy Tu – Graduate Student, Cellular and Molecular Biology Program (Vaccine Testing Center – Kirkpatrick)

Endowed Professorships:

Leadership in Professional Societies:

Christopher Huston, M.D.
  - Chairman for 2017-2018, American Society for Microbiology, Division AA (Free-living, symbiotic, and parasitic protists)
  - Member, American Society for Microbiology Council on Microbial Sciences

Beth Kirkpatrick, MD
  - 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

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
  - Journal of Graduate Medical Education
  - Therapeutic Advances in Infectious Disease
  - ID Cases
  - BMJ open

Christopher Huston, MD
- Editorial Board Member – Infection and Immunity
- External reviewer
  - PLoS Pathogens
  - PLoS Neglected Tropical Diseases
  - PLoS ONE
  - Antimicrobial Agents and Chemotherapy
  - Journal of Infectious Diseases
  - Molecular and Biochemical Parasitology
  - Journal of Clinical Microbiology
  - American Journal of Tropical Medicine and Hygiene
  - Member, Drug Screening, Chemistry, and Pharmacology Cryptosporidiosis Working Group; The Bill and Melinda Gates Foundation
  - Member, Cryptosporidium In Vivo Testing Working Group; The Bill and Melinda Gates Foundation

Beth Kirkpatrick, MD
- 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
  - Public Health Nursing

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
  - 2018, ZRG1 IDM-M(02) (Vector and Eukaryotic Pathogens Study Section)
2019, ZRG1 IDM-M(02) (Vector and Eukaryotic Pathogens Study Section)

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

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

Major Faculty Awards:

Andrew Hale, MD
E. L. Amidon MD Award for Outstanding Subspecialty Teacher of the Year

Christopher Huston, MD
University of Vermont Medical Center, Senior Research of the Year (2018)

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

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

Grants – list all active by faculty member, PI

Andrew Hale, MD
Frymoyer Scholars Program 7/1/18-6/30/20
Optimizing Care for Vermonters Infected with Hepatitis C Virus through a Statewide Educational Curriculum
$50,000

Andrew Hale, MD (PI)
HIV/HCV Care for Incarcerated Persons in Vermont
Consultant for the State of Vermont Department of Corrections contractor for optimizing care of HIV and HCV infected persons who are incarcerated in Vermont.
3/1/2019-2/28/2020
$48,000 per year

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

Christopher Huston, MD
Walpole (PI)
Subcontract from University of Toronto
Bill and Melinda Gates Foundation
Project title: Structure-guided drug discovery for tuberculosis and malaria Cryptosporidium supplement
Role: Principal investigator on UVM subcontract (10% effort)
Christopher Huston, MD (PI)
Bill and Melinda Gates Foundation
Project title: OPP1132796: Using pharmacokinetic and efficacy studies of nitazoxanide and azithromycin to standardize the calf clinical model of cryptosporidiosis
Role: Principal investigator (30% effort)
10/14/2015-03/30/2019
Direct costs: $733,136  Total costs: $806,449

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

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

Christopher Huston, MD (PI)
Griggs (PI)
Subcontract from Grant OPP1161880 from St. Louis University (Griggs, PI)
Bill and Melinda Gates Foundation
Project title: Pharmacokinetic and pharmacodynamics profiling of compounds with known anti-Cryptosporidial activity to promote their improvement and advancement for clinical development.
Role: Principal investigator on UVM subcontract (5% effort)
07/01/2017-12/31/2019
UVM Direct costs: $116,699  UVM Total costs: $128,369

Christopher Huston, MD (PI)
UVM Immunobiology COBRE Pilot Grant Program
Project Title: Manipulating the gut microbiota to prevent cryptosporidiosis.
Role: Principal Investigator (0% effort)
07/01/2017-06/30/2019
Direct costs: $50,000  Total costs: $50,000

Christopher Huston, MD (PI)
Program for Appropriate Technology in Health (PATH) PDS Drug Solutions
Project title: Cryptosporidium in vitro and in vivo efficacy studies
Role: Principal investigator (5% effort)
07/31/2017-12/15/2018
Direct costs: $58,933  Total costs: $64,826

Christopher Huston, MD (PI)
Bill and Melinda Gates Foundation Grand Challenges 17
Project title: Continuous propagation of Cryptosporidium using small molecule inhibitors of differentiation
Role: Principal investigator (5% effort)  
11/1/2016-12/31/2018  
Direct costs: $100,000  Total costs: $100,000

R01 AI143951  
Christopher Huston, MD (PI)  
National Institutes of Allergy and Infectious Diseases (NIAID)  
Project title: Preclinical optimization of a parasiticidal drug for cryptosporidiosis  
The goal of this project is to develop a new drug candidate for treating cryptosporidiosis and determine its molecular mechanism of action, beginning with a piperazine-based lead compound identified through phenotypic screening.  
Role: Principle investigator (multi-PI grant; Huston lead (20% effort))  
3/01/2019-02/29/2024  
UVM Direct costs: $1,088,495  UVM Total costs: $1,682,577

R21/R33 AI141184  
Christopher Huston, MD (PI)  
National Institutes of Allergy and Infectious Diseases (NIAID)  
Project title: Repurposing the EMD-Serono “mini-library” for Cryptosporidium drug development.  
The goal of this project is to develop a new drug candidate for treating cryptosporidiosis, using high-value EMD-Serono compounds as the chemical starting points.  
Role: Principle investigator (multi-PI grant; Huston lead (10% effort))  
2/01/2019-12/31/2024  
UVM Direct costs: $297,992  UVM Total costs: $456,623

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

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

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

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

NIH P20 GM125498-01  Kirkpatrick (PI)
10/2018-9/2023

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

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

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

Devika Singh, MD
New England AIDS Education Training
7/1/2018 – 6/30/2019
$51,620 Federal sub-award, UMASS

Devika Singh, MD (PI)
Ryan White Part C Grant for HIV Care
5/1/2018 – 4/30/2019
$530,005 Federal HRSA

Devika Singh, MD (PI)
Ryan White Part C Grant for HIV Care
5/1/2019 – 4/30/2020
$530,005 Federal HRSA

Devika Singh, MD (PI)
Ryan White Care Act Part B Sub Award
1/1/2018– 12/31/2018
$249,633 Federal HRSA

Devika Singh, MD (PI)
Ryan White Care Act Part B Sub Award
1/1/2019– 12/31/2019
$290,000 Federal HRSA

Lindsay M. Smith, MD
Vermont Department of Health Antimicrobial Stewardship Grant
6/1/17 – 5/30/19
Total Direct Costs $307,939
Publications – peer reviewed, chapters, etc. (not abstracts)


Freed J, Hale A, Ricotta D, Huang G. From Monotony to Motivation: Effective Presentation of Epidemiological Data. Accepted at Academic Medicine January 25, 2019


Hale A, Dimarco D, Ahern, J. Optimal Vancomycin Dosing in Obese Patients: Moving Towards the AUC. Accepted at Contagion March, 2019


**Lahey T** & Elwyn G. Is shared decision making impossible when patients have reduced decision-making capacity?” *AMA Journal of Ethics* 2019 (in press)


Nephrology Division

A. Executive Summary:

Service:
The Nephrology Division continues as the only nephrology practice in the State of Vermont. It includes 13 physicians (including 1 part time per diem MD) and 2 advanced nurse practitioners. Three of the physicians are part time (2.25 FTE in total). The Division is a virtual “capacity service” as CMS requires a physician medical director at each of the 5 satellite dialysis units (Barre, Rutland, St. Albans, Newport, and South Burlington) and weekly physician coverage of the patients being dialyzed. In addition, medical directorship and physician coverage is mandated at the Acute Dialysis unit (at the hospital) and the Home Dialysis Unit (in South Burlington). These requirements for dialysis care create complex scheduling challenges for the Division which also covers in-patient consultations at UVMMC and the hospitals associated with the satellite dialysis units.

To add to the complexity of coverage, a number of the practitioners are nearing retirement or changing locations. One retired last June 2018, one will retire in January 2020, another in July 2020, a third probably within a few years, and a fourth will decrease effort to 0.8 FTE. One additional MD is returning to India in the Spring of 2020 to care for aging parents.

Within the past year, we hired two new practitioners. Dr. Onuigbo is a midlevel academic career nephrologist with interests in research and teaching. Dr. Narasimhadevara is a recent graduate of our fellowship program and is currently on a J-1 visa waiver. She has interests in research and has already applied for and received funding from the UVMMG.

We hired a per diem MD who was previously with the group to backfill empty clinic rooms when the other practitioners were off campus.

Nephrology in general has been underfilled with fellows and a work force shortage is anticipated in the future. Reasons given for the lack of fellows nationwide is the complexity of renal physiology, the chronicity of chronic kidney disease without new advances in therapeutics, and the poor reimbursement environment relative to work load (fees for dialysis are fixed by CMS). Despite these challenges, the UVM Division of Nephrology scored very well on the 2016 Physician Satisfaction survey at UVMMC.

Education:

A number of faculty are members of the Teaching Academy. At the College of Medicine, faculty have participated in the CRR course and completed the transition to 100% active learning (no lectures). Residents in Medicine rotate for 1-2 weeks on the Nephrology Service. Increasingly, the residents are exposed to outpatient nephrology clinics including chronic kidney disease, transplantation, and stone clinic. In addition, during the outpatient rotation, residents are exposed to the Home dialysis program, and the chronic dialysis program. We have also opened the outpatient clinic experience to medical students taking an elective rotation on the Nephrology Service and to foreign trained students who want to rotate on a subspecialty service in anticipation of securing an internal medicine residency position in the US.

B. Faculty:

Varun Agrawal, MD
Assistant Professor
Medical Director of Barre Dialysis Unit
Education of medical residents

Katherine Cheung, MD
Assistant Professor of Medicine
Frailty in chronic kidney disease
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  
Urinary oxygen as marker of kidney function

Macaulay Onuigbo, MD  
Professor of Medicine  
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 Chittenden 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  
Medical Director of Rutland Dialysis Unit  
Nephrolithiasis

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

Alan Segal, MD  
Associate Professor of Medicine  
Per Diem  
Renal physiology
C. Fellows:
None

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

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

F. Endowed Professorship
Patrick Professorship (Dr. Solomon)

G1. Leadership in Professional Societies

   Kidney Disease Outcome Quality Initiative Education committee, National
   Kidney Foundation (Agrawal)

   American Academy of Hospice and Palliative Medicine special interest group (Cheung)
   American Geriatrics Society Junior Faculty Committee (Cheung)

   Member, 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, Operations Committee, Department of Medicine (Kumar)

   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)

   ESRD Network 1 Board of Directors (Rimmer)

   ESRD Network 1 Medical Review Committee (Rimmer)

G2: Larner College of Medicine, Department of Medicine
Teaching Academy-Portfolio Review Committee, LCOM (Agrawal)

UVM Center for Aging, Executive Council (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)

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)

Member, Epic Dialysis Module “Power Team” (Rimmer)

Department of Medicine, Research Committee (Solomon)

Department of Medicine Faculty Engagement and Communication Committee (Cheung)

H. Editorships and Editorial Boards

Associate Editor, BioMed Central Nephrology. Nov 2016 to present (V. Agrawal)

Associate Editor, Journal of Medical Case Reports. Nov 2014 to present (V. Agrawal)

I. Study Section and Federal Advisory Boards

Biomarker Consortium member for fNIH (Dr. Solomon)

J. Major Faculty Awards
K. Grants – active 2016-2017

Grants:

Frailty and Resilience in Older Adults with Advanced Kidney Disease. Armin Grams Memorial Research Award, UVM Center on Aging at UVM, 2016-2018. $50,000. (Cheung KL, Hood VL)

Department of Medicine Developmental Fund
Dialysis Nurses’ Perspectives on Advance Care Planning
The goal of this qualitative study is to explore dialysis nurses’ perspectives on their role in advance care planning and to identify barriers and facilitators to implementing advance care planning in the dialysis unit. Dec 2015- Dec 2016
Funding: $15,000 (Cheung KL)

National Palliative Care Research Center Career development award ($154,000 over 2 years) – (Cheung)

University of Vermont Center on Aging
Trajectories of Frailty and Resilience in Older Adults with Advanced Chronic Kidney Disease
The goal of this study is to identify risk factors for frailty and resilience among older patients with CKD, determine the prevalence and trajectories of frailty and resilience in the period around initiation of dialysis and the outcomes of frailty and resilience in this rural population. June 20160 June 2018.
Funding: $50,000 (Cheung KL, Hood VL)

American Society of Nephrology
The American Society of Nephrology
Communication skills training for dialysis nurses to promote interdisciplinary advance care planning and palliative care. July 2016 – July 2017
Funding: $4878 (Cheung, KL)

UVM Medical Student Summer Research Fellowship. Association of urine findings with metabolic syndrome traits in a population of patients with recurrent nephrolithiasis (Hood)

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)

Active clinical trials: (multicenter pharmaceutical supported grants):
Bayer Figaro and Fidelio Trials: Use of finerenone for patient with diabetes and chronic kidney disease (Solomon)

Janssen – Credence Trial: Use of SGLT2 inhibitor in diabetes and chronic kidney disease (Solomon)

AbbVie – SONAR trial: Use of Atrasentan in diabetes and chronic kidney disease (Solomon)

Otsuka – Tolvaptan for treatment of polycystic kidney disease (Solomon)

Akebia - Vadadustat for anemia in CKD and ESKD (Rimmer)-

One Care VT Pilot Project of Care Coordinator for Chronic Kidney Disease (Rimmer) - $300K for 2020

APOLLO study: participating center (Prikis)
Funded but not yet started:
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)

Submitted:
GE Healthcare: A cross over trial comparing Visipaque to Isovue using the MediBeacon real time GFR monitoring system. (Solomon)

L. Publications


12. INVITED SPEAKER

National and International:

World Congress of Internal Medicine, Capetown, SA Oct 2018
The Pulmonary Critical Care Division has had a very successful year in terms of our clinical programs, and our teaching and research efforts. The Division has a national and international reputation in research, especially in the areas of asthma, critical care, stem cell research, and obesity and lung disease. Members of the Division published approximately 100 peer-reviewed articles and book chapters during the last year, edited two books, and obtained significant funding from a number of foundations and the NIH—including a number of new R01 grants and renewal of the T32 training grant. The Division continues to work with other Departments, and across the campus at the University of Vermont, particularly with the School of Engineering, and has a number of highly successful multi-disciplinary research programs. Members of the Division lead doctoral programs in Cellular, Molecular, and Biomedical Sciences, and also in Bioengineering. The Division is particularly recognized for its very successful clinical research enterprise, and is leading cutting edge NIH funded clinical research studies in lung cancer, critical illness, and asthma, while also being a very successful participant in multi-center clinical trials led by the CF therapeutic Development Network, American Lung Association, PCORI and industry. The research program continues to expand, and enjoys considerable success and major recognition.

Members of the Division continue to have major national leadership roles: Dr Parsons is President of the American Thoracic Society, Dr. Stapleton is incoming Chair of the Critical Care Assembly of the American Thoracic Society, and Dr. Dixon serves on the American Lung Association National Board of Directors, the “Expert Panel Review-4” guideline panel currently updating the NIH’s national asthma guidelines and the American Board of Internal Medicine Pulmonary exam board committee. Members of the Division serve on numerous national grant review committees, and editorial boards for major publications. Dr. Jason Bates received national recognition for his contributions to science this year with the Joseph Rodarte Award from the Respiratory Structure and Function Assembly of the American Thoracic Society.

The Division manages critically ill patients in the Medical Intensive Care Unit, provides inpatient pulmonary and critical care consults, and has a number of sub-specialty clinics including those in interstitial lung disease, cystic fibrosis, lung cancer, cancer survivorship, pulmonary hypertension, and asthma. The Division provides a full range of pulmonary diagnostic services: these include bronchoscopy, pulmonary function testing, evaluation of sleep disorders, lung cancer screening and evaluation, an interventional pulmonary program, and a nationally certified pulmonary rehabilitation program. Dr. Gil Allen, head of Critical Care Services at UVM MMC received particular recognition this year when he was awarded the Department of Medicine Quality Scholarship award. The Division is committed to education and training, and trains 2 clinical fellows per year in pulmonary and critical care medicine, as well as a number of pre and post-doctoral research students. Drs. Kaminsky and Farkas were honored by the graduating medical school class with induction into the Alpha Omega Alpha Honor Society. Dr. Stapleton was awarded the Research Mentor of the year Award at the 2018 Annual UVM COM Dean’s Excellence in Research Award Ceremony, and Dr. Charles Irvin received the basic science Research Mentor of the year award from the Department of Medicine. Members of the Division are making important contributions teaching in both clinical and research endeavors.
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**

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

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

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

Jessica Badlam, MD  
Assistant Professor of Medicine

Jason H.T. Bates, PhD DSc  
Professor of Medicine  
Department of Molecular Physiology & Biophysics

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

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

Susan Dunning, MD  
Assistant Professor, Department of Medicine & Department of Neurological Sciences  
Medical Director, UVM Medical Center Sleep Program & Sleep Laboratory  
Division Chief, Sleep Medicine

Joshua Farkas, MD  
Assistant 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 Pulmonary Sciences and Critical Care Medicine  
Professor Department of Molecular Physiology & Biophysics  
Director, Vermont Lung Center

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

Skyler Lentz, MD  
Assistant Professor of Medicine  
Emergency Medicine Physician

Prema Menon, MD, PhD  
Assistant Professor of Medicine

Katelin Morrissette, MD  
Assistant Professor of Medicine

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

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

Renee Stapleton, MD, PhD  
Associate Professor of Medicine

Benjamin Suratt, MD  
Professor of Medicine  
Vice Chair, Department of Medicine  
Associate Chief, PCCM

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

Daniel Weiss, MD, PhD
Professor of Medicine

Fellows
Brittany Duchene, MD
Emily Ducomb, DO
Brett Erdreich, MD
Glenda Euceda, MD
Marta Kokoszynska, MD
Katherine Menson, DO

Nurse Practitioners and Physician Assistants:
Abe Sender, PA
Sarah Wagner, NP
Suzanne DeCapua, PA

Graduate Students, Post-doctoral Fellows, MD PhD Students:
Jason H.T. Bates, PhD DSc
    Axel Masquelin – graduate student (PhD in Bioengineering)
    Dylan Casey – graduate student (PhD in Data Science)
    Ubong Peters, PhD – postdoctoral associate

Anne E. Dixon, MA, BM, BCh
    Ubong Peters, PhD (post doc)
    Ravishankar Chandresakaran, PhD (post-doc)

Charles Irvin, PhD
    Wyatt Chia PhD Candidate, UVM

Matthew Poynter, PhD
    Katherine Menson, DO (PCCM fellow)

C. Matthew Kinsey, MD MPH
    Axel Masquelin
    Heng Tan

Renee Stapleton, MD PhD
    Prema Menon, MD, Assistant Professor (research mentor)
    Maria Burnett, Assistant Professor (research mentor)
    Katharine Cheung, Assistant Professor (research mentor)
    John Halevy, Senior Fellow (research mentor)

Benjamin Suratt, MD
    JJ Bivona, CMB (graduate student)
    Marta Kokoszynska, PCCM Fellow
    Glenda Euceda, PCCM Fellow
Becca Rieck, Ob/Gyn MFM Fellow

Daniel Weiss, MD PhD  
Robert Pouliot PhD – Post Doc  
Sara Enes PhD – Post Doc

**Endowed Professorships:**

**Leadership in Professional Societies:**

Gilman Allen, MD  
Congress Planning Committee, Society of Critical Care Medicine

Anne E. Dixon, MA, BM, BCh  
Immediate past president Association of Pulmonary Critical Care and Sleep Division Directors  
Vice Chair American Lung Association Scientific Advisory Committee  
Board Member, American Lung Association

Susan Dunning, MD  
AASM Innovative Fellowship Committee  
AASM Clinical Fellowship Rescue Funding Award Review Committee

Garth Garrison, MD  
American Thoracic Society Education Committee member

Charles Irvin, PhD  
Co-Chairman, Northern New England Network of Faculty Affairs NENFA

David Kaminsky, MD  
Chair, American Thoracic Society Proficiency Standards for Pulmonary Function Laboratories Committee

C. Matthew Kinsey, MD MPH  
American Thoracic Society Drug Device Discovery and Development Committee  
Board of Directors, American Association of Bronchology and Interventional Pulmonology

Skyler Lentz, MD  
At-Large Director 2019-2020  
Critical Care Medicine Board of Directors: American Academy of Emergency Medicine

Polly Parsons, MD  
President, American Thoracic Society: May 2018-May 2019  
Immediate past president, ATS: May 2019-May 2020  
Chair, Board of Directors, ATS  
Board of Directors: ATS Foundation  
Council member: Association of Professors of Medicine

Renee Stapleton, MD PhD  
American Thoracic Society  
Critical Care Assembly  
Chair-Elect 2018-19, Chair 2019-2021  
Scientific Advisory Committee (reviews all ATS grants)  
Member, 2013-2018
Vice-Chair, 2016-2018
Unrepresented Patients Working Group, member 2016-present

Canadian Critical Care Nutrition Clinical Practice Guidelines Committee, External Panel Member, 2008-present


International Consensus on the use of High Flow Therapy (HFT) with Nasal Cannula, member, March 2018-present.

Co-Chair of NIH/NHLBI Workshop “Identifying Clinical Research Priorities in Adult Pulmonary Critical Care,” September 24-25, 2018, Bethesda, MD

Member of Data Safety Monitoring Board, “Facilitating Communication Study (FCS2),” 2019-present

Member of Data Safety Monitoring Board, “Phase 2 RCT of low dose inhaled carbon monoxide in ARDS,” 2019-present

Benjamin Suratt, MD
American Thoracic Society Allergy, Immunology, & Inflammation Section Planning Committee, Chair 2019 – Present

Charlotte Teneback, MD
Board of Directors, AACVPR (American Association of Cardiovascular and Pulmonary Rehabilitation)

Daniel Weiss, MD PhD
Chief Scientific Officer, International Society for Cell and Gene Therapies
Emeritus Chair, ATS RCMB Stem Cell Working Group

Editorships and Editorial Boards:

Jason H.T. Bates, PhD DSc
Deputy Editor, Journal of Applied Physiology
Editorial Board Member, Critical Reviews in Biomedical Engineering
Editorial Board Member, Journal of Clinical Monitoring and Computing

Anne E. Dixon, MA, BM, BCH
Study Sections and Federal Advisory Boards
NHLBI’s National Asthma Education and Prevention Program (NAEPP) EPR4 Guideline Panel
–Topic Team Leader:
American Board of Internal Medicine Pulmonary Examination Committee
Member, Veterans Administration Pulmonary Merit Review Panel

Charles Irvin, PhD
Editorial Board, COPD Journal

Polly Parsons, MD
Up-to-Date: Editor-in-Chief, Pulmonary, Critical Care and Sleep
Section Editor, Critical Care Section
American Journal of Respiratory and Critical Care Medicine: Editorial Board member

Mathew Poynter, PhD
Member of the editorial board of the American Journal of Respiratory Cell and Molecular Biology

Renee Stapleton, MD PhD

Daniel Weiss, MD PhD
Editorial Board: Cytotherapy, Molecular Therapy, Am J Resp Cell and Molecular Biology

Study Sections and Federal Advisory Boards:

Jason H.T. Bates, PhD DSc
Scientific Advisory Council, Parker B Francis Foundation

Charles Irvin, PhD
External Advisory Committee, NIH COBRE (PI: Rounds), Brown University
External Advisory Committee, NIH NHLBI T32 (PI: Levy) Brigham & Women’s Hospital,
External Advisory Committee, NIH NHLBI T32 (PI: Wise), Johns Hopkins, Baltimore
External Advisory Committee, NIH COBRE (PI: Stewart), Nemours, Delaware
External Advisory Committee, NIH COBRE (PI: Jeyaseelan) LSU, Baton Rouge, LA
Chair, U01 review, NCATS, National Institutes of Health
Chair, COBRE III, INBRE, NIGMS
Chair, R21 review, NCATS, National Institutes of Health
Chair, U01. R21 Review, NCATS, National Institutes of Health

David Kaminsky, MD
NHLBI, HLBP Workgroup, PPG P01 HL144460-01 Review Committee

Polly Parsons, MD
Parker B. Francis Foundation:
Scientific Advisory Council member
Scientific Director, Fellowship Program
NIGMS Council Working Group on Sepsis
NHLBI PETAL network: DSMB Chair

Mathew Poynter, PhD
NIH Hypersensitivity, Allergies and Mucosal Immunology (HAMI) IMM-T57 Special Emphasis Panel; Welcome Trust; NIH Member Conflict: Respiratory Sciences Special Emphasis Panel (ZRG1 CVRS-H 03), Co-chair
Renee Stapleton, MD PhD  
American Thoracic Scientific Advisory Committee (responsible for reviewing all ATS grants), 2013-2018

Daniel Weiss, MD PhD  
Grant reviewer: DOD, California Institute for Regenerative Medicine, Ontario Institute for Regenerative Medicine, Canadian CF Foundation

**Major Faculty Awards:**

Gilman Allen, MD  
Department of Medicine Quality Scholar Award 2019

Jason H.T. Bates, PhD DSc  
Research Laureate, Larner College of Medicine  
Joseph Rodarte Award, Lung Structure & Function Assembly, American Thoracic Society

Josh Farkas, MD  
Induction into Alpha Omega Alpha

Charles Irvin, PhD  
Visiting Professor, University of Amsterdam, the Netherlands

David Kaminsky, MD  
Alpha Omega Alpha Honor Medical Society, Elected by University of Vermont College of Medicine, Class of 2019, Burlington, VT

Renee Stapleton, MD PhD  
Recipient of the Research Mentor Award at the 2018 Annual UVM LCOM Dean’s Excellence in Research Award Ceremony.

**Grants – list all active by faculty member, PI**

**Jason H.T. Bates, PhD DSc**

<table>
<thead>
<tr>
<th>Grant ID</th>
<th>PI Details</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>R01 HL130847</td>
<td>J.H.T. Bates/ A.E. Dixon</td>
<td>Non-Allergic Late-Onset Asthma of Obesity: Pathophysiology and Therapy</td>
</tr>
<tr>
<td>U01 HL139466</td>
<td>B. Suki/J.H.T. Bates</td>
<td>A multi-scale computational model of the extracellular matrix of the lung</td>
</tr>
</tbody>
</table>

**Anne E. Dixon, MA, BM, BCh**

<table>
<thead>
<tr>
<th>Grant ID</th>
<th>PI Details</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>R34 HL135361</td>
<td>Dixon (PI)</td>
<td></td>
</tr>
<tr>
<td>R34 HL136755</td>
<td>Dixon (PI)</td>
<td></td>
</tr>
<tr>
<td>R01HL133920</td>
<td>Poynter, Dixon, MPI</td>
<td></td>
</tr>
<tr>
<td>R01 HL137268</td>
<td>(van der Vliet/ Dixon MPI)</td>
<td></td>
</tr>
<tr>
<td>R01HL136917</td>
<td>(Dixon, Anathy, MPI)</td>
<td></td>
</tr>
<tr>
<td>R01 HL130847</td>
<td>Bates/Dixon (MPI)</td>
<td></td>
</tr>
</tbody>
</table>

**Charles Irvin, PhD**

<table>
<thead>
<tr>
<th>Grant ID</th>
<th>PI Details</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>T32-HL076122</td>
<td>Poynter &amp; Irvin</td>
<td>(05/19 – 04/24)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIH/NHLBI</td>
</tr>
</tbody>
</table>
Title: Multidisciplinary Training in Lung Biology
Role: Co-PI
$606,092 (Irvin effort: 05%)

American Lung Association (2016 – 2021)
Asthma Clinical Research Center
Principal Investigator: Charles G. Irvin (5% effort)
$100,000 year 1 direct cost $500,000 (total award) plus capitation

R25GM116701 (04/16 – 02/21)
NIGMS
Fostering entrepreneurship in biomedical research
Principal Investigator: Mercedes Rincon, Ph.D.
Co-PI: Charles Irvin (Irvin effort: 15%)

R35 HL135828 (Janssen-Heininger) (01/17 – 12/23)
NIH/NHLBI
Title: S-glutathionylation chemistry in fibrotic lung remodeling
Co-Investigator: Charles Irvin
$600,000 (Irvin effort: 01%)

R01 HL122383 (Anathy) (01/15 – 12/19)
NIH/NHLBI
Title: Endoplasmic Reticulum Stress Signaling in Allergen-induced Airway Remodeling
Role: Co-Investigator: Charles Irvin
$250,000 (Irvin effort: 01%)

David Kaminsky, MD
University of Vermont College of Medicine Internal Grant Program
Trial of Tauroursodeoxycholic Acid (TUDCA) in Asthma
PI: David Kaminsky, MD (co-PI, Vikas Anathy, PhD)
7/1/18-6/30/20

R01 HL130847, NIH/NHLBI
Non-allergic Late-onset Asthma of Obesity: Pathophysiology and Therapy
PI: Anne Dixon, MD
Role on Project: Co-Investigator (15%)
3/15/16-2/29/20

American Lung Association - Asthma Clinical Research Center
PI: Charles G. Irvin, Ph.D.
Role on Project: Co-Investigator (5%)
7/1/04-6/30/20

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

C. Matthew Kinsey, MD MPH
1K23HL133476-01, NIH NHLBI
Kinsey, C. Matthew (PI), 0.65 FTE
09/01/16-06/30/21
CT Characteristics of Emphysema for Evaluation of Pulmonary Nodules

COBRE, TGIR
Kinsey, C. Matthew (Project Investigator), 0.1 FTE
Deep Learning for Discriminating Lung Cancer and Latent TB

UVM Department of Medicine Translational Grant
Kinsey, C. Matthew (PI)
7/12/2017-6/30/18
A Computational Model for Adjuvant Cisplatin Based on CT and Tissue Features

Mathew Poynter, PhD
1 R01 HL142081 (Poynter) 04/01/2018 – 03/31/2022 2.40 calendar
NIH/NHLBI ADC: $293,984
Ketone Body Supplementation in Obese Asthma
Role: PI
We will evaluate using in vivo mouse models whether therapeutic augmentation of ketone body concentrations in the circulation elicit improvements in obese inherent and allergic asthma. We will also conduct mechanistic studies using tissues and in vitro primary cell culture systems to assess whether the intrinsic differences in cytokine secretion, glycolysis, mitochondrial oxidative stress, and endoplasmic reticulum stress between cells from lean and obese mice are modulated by ketone bodies and examine candidate receptors for these effects.

R01-HL133920 (Poynter & Dixon) 08/15/2016 – 07/30/2021 3.60 calendar
NIH ADC: $497,229
Obese allergic asthma and the impact of weight loss on airway epithelial function
Role: Co-PI
Our objective is to explore the contribution of the 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. The ultimate purpose of this work is to understand why allergic asthma is so much more severe in patients with obesity, and to develop therapies specifically targeted for such patients.

R01 HL122383-01A1 (Anathy) 01/01/2015 - 12/31/2019 0.94 calendar
NIH/NHLBI ADC: $250,000
Endoplasmic reticulum stress signaling in allergen induced airway remodeling
Role: Co-I
The over-arching objective of this project is to elucidate the role of the endoplasmic reticulum (ER) in activating allergen mediated death of airway epithelial cells, development of scar in the lung and subsequent decrease in lung function.

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
The overall objective of this proposal is to determine if substituting full-fat yogurt (i.e., whole, 3.25% fat) for non-fat yogurt in the diet can reduce the risk of type 2 diabetes and inflammation in association with changes in the composition of the gastrointestinal bacteria.

T32-HL076122 (Poynter & Irvin) 05/01/2019 - 04/30/2024 0.60 calendar
NIH/NHLBI ADC: $574,615 (A1=$626,306)
Multidisciplinary Training in Lung Biology
Role: Co-PI
This training program for 4 predoctoral and 3 postdoctoral researchers seeks to train a group of collaborative and productive scientists to investigate the causes, diagnosis, and cures of debilitating lung diseases such as asthma, interstitial lung disease, cystic fibrosis, acute lung injury, and infections of the lung.

2 R01 HL085646-09 (van der Vliet) 09/01/2017 -08/31/2022 0.60 calendar
NIH/NHLBI ADC: $265,225
Dual Oxidase in Airway Epithelial Injury and Inflammation
Role: Co-I
This renewal application will extend ongoing studies towards the role of the NADPH oxidase homolog DUOX1 within the respiratory epithelium. In the previous funding cycle, we discovered that DUOX1 plays a critical role in innate airway responses to airborne allergens, and contributes to various important features of allergic asthma. This proposal seeks to further understand the molecular mechanisms by which DUOX1 controls these processes, and to develop pharmacological approaches to selectively inhibit DUOX1 for potential clinical development in treatment of severe asthma.

R01 HL138708 (van der Vliet) 08/03/2017-06/30/2021 0.60 calendar
NIH/NHLBI ADC: $341,282
DUOX1 and Mitochondria in Obese Asthma
Role: Co-I
This project will address the importance of the NADPH oxidase DUOX1, a major oxidant source within the respiratory epithelium, combined with mitochondrial dysfunction, as an important feature of metabolic disease in mediating redox-dependent processes leading to altered or exaggerated allergic inflammation due to obesity.

P20 GM125498 (Kirkpatrick) 09/15/2018 -07/31/2023 0.60 calendar
Centers of Biomedical Research Excellence (COBRE)
NIH/NIGMS
Total direct COBRE budget: $7,515,013 (direct costs); Total direct project budget: $750,000
Translational research to prevent and control global infectious diseases
Role: Senior Mentor
Toward the prevention and control of globally important infectious diseases, we propose the development of the Translational Global Infectious Diseases Research (TGIR) Center at the University of Vermont. The TGIR Center will pair biomedical advances in human immunology and infectious diseases with improved quantitative methods and computational modeling to analyze and integrate big data throughout the translational research spectrum.

Renee Stapleton, MD PhD
Nutrition and Exercise in Critical Illness (The NEXIS Trial): A Randomized Trial of Combined Cycle Ergometry and Amino Acids in the ICU
R01 HL132887, 4/01/2017-3/31/2022
NIH/NHLBI
Direct: $ 2,884,464
Role: Contact PI
Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)
R01 HL143452, 09/15/2018-06/30/2022
NIH/NHLBI
Direct: $2,407,400
Role: MPI
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, 5/01/2016-2/28/2021
NIH/NIA
Direct: $2,276,543
Role: PI

Novel Arm Restraint for Critically Ill Patients to Reduce Immobility, Sedation, Agitation and Cognitive Impairment
R42/43 AG059451, 4/01/18-6/30/21
NIH/NIA
Direct: $1,276,182
Role: Contact PI

Therapeutic modulation of zinc for lung injury and mechanobiology
R01 HL142093, 04/01/2019-03/31/2023
NIH/NHLBI
Direct: $2,150,005
Role: Co-Investigator

Multidisciplinary Training in Lung Biology
T32 HL076122, 05/01/2019-04/30/2024
NIH/NHLBI
Direct $557,066
Role: Co-Director

Benjamin Suratt, MD
Research Project Grant (R01), NHLBI, R01HL143452 (Suratt/Files/Stapleton/Toth), $3.4M 2018 – 2022
“Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)”
Role on grant: Contact PI

Research Project Grant (R01), NHLBI, R01HL142081 (Anathy), $1.4M 2018 – 2022
“Unfolded protein response in influenza virus infection and inflammation”
Role on grant: Co-Investigator

Research Project Grant (R01), NHLBI, R01HL142081 (Poynter), $1.9M 2018 – 2022
“Ketone Body Supplementation in Obese Asthma”
Role on grant: Co-Investigator

*Charlotte Teneback, MD
Clinical pharmacy support grant, PI. Funding for cystic fibrosis clinical pharmacy support. January 2017-December 2019.

Cystic Fibrosis Therapeutic Development Center Award, January 2019-December 2019.

A prospective observational study in cystic fibrosis patients with chronic respiratory Pseudomonas Aeruginosa infection treated with TOBI Podhaler or other FDA approved inhaled antipseudomonal antibacterial drugs. Novartis. Local PI.

VX17-445-102: A phase 3, randomized, double-blind, controlled study evaluating the efficacy and safety of VX 445 combination therapy in subjects with cystic fibrosis who are heterozygous for the F508del mutation and a minimal function mutation (F/MF). Vertex Pharmaceuticals. Local PI.

VX17-445-103: A phase 3, randomized, double-blind, controlled study evaluating the efficacy and safety of VX 445 combination therapy in subjects with cystic fibrosis who are homozygous for the F508del mutation and a minimal function mutation (F/F). Vertex Pharmaceuticals, local PI.
VX17-445-105: A phase 3, open-label study evaluating the long-term safety and efficacy of VX-445 Combination therapy in subjects with cystic fibrosis who are homozygous or heterozygous for the F508del mutation. Local PI. $143,724

Cystic Fibrosis Foundation CF Center Award

Daniel Weiss, MD PhD
R01 HL127144 (DJ Weiss, PI) 04/15/2015-03/31/2020 0.3 calendar
NIH/NHLBI $250,000 annual direct costs
Optimizing Functional Recellularization of Acellular Human Lung Scaffolds
The goal of this project is to provide a detailed assessment of effects and utility of the alginate coatings on lung mechanics and on re-cellularization of the de-cellularized human lung pieces. The proposal was submitted in response to PA-12-284, Exploratory/Developmental Bioengineering Research Grants.

R21 EB024329 (DJ Weiss, PI) 02/15/2017-01/31/2020 0.12 calendar
NIH/NHLBI $124,799 annual direct costs
Decellularized Avian Lungs for Use in Pulmonary Therapeutics
The goals of this project are to fully characterize de- and recellularization of representative avian lung, develop initial technologies for novel Avian Lung Assist Devices (ALAD) incorporating recellularized avian lungs that could be potentially utilized for independent, portable or implantable lung assist devices.

WEISS15XX0 (DJ Weiss, C dos Santos Co-PIs) 01/01/2016-12/31/2019* 0.12 calendar
Cystic Fibrosis Foundation $150,000 annual direct costs (no cost extension)
Optimization of MSC Based Cell Therapies for CF
The major goal of this proposal is to understand the effect of the CF lung environment on MSC behavior. *NCE to 12/31/2019 has been requested

WEISS16G0 (DJ Weiss, PI) 03/01/2017-08/31/2019 0.12 calendar
Cystic Fibrosis Foundation $100,000 annual direct costs (no cost extension)
Mechanisms of MSC Actions that Ameliorate Bacterial Lung Infections in CF
The major goal of this project is to further understand the mechanisms by which the mesenchymal stromal cells (MSCs) may be beneficial in treating bacterial infections in lungs of CF patients and use this to maximize any potential therapeutic approaches.

SPARK, UVM (DJ Weiss/Adam Jakus, Dimensions Inc.) 07/01/2018-06/30/2020 no measurable effort
Development of novel lung bioinks $45,000 total direct
Project goals are to test the mechanical and biochemical properties of lung-specific ECM-derived materials and evaluate optimized lung ECM-origin gels and patches in pre-clinical models of lung injury.

WEISS18P0 (Weiss) 04/01/2019-03/31/2020 1.8 calendar
Cystic Fibrosis Foundation $125,000 annual direct costs
Role of Glycoproteins in Lung Recellularization
The goals for this proposal are to systematically analyze key matriline binding and activation patterns to specific individual HS, CS and DS in decellularized human lungs, to systematically determine matriline dependent and independent effects of individual HS, CS and DS chains on representative lung cell growth and differentiation and to
determine matrikine-dependent and independent effects of systematic repletion of decellularized normal or diseased human lung ECM with key HS, CS and/or DS functional groups on cell growth and differentiation.

PRMRR Expansion Award (Weiss) 07/01/2019-06/30/2022 3.6 calendar
NIH $394,462 annual direct costs

Clinical Development of a Novel Pleural and Tracheal Sealant
The goals of this proposal are to define optimal manufacturing of the ALG-MA-DA patch formulations, optimal sterilization, preservation and storage conditions to facilitate off the shelf use, long term efficacy and safety in longitudinal small (rate) and large (pig) models of adult pleural injury and adult and pediatric tracheal injuries and assess short term efficacy in an ex vivo pleural injury model in human lungs obtained at autopsy (UVM).

Publications-peer reviewed, chapters, etc.


Books:


**Book Chapters:**


**Peer-Reviewed Invited Review Articles:**

Stapleton RD, Heyland DK. Glycemic control and intensive insulin therapy in critical illness. *Up To Date* online version 16.3. 2007-present. Last updated May 2018. Section Editors Polly E. Parsons MD and Adrienne G. Randolph MD MSc; Deputy Editor Kevin C. Wilson MD. Website: http://www.uptodate.com/online/content/topic.do?topicKey=cc_medi/13045&selectedTitle=1~150&source=search_result
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 seven physicians, a clinician pharmacist and a nurse practitioner. Over the past 12 months, the Rheumatology Division and the Osteoporosis Program saw over 6200 patients, generating almost 20,000 work RVUs. In addition to bone densitometry, we have an on-site infusion center for parenteral rheumatologic and osteoporosis medications, and provide point of care diagnostic and procedural (guided injections) musculoskeletal ultrasound that is integrated with rheumatology care. We have 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. 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 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, metabolic bone disease, and musculoskeletal physical examination skills.

Our faculty engage in clinical research including IL-17 inhibition in psoriatic arthritis, thyroid antibodies in rheumatology patients with a positive ANA, chronic low back pain exercises, and a technology driven Fracture Liaison Service. We are actively engaged in QI projects such as development of a fracture liaison service for the inpatient hospital, VCHIP transition of care QI program, prevention of glucocorticoid induced osteoporosis, pneumococcal vaccination in patients on biological drugs, and patient education regarding DMARD therapy. The latter two QI projects resulted in (respectively) an abstract and a publication. We also continue to collaborate with the Division of Immunobiology on research in molecular physiology in rheumatoid arthritis and lupus patients.

**Faculty**

**Narandra Bethina, M.D.**
Assistant Professor of Medicine
Associate Program Director, Rheumatology Fellowship Training Program

- Rheumatoid Arthritis
- Psoriatic Arthritis
- Scleroderma
- Sjogren’s Syndrome
- Gout
- Autoimmune disorders
- Musculoskeletal Ultrasound

Dr. Bethina manages patients with multiple rheumatologic conditions. As the only Rheumatologist trained and certified in musculoskeletal ultrasound (MSKUS) by the American College of Rheumatology (ACR) in the state of Vermont, he founded and successfully conducts our Musculoskeletal Ultrasound Clinic within the Rheumatology Division, where he provides MSKUS services that are integrated with rheumatology care. This service is limited to
few institutions and rheumatology practices in the country. He is an instructor and mentor nationwide for rheumatology fellows from multiple institutions and rheumatologists in practice who participate in musculoskeletal ultrasound training through the USSONAR (Ultrasound School of North American Rheumatologists) training program. He is a member of the ACR Musculoskeletal Ultrasound Planning Committee, and teaches the MSKUS course at the national ACR meeting every year. Dr. Bethina is the Associate Program Director for the Rheumatology Fellowship Program and in addition to teaching fellows, teaches Internal Medicine residents during Morning Report and Academic Half Day, and medical students during their 2nd year VIC Connections course and their 4th year Internal Medicine clerkship.

Ralph Budd, M.D.
University Distinguished Professor of Medicine, Microbiology & Molecular Genetics
Director, Immunobiology and Vermont Center for Immunology and Infectious Diseases
• Systemic Lupus Erythematosus (SLE)
• Inflammatory Arthritis (γδ T cells)
• T cell homeostatic proliferation in autoimmune diseases
• Metabolic regulation of cell death in the immune system

Dr. Budd and his team currently have investigations in four projects in immunology. The first is a study of the type I Interferon (IFN-I) signature in SLE. We observe that a mitochondrial protein known as MAVS spontaneously oligomerizes in SLE PBL leading to an IFN-I response, and this is driven by reactive oxygen species. Second, we are defining ligands for γδ T cells that accumulate in inflamed joints in Lyme and rheumatoid arthritis. Third, our studies in T cell homeostatic proliferation reveal that this is enhanced in both mice and humans with SLE. This results in upregulation of several cytokytic molecules that could provoke inflammation of organs. This has implications for why it is important to eliminate these T cells, lest they precipitate autoimmune sequelae. Fourth, we have determined that the metabolic state of T cells greatly influences their susceptibility to cell death. Thus, glycolytic T cells, driven by IL-2, have elevated levels of active caspase-3 and are prone to cell death, whereas non-glycolytic T cells, driven by IL-15, manifest the opposite phenotype. This has important implications for rheumatoid arthritis in which the synovium is rich in IL-15. It is also relevant for which T cells survive an immune response to confer immune memory.

Dr. Budd is an editor of the Textbook of Rheumatology 10th Edition, the Director of the Vermont Center for Immunology and Infectious Diseases, and has been a member of several NIH study sections. He is a UVM University Distinguished Professor. He is a former Pew Scholar in the Biomedical Sciences and former UVM University Scholar. He is also a member of the Association of American Physicians.

Active Grants:
T32 AI 055402 Immunology/Infectious Diseases Training Grant 9/1/05-8/31/21
P30 GM118228 Vermont Immunobiology/Infectious Diseases Center (COBRE) 8/1/06-6/30/21
R21 AI 119979 Metabolic Regulation of Caspases and Survival in T Cells 4/1/16-9/30/19

Chi Chi Lau, M.D.
Associate Professor of Medicine
• Systemic Lupus
• Inflammatory arthritis
• Connective tissue disorders

Dr. Lau has a very busy clinical practice providing excellent care to patients with a variety of complex rheumatic diseases. She is responsible for the Rheumatology Division’s CME reporting and certification. In addition to teach-
Dr. Lau incorporated the Rapid 3, a pain and function measurement tool useful for QI and clinical studies, into the rheumatology clinic. Working with UVM Medical Center computer services, she was able to incorporate the Rapid 3 directly into EPIC. Dr. Lau completed work on a research project involving frequency of assessment of liver enzymes in patients treated with methotrexate. This project was deemed worthy of biostatistics support awarded by the Department of Medicine and was presented as an oral abstract during a Concurrent Abstract Session at the national American College of Rheumatology Annual Meeting, November 2017, titled “Are we over-testing for liver enzyme abnormalities in Rheumatoid Arthritis patients prescribed Methotrexate?” She is currently working on two projects, one on optimal exercise for chronic low back pain, and another on thyroid antibodies in rheumatology patients with positive ANA.

Scott Legunn, M.D.
Clinical Assistant Professor of Medicine
- Rheumatoid Arthritis
- Polymyalgia Rheumatica/Giant Cell Arteritis
- Psoriatic Arthritis
- Vasculitis

Dr. Legunn provides specialty care for patients with a variety of rheumatologic diseases. He has been active in the teaching program, working with rotating internal medicine residents in clinic, participating in the Internal Medicine Academic Half Day, and teaching rheumatology fellows. He teaches 2nd year medical students during their VIC Connections course, and also 4th year medical students during their Internal Medicine clerkship. Dr. Legunn is the rheumatology division representative on the Department of Medicine QA&I Committee, and participated in the analysis and poster presentation of our QI project on pneumococcal vaccination in patients taking biological drugs. He also participates as a co-investigator in divisional pharmaceutical-sponsored clinical research trials.

Edward Leib, M.D.
Professor Emeritus of Medicine
Member, The Osteoporosis Program, UVM Medical Center
- Osteoporosis and Metabolic Bone Diseases

Dr. Leib, an emeritus professor, specializes in the study and care of individuals with osteoporosis and other metabolic bone diseases. He is an internationally known leading authority on developing guidelines and positions on the appropriate use of bone densitometry. He is former director of the Osteoporosis Program and participates in Metabolic Bone Clinic at the University of Vermont Medical Center. He continues to be actively engaged in research, and mentored a rheumatology fellow in a quality improvement and research project on a technology driven Fracture Liaison Service that led to an oral abstract at the 24th Annual International Society for Clinical Densitometry Meeting 2018. He is certified to read bone densitometry by the International Society for Clinical Densitometry. Dr. Leib is a reviewer for several osteoporosis related journals, most notably Journal of Bone and Mineral Research, Journal of Clinical Densitometry and Osteoporosis International. Dr. Leib will be retiring from clinical practice as of June 30, 2019 but will continue participating in clinical research projects.

Bonita Libman, M.D.
Professor of Medicine
Division Chief, Rheumatology and Clinical Immunology
Program Director, Rheumatology Fellowship Training Program.
- Connective Tissue Disorders
- Systemic Lupus Erythematosus
- Rheumatoid Arthritis
- Psoriatic Arthritis
Dr. Libman, chief of the rheumatology division and director of the rheumatology fellowship program, was a member of the American College of Physicians (ACP) MKSAP 17 and MKSAP 18 Rheumatology Committees. She is a member of the American College of Rheumatology (ACR) Division Director Special Committee, and serves as Co-Chair for the ACR Division Directors Conference and DDSC liaison for the ACR Government Affairs Committee. She is a member of the UVM Graduate Medical Education Committee. She chairs the UVM Medical Center Medical Records Committee. She teaches medical students during their 2nd year VIC Connections course and their 4th year Internal Medicine clerkship. In addition to teaching fellows, she teaches Internal Medicine residents during Morning Report, Academic Half Day and in clinic.

Alana Nevares, M.D.
Assistant Professor of Medicine
- Giant Cell Arteritis
- ANCA Associated Vasculitis
- Autoimmune Eye Disease

Dr. Nevares provides specialty care for patients with a variety of rheumatologic diseases, and has a special interest in vasculitis and inflammatory ocular disease. She is active in the teaching program, working with rotating internal medicine residents in clinic, participating in the Internal Medicine Academic Half Day, and teaching rheumatology fellows. She teaches 2nd year medical students during their VIC Connections course, and 4th year medical students during their Internal Medicine clerkship. She is pursuing her Master’s Degree in clinical research with a goal of establishing a strong and prolific clinical research program in the rheumatology division.

Sanjeev Patil, M.D.
Assistant Professor of Medicine
- Rheumatoid Arthritis
- Psoriatic Arthritis
- Ankylosing Spondylitis
- Inflammatory Muscle Disease
- Musculoskeletal Sarcoidosis

Dr. Patil provides specialty care for patients with various rheumatologic diseases, and has special interest in Musculoskeletal Sarcoidosis. He has been active in the teaching program, working with rotating internal medicine residents in clinic, participating in the Internal Medicine Academic Half Day, and teaching rheumatology fellows. He teaches 2nd year medical students during their VIC Connections course, and also 4th year medical students during their Internal Medicine clerkship. He is pursuing certification in musculoskeletal ultrasound by the American College of Rheumatology, in order to develop musculoskeletal ultrasound skills and promote quality of care in rheumatologic diseases. He is the rheumatology division representative on the Department of Medicine Operations Committee. Dr. Patil is working on a research project on musculoskeletal sarcoidosis, and has done a poster presentation titled “Musculoskeletal Sarcoidosis: A 15-Year Experience from a Tertiary Care Center in the US”, at American College of Rheumatology Annual Meeting, October 2018.

Suzanne Trost, M.D.
- Osteoporosis
- Metabolic Bone Disease

Dr. Trost is a board certified endocrinologist with expertise in metabolic bone disease. She is an attending physician at our affiliated institution, Central Vermont Medical Center. She joins Dr. Leib and Dr. Kelly in metabolic bone clinic providing patient care and teaching rheumatology and endocrinology fellows over their two years of training as part of their metabolic bone rotation.
**Nurse Practitioners and Physician Assistants:**

**Morgan Merchand, APRN**

Ms. Merchand provides specialty care for patients with a variety of rheumatologic diseases, as well as specialty care in the Metabolic Bone Clinic. She is a member of the American Academy of Nurse Practitioners and the Association of Rheumatology Health Professionals. She is an active participant in divisional quality improvement projects including QI research, and divisional pharmaceutical-sponsored clinical research trials. She is our divisional EPIC super-user responsible for training everyone for EPIC upgrades.

**Fellows**

**Javaneh Lyons, M.D.**  
Will complete fellowship July 2019

**Matthew Jaenicke, M.D.**  
Will complete fellowship July 2020

**Jeanne Gosselin, M.D.**  
Will begin fellowship July 2019

**Publications**

**Peer Reviewed Articles**

**Nurse telephone education for promoting a treat-to-target approach in recently diagnosed rheumatoid arthritis patients: A pilot project.**  

**Glycolysis Induces MCJ Expression That Links T Cell Proliferation With Caspase-3 Activity and Death.**  
Secinaro MA, Fortner KA, Collins C, Rincón M, Budd RC.  

**Opsonic Phagocytosis in Chronic Obstructive Pulmonary Disease Is Enhanced by Nrf2 Agonists.**  
PubMed PMID: 29547002; PubMed Central PMCID: PMC6222469.

**Reducing protein oxidation reverses lung fibrosis.**  

**Book Chapters and Non-Peer Reviewed Publications**


Abstract Presentations at national American College of Rheumatology meeting October 2018:

Quality Program
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 improve care and promote scholarship utilizing rigorous quality improvement methodology.

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 Associate Professor of Medicine
- Stephen G. DeVoe, MPH, MS; Project Director
- Bradley Tompkins, MPH, MS; Quality Analyst

FY2019 Highlights
The Quality Program welcomed 2 new staff members: Stephen DeVoe, MPH, MS, as Project Director, and Bradley Tompkins, MPH, MS, as Quality Analyst. These individuals have helped expand the suite of resources that our program offers, specifically project management and analytic support for quality improvement (QI), patient safety (PS), and high value care (HVC) projects. Below are some program highlights:

Education and Training
- Medical Students
  - Quality Improvement & Patient Safety: Developed and delivered active learning curriculum for 115 3rd year medical students in Bridge 1A & 1B
  - High Value Care: Delivered curriculum for 115 3rd year medical students as part of Medicine Clerkship Orientation
  - Choosing Wisely STARS (Students & Trainees Advocating for Resource Stewardship) Program: Provided faculty mentorship to 2 student STARS (Maggie Carey, Noorin Damji) supporting student-led initiatives to advance high value care in medical education
- Residents
• Improvement Science Curriculum for Internal Medicine Residents: Developed and delivered 3-year, integrated active learning curriculum for 57 Internal Medicine Residents focusing on foundational and applied training in QI, PS, and HVC
• All PGY-2 and PGY-3 residents participated in development of posters for submission to local/regional meetings

• Faculty
  • Developed and delivered Improvement Science Training Program for faculty in the Division of Hospital Medicine
    • 25 faculty members completed the 14-module applied learning program
  • Junior faculty development: Junior faculty paired with senior/experienced faculty in Internal Medicine Resident and Hospital Medicine Curriculum in train-the-trainer model

• Quality Program Faculty/Staff
  • Dr. Kennedy was promoted to Distinguished Educator, The Teaching Academy, Robert Larner, MD College of Medicine at the University of Vermont, June 2019
  • All faculty/staff members completed the Institute for Healthcare Improvement Basic Certificate in Quality & Safety, February 2019
  • Dr. Repp promoted to Professor of Medicine, Department of Medicine, Robert Larner, MD College of Medicine at the University of Vermont, July 2018

Care Delivery Improvement
• Quality Improvement Initiatives in Clinical Divisions
  • Provided project management to 6 divisions for FY2019 initiatives
  • Results of FY2018 initiatives:
    • Pneumonia vaccination rates increased from 28% to 67% of eligible Rheumatology clinic patients who are on biologic therapy
    • Percentage of eligible Pulmonary clinic patients undergoing lung cancer screening increased from 31% to 83%

• High Value Care Program
  • Started in 2012, this program is a collaboration between Department of Medicine and Jeffords Institute for Quality to support front line clinical teams (including trainees/learners) in completing projects to reduce waste
    • Since inception, 14 completed projects with >$500,000 estimated reduction in costs

• 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 promote patient-centered, guideline-based approach for transitioning patients with chronic illnesses from pediatric to adult specialty clinics
  • Provided co-project management for 3 specialties (Endocrinology, Pulmonology, Rheumatology) in 6 specialty clinics (3 pediatric, 3 adult) for 6 total faculty members

Scholarship
• Analytic Support Program
  • Supported 19 DOM faculty-led QI projects or fellow/resident QI projects mentored by faculty

• Scholarly Quality Improvement Interest Group
  • Facilitated inter-professional group that met bi-monthly from the Department of Medicine with interest in improvement science scholarship

• Quality Showcase and Poster Presentation
• Annual event featuring selected platform and poster presentations highlighting improvement work across the Department of Medicine
  ▪ 19 accepted posters presented by medical students, residents, fellows, and faculty including resident QI projects, divisional QI initiatives, and independent faculty/ faculty-resident projects
• 2019 platform speakers and topics:
  ▪ Scott Legunn, MD: Pneumococcal vaccination in Rheumatology
  ▪ Amanda Kennedy, PharmD: Overview of Resident QI, PS, HVC Curriculum
  ▪ Gilman Allen, MD: Patient- and Family-centered Rounds in the ICU

• 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
  ▪ FY2019 Recipient: Gilman Allen, MD

• Scholarly Products
  ▪ Quality Program faculty/staff provided consultation and mentorship to approximately 46 scholarly-related projects that included medical students, residents, fellows, and faculty
  ▪ 14 publications and abstracts (medical student, resident/fellow, and faculty) across several divisions supported by the Quality Program

Recent Peer-Reviewed Publications

Peer-Reviewed Publications in Press

National Peer-Reviewed/Juried Abstracts & Posters
1. Sender A, Repp AB, Stockton T, Dixon AE. Effectiveness of Implementing a Lung Cancer Screening Workflow at a Rural University Medical Center. Accepted abstract and selected for oral presentation at: 2019 CHEST Annual Meeting; October 2019; New Orleans, LA.
2. 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.
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.

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 Recognition
Amanda G. Kennedy
• Invited Keynote Speaker, National Resource Center for Academic Detailing (NaRCAD) 6th International Conference on Academic Detailing; November 2018; Boston, MA.
<table>
<thead>
<tr>
<th>Division</th>
<th>PI</th>
<th>Sponsor</th>
<th>Project Title</th>
<th>Requested Start Date</th>
<th>Requested End Date</th>
<th>Requested Direct Costs</th>
<th>Requested Indirect Costs</th>
<th>Requested Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>Correa De Sa, Daniel D</td>
<td>CoreMap, Inc.</td>
<td>CoreMap Mapping of Atrial Fibrillation</td>
<td>01-Jun-19</td>
<td>31-May-20</td>
<td>$3,341</td>
<td>$935</td>
<td>$4,276</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Correa De Sa, Daniel D</td>
<td>CoreMap, Inc.</td>
<td>CoreMap Mapping of Atrial Fibrillation</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$6,558</td>
<td>$3,672</td>
<td>$10,230</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Keating, Friederike Kyra</td>
<td>Rutgers University</td>
<td>Myocardial Ischemia and Transfusion (MINT) - CCC</td>
<td>01-Jun-18</td>
<td>31-May-19</td>
<td>$98,077</td>
<td>$54,923</td>
<td>$153,000</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Keating, Friederike Kyra</td>
<td>Rutgers University</td>
<td>Myocardial Ischemia and Transfusion (MINT) - CCC</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$2,564</td>
<td>$1,436</td>
<td>$4,000</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Keating, Friederike Kyra</td>
<td>Rutgers University</td>
<td>Myocardial Ischemia and Transfusion (MINT) - CCC</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$20,065</td>
<td>$10,935</td>
<td>$31,000</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Meyer, Markus F.</td>
<td>Medtronic Inc</td>
<td>The Heart Rate 80 Study</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$24,492</td>
<td>$6,858</td>
<td>$31,350</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Meyer, Markus F.</td>
<td>Natl Heart Lung and Blood Inst/NHLBI</td>
<td>Sarcolemmal Calcium Extrusion Defect in Patients with Diastolic Dysfunction</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$250,000</td>
<td>$124,425</td>
<td>$374,425</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Meyer, Markus F.</td>
<td>Natl Institutes of Health/NIH</td>
<td>Heart Rate Mediated Myocardial Substrate Disruption as a Therapy</td>
<td>30-Sep-19</td>
<td>17-Sep-20</td>
<td>$700,000</td>
<td>$0</td>
<td>$700,000</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Schneider, David John</td>
<td>Janssen Research &amp; Development, LLC</td>
<td>Novel Biomarkers of Thrombotic Risk</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$19,388</td>
<td>$5,467</td>
<td>$24,855</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Spees, Jeffrey L.</td>
<td>Greenseal Cannabis Co.</td>
<td>Research Services Agreement (Dr. Spees, Cardiology, and GreenSeal Co., Canada)</td>
<td>01-Mar-19</td>
<td>29-Feb-20</td>
<td>$249,255</td>
<td>$91,657</td>
<td>$340,912</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Spees, Jeffrey L.</td>
<td>Natl Inst Neurological Stroke/NINDS/NIA</td>
<td>Control of Reactive Astrocytes and Gliotransmission by Notch1</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$299,993</td>
<td>$153,179</td>
<td>$453,172</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Spees, Jeffrey L.</td>
<td>Natl Heart Lung and Blood Inst/NHLBI</td>
<td>Vascular Protection by HGF/IgG Protein Complexes That Activate RYK</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$259,024</td>
<td>$145,054</td>
<td>$404,078</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Spees, Jeffrey L.</td>
<td>Natl Institutes of Health/NIH</td>
<td>Control of Reactive Astrocytes and Gliotransmission by Notch1</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$338,740</td>
<td>$173,280</td>
<td>$512,020</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Toth, Michael John</td>
<td>University of Massachusetts Amherst</td>
<td>Sex-Specific Adaptation to Different Resistance Exercise Programs in Older Adults</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$26,089</td>
<td>$14,609</td>
<td>$40,698</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Van Buren, Peter C</td>
<td>Duke University</td>
<td>Inorganic Nitrite Delivery to Improve Exercise Capacity in HFpEF</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$3,045</td>
<td>$1,705</td>
<td>$4,750</td>
</tr>
<tr>
<td>Dermatology</td>
<td>Bui, Melanie R</td>
<td>Northern N. E. Clinical Oncology Soc</td>
<td>Retrospective Analysis of the Management and Outcomes of Patients with Cutaneous Squamous Cell Carcinoma of the Upper Extremity Treated at the University of Vermont Medical Center</td>
<td>15-May-19</td>
<td>14-May-20</td>
<td>$2,000</td>
<td>$0</td>
<td>$2,000</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>Gupta, Dhananjay</td>
<td>Juvenile Diabetes Fdn International</td>
<td>Investigation of Novel Pathways in Regulation of Vitamin D Bioavailability Affecting Pancreatic Beta Cell Regeneration</td>
<td>01-Jun-19</td>
<td>31-May-20</td>
<td>$100,000</td>
<td>$10,000</td>
<td>$110,000</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>Gupta, Dhananjay</td>
<td>US Department of the Army/DOD</td>
<td>Identification of Molecular Pathways Regulating Vitamin D Signaling in Pancreatic Beta Cells Under Normal and Metabolic stress</td>
<td>01-Nov-19</td>
<td>31-Oct-20</td>
<td>$100,000</td>
<td>$56,000</td>
<td>$156,000</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>Kien, Craig Lawrence</td>
<td>Yale University</td>
<td>Mechanisms of Obesity and Its Metabolic Complications in Youth</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$14,202</td>
<td>$7,953</td>
<td>$22,155</td>
</tr>
<tr>
<td>GI</td>
<td>Lidofsky, Steven D.</td>
<td>Maine Medical Center</td>
<td>Harnessing the Electronic Health Record in Primary Care for Hepatocellular Carcinoma Surveillance in Cirrhosis</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$49,800</td>
<td>$27,689</td>
<td>$77,489</td>
</tr>
<tr>
<td>Division</td>
<td>PI</td>
<td>Sponsor</td>
<td>Project Title</td>
<td>Requested Start Date</td>
<td>Requested End Date</td>
<td>Requested Direct Costs</td>
<td>Requested Indirect Costs</td>
<td>Requested Total</td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>---------</td>
<td>---------------</td>
<td>----------------------</td>
<td>-------------------</td>
<td>-----------------------</td>
<td>------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>GI</td>
<td>Jensen, Gordon L</td>
<td>Geisinger Clinic</td>
<td>Rural Aging Study</td>
<td>01-Jul-18</td>
<td>31-Jul-19</td>
<td>$18,182</td>
<td>$1,818</td>
<td>$20,000</td>
</tr>
<tr>
<td>GI</td>
<td>Jensen, Gordon L</td>
<td>Geisinger Clinic</td>
<td>Rural Aging Study</td>
<td>01-Aug-19</td>
<td>31-Jul-20</td>
<td>$18,172</td>
<td>$1,817</td>
<td>$19,989</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>LaMantia, Michael A</td>
<td>Health Resources Services Admin/HRSA</td>
<td>Geriatrics Workforce Enhancement Program-VT</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$681,023</td>
<td>$53,983</td>
<td>$735,006</td>
</tr>
<tr>
<td>GIM</td>
<td>Sobel, Halle G</td>
<td>Substance Abuse Mental Health/SAMH</td>
<td>Increasing the Pipeline of MAT Prescribers: DATA Waiver Training for All Vermont Medical Students at The Larner College of Medicine</td>
<td>30-Sep-19</td>
<td>29-Sep-20</td>
<td>$94,032</td>
<td>$7,523</td>
<td>$101,555</td>
</tr>
<tr>
<td>GIM</td>
<td>Van Eeghen, Constance O.</td>
<td>PCORI Patient Cntrd Outcomes Res</td>
<td>Building a Cooperative-Inspired Research Community for Learning and Engagement (CIRCLE)</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$88,219</td>
<td>$35,287</td>
<td>$123,506</td>
</tr>
<tr>
<td>GIM</td>
<td>Van Eeghen, Constance O.</td>
<td>University of Massachusetts</td>
<td>National Center of Excellence for Integrated Health Solutions</td>
<td>31-Jul-19</td>
<td>30-Jul-20</td>
<td>$46,041</td>
<td>$3,683</td>
<td>$49,724</td>
</tr>
<tr>
<td>GIM</td>
<td>Atherly, Adam J</td>
<td>Abt Associates Inc.</td>
<td>Vermont (VT) All Payee Evaluation Accountable Care Organization (ACO) Model</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$206,990</td>
<td>$115,914</td>
<td>$322,904</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>American Heart Association - Founder</td>
<td>2019 Student Scholarships in Cerebrovascular Disease and Stroke: Charles Nicoli</td>
<td>01-Jul-19</td>
<td>31-Aug-20</td>
<td>$25,516</td>
<td>$14,289</td>
<td>$39,805</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>Duke University</td>
<td>Biological Embodiment of Risk and Racial Disparities in Breast Cancer</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$88,219</td>
<td>$35,287</td>
<td>$123,506</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>Indiana University</td>
<td>Vitamin K Status in Relation to Incidence of Stroke and Trajectory of Cognitive Decline</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$88,219</td>
<td>$35,287</td>
<td>$123,506</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>Medical University of South Carolina</td>
<td>Modified LDL in Circulating Immune Complexes, Incident Stroke and CHD Events</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$88,219</td>
<td>$35,287</td>
<td>$123,506</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>Mount Sinai School of Medicine</td>
<td>Use of HDL Proteome in the Prediction of Cog Impair and Alzheimer's Disease</td>
<td>01-Dec-19</td>
<td>30-Nov-20</td>
<td>$19,061</td>
<td>$10,674</td>
<td>$29,735</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>Natl Institutes of Health/NIH</td>
<td>Vermont Center for Cardiovascular and Brain Health: Centers of Biomedical Research Excellence (COBRE) (P20)</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$206,990</td>
<td>$115,914</td>
<td>$322,904</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>NCIRE Veterans Health Research Inst</td>
<td>Vascular-brain Injury Progression after Stroke (VIPS) Study</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$25,516</td>
<td>$14,289</td>
<td>$39,805</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>NCIRE Veterans Health Research Inst</td>
<td>Vascular-Brain Injury Progression after Stroke (VIPS) Study</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$25,516</td>
<td>$14,289</td>
<td>$39,805</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>University of Minnesota</td>
<td>Epidemiology of Venous Thrombosis and Pulmonary Embolism</td>
<td>01-Apr-20</td>
<td>31-Mar-21</td>
<td>$25,516</td>
<td>$14,289</td>
<td>$39,805</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Landry, Kara Klingman</td>
<td>American Society of Preventive Oncol</td>
<td>DNA Repair Landscape of Discordant Sibling Pairs from Hereditary Breast Cancer Families, Hereditary Breast Cancer Genetics</td>
<td>01-Aug-19</td>
<td>31-Jul-20</td>
<td>$40,000</td>
<td>$0</td>
<td>$40,000</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Wood, Marie E.</td>
<td>Jackson Laboratory</td>
<td>Expanding and Improving Cancer Genetic Counseling and Testing Services in Rural Northern New England through Hub-and-Spoke Knowledge-Sharing and Telementoring</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$103,386</td>
<td>$57,896</td>
<td>$161,282</td>
</tr>
<tr>
<td>Division</td>
<td>PI</td>
<td>Sponsor</td>
<td>Project Title</td>
<td>Requested Start Date</td>
<td>Requested End Date</td>
<td>Requested Direct Costs</td>
<td>Requested Indirect Costs</td>
<td>Requested Total</td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>---------</td>
<td>---------------</td>
<td>----------------------</td>
<td>--------------------</td>
<td>------------------------</td>
<td>--------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Wood, Marie E.</td>
<td>Maine Medical Center</td>
<td>Investigation of Discordant Sister-Pairs from High-Risk Breast Cancer Families from Vermont and Maine</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$43,800</td>
<td>$24,353</td>
<td>$68,153</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Wood, Marie E.</td>
<td>Natl Institutes of Health/NIH</td>
<td>Clinical and Translational Significance of a Circulating MicroRNA-based Breast Cancer Risk Signature</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$250,000</td>
<td>$140,000</td>
<td>$390,000</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Zakai, Neil A</td>
<td>Natl Heart Lung and Blood Inst/NHLBI</td>
<td>Thrombosis and Bleeding Risk Assessment in Medical Inpatients</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$454,326</td>
<td>$195,040</td>
<td>$649,366</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Zakai, Neil A</td>
<td>Oregon Health Sciences University</td>
<td>Identification of the Role of HDL Function in Human Cardiovascular Disease through Proteomics and Genetics</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$46,527</td>
<td>$18,495</td>
<td>$65,022</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Zakai, Neil A</td>
<td>University of California, San Francisco</td>
<td>Metabolic Effects and Mechanisms for Heart Failure in South Asians</td>
<td>01-Dec-18</td>
<td>30-Jun-19</td>
<td>$25,352</td>
<td>$14,198</td>
<td>$39,550</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Zakai, Neil A</td>
<td>University of Minnesota</td>
<td>Contemporary Venous Thromboembolism Treatment</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$55,219</td>
<td>$18,495</td>
<td>$86,114</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Botten, Jason W.</td>
<td>Celdara Medical, LLC</td>
<td>Therapeutic Antibodies for Treatment of Hantavirus Cardiopulmonary Syndrome</td>
<td>01-Apr-18</td>
<td>31-Mar-19</td>
<td>$71,282</td>
<td>$39,918</td>
<td>$111,200</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Botten, Jason W.</td>
<td>Celdara Medical, LLC</td>
<td>Therapeutic Antibodies for Treatment of Hantavirus Cardiopulmonary Syndrome</td>
<td>01-Aug-18</td>
<td>31-Jul-19</td>
<td>$96,998</td>
<td>$54,319</td>
<td>$151,317</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Botten, Jason W.</td>
<td>Natl Inst Allergy Infectious/NIAID/NIH</td>
<td>Large Scale Identification of HLA-restricted CDB+ and CD4+ T Cell Epitopes from New World Hantaviruses</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$933,476</td>
<td>$341,124</td>
<td>$1,274,600</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Botten, Jason W.</td>
<td>Natl Inst Allergy Infectious/NIAID/NIH</td>
<td>Mapping the Zika Virus Phosphoproteome</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$125,000</td>
<td>$68,081</td>
<td>$193,081</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Natl Inst Child Health Human /NICHD/NIH</td>
<td>A map of zika virus interactions with host proteins</td>
<td>01-Apr-18</td>
<td>31-Mar-19</td>
<td>$150,000</td>
<td>$82,191</td>
<td>$232,191</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Alliance for Lupus Research</td>
<td>Treatment of Mitochondrial Dysfunction in Lupus</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$185,546</td>
<td>$14,455</td>
<td>$200,001</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Natl Inst Allergy Infectious/NIAID/NIH</td>
<td>Vermont Immunology / Infectious Diseases Training Grant</td>
<td>01-Sep-19</td>
<td>31-Aug-19</td>
<td>$243,522</td>
<td>$8,998</td>
<td>$252,520</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Natl Inst Gen Medical Sciences/NIGMS</td>
<td>Vermont Immunology/Infectious Diseases Center</td>
<td>01-Apr-19</td>
<td>31-Mar-19</td>
<td>$750,000</td>
<td>$420,000</td>
<td>$1,170,000</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Natl Institutes of Health/NHGMS</td>
<td>T Cell Homeostatic Proliferation Drives Mitochondrial Dysfunction in SLE</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$412,495</td>
<td>$155,461</td>
<td>$567,956</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Natl Institutes of Health/NHGMS</td>
<td>Ligands for Human Synovial Gamma-Delta T Cells</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$295,148</td>
<td>$119,783</td>
<td>$414,931</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Natl Institutes of Health/NHGMS</td>
<td>Treatment of Mitochondrial Dysfunction in Lupus</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$174,799</td>
<td>$75,600</td>
<td>$250,399</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Natl Institutes of Health/NHGMS</td>
<td>Specificity of Human Joint Gamma/Delta T Cells</td>
<td>01-Aug-18</td>
<td>31-Jul-19</td>
<td>$329,804</td>
<td>$134,231</td>
<td>$464,035</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Natl Institutes of Health/NHGMS</td>
<td>Ligands for Human Synovial Gamma/Delta T Cells</td>
<td>01-Apr-18</td>
<td>31-Mar-19</td>
<td>$154,970</td>
<td>$77,216</td>
<td>$232,186</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>Rheumatology Research Foundation</td>
<td>Ligands for Human Synovial Gamma/Delta T Cells</td>
<td>01-Jul-20</td>
<td>30-Jun-21</td>
<td>$190,472</td>
<td>$9,528</td>
<td>$200,000</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph C</td>
<td>US Department of the Army/DOD</td>
<td>Redox-driven Type I Interferon in SLE and Its Treatment with MitoQ</td>
<td>01-Jul-19</td>
<td>31-Jun-20</td>
<td>$124,743</td>
<td>$50,256</td>
<td>$174,999</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Mercedes</td>
<td>ME Research UK</td>
<td>Exploring an Anti-Citrullinated Antibody Signature in ME/CFS</td>
<td>01-Nov-18</td>
<td>31-Aug-19</td>
<td>$106,242</td>
<td>$59,496</td>
<td>$165,738</td>
</tr>
<tr>
<td>Division</td>
<td>PI</td>
<td>Sponsor</td>
<td>Project Title</td>
<td>Requested Start Date</td>
<td>Requested End Date</td>
<td>Requested Direct Costs</td>
<td>Requested Indirect Costs</td>
<td>Requested Total</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------</td>
<td>----------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>----------------------</td>
<td>----------------------</td>
<td>------------------------</td>
<td>--------------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Mercedes</td>
<td>Natl Cancer Institute/NCI/NIH</td>
<td>A Novel Target to Overcome Chemoresistance in Breast Cancer</td>
<td>01-Dec-18</td>
<td>30-Nov-19</td>
<td>$125,000</td>
<td>$70,000</td>
<td>$195,000</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Mercedes</td>
<td>Natl Inst Allergy Infectious/NIAID/NIH</td>
<td>GSK3B in TCR Repertoire and Immune Diseases</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$268,375</td>
<td>$120,400</td>
<td>$388,775</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Mercedes</td>
<td>Natl Inst Gen Medical Sciences/NIHGM</td>
<td>Fostering Entrepreneurship in Biomedical Research</td>
<td>01-Dec-18</td>
<td>30-Nov-19</td>
<td>$476,819</td>
<td>$29,965</td>
<td>$506,784</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Mercedes</td>
<td>Natl Institutes of Health/NIH</td>
<td>Regulation of Mitochondria Function in Human CD4 Cells by IL-6</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$149,999</td>
<td>$83,999</td>
<td>$233,998</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Mercedes</td>
<td>Natl Institutes of Health/NIH</td>
<td>Targeting Mitochondrial Regulator MCJ to Enhance CD8 Cell Immune Response</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$250,000</td>
<td>$140,000</td>
<td>$390,000</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Mercedes</td>
<td>Natl Institutes of Health/NIH</td>
<td>Fine-Tuning of Mitochondrial Complex I Activity in CD8 Cells</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$177,750</td>
<td>$70,000</td>
<td>$247,750</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Teuscher, Cory</td>
<td>National Multiple Sclerosis Society</td>
<td>Cellular Mechanisms Underlying the Effects of the Bile Acid Receptor Activation in EAE</td>
<td>01-Apr-18</td>
<td>31-Mar-19</td>
<td>$50,000</td>
<td>$5,000</td>
<td>$55,000</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Teuscher, Cory</td>
<td>Natl Institutes of Health/NIH</td>
<td>Male-specific genetic determinants of influenza virus-mediated lung immunopathology</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$250,000</td>
<td>$140,000</td>
<td>$390,000</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Teuscher, Cory</td>
<td>University of Utah</td>
<td>Molecular Genetics of Lyme Arthritis</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$50,000</td>
<td>$26,250</td>
<td>$76,250</td>
</tr>
<tr>
<td>ID</td>
<td>Diehl, Sean A</td>
<td>University of North Carolina</td>
<td>Zika Diagnostics Development: Diagnosing Recent and Remote Zika Infections</td>
<td>01-Apr-18</td>
<td>31-Mar-20</td>
<td>$189,912</td>
<td>$102,829</td>
<td>$292,741</td>
</tr>
<tr>
<td>ID</td>
<td>Huston, Christopher</td>
<td>University of Dundee</td>
<td>Development of new agents for the treatment of cryptosporidiosis</td>
<td>01-May-20</td>
<td>30-Apr-21</td>
<td>$135,339</td>
<td>$0</td>
<td>$135,339</td>
</tr>
<tr>
<td>ID</td>
<td>Huston, Christopher</td>
<td>University of Dundee</td>
<td>Development of new agents for the treatment of cryptosporidiosis</td>
<td>01-May-19</td>
<td>30-Apr-20</td>
<td>$197,969</td>
<td>$0</td>
<td>$197,969</td>
</tr>
<tr>
<td>Nephrology</td>
<td>Cheung, Katharine L</td>
<td>National Palliative Care Research Cen</td>
<td>Telemedicine Facilitated Palliative Care Consultations in Rural Dialysis Patients</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$69,999</td>
<td>$7,000</td>
<td>$76,999</td>
</tr>
<tr>
<td>Nephrology</td>
<td>Cheung, Katharine L</td>
<td>University of Wisconsin</td>
<td>A Randomized Clinical Trial of a Communication Tool to Improve Access to Palliative Care for Patients with End-stage Renal Disease</td>
<td>01-Jan-19</td>
<td>31-Dec-19</td>
<td>$17,500</td>
<td>$9,800</td>
<td>$27,300</td>
</tr>
<tr>
<td>Nephrology</td>
<td>Cheung, Katharine L</td>
<td>University of Wisconsin</td>
<td>Best Case/Worst Case: A Multisite Randomized Clinical Trial of Scenario Planning for Patients with End-Stage Kidney Disease</td>
<td>01-Jan-20</td>
<td>31-Dec-20</td>
<td>$7,500</td>
<td>$4,200</td>
<td>$11,700</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Badlam, Jessica B</td>
<td>Team PHenomenal Hope, Inc.</td>
<td>United States Pulmonary Hypertension Registry: Exposures and Genomics in a Contemporary Population of PAH Patients</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$50,000</td>
<td>$0</td>
<td>$50,000</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Bates, Jason H.</td>
<td>Natl Heart Lung and Blood Inst/NHLBI</td>
<td>Non-Allergic Late-Onset Asthma of Obesity: Pathophysiology and Therapy</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$396,453</td>
<td>$198,163</td>
<td>$594,616</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Bates, Jason H.</td>
<td>Natl Institutes of Health/NIH</td>
<td>Preserving Epithelial Barrier Integrity in Ventilator-Induced Lung Injury</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$625,510</td>
<td>$124,675</td>
<td>$750,185</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Dixon, Anne Elizabeth</td>
<td>Natl Heart Lung and Blood Inst/NHLBI</td>
<td>Trial of Roflumilast in Asthma Management (TRIM)</td>
<td>01-Sep-18</td>
<td>31-Aug-19</td>
<td>$163,395</td>
<td>$33,383</td>
<td>$196,778</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Dixon, Anne Elizabeth</td>
<td>University of Chicago</td>
<td>The ALOHA Trial: DASH Diet, Weight Loss, and Physical Activity Combination Interventions for Obese Adults with Uncontrolled Asthma</td>
<td>01-Dec-19</td>
<td>30-Nov-20</td>
<td>$54,361</td>
<td>$28,510</td>
<td>$82,871</td>
</tr>
<tr>
<td>Division</td>
<td>PI</td>
<td>Sponsor</td>
<td>Project Title</td>
<td>Requested Start Date</td>
<td>Requested End Date</td>
<td>Requested Direct Costs</td>
<td>Requested Indirect Costs</td>
<td>Requested Total</td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>---------</td>
<td>---------------</td>
<td>----------------------</td>
<td>--------------------</td>
<td>-----------------------</td>
<td>------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Dixon, Anne Elizabeth</td>
<td>University of Illinois</td>
<td>RofLumilast or Azithromycin to Prevent COPD Exacerbations (RELIANCE)</td>
<td>01-Jun-19</td>
<td>31-May-23</td>
<td>$155,640</td>
<td>$62,256</td>
<td>$217,896</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Irvin, Charles G</td>
<td>American Lung Association</td>
<td>ALA-Asthma Clinical Research Center-CORE Award</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$649</td>
<td>$351</td>
<td>$1,000</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Irvin, Charles G</td>
<td>American Lung Association</td>
<td>Airways Clinical Research Center (ACRC) Core Award</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$47,300</td>
<td>$0</td>
<td>$47,300</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Kaminsky, David A</td>
<td>University of Alabama at Birmingham</td>
<td>Beta Blockers for the Prevention of Acute Exacerbations of COPD</td>
<td>01-Oct-18</td>
<td>30-Sept-19</td>
<td>$36,585</td>
<td>$9,745</td>
<td>$46,330</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Menon, Prema R.</td>
<td>Pulmonary Fibrosis Foundation</td>
<td>Breathe Vermont - Pulmonary Fibrosis Support Group</td>
<td>01-Aug-18</td>
<td>31-Dec-18</td>
<td>$750</td>
<td>$0</td>
<td>$750</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Poynter, Matthew Edward</td>
<td>Nati Heart Lung and Blood Inst/NHLBI</td>
<td>Obese Allergic Asthma and the Impact of Weight Loss on Airway Epithelial Function</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$498,618</td>
<td>$279,226</td>
<td>$777,844</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Poynter, Matthew Edward</td>
<td>Nati Heart Lung and Blood Inst/NHLBI</td>
<td>Multidisciplinary Training in Lung Biology</td>
<td>01-May-19</td>
<td>30-Apr-20</td>
<td>$606,092</td>
<td>$24,944</td>
<td>$631,036</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Poynter, Matthew Edward</td>
<td>Nati Heart Lung and Blood Inst/NHLBI</td>
<td>Adipose Modulation of Obese Asthma</td>
<td>01-Dec-19</td>
<td>30-Nov-20</td>
<td>$599,934</td>
<td>$335,963</td>
<td>$935,897</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Poynter, Matthew Edward</td>
<td>Nati Heart Lung and Blood Inst/NHLBI</td>
<td>Ketone Body Supplementation in Obese Asthma</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$289,064</td>
<td>$158,114</td>
<td>$447,178</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Stapleton, Renee D.</td>
<td>Fred Hutchinson Cancer Center</td>
<td>Ganciclovir to Prevent Reactivation of Cytomegalovirus in Patients with Acute Respiratory Failure and Sepsis</td>
<td>01-Apr-20</td>
<td>31-Mar-21</td>
<td>$191,315</td>
<td>$107,136</td>
<td>$298,451</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Stapleton, Renee D.</td>
<td>Nati Inst on Aging/NIA/NIH</td>
<td>Improving Palliative Care for Older Seriously Hospitalized Patients and Their Families: A Randomized Trial of an Informed Assent Communication Intervention about CPR</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$553,939</td>
<td>$58,786</td>
<td>$612,725</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Stapleton, Renee D.</td>
<td>Social &amp; Scientific Systems, Inc.</td>
<td>A Randomized Double-Blind, Phase 3 Study Comparing the Efficacy and Safety of High-Titer Versus Low-Titer Anti-Influenza Immune Plasma for the Treatment of Severe Influenza A</td>
<td>01-Oct-17</td>
<td>30-Jun-19</td>
<td>$3,205</td>
<td>$1,795</td>
<td>$5,000</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Stapleton, Renee D.</td>
<td>Social &amp; Scientific Systems, Inc.</td>
<td>A Randomized Double-Blind, Phase 3 Study Comparing the Efficacy and Safety of High-Titer Versus Low-Titer Anti-Influenza Immune Plasma for the Treatment of Severe Influenza A</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$1,474</td>
<td>$826</td>
<td>$2,300</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Suratt, Benjamin T</td>
<td>Nati Heart Lung and Blood Inst/NHLBI</td>
<td>The Effects of Insulin and Chronic Hyperglycemia on ARDS Pathogenesis and Outcomes</td>
<td>01-Dec-19</td>
<td>30-Nov-20</td>
<td>$75,000</td>
<td>$39,200</td>
<td>$114,200</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Suratt, Benjamin T</td>
<td>Nati Institutes of Health/NIH</td>
<td>Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$593,220</td>
<td>$211,368</td>
<td>$804,588</td>
</tr>
<tr>
<td>Division</td>
<td>PI</td>
<td>Sponsor</td>
<td>Project Title</td>
<td>Requested Start Date</td>
<td>Requested End Date</td>
<td>Requested Direct Costs</td>
<td>Requested Indirect Costs</td>
<td>Requested Total</td>
</tr>
<tr>
<td>----------</td>
<td>----</td>
<td>---------</td>
<td>---------------</td>
<td>----------------------</td>
<td>--------------------</td>
<td>------------------------</td>
<td>--------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Teneback, Charlotte C</td>
<td>Cystic Fibrosis Fdn Therapeutics, Inc</td>
<td>Cystic Fibrosis Foundation Research Support</td>
<td>01-Jan-19</td>
<td>31-Dec-19</td>
<td>$17,987</td>
<td>$1,439</td>
<td>$19,426</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Teneback, Charlotte C</td>
<td>Cystic Fibrosis Fdn Therapeutics, Inc</td>
<td>Therapeutics Development Center</td>
<td>01-Jan-19</td>
<td>31-Dec-19</td>
<td>$84,614</td>
<td>$6,769</td>
<td>$91,383</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Teneback, Charlotte C</td>
<td>Cystic Fibrosis Foundation</td>
<td>Implementation of Outpatient Clinical Pharmacy Services: Award for A Pharmacist and/or Pharmacy Technician</td>
<td>01-Nov-18</td>
<td>31-Oct-19</td>
<td>$62,000</td>
<td>$4,960</td>
<td>$66,960</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Teneback, Charlotte C</td>
<td>Seattle Children's Hospital</td>
<td>Standardized Treatment of Pulmonary Exacerbations II (STOP 2)</td>
<td>01-Oct-17</td>
<td>31-Dec-99</td>
<td>$3,330</td>
<td>$266</td>
<td>$3,597</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Teneback, Charlotte C</td>
<td>Seattle Children’s Hospital</td>
<td>Standardized Treatment of Pulmonary Exacerbations II (STOP 2)</td>
<td>01-Jul-18</td>
<td>30-Jun-19</td>
<td>$7,491</td>
<td>$599</td>
<td>$8,091</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weintraub, Zachary</td>
<td>Cystic Fibrosis Foundation</td>
<td>Program for Adult Care Excellence (PACE)</td>
<td>01-Oct-19</td>
<td>30-Sep-20</td>
<td>$37,025</td>
<td>$2,962</td>
<td>$39,987</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Alpha-1 Foundation</td>
<td>2019 Stem Cells and Cell Therapies in Lung Biology and Disease</td>
<td>15-Jul-19</td>
<td>18-Jul-19</td>
<td>$5,000</td>
<td>$0</td>
<td>$5,000</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Boston University</td>
<td>Biomechanical Signals in Functional Maturation of Distal Lung Epithelial Progenitors</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$105,838</td>
<td>$59,269</td>
<td>$165,107</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Cystic Fibrosis Foundation</td>
<td>Mechanisms of MSC Actions that Ameliorate Bacterial Lung Infections in CF</td>
<td>01-Nov-17</td>
<td>31-Oct-18</td>
<td>$100,000</td>
<td>$8,000</td>
<td>$108,000</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Cystic Fibrosis Foundation</td>
<td>Role of Glycoproteins in Lung Recellularization</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$125,000</td>
<td>$0</td>
<td>$125,000</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Cystic Fibrosis Foundation</td>
<td>Aspergillus Effects on MSC-Based Cell Therapies for CF Lung Disease</td>
<td>01-Nov-19</td>
<td>31-Oct-20</td>
<td>$125,000</td>
<td>$10,000</td>
<td>$135,000</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Natl Institutes of Health/NIH</td>
<td>Effect of Inflammatory Lung Environments on Mesenchymal Stromal Cell-Based Therapies for Lung Diseases</td>
<td>01-Apr-19</td>
<td>31-Mar-20</td>
<td>$272,893</td>
<td>$133,372</td>
<td>$406,265</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Natl Institutes of Health/NIH</td>
<td>Stem Cells, Cell Therapies and Bioengineering in Lung Biology and Diseases</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$30,000</td>
<td>$0</td>
<td>$30,000</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Natl Institutes of Health/NIH</td>
<td>Role of Glycoproteins in Lung Recellularization</td>
<td>01-Dec-19</td>
<td>30-Nov-20</td>
<td>$403,453</td>
<td>$126,564</td>
<td>$530,017</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>US Department of Defense/DOD</td>
<td>Clinical Development of a Novel Pleural and Tracheal Sealant</td>
<td>01-Jul-19</td>
<td>30-Jun-20</td>
<td>$394,460</td>
<td>$178,914</td>
<td>$573,374</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>US Department of Defense/DOD</td>
<td>Clinical Development of a Novel Pleural and Tracheal Sealant</td>
<td>01-Jul-20</td>
<td>30-Jun-21</td>
<td>$399,768</td>
<td>$168,201</td>
<td>$567,969</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Vertex Pharmaceuticals</td>
<td>Effect of Inflammatory Lung Environments on Mesenchymal Stromal Cell-based Therapies for Lung Disease</td>
<td>01-Jun-19</td>
<td>31-May-20</td>
<td>$432,523</td>
<td>$33,188</td>
<td>$465,711</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Virginia Commonwealth University</td>
<td>Targeting Endothelial Regeneration in Lung Tissue Engineering</td>
<td>01-Sep-19</td>
<td>31-Aug-20</td>
<td>$74,070</td>
<td>$41,479</td>
<td>$115,549</td>
</tr>
</tbody>
</table>

**Medicine Total** | | | | | | | | **$30,158,169** |
<table>
<thead>
<tr>
<th>Department</th>
<th>FY18 Count</th>
<th>FY18 Dollars</th>
<th>FY19 Count</th>
<th>FY19 Dollars</th>
<th>$ Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>26</td>
<td>$4,775,999</td>
<td>15</td>
<td>$3,088,766</td>
<td>-$1,687,233</td>
<td>-35.3%</td>
</tr>
<tr>
<td>Dermatology</td>
<td>0</td>
<td>$0</td>
<td>1</td>
<td>$2,000</td>
<td>$2,000</td>
<td>n/a</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>1</td>
<td>$22,021</td>
<td>3</td>
<td>$288,155</td>
<td>$266,134</td>
<td>1208.5%</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>1</td>
<td>$77,800</td>
<td>1</td>
<td>$77,489</td>
<td>-$311</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Gen Internal Med</td>
<td>7</td>
<td>$441,718</td>
<td>7</td>
<td>$1,372,684</td>
<td>$930,966</td>
<td>210.8%</td>
</tr>
<tr>
<td>Hematology Oncology</td>
<td>22</td>
<td>$3,891,194</td>
<td>18</td>
<td>$4,531,657</td>
<td>$640,463</td>
<td>16.5%</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>25</td>
<td>$6,803,725</td>
<td>27</td>
<td>$8,559,487</td>
<td>$1,755,762</td>
<td>25.8%</td>
</tr>
<tr>
<td>Infectious Disease**</td>
<td>23</td>
<td>$7,602,367</td>
<td>3</td>
<td>$626,049</td>
<td>-$6,976,318</td>
<td>-91.8%</td>
</tr>
<tr>
<td>Nephrology</td>
<td>2</td>
<td>$92,591</td>
<td>3</td>
<td>$115,999</td>
<td>$23,408</td>
<td>25.3%</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>63</td>
<td>$13,180,282</td>
<td>41</td>
<td>$11,495,883</td>
<td>-$1,684,399</td>
<td>-12.8%</td>
</tr>
<tr>
<td>Medicine Total</td>
<td>170</td>
<td>$36,887,698</td>
<td>119</td>
<td>$30,158,169</td>
<td>-$6,729,529</td>
<td>-18.2%</td>
</tr>
</tbody>
</table>

**Data reflects the transition of the Vaccine Testing Center to MMG.
<table>
<thead>
<tr>
<th>Division</th>
<th>PI Sponsor</th>
<th>Project Title</th>
<th>Period</th>
<th>Start Date</th>
<th>End Date</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>CoreMap, Inc</td>
<td>CoreMap Mammography</td>
<td>3</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$4,558</td>
<td>$3,672</td>
<td>$10,230</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Keating, Frederick</td>
<td>Myocardial Ischemia and Transplantation (MI/NT) - CCC</td>
<td>1</td>
<td>6/1/2018</td>
<td>5/31/2019</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Keating, Frederick</td>
<td>Myocardial Ischemia and Transplantation (MI/NT) - CCC</td>
<td>2</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$20,055</td>
<td>$10,935</td>
<td>$31,000</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Keating, Frederick</td>
<td>Myocardial Ischemia and Transplantation (MI/NT) - CCC</td>
<td>3</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$2,564</td>
<td>$1,436</td>
<td>$4,000</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Meyer, Markus</td>
<td>Novel Heart and Lung Blood</td>
<td>1</td>
<td>11/3/2017</td>
<td>11/3/2018</td>
<td>$9,588</td>
<td>$0</td>
<td>$9,588</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Meyer, Markus</td>
<td>Novel Heart and Lung Blood</td>
<td>2</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$24,492</td>
<td>$6,858</td>
<td>$31,350</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Schneider, David</td>
<td>Janssen Research &amp; Development, LLC</td>
<td>7</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$19,388</td>
<td>$5,467</td>
<td>$24,855</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Schneider, David</td>
<td>Janssen Research &amp; Development, LLC</td>
<td>1</td>
<td>7/15/2018</td>
<td>12/31/2019</td>
<td>$38,832</td>
<td>$2,746</td>
<td>$41,578</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Spees, Jeffrey</td>
<td>Greenleaf Cannabis Co.</td>
<td>4</td>
<td>1/4/2019</td>
<td>4/14/2020</td>
<td>$249,255</td>
<td>$91,657</td>
<td>$340,912</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Spees, Jeffrey</td>
<td>Greenleaf Cannabis Co.</td>
<td>3</td>
<td>4/1/2019</td>
<td>3/31/2020</td>
<td>$243,650</td>
<td>$136,444</td>
<td>$380,094</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Toth, Michael</td>
<td>University of Massachusetts Amherst</td>
<td>3</td>
<td>4/1/2019</td>
<td>3/31/2020</td>
<td>$20,281</td>
<td>$11,363</td>
<td>$31,646</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Van Burian, Peter</td>
<td>Duke University</td>
<td>4</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$3,045</td>
<td>$1,706</td>
<td>$4,750</td>
</tr>
<tr>
<td>Cardiology</td>
<td>Van Burian, Peter</td>
<td>Duke University</td>
<td>1</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$18,182</td>
<td>$1,818</td>
<td>$20,000</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>LaMantia, Michael</td>
<td>Nall Inst on Aging</td>
<td>2</td>
<td>4/1/2018</td>
<td>6/30/2019</td>
<td>$33,625</td>
<td>$7,490</td>
<td>$41,115</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>LaMantia, Michael</td>
<td>Nall Inst on Aging</td>
<td>1</td>
<td>3/15/2019</td>
<td>6/30/2019</td>
<td>$24,829</td>
<td>$13,904</td>
<td>$38,733</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>LaMantia, Michael</td>
<td>Nall Inst on Aging</td>
<td>3</td>
<td>2/1/2018</td>
<td>8/31/2019</td>
<td>$53,544</td>
<td>$22,916</td>
<td>$76,460</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>University of North Carolina</td>
<td>5</td>
<td>5/1/2018</td>
<td>4/30/2020</td>
<td>$177,429</td>
<td>$96,300</td>
<td>$273,729</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>University of Minnesota</td>
<td>1</td>
<td>1/1/2019</td>
<td>9/30/2020</td>
<td>$1,894,193</td>
<td>$1,377,160</td>
<td>$3,271,353</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>University of North Carolina</td>
<td>1</td>
<td>8/14/2019</td>
<td>3/31/2020</td>
<td>$65,614</td>
<td>$29,289</td>
<td>$94,903</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>University of North Carolina</td>
<td>2</td>
<td>4/1/2019</td>
<td>3/31/2020</td>
<td>$47,530</td>
<td>$26,617</td>
<td>$74,147</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Cushman, Mary</td>
<td>American Society of Hematology</td>
<td>1</td>
<td>7/18/2019</td>
<td>6/30/2020</td>
<td>$5,000</td>
<td>$0</td>
<td>$5,000</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Zakai, Neil</td>
<td>University of Minnesota</td>
<td>3</td>
<td>12/18/2018</td>
<td>11/30/2019</td>
<td>$50,216</td>
<td>$30,323</td>
<td>$80,539</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Zakai, Neil</td>
<td>Oregon Health Sciences University</td>
<td>1</td>
<td>1/15/2018</td>
<td>12/31/2018</td>
<td>$31,427</td>
<td>$17,599</td>
<td>$49,026</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Zakai, Neil</td>
<td>Oregon Health Sciences University</td>
<td>2</td>
<td>1/1/2019</td>
<td>12/31/2019</td>
<td>$25,353</td>
<td>$14,198</td>
<td>$39,551</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>Zakai, Neil</td>
<td>Oregon Health Sciences University</td>
<td>5</td>
<td>12/20/2018</td>
<td>2/29/2020</td>
<td>$446,834</td>
<td>$198,244</td>
<td>$645,078</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Botten, Jason</td>
<td>Celdara Medical, LLC</td>
<td>3</td>
<td>8/1/2018</td>
<td>7/31/2019</td>
<td>$69,649</td>
<td>$39,003</td>
<td>$108,652</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Botten, Jason</td>
<td>Celdara Medical, LLC</td>
<td>1</td>
<td>6/1/2018</td>
<td>5/31/2019</td>
<td>$15,000</td>
<td>$8,127</td>
<td>$23,127</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Botten, Jason</td>
<td>Celdara Medical, LLC</td>
<td>2</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$124,965</td>
<td>$68,117</td>
<td>$193,082</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph</td>
<td>Vermont Immunology/Infectious Diseases Center</td>
<td>3</td>
<td>8/1/2018</td>
<td>7/31/2019</td>
<td>$746,985</td>
<td>$418,872</td>
<td>$1,165,857</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Budd, Ralph</td>
<td>Vermont Immunology/Infectious Diseases Center</td>
<td>3</td>
<td>9/1/2018</td>
<td>8/31/2019</td>
<td>$89,796</td>
<td>$2,064</td>
<td>$91,860</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Merodes</td>
<td>Geisinger Medical Center</td>
<td>4</td>
<td>3/1/2019</td>
<td>2/29/2020</td>
<td>$415,466</td>
<td>$24,597</td>
<td>$439,063</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Merodes</td>
<td>Geisinger Medical Center</td>
<td>3</td>
<td>8/1/2018</td>
<td>7/31/2019</td>
<td>$266,735</td>
<td>$120,400</td>
<td>$387,135</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Merodes</td>
<td>Geisinger Medical Center</td>
<td>2</td>
<td>6/1/2018</td>
<td>5/31/2019</td>
<td>$105,488</td>
<td>$59,073</td>
<td>$164,561</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Merodes</td>
<td>Geisinger Medical Center</td>
<td>4</td>
<td>9/1/2018</td>
<td>8/31/2019</td>
<td>$135,032</td>
<td>$66,097</td>
<td>$201,129</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Rincon, Merodes</td>
<td>Geisinger Medical Center</td>
<td>5</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$25,000</td>
<td>$6,250</td>
<td>$31,250</td>
</tr>
<tr>
<td>Immunobiology</td>
<td>Teuscher, Cory</td>
<td>University of Utah</td>
<td>2</td>
<td>5/1/2018</td>
<td>4/30/2019</td>
<td>$105,488</td>
<td>$59,073</td>
<td>$164,561</td>
</tr>
<tr>
<td>Division</td>
<td>PI</td>
<td>Sponsor</td>
<td>Project Title</td>
<td>Start Date</td>
<td>End Date</td>
<td>Direct</td>
<td>Indirect</td>
<td>Total</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------</td>
<td>----------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>--------</td>
<td>----------</td>
<td>--------</td>
</tr>
<tr>
<td>Nephrology</td>
<td>Cheung, Katherine L</td>
<td>National Palliative Care Research Center</td>
<td>Telemedicine Facilitated Palliative Care Consultations in Rural Dialysis Patients</td>
<td>7/1/2018</td>
<td>6/30/2020</td>
<td>$140,000</td>
<td>$14,000</td>
<td>$154,000</td>
</tr>
<tr>
<td>Nephrology</td>
<td>Solomon, Richard J</td>
<td>Dartmouth College</td>
<td>IMPROVE ALL: A Cluster Randomized Trial of Team-Based Coaching Interventions to IMPROVE Acute Kidney Injury</td>
<td>7/1/2015</td>
<td>5/31/2019</td>
<td>$26,033</td>
<td>$14,578</td>
<td>$40,611</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Kinsey, C. Matthew</td>
<td>University of North Carolina School of Medicine</td>
<td>CT Characteristics of Emphysema for Evaluation of Pulmonary Nodules</td>
<td>8/1/2018</td>
<td>7/31/2019</td>
<td>$157,484</td>
<td>$12,599</td>
<td>$170,083</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Kinsey, C. Matthew</td>
<td>Boston University</td>
<td>Detection of Early Lung Cancer Among Military Personnel (DEMCAMP)</td>
<td>1/1/2018</td>
<td>12/31/2018</td>
<td>$308,327</td>
<td>$172,661</td>
<td>$480,984</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Menon, Prerna R</td>
<td>Brigham and Women's Hospital</td>
<td>Breath Vermont - Pulmonary Fibrosis Support Group</td>
<td>1/11/2017</td>
<td>12/31/2019</td>
<td>$750</td>
<td>$0</td>
<td>$750</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Poynter, Matthew Edward</td>
<td>University of Alabama at Birmingham</td>
<td>Obese Allergic Asthma and the Impact of Weight Loss on Airways Epithelial Function</td>
<td>8/1/2018</td>
<td>7/31/2019</td>
<td>$497,231</td>
<td>$278,449</td>
<td>$775,680</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Poynter, Matthew Edward</td>
<td>University of Alabama at Birmingham</td>
<td>Multidisciplinary Training in Lung Biology</td>
<td>5/1/2019</td>
<td>4/30/2020</td>
<td>$436,482</td>
<td>$25,959</td>
<td>$462,441</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Stapleton, Renee D.</td>
<td>Pulmonary Fibrosis Foundation</td>
<td>A Randomized Double-Blind, Phase 3 Study Comparing the Efficacy and Safety of High-Titer Versus Low-Titer Anti-Influenza Immune Plasma for the Treatment of Severe Influenza A</td>
<td>7/1/2017</td>
<td>6/30/2019</td>
<td>$2,055</td>
<td>$1,795</td>
<td>$3,850</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Stapleton, Renee D.</td>
<td>Pulmonary Fibrosis Foundation</td>
<td>A Randomized Double-Blind, Phase 3 Study Comparing the Efficacy and Safety of High-Titer Versus Low-Titer Anti-Influenza Immune Plasma for the Treatment of Severe Influenza A</td>
<td>7/1/2017</td>
<td>6/30/2019</td>
<td>$1,474</td>
<td>$826</td>
<td>$2,300</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Surat, Benjamin T</td>
<td>National Heart Lung and Blood Inst/NHLBI</td>
<td>Effects of Exercise on Inflammation-Induced Lung and Muscle Injury in Critical Illness (NEXIS-FLAME)</td>
<td>9/15/2018</td>
<td>6/30/2019</td>
<td>$595,143</td>
<td>$208,149</td>
<td>$803,292</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Teneback, Charlotte C</td>
<td>Cystic Fibrosis Foundation</td>
<td>Cystic Fibrosis Foundation Research Support</td>
<td>12/1/2018</td>
<td>11/30/2019</td>
<td>$17,987</td>
<td>$1,439</td>
<td>$19,426</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Teneback, Charlotte C</td>
<td>Cystic Fibrosis Foundation</td>
<td>Cystic Fibrosis Foundation Development Center</td>
<td>1/1/2019</td>
<td>12/31/2019</td>
<td>$91,833</td>
<td>$7,311</td>
<td>$99,144</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Teneback, Charlotte C</td>
<td>Cystic Fibrosis Foundation</td>
<td>Implementation of Outpatient Clinical Pharmacy Services: Award for A Pharmacist and/or Pharmacy Technician</td>
<td>11/12/2018</td>
<td>10/31/2019</td>
<td>$62,000</td>
<td>$4,960</td>
<td>$66,960</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>National Institutes of Health</td>
<td>Standardized Treatment of Pulmonary Exacerbations II (STOP 2)</td>
<td>7/1/2018</td>
<td>6/30/2019</td>
<td>$7,491</td>
<td>$692</td>
<td>$8,183</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Brigham and Women's Hospital</td>
<td>Mechanisms of MSC Actions that Ameliorate Bacterial Lung Infections in CF</td>
<td>2/1/2018</td>
<td>2/28/2018</td>
<td>$170,000</td>
<td>$8,000</td>
<td>$178,000</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Long Biotechnology PBC</td>
<td>Plural Sealants for EVLP using Humans Lung</td>
<td>7/1/2018</td>
<td>12/31/2018</td>
<td>$49,693</td>
<td>$27,828</td>
<td>$77,521</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>US Department of Defense/DOE</td>
<td>Clinical Development of a Novel Pleural and Tracheal Sealant</td>
<td>7/1/2019</td>
<td>6/30/2022</td>
<td>$1,200,000</td>
<td>$524,027</td>
<td>$1,724,027</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Weiss, Daniel J</td>
<td>Cystic Fibrosis Foundation</td>
<td>Role of Glycopolymers in Lung Recellularization</td>
<td>4/1/2019</td>
<td>3/31/2020</td>
<td>$125,000</td>
<td>$0</td>
<td>$125,000</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td></td>
<td></td>
<td></td>
<td>1/1/2019</td>
<td>3/31/2020</td>
<td>$5,238,336</td>
<td>$2,784,974</td>
<td>$7,023,310</td>
</tr>
</tbody>
</table>
Department of Medicine
UVM Research Funding (Direct & Indirect), FY15-FY19

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Direct &amp; Indirect Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY15</td>
<td>$18,155,894</td>
</tr>
<tr>
<td>FY16</td>
<td>$39,020,893</td>
</tr>
<tr>
<td>FY17</td>
<td>$18,925,948</td>
</tr>
<tr>
<td>FY18</td>
<td>$16,060,209</td>
</tr>
<tr>
<td>FY19</td>
<td>$17,629,335</td>
</tr>
</tbody>
</table>
# Department of Medicine

UVM Research Funding (Direct & Indirect) by Division, FY2015-FY2019

<table>
<thead>
<tr>
<th>Division</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
<th>FY18</th>
<th>FY19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card</td>
<td>$1,571,132</td>
<td>$2,467,393</td>
<td>$3,228,439</td>
<td>$2,600,927</td>
<td>$1,303,415</td>
</tr>
<tr>
<td>Endo</td>
<td>$165,000</td>
<td>$545,000</td>
<td>$902,901</td>
<td>$19,405</td>
<td>$39,757</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>$862,589</td>
<td>$19,266,749</td>
<td>$20,000</td>
<td>$20,001</td>
<td>$139,849</td>
</tr>
<tr>
<td>GIMR</td>
<td>$250</td>
<td>$28,003</td>
<td>$1,322,344</td>
<td>$1,541,976</td>
<td>$135,055</td>
</tr>
<tr>
<td>GI</td>
<td>$2,972,906</td>
<td>$3,056,743</td>
<td>$3,359,832</td>
<td>$3,148,250</td>
<td>$20,000</td>
</tr>
<tr>
<td>Hem/Onc</td>
<td>$4,332,895</td>
<td>$8,060,121</td>
<td>$4,557,661</td>
<td>$2,802,232</td>
<td>$1,591,123</td>
</tr>
<tr>
<td>ID</td>
<td>$3,507,069</td>
<td>$1,470,023</td>
<td>$4,878</td>
<td>$194,611</td>
<td>$1,482,128</td>
</tr>
<tr>
<td>Immuno</td>
<td>$4,738,308</td>
<td>$2,855</td>
<td>$5,529,893</td>
<td>$5,927,418</td>
<td>$3,100,088</td>
</tr>
<tr>
<td>Neph</td>
<td>$5,745</td>
<td>$4,124,006</td>
<td>$4,124,006</td>
<td>$5,927,418</td>
<td>$194,611</td>
</tr>
<tr>
<td>Pulm</td>
<td>$4,738,308</td>
<td>$4,124,006</td>
<td>$5,529,893</td>
<td>$5,927,418</td>
<td>$9,623,309</td>
</tr>
</tbody>
</table>
Department of Medicine
UVM Medical Center Research Revenue (Direct & Indirect), FY15-FY19

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$2,561,496</td>
</tr>
<tr>
<td>2016</td>
<td>$2,363,986</td>
</tr>
<tr>
<td>2017</td>
<td>$3,243,560</td>
</tr>
<tr>
<td>2018</td>
<td>$3,430,100</td>
</tr>
<tr>
<td>2019</td>
<td>$2,908,420</td>
</tr>
</tbody>
</table>