



Research Overview Fall 2025

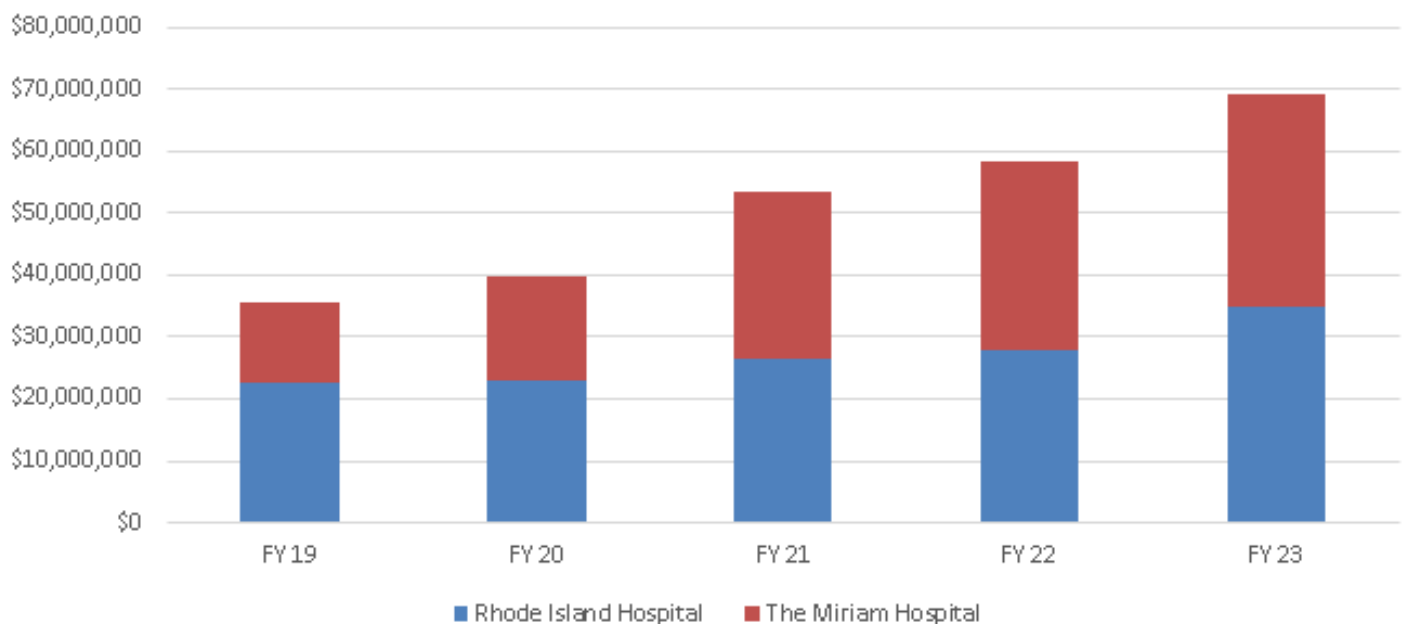
Brown University has long been regarded as a leader in all aspects of health care and teaching, including research. Leadership in the Department of Medicine including **Dr. Louis Rice**, Chairman for Medicine, and **Dr. Bharat Ramratnam**, Vice Chairman for Research in Medicine, strongly support research as part of the academic mission. Total research funding within the Department of Medicine at Brown affiliated hospitals (Rhode Island Hospital and The Miriam Hospital) increased by 2.5% in FY24 with funding of over \$70 million. Over 70% of funding comes from federal programs such as NIH, HRSA, CDC, and DHHS.

Laboratories are highlighted within the ‘Knowledge District’ in Providence. This enterprise involves key academic institutions including Brown University and Rhode Island Hospital.

The other major research facility for Brown University Health in the Knowledge district is the Galletti Research Building. Brown University has expansive research at the Ship Street and Elm Street facilities as well as the Warren Alpert Medical School located in the area.

Both basic and clinical research are well represented in the Department. For basic research, major strengths include the **Medical Oncology and Stem Cell Research Program** and the **Cardiovascular Research Laboratory**. Academic aspects to research include NIH funded T-32 Training grants in Infectious Diseases and Pulmonary/Critical Care. *(continued on next page)*

Department of Medicine
Research Growth
FY 2019 - FY 2023



The Department hosts two NIH supported COBRE center grants COBRE in **Stem Cell Biology** and the **Center for Opioids and Overdose Research**.

The Department of Medicine faculty publish greater than 700 peer reviewed publications yearly and are principal investigators of 188 research grants. A robust clinical research program led to nearly 2000 IRB applications with currently active clinical trials numbering greater than 200. A team of full-time biostatisticians, clinical trial coordinators and IRB navigators work closely with faculty and resident physicians to support the research enterprise.

Brown University and the affiliated hospitals are funded by a multi-million-dollar NIH CTR grant which will provide significant resources to strengthening the clinical research enterprises at all institutions through core resources and support. CTR along with the Department support IRB navigators and biostatistical support personnel for physicians and trainees (resident physicians, medical students and fellows) in the Department. An annual research symposium features keynote speakers (2024: Dr. Deborah Persaud Director of Pediatric Infectious Diseases Johns Hopkins) and abstract presentations by resident physicians.

The Department of Medicine conducts a significant amount of research related to health disparities and community engagement and outreach. Our major NIH funded research Centers, which include the Center for AIDS Research Advance-CTR and the COBRE on Opioids and Overdose all have strong community engagement and outreach components and many DOM investigators focused on health disparities. There is enormous interest and expertise on addressing the overlapping epidemics of substance use, overdose, infections, including HIV and HCV and mass incarceration. Teams go into the community and the correctional setting and work directly with people most at risk including those with a whole host of challenging psychosocial problems including addiction, mental illness, active injection drug use, HIV/AIDS and other challenges.

The DOM also has a strong focus on community engagement as it relates to the LGBTQ+ community, a historically underserved population. Several faculty members pursue research on addressing aspects of HIV/STI care and prevention, substance use, and mental health in this group.

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Basic Cardiovascular Research

Bum-Rak Choi, Ph.D. His research is aimed at elucidating cardiac arrhythmia mechanisms with the long-term goal of identifying potential new therapeutic targets and strategies to suppress malignant arrhythmias. His expertise lies in fluorescence imaging of cardiac action potentials and calcium transients from intact hearts and single cells, linking to arrhythmia mechanisms. His lab currently investigates the roles of APD dispersion in initiating arrhythmias in long QT syndrome using multi-disciplinary approach including action potential mapping from transgenic animal models of long QT syndrome, cell voltage clamp and confocal imaging from single cells, and computer modeling of cardiac action potentials and calcium handling. Dr. Choi's lab also investigates potential roles of myocyte-fibroblast coupling in genesis of cardiac arrhythmias including myocardial infarction. In collaboration with clinical electrophysiologists in Rhode Island Hospital, Dr. Choi's lab investigates identifying novel mechanotransduction targets to suppress atrial arrhythmias in patients with pulmonary hypertension. In addition, his lab aims at developing highly predictive preclinical models of drug-induced proarrhythmic risk using hiPSC-derived cardiac engineered microtissue systems in collaboration with Dr. Coulomb's laboratory at the Biomedical Engineering department of Brown University.

Gaurav Choudhary, M.D.'s focus of research is to evaluate the mechanisms underlying vascular, cardiac, and skeletal muscle dysfunction seen in pulmonary vascular diseases. His laboratory uses a variety of in vitro, ex vivo and in vivo approaches utilizing the preclinical models of pulmonary hypertension and emphysema. In clinical research, his team is attempting to characterize the role and impact of cardiac dysfunction in settings of lung diseases and study the epidemiology of pulmonary hypertension.

Jacob Joseph, M.B.B.S., M.D. His research broadly focuses on using Big Data to advance pragmatic innovations in clinical trials and precision medicine in heart failure. He is the PI or co-PI of multiple research projects including: Clinical Sites Core Co-PI and VA Network PI on the landmark PREVENTABLE trial testing the benefit of statins in primary prevention in older adults; PI of MVP065, a project that applies artificial intelligence and network medicine approaches to Big Data including cross-sectional and longitudinal healthcare data and genomic data to sub-phenotype heart failure with preserved ejection fraction; and MPI on a clinical trial that evaluates the safety and efficacy of probenecid in heart failure with reduced ejection fraction.

Anatoli Kabakov, Ph.D., explores molecular and biophysical mechanisms of membrane transport in cardiac myocytes and coronary arteries endothelial cells in normal and pathological conditions. He is interested in the effects of widespread mutations and effects of metabolic syndrome on functions of cardiac ion channels, cellular ionic homeostasis and heart function. His recent studies include investigation of 1) regulation of rabbit cardiac transient outward potassium current (I_{to}) and trafficking of corresponding Kv1.4 and

Kv4.3 channel proteins by E3 ubiquitin ligase rifylin (RFFL); 2) Function of small-conductance calcium-activated potassium channel in mice and patients with diabetes; 3) Regulation of cardiac Nav1.5 channel by LITAF via NEDD4-2 ubiquitin ligase. His current studies include investigation of 4) computational study of the effects of endogenous polyamines on human cardiac ventricular action potential waveform; 5) Analysis of the changes in blood plasma metabolites' profile during metabolic syndrome, ischemia, and drug administration.

Gideon Koren, M.D. He is interested in understanding the pathogenesis of cardiac arrhythmias through four main lines of investigation: 1) Mechanisms that underlie the increased prevalence of sudden cardiac death (SCD) in aged humans. The laboratory studies cardiomyofibroblasts senescence after myocardial infarction in aged rabbits. These studies may lead to the discovery of novel therapies for SCD; 2) Investigation of the transcription, trafficking, localization and degradation of voltage-gated ion channels in the cardiomyocytes and the effect of sex hormones on these processes. Specifically, the laboratory is studying the roles of three ubiquitin ligases (RNF207, LITAF and RFFL) in ion channels trafficking and degradation; and 3) Creation and characterization of genetically modified large animal models for studying sudden cardiac death. The laboratory is characterizing the arrhythmogenic phenotype of novel transgenic rabbit models of long QT syndrome (LQT) including LQT type 1, type 2 and type 5. The laboratory is now involved in developing gene therapy to treat long QT syndrome. 4) Finally, the laboratory is investigating the role of atrial cell senescence in atrial fibrillation in the aged rabbit and aged human hearts.

Glenn Radice, Ph.D. His lab is interested in identifying novel genetic modifiers of heart disease. The project has two parts: 1) screen NIH dbGaP databases for novel genetic interactions associated with heart disease, 2) using genetically engineered mice to functionally validate a genotype-phenotype association identified in a family. The resident will assist with the histological, molecular, and functional characterization of the mutant mouse hearts.

Karim Roder, Ph.D. His research focuses on the role of (de)ubiquitination in cardiac excitation and disease. He is interested in delineating the molecular mechanisms of novel ubiquitin ligases, adapter molecules, or deubiquitinases affecting membrane proteins that underlie action potential duration and conduction velocity. He also shows interest in gene-specific therapy for congenital long QT syndrome using a rabbit model of long QT syndrome type 2 (LQT2).

Wenliang Song, M.D., F.N.L.A., is the Director of Lipid Research at the Cardiovascular Research Institution. His research program is highly translational, spanning patient registries, clinical studies, and bench laboratory work in biochemistry, analytical and organic chemistry, cell and molecular biology, and murine models, all centered on cardiovascular diseases. His laboratory explores the complex interaction of bioactive lipids and lipoprotein particles, par-

ticularly HDL and lipoprotein (a), as well as synthetic lipoproteins as nanoparticles for drug delivery. Additionally, they investigate oxidized phospholipids, dicarbonyl scavengers, and the mechanisms behind omega-3 fatty acid supplementation for the cardiovascular system. His research is supported by the National Institute of Health. His well-equipped lab includes cutting-edge tools like platelet aggregometers, rt-PCR machines, and a state-of-the-art Sciex 7500 Mass Spectrometry.

Clinical and Translational Research

Electrophysiology

Estelle Torbey, M.D. Currently involved in investigating the role of supervised exercise post atrial fibrillation ablation and whether it could decrease atrial fibrillation burden beyond ablation effect. Also interested in ventricular arrhythmias in cardiac sarcoidosis for which we are collaborating in a multicenter registry to determine further the prognosis and risk factors of arrhythmias in that population. In addition, her interest involves using artificial intelligence to map the atria during ablation of atrial fibrillation and target specific areas of dispersion for ablation.

Interventional Cardiology

J. Dawn Abbott, M.D. Clinical researcher in interventional cardiology. She is the site P.I. on the several studies examining the use drug eluting balloons for in stent restenosis, small vessels and emerging indications such as complex lesions. She also has an interest in observational data and assessing the landscape of current interventional practice using quality and administrative datasets.

Paul C. Gordon, M.D.'s research interests include evaluating therapies and novel devices for coronary and structural heart disease. His current research focuses on transcatheter aortic valves and left atrial appendage occlusion devices. Ongoing trials include the management of stable angina and CAD post TAVR with either PCI or medical therapy (COMPLETE TAVR), the CONFORM Trial of a novel LAAO device, and a trial of anticoagulation and antiplatelet therapy in LAAO. He also is investigating a novel device to treat systolic heart failure patients: Clinical Evaluation of the AccuCinch® Ventricular Restoration System in Patients Who Present With Symptomatic Heart Failure With Reduced Ejection Fraction (HFReEF): The CORCINCH-HF Study.

Peter A. Soukas, MD, FACC, FSVM, FSCAI, FACP, RPVI; Dr. Soukas's clinical research focuses on advanced treatments for arterial and venous disease. He has been a site PI on over 150 clinical trials including 27 carotid stent trials. He was the global site PI for the RELIME MAX trial and is the national co-principal investigator for the upcoming Shockwave carotid stent trial and the Contego Medical Neuroguard post-approval study. Dr. Soukas has been a peripheral vascular fellowship director for over 20 years. Among the several enrolling current research projects are: the AVS POWER PAD study evaluating a novel CO₂-based intravascular lithotripsy platform, the r3Vascular sirolimus

bioresorbable scaffold for CLTI patients, the Cordis sirolimus drug eluting balloon for the treatment of below knee chronic limb threatening ischemia, and the Gore Viafort iliac vein stent trial.

Non-invasive Cardiology & Cardiovascular Imaging

Brian G. Abbott, M.D., F.A.C.C., M.A.S.N.C., F.A.H.A. His clinical and research interests are cardiovascular imaging in the area of nuclear cardiology.

Christina Al Malouf, M.D., is a clinical cardiologist. Her research interests revolve around geriatric cardiology and improving cardiovascular care in older adults, with a particular interest in heart failure with preserved ejection fraction and outcomes research.

Karen Aspry, M.D., M.S. Dr. Aspry has clinical and research interests in cardiovascular disease prevention and population management of lipoprotein (cholesterol) disorders. She conducts industry-sponsored lipid trials, and small clinical research projects in the areas of familial hypercholesterolemia, and diet interventions to reduce ASCVD risk.

Michael Atalay, M.D., Ph.D., has clinical and research interests in cardiac amyloid, atrial septal defects, pulmonary embolism, acute aortic syndromes, and the modalities of MRI and CT. Specific active research projects include: (1) Evaluating the potential utility of non-ECG gated contrast CT for detecting cardiac amyloidosis and other non-ischemic cardiomyopathies, (2) Correlating imaging biomarkers with outcomes in patients with type A aortic dissection, (3) Correlation of anatomic metrics with ASD shunt severity, and (4) Using vessel density values on CTPA to estimate cardiac output.

Katharine French M.D., M.P.H., F.A.C.C., Clinical interests include cardiac disease in women, echocardiography and valve disease with expertise in structural echocardiography. Current research activities: Principal Investigator for the multicenter HOPE Registry. In collaboration with maternal fetal medicine, we are collecting epidemiologic, outcomes and management data on cardiac disease in pregnancy. Investigator for the REBIRTH study - a multisite study evaluating the effect of bromocriptine for treatment of peripartum cardiomyopathy. This study is in the patient enrollment phase. Additional research interests include ANOCA (Angina with Non-Obstructive Coronary Artery Disease).

Philip G. Haines, M.D., M.P.H., M.S., FASE, MRCP He is the Director of Structural and Interventional Echocardiography at Brown and Associate Director of the Echo Lab. His research interests include myocardial mechanics, left ventricular, right ventricular, and left atrial strain imaging, and advanced 3D echocardiography. He directs several collaborative echocardiography research programs and projects with the Brown Divisions of Neurology and Pulmonary and Critical Care with a focus on left atrial strain in patients with different stroke subtypes and in patients re-

quiring mechanical ventilation in the ICU. These projects have resulted in multiple abstracts presented at national scientific society meetings including the American College of Cardiology (ACC), American Society of Echocardiography (ASE) and the American Stroke Association (ASA). These projects have also resulted in manuscripts accepted and published in peer reviewed journals. Dr Haines is also a clinical and research Brown mentor for Brown Medical Students, Internal Medicine Residents, and Cardiology Fellows providing mentorship and training in strain research, advanced echocardiography, 3D echocardiography, structural and interventional echocardiography and research program design and implementation.

Eddie Hulten, M.D., M.P.H., F.A.C.C., F.A.C.P., F.A.S.N.C., F.S.C.C.T., F.S.C.M.R. His research focuses on the interplay of cardiovascular imaging, clinical cardiology, artificial intelligence, and public health epidemiology. He has previously served as a clinical and research collaborator at the National Institutes of Health investigating technical and translational cardiac magnetic resonance imaging (MRI) methods. He recently led the echocardiographic evaluations on an external protocol investigating comprehensive exercise stress echocardiography in subjects recovered from covid-19 infection. He has been the senior author directing numerous meta-analyses, most recently evaluating comprehensive coronary computed tomography angiography among persons living with HIV. Current interests at Lifespan CVI and Brown University include cardiac computed tomography image processing, cardiac MRI image processing and sequence development, observational study of cardiovascular imaging, publishing teaching cases of advanced cardiac imaging techniques to improve patient outcomes, military medicine and Veterans' healthcare, sarcoidosis amyloidosis HCM and other infiltrative cardiomyopathies, quality improvement and cost-effectiveness, quantitative myocardial perfusion imaging by MRI and Nuclear imaging, database analysis and meta-analysis.

Matthew Kluge, M.D. His research includes the natural history and underlying mechanisms of recurrent pericarditis.

Yash Patel, M.D, M.P.H. His research interests include the role of cardiac MRI in various cardiomyopathies including myocarditis, amyloidosis, and valvular heart disease. Dr Patel have developed rich database of myocarditis, Lyme carditis, amyloidosis, and valvular heart disease across Brown Health over the last 20 years. Dr. Patel's research projects include the following: Cardiac MRI Phenotypic characteristics and its prognosis to long term cardiovascular outcomes in myocarditis; hypertrophic cardiomyopathy, valvular heart disease, and other cardiomyopathies.

Athena Poppas, M.D., M.A.C.C., F.A.S.E. She is conducting studies focused on echocardiographic evaluation of valvular heart disease and heart disease in women. She is a site Principle Investigator on NHLBI study in peripartum cardiomyopathy and Co-Investigator for cardiac analysis for NHLBI Pregnancy and Post-Acute Sequelae of SARS-CoV-2 (PASC). She participates in a number of investigator-

initiated projects in conjunction with the anesthesia and maternal fetal medicine as well. The echocardiography database is a resource for pilot projects for numerous residents and fellows.

Elena Salmoirago-Blotcher M.D., Ph.D., F.A.H.A., is interested in the study of behavioral strategies for the promotion of cardiovascular health (physical activity, medication adherence) in patients with, or at risk for, cardiovascular disease. She also conducts research on stress (takotsubo) cardiomyopathy as a model for the study of the complex interactions between psychological factors, reproductive factors and acute CV conditions in women. She collaborates with the Women's Health Initiative (WHI) study and can assist residents interested in exploring research questions related to psychosocial factors and CV disease using the WHI AND OTHER datasets.
<https://vivo.brown.edu/display/esalmoir>,
<https://sites.brown.edu/mindheartlab>

Nishant R. Shah, M.D., M.P.H. is the Director of Nuclear Cardiology at Lifespan. His clinical and research expertise involves using automated intelligence to improve diagnosis of coronary artery disease, transthyretin cardiac amyloidosis, and other common cardiac diseases.

Kayle Shapero M.D., Ph.D. She has a clinical focus on cardio-obstetrics and women's cardiology. Her more recent work has been in the field of endocarditis in pregnancy, and assessment of determinants of maternal and fetal outcomes. Given the limited data in the field of cardio-obstetrics she is interested in creating registries involving pregnant and postpartum patients. She is particularly interested in those patients with hypertensive disorders of pregnancy, and how interventions addressing both blood pressure control can impact cardiovascular outcomes and subsequent pregnancies. This spring she started a joint Post Partum Hypertension Clinic in conjunction with MFM at WIH to treat and assess interventions in this cohort of patients.

Christopher Song, M.D., F.A.C.C., His clinical and research interests include examining echocardiographic markers in stroke, cardiomyopathy, and arrhythmias, consultative cardiology, and echocardiography. Dr. Song ongoing studies are Left atrial strain as a predictor of stroke subtype (clinical), Broken heart study: examine echocardiographic markers in stress-induced cardiomyopathy (clinical) and examine the effects of fisetin on cell senescence and left atrial function in rabbits (translational).

Wen-Chih Hank Wu, M.D., M.P.H. He has conducted research work in the areas of cardiovascular and diabetes epidemiology and outcomes with focus on system redesign to prevent adverse cardiovascular outcomes. He receives research grant funding from the VA Merit Review, NIH and the Department of Defense (DoD). He is currently conducting an observational study investigating the long term cardio metabolic outcomes of anti-psychotic use in patients with PTSD. He is also actively working with students and residents on cardiac rehabilitation projects.

Cardiology (cont.)

Heart Failure and Transplantation

Jessica Guidi, M.D. Her research interests include quality improvement in the care of heart failure patients, including measures aimed at reducing hospital readmissions and optimization of guideline directed medical therapy. She is also involved in an industry study investigating a novel BNP assay.

Rachna Kataria, M.D. Her research interests and expertise include the diagnosis and management of cardiogenic shock with a focus on temporary mechanical circulatory support, myocardial recovery, and building collaborative networks of cardiogenic shock care, as well as patient selection and management of durable mechanical circulatory support in advanced heart failure. She currently serves on the executive steering committee of the Cardiogenic Shock Working Group (NCT04682483), an international academic research consortium. Since August 2024, she has led the cardio-oncology clinic at the RIH center for advanced cardiac care.

Daniel J. Levine, M.D. Clinical research interest in advanced heart failure and transplant having completed multiple multi center clinical trials. Additional areas of interest include infiltrative disease including amyloid.

Endocrinology, Diabetes and Metabolism

Vicky Cheng, MD – Evaluates health outcomes in individuals with diabetes. Projects include evaluating outcomes in individuals with renal disease hospitalized with diabetes as well as assessing therapeutic options for individuals with eating disorder and diabetes.

Amanda Fernandes, MD – Projects related to transition of care and reducing rate of hyperglycemia and hypoglycemia in the inpatient setting are under investigation. Other areas of interest include investigational drug trials related to both common and rare endocrine disorders such as diabetes and congenital adrenal hyperplasia.

Geetha Gopalakrishnan, MD – Evaluates quality of care and health outcomes in individuals with diabetes. Projects include evaluating the status of and developing strategies to improve glycemic control, vaccinations and health outcomes in individuals with diabetes. Also collaborates on investigational drug and device trials for the treatment of diabetes and endocrine disorders.

Gastroenterology

Kittichai Promrat, MD – Interests are in the natural history and therapy of chronic liver diseases, in particular hepatitis B, C and metabolic dysfunction associated steatohepatitis (MASH). Research efforts involve the roles of lifestyle modifications, weight management, insulin resistance and obesity in the pathogenesis and management of fatty liver disease. Other areas of research interest include colorectal cancer screening using mailed FIT and liver related topics.

Harlan Rich, MD – Clinical interests are in Esophagology with an emphasis on gastroesophageal reflux disease, as well as general gastroenterology (including colorectal cancer screening, peptic ulcer disease, and irritable bowel syndrome). Current research is investigating the role of navigation in enhancing colorectal cancer screening and assessing the role of anesthesia-supported vs. gastroenterologist provided sedation in endoscopic outcomes. We have expanded the role of technology in clinical gastroenterology via the use of ambulatory telemetric pH and capsule endoscopy devices and published datasets to support machine learning and artificial intelligence in capsule endoscopy interpretation. Past research included creating a database on a large Barrett's surveillance population, studying the acute effect of esophageal acid perfusion on esophageal motility and LES function in humans, and studying genomic alterations in Barrett's epithelium.

Sean Fine, M.D., M.S. – I have a strong passion for caring for and treating patients with inflammatory bowel disease. My research focus is on improving patient outcomes and understanding real world practice strategies to optimize care. I also have interest in understanding how IBD impacts patients lives and how to ensure patients can get back to their daily routine, notably in high performing athletes. Lastly, I am focused and interested in management of “transition of care” whether it be from pediatric transition or taking over care of a patient from another provider and understanding the potential barriers that may be encountered during this sensitive time to gain data to be used in health outcomes and changing clinical practice models.

Steven Moss, MD. My main research and clinical interests are in the pathogenesis and management of H. pylori infections, especially in relation to gastric carcinogenesis. Current research revolves around the utility of H. pylori antibiotic resistance testing by next generation sequencing to help tailor treatment decisions in refractory cases. We are initiating a national registry of H pylori management, to join a global effort to document and thereby improve H pylori eradication rates.

Bryce Perler, MD, MSTR is interested in how our food system interfaces with health and disease. He approaches this from several different angles including sustainability of food systems, food as medicine/personalized nutrition, and food waste mitigation platforms. He has several nutrition interventions focusing on increasing food and vegetable consumption to improve health and reduce carbon emissions. He is developing novel platforms to integrate personalized biometrics and biomarkers to better understand cardiometabolic responses to different meal composition. Dr. Perler is

Gastroenterology (cont.)

utilizing these biomarkers to develop unique clinical and research digital biobanks that will allow for higher level personalization based on specific needs of patients. He is also deeply involved in food waste mitigation and has championed efforts at Rhode Island Hospital to expand composting into the cafeteria.

Li Wang, MD MHA is interested in all areas of general gastroenterology and IBD, with an emphasis on outcomes-based research and quality improvement. She has been involved in a variety of published studies, including optimizing bowel preparation and a multi-center study developing a scoring system to predict positive diagnosis on capsule endoscopy for small bowel bleeding. She has ongoing research projects relating to GLP-1 and SGLT2 use, colorectal cancer, gastric ulcers, and post-surgical GI bleeding.

Amer Malik, MD, is focused on improving the safety and sustainability of endoscopy practice through ergonomics. His work investigates the prevalence, risk factors, and biomechanical mechanisms of musculoskeletal injuries among endoscopists, with the goal of designing evidence-based interventions that minimize occupational harm. He is currently developing and testing ergonomics training programs, incorporating posture analysis, optimal room setup protocols, and behavioral strategies to reduce physical strain during procedures. In addition, he explores how artificial intelligence can augment gastroenterology practice by improving diagnostic accuracy and workflow efficiency, with an emphasis on the ethical, safety, and governance aspects of AI in clinical practice.

General Internal Medicine

Stephanie Catanese, MD She speaks Spanish fluently and predominantly cares for Latinx patients. Her clinical and scholarly areas of interest include training general internists with a focus on sports medicine and diabetes. Other interests include physician well-being, resident professional development, and primary care curricular development.

Brandon del Pozo, PhD, MPA, MA focuses on the interface between policing, the justice system, the health of people who use drugs, and reducing the prevalence of fatal overdose. His interests include studying the decriminalization of opioid addiction medications and utilizing police interactions with people who use drugs as a linkage to treatment and harm reduction services rather than arrest.

Kyla Dewar MD is interested in the implementation and effectiveness of shadowing as a tool to support underrepresented in medicine pre-college and college student on the path to medical school.

Christine Duffy MD MPH is interested in cancer survivorship including models of care, survivorship curriculum

General Internal Medicine (cont)

development for residents and faculty, and the impact of lifestyle changes in cancer survivors. She is also interested in quality improvement projects at the Fain Primary Care clinic having worked on QI projects including improving advance care documentation, diabetes management and heart failure management with residents.

Rebekah Gardner, MD is interested in medical education, reducing bias in written assessments, and peer mentoring in academic medicine. She also collaborates on statewide public reporting of physician use of health information technology and the impact of technology on workflow and stress.

Meghan Geary, MD has clinical and research interests in women's health and addiction. Her primary care practice includes refugee patients and women who are in a residential treatment for substance use disorder.

Jennifer Jeremiah, MD is interested in medical education, specifically in the areas of remediation, promotion of learner success and faculty development to improve evaluation of and feedback to learners. She has presented on these topics at AAIM/APDIM (Alliance for Academic Internal Medicine/Association of Program Directors in Internal Medicine). She chairs the Department of Medicine Residency Clinical Competency Committee and is the Director of Faculty Development in Clinical Education. Dr. Jeremiah also is interested in promoting resident and practicing physician well-being and serves as the Wellness Champion for the State of Rhode Island ACP (America College of Physicians) Chapter.

Hussain Khawaja, MD is interested in medical education with a focus on inpatient medical care, including quality improvement projects and curriculum development.

Kelly McGarry, MD, MACP (she/her) has research interests in women's health, LGBTQ+ health and medical education. She has written numerous review articles in women's health and with the Program Directors' Survey Committee on issues in medical education.

Suzanne McLaughlin, MD MSc is interested in patient-centered medical home activities and resident learning in the continuity clinic environment. Her medicine-pediatrics colleagues and she have active research/QI projects in: SBIRT (Screening, Brief Intervention and Treatment) for adolescent substance use in primary care, Integrated Behavioral Health (use of mental health screening tools and access to behavioral health services), and are part of a national collaborative of MedPeds residency programs to develop curriculum and evaluation tools for training residents in health care transition.

Melissa McNeil MD MPH: Dr McNeil is interested in medical education research, women's health, and faculty development. She has published extensively on both women's health education and curricular innovation.

Matthew Murphy, MD, MPH conducts research on effective approaches to prevent HIV acquisition among incar-

General Internal Medicine (cont)

cerated populations as they return to the community as well as other communities disproportionately impacted by the HIV epidemic.

Ju Park, PhD, leads the Harm Reduction Innovation Lab and conducts research on harm reduction interventions to detect and prevent drug overdose deaths. Priority areas include Drug Checking Programs, Harm Reduction Centers, and Overdose Detection Technologies.

Susan Ramsey, PhD conducts research aimed at developing and testing behavioral interventions to improve health. Current areas of focus include initiating PrEP among at-risk women (including those with criminal legal involvement), improving HIV medication adherence, elucidating the impact of alcohol use and intimate partner on HIV care among men who have sex with men, and using technology to promote recovery from opioid use disorder among those with a history of criminal legal involvement. In addition, she serves as a co-investigator or mentor on multiple NIH-funded studies focused on opioid use disorder and overdose risk reduction.

Maggie Salinger, MD, MPP, MPH (she/her) is a clinician-investigator whose interests in research, medical education, and advocacy are focused on improving healthcare quality and access for people with disabilities or serious illness.

Mindy Sobota, MD MS completed a General Medicine Fellowship at Montefiore and received a master's in research. She speaks Spanish fluently and predominantly cares for Latinx patients. Her areas of clinical and research interest include training general internists to provide comprehensive primary care, including outpatient orthopedic procedures and comprehensive family planning, including IUDs, implants, and medication abortion.

Sarita Warriar, MD has an interest in medical education research, currently participating in two federally funded grants focused on social determinants of health education and weight management counseling skills for medical students. She is one of the co-directors of the Clinician Educator Track for internal medicine residents and is the director of the medical education elective month, which helps residents implement educational innovations and improve teaching skills.

Geriatrics and Palliative Medicine

Stefan Gravenstein, MD, MPH - Research foci include infection, immunity, inflammation, vaccine response, antiviral use, and improving care transitions and quality of life in older adults. Current projects evaluate the influence and effects of diseases and vaccines relating to COVID-19, influenza, and RSV within long-term care facilities. He is also evaluating sensor technologies to improve early diagnosis and quality of life. He collaborates with a diverse group of investigators at other universities in the US and abroad. Dr. Gravenstein has funding from the Centers for Disease Control, Atlanta, NIH, and health services research to apply cluster-randomization of nursing homes to evaluate effectiveness of vaccines and antivirals supported by the pharmaceutical industry.

Thomas Bayer MD, ScM - Is interested in the implementation, adaptation, and evaluation of care management programs for persons living with dementia. He has prospectively studied mobile application usability in patients of the Brown Medicine Geriatrics practice, and he collaborates in several observational research studies using large health datasets at the Providence VA and the Brown University School of Public Health.

Richard W. Besdine, MD - former Division Director and former Director of the Center for Gerontology and Health Care Research, stepped down from leadership three years ago. He currently teaches extensively, mentors residents and fellows, and participates in several of Dr. Gravenstein's research projects, mostly related to Covid-19.

Julio Defillo-Draiby, MD MBA - Passionate about system changes for preventing geriatric syndromes in short and long-term care and caregiver support services. A believer in teamwork and value-based care interventions where the patient is at the center of the discussion. His recent publications and current research work examine the impact of geriatric-led interdisciplinary teams to optimize care for older adults while decreasing overall costs.

David M. Dosa, MD, MPH - Research focus is on improving the care of frail older adults receiving community and institutional long-term care. He is involved principally with NIH related research. Dr. Dosa has mentored multiple junior faculty members on their K awards and VA based Career Development Awards. Ongoing projects with involve understanding the effect of heat/cold on prison populations, developing optimal strategies for managing frail elders during disasters, determining the importance of food insecurity on Veterans, and improving antibiotic stewardship. Dr. Dosa has recently taken a position at UMass as Division Chief where he will continue his research pursuits.

Lynn McNicoll, MD - Research focus includes delirium, quality improvement within hospitalized older adults and nursing homes, and geriatric-surgical co-management. She is actively involved in the Hartford Foundation AGS Co-Care: Ortho Dissemination project which aims at assisting institutions in implementing Fragility Fracture co-

Geriatrics and Palliative Medicine (cont)

management programs. Additionally, Dr. McNicoll's most recent publishing's speak on the topic of implementing the geriatric-orthopedic co-management program in the US and internationally.

Nadia Mujahid, MD - Is the Co-Director of the Geriatric Fracture Program at Rhode Island Hospital and is the Chair of Geriatric Surgical Co-management Interest Group at the American Geriatric Society (AGS). She has focused her efforts on reducing the length of stay, inpatient mortality, and readmission rates for elder adults, especially those who suffer from hip fractures. Her research interests include surgical co-management, osteoporosis, and transitions of care.

Iva Neupane, MD - Is the Leader of the Geriatric - Trauma Co-management at Rhode Island Hospital and is the Associate Program Director of the Geriatric Medicine Fellowship Program. She has focused her efforts on reducing mortality and inpatient length of stay for older adults who are admitted with trauma. Her research interests include surgical co-management, falls, rib fractures, and frailty. She is a Co-Director of Scholarly concentration in Aging at Brown medical school.

Takeena Raza, MD - research interests also include the assessment of frailty in very old cancer patients to determine their fitness for toxic treatments like chemotherapy. She recently published an article in the local journal related to this topic. She is also working on a manuscript exploring the duration of a hypercoagulable state after SARS-CoV2 infection in older adults living in a nursing home. Posters for abstracts for the above were presented in the American Geriatrics Society in May 2023.

Mriganka Singh, MD - Dr. Mriganka Singh is a geriatrician, an Associate Professor of Medicine within the Departments of Medicine and Health Services, Policy & Practice at Brown Schools of Medicine and Public Health respectively. After completing a fellowship in Geriatric Medicine at Brown University in 2012, Dr. Singh joined the faculty of Medicine at the Warren Alpert Medical School of Brown University. She launched the Geriatric Trauma Co-management program at Rhode Island Hospital, a first in the United States. This is a model of care which has since its launch, been shown to improve outcomes for vulnerable older adults. Over the past 12 years across two institutions, she has launched and led a number of Geriatric Co-management programs including Geriatric Trauma (RIH & University Hospital system Cleveland), Geriatric Heart Failure, Geriatric Fragility fracture and Geriatric Renal transplant (University Hospital system, Cleveland). Currently, she serves as the Director of the Geriatric-Elective Joints Co-management Program at Lifespans' Miriam Hospital. She also continues to work towards improving the care of hospitalized older adults through her involvement with and leadership on quality improvement initiatives at Lifespan. These include optimization of medications, falls, mobility and delirium under the umbrella of Lifespan systems' Age Friendly

Health system program. These areas provide opportunities for research and education for a variety of learners. Additionally, she is an investigator at the Providence VA -LTSS COIN center with a focus of research on veterans with heart failure. She also leads the VA based, year long health services focussed research program for Geriatric Medicine Fellows.

Mitchell Wice, MD - Research focuses on a specific Veteran's cohort of heart failure patients and the care they receive if they utilize palliative care.

Yasin Abul, MD - Long-standing interest in pulmonary vascular and respiratory diseases from a risk stratification, biomarker, and health services research perspective and in the context of aging and immunosenescence, vaccinations. Dr. Abul's recent focus has been on COVID-19 infection in the context of pulmonary complications, surveillance, prognosis, risk stratification, vaccination, and immunosenescence in the elderly population. Ongoing and recently completed/contributed projects/manuscripts include:

- The second monovalent SARS-CoV-2 mRNA booster restores Omicron-specific neutralizing activity in nursing home residents and healthcare workers.
- Comparative Effectiveness of Baloxavir versus Oseltamivir for Influenza Outbreak Management in U.S. Nursing Homes
- Association of mortality and aspirin use for COVID-19 patients at the VA Community Living Centers
- Low-cost wearable devices for early SARS-CoV-2 infection detection pilot study

Rohit Tyagi, MD - Interest in clinical research with a focus on neurosurgery co-management and quality improvement projects in transition of care.

Aman Nanda, MD - Is a Co-Investigator on three current studies, Comparative Effectiveness of Baloxavir versus Oseltamivir for Influenza Outbreak Management in U.S. Nursing Homes, (Baloxavir), Comparative Effectiveness of Recombinant Influenza Vaccine versus Standard Dose Quadrivalent Influenza Vaccine in U.S. Nursing Homes, (Flublok), and Characterizing the Duration of Vaccine-induced Immunity in Nursing Home Residents (CDC).

Olimpia Radu, MD - Research interests are sleep in the elderly, sleep disorders and cognitive impairment, pulmonary disease in older adults especially in out-patient and in long-term care settings.

Ashna Rajan, MD - is an Assistant Professor of Medicine, in the Division of Geriatrics and Palliative Medicine, a health services researcher, and is a fellowship trained geriatrician and palliative care physician. Dr.

Geriatrics and Palliative Medicine (cont)

Rajan is a co-management specialist working with colorectal/general and vascular surgery teams. Her research interests include postoperative delirium, safety profile of postoperative analgesia for older adults as well as being a core mentor of the Geriatrics fellowship research group.

Carla Williams, MD – has recently joined the faculty in July and is looking forward to partaking in the department's research goals and ventures.

Hematology & Oncology

The division of hematology/oncology is involved in clinical research, populations based research and basic laboratory research:

Khaldoun Almhanna, MD, is developing novel investigator initiated studies in liver cancer.

Alvarro Alvarez-Soto, MD, is our solid tumor hospitalist at RIH. He is involved in breast cancer prevention and genetic risk assessment. He is involved in Community Outreach with the Dominican Community of Providence.

Christopher Gerald Azzoli, MD, is involved in clinical research in lung cancer. He is a leader in the American Society of Clinical Oncology establishing clinical care guidelines. He is also involved in developed new therapies for lung cancer.

Benedito Carneiro, MD, is the leader of clinical cancer research at the Lifespan Cancer Institute. He is involved in immunotherapy, antibody drug conjugates and signal transduction targeting. He is collaborating with basic scientists at Brown University on DNA repair to develop new combinations of agents such as combining a PARP inhibitor with a PI3 kinase inhibitor.

Adel Chergui, MD – Involved in research and patient outcomes.

Kathryn DeCarli, MD – Involved in research in palliative care and head and neck cancer

Don Dizon, MD is evaluating immunotherapy and PARP inhibitors in GYN cancers. Dr. Dizon is a world leader in researching on-line communication, digital health and patient reported health outcomes.

Mary Anne Fenton, MD, is involved in quality outcomes. Her assessments have been presented at major national meetings. She studies methods to increase the use of the American Society of Clinical Oncology Quality Improvements within practices.

Stephanie Graff, MD is an expert in breast cancer clinical research. She is also an expert in community outreach and the use of social media.

Hematology & Oncology (cont)

Matt Hadfield: Is involved in research in phase I clinical trials and melanoma

Emily Hsu, MD is involved in breast cancer research. She is also involved in cancer screening in the Asian community of Providence

Hina Khan, MD is involved in lung cancer research that focus on immunotherapy. She is also involved in populations research in lung cancer etiology. She is doing outreach at Blackstone Valley Community Health Cancer

Humera Khurshid, MD has initiated a geriatric oncology program at RIH. This is a multidisciplinary program involving oncology, geriatrics, nutrition and pharmacology. She is also involved in research in small cell lung cancer.

Boris Martinez, MD- Dr. Martinez is a GYN and sarcoma oncologist. Recinos is involved in outreach to the Guatemala community. He is also a leader of the Future Gen Cancer scholars program

Anthony Mega, MD. His research involves studying immunotherapy in GI cancer.

Rabin Niroula, MD is involved in MDS and patient outcomes research in hematologic malignancies.

Tom Ollila, MD is involved in research in CNS lymphomas. He is also in involved in research on COVID and hematologic malignancies.

Adam Olszewski, MD performs analysis of large databases and populations based research. He is principal investigator of multiple studies involving antibody drug conjugates for lymphoma. He is also leading our clinical research study of allogeneic CAR-T cells.

Ari Pelcovitz, MD is working to develop a CAR-T therapy program at Lifespan and involved in patient outcomes research.

Alex Raufi, MD is involved in investigator initiated research in gastric and esophageal cancer. He is also involved in laboratory correlative studies of new agents to protect against the development of colon cancer. His laboratory develops organoids and uses these as a model for chemosensitivity

John Reagan, MD has been investigating cellular immune therapy for refractory leukemia and lymphoma. He is studying whether host tolerance to cancer is reversed by stem cell rejection. He leads important clinical studies in cellular therapy.

Sherise Rogers, MD, is a GI oncologist. She is the division leader in community outreach and engagement (COE).

Howard Safran, MD – Division Director: He is involved in investigator initiated studies in esophageal cancer, and participates in biotech trials of immunotherapy and targeted therapies and has been the lead researcher in first-in-man trials. Dr. Safran is also involved in popula-

Hematology & Oncology (cont)

tions based research as well as programs that extend to the community. These include the 1). Future Gen Cancer Scholars program for minority public high school students in Providence Central Falls and Pawtucket. 2). Cancer Screening for the Homeless. 3). Case Control study in bladder cancer.

Jeremy Warner, MD, His work organizes and analyzes the massive amount of data in oncology records. He is the developer of the Hemeonc.org website. He receives funding from the NCI on multiple projects.

Eric Wong, MD is developing new treatments for brain tumors and brain metastases.

BASIC RESEARCH

The Hematology/Oncology Division has a broad basic research portfolio.

Dr. Wafik El Deiry, MD, PhD His laboratory is involved in multiple aspects of translational research including new cancer drug development, apoptosis, novel cancer targets, immunotherapy and organoids.

Patrycja Dubielecka-Szczerba, PhD, is working on approaches to reverse resistance to tyrosine kinase inhibitors in chronic myelocytic leukemia and more recently on a unique model of murine myelofibrosis. This latter model is unique and opens unique potential for understanding myelofibrosis and developing new therapeutic strategies to treat this disease.

Sicheng Wen, PhD He is studying the capacity of mesenchymal stem cell derived vesicles to reverse radiation damage to marrow and to treat murine models of aplastic anemia.

Dr Olin Liang is studying the role of microenvironment in supporting normal and malignant hematopoiesis and the impact of aging on the marrow microenvironment.

Robert Sobel, MD: Dr. Sobel is an expert in studying how DNA damage causes cancer. He has major funding from the NCI.

Dr. Sendurai Mani: Dr. Mani is studying the use of immunotherapy to target the epithelial to mesenchymal transition.

Infectious Diseases

Antimicrobial Drug Discovery Groups in our Division are working to identify new classes of antimicrobials with antivirulence or immunomodulatory efficacy and evaluate toxicity/efficacy.

Global Health The Global Health Initiative (<http://brown.edu/initiatives/global-health>) is a multidisciplinary university-wide effort to reduce health inequalities among

Infectious Diseases (cont)

underserved populations locally and worldwide through education, research, service and development of partnerships with communities and institutions in Africa, India, Southeast Asia, the Caribbean, and the Pacific.

HIV/AIDS The Division has an in-depth focus in the area of HIV/AIDS. The NIH funded Providence/Boston Center for AIDS Research (www.provboscfar.org), based at The Miriam Hospital supports laboratory and clinical HIV prevention and treatment research.

The AIDS Clinical Trials Unit (ACTU) at The Miriam Hospital/Brown conducts clinical trials in HIV-infected adults to test novel therapeutic interventions focused on HIV-associated inflammation and resulting end-organ disease, tuberculosis, viral hepatitis and HIV cure.

Health Disparities, Advocacy and Policy The Center identifies, initiates, and supports projects that respond to the epidemic of incarceration and recidivism in the criminal justice system and the associated complex public health crisis. Additional opportunities are available in the following areas: Infection Prevention and Control, Mycology, Sepsis Research, Sexually Transmitted Diseases, Travel Clinic, Transplant and Oncology (“Immunocompromised Host”) Infectious Diseases, COVID-19

Curt G. Beckwith, MD conducts NIH-funded research related to HIV and viral hepatitis among at-risk populations, including persons involved with the justice system and substance users. Research interests include novel testing approaches for HIV and viral hepatitis and development and implementation of interventions to improve adherence to HIV treatment and care. Dr. Beckwith is the Associate Director of the Providence/Boston Center for AIDS Research and directs the Collaborative Justice-Involved Research and Training Program on Substance Use and HIV at Brown University Health.

Angela Caliendo, MD, PhD’s research has focused on the development of molecular diagnostic tests for the detection and quantification of infectious diseases and assessment of their clinical utility; molecular testing in transplantation; standardization of viral load testing; and providing HIV viral load testing on unusual specimen types for a variety of clinical studies. Currently Dr. Caliendo is involved in supporting several CFAR researchers across the nation by providing HIV-1 DBS testing service using the Abbott m2000 HIV-1 DBS quantitative assay. New devices for home/remote blood collection, such as Mitra (Neoteryx) and Tasso (Tasso, Inc.) for collecting dried blood specimens for HIV-1 testing, are being evaluated. Additionally, she is engaged in a multisite commutability study assessing different BKV secondary standards.

Philip A. Chan, MD, MS performs research in several areas including HIV and STI prevention, LGBTQ+ health, health disparities, and public health. Dr. Chan has specific expertise in HIV/STI prevention including diagnosis and testing, as well as pre- and post-exposure prophylaxis (PrEP and PEP, respectively). He is PI of multiple NIH

Infectious Diseases (cont)

and other grants related to these topics.

Cheston B. Cunha, MD, research interests include general infectious diseases, antimicrobial therapy, and antimicrobial stewardship including impact of rapid diagnostics and oral antimicrobial therapy.

Susan Cu-Uvin, MD research interests: HIV in women, HPV, STIs, microbicides, cervical precancer/cancer. Providence/Boston Center for AIDS Research: Provides developmental grants for early stage investigators interested in pursuing HIV related research and access to CFAR services.

U54 grant: HIV and Cervical Cancer (Moi University, Kenya): Project leader Project 2: We are assessing the efficacy of Loop Electrical Excision Procedure (LEEP) for high grade cervical lesions comparing women with HIV and without HIV.

Erika D'Agata MD MPH is interested in the transmission dynamics of multidrug-resistant organisms in a variety of healthcare settings including the hospital and dialysis settings. Her work also focuses on antimicrobial stewardship and hospital-acquired infections among persons on maintenance hemodialysis.

Timothy P. Flanigan, MD research interests are **HIV and Substance Use among underserved populations**. Research Mentor on Emerging Infectious Disease Scholars at Brown University, a program designed for students to develop the skills required to address the community-level, national, and global challenges of emerging infectious diseases facing us now and in the future.

COBRE Center on Opioids and Overdose / Special Populations Core. As Core Co-director, this provides infrastructure to recruit and retain vulnerable and underserved individuals.

HIV and Other Infectious Consequences of Substance Abuse. Long standing T32 Training grant to prepare post-doctoral fellows (physicians and behavioral scientists) for research careers in the cross-disciplinary field of HIV and other infections associated with substance abuse.

Providence / Boston Center for AIDS Research (CFAR) Core Faculty – Underrepresented minority faculty support. Program director. This is a multi-institutional Center for AIDS Research for which three of the five broad goals are directly relevant to the current grant, i.e., 1) To stimulate translational AIDS research with women, minorities and other underrepresented groups; 2) To integrate nutritional assessment/intervention and outcomes analysis into clinical research; and 3) To encourage multidisciplinary research on the clinical issues surrounding new therapies and the accompanying extended survival of HIV-seropositive patients.

Sara Geffert, MD research interests include evaluation of innovative rapid diagnostics and quality improvement with respect to current microbiological testing.

Kevin M. Gibas, MD, MPH: Dr. Gibas's main research interests include implementation research, health disparities research, and health services research and how these can be used to study and implement interventions to prevent healthcare-associated infections, particularly among our most vulnerable patient populations. Dr. Gibas is currently working on studies examining sociodemographic and geographic disparities in health outcomes among patients in patients admitted with myocardial infarctions or ischemic strokes in the setting of COVID-19, novel interventions to improve healthcare worker hand hygiene compliance, and studies examining barriers and facilitators to the implementation of best infection prevention and control practices in behavioral health settings.

Fizza S. Gillani, PhD, is a public health researcher specializing in the epidemiology of HIV/AIDS in national and global contexts. She is involved in multiple research grants, including the Providence-Boston Center for AIDS Research (R01), the Emerging Infectious Diseases and HIV Scholars Program (R25), and the Real-Time Phylogeny in Rhode Island (R01) grant. In the local Ryan White HIV care program, she leads clinical quality improvement and healthcare informatics initiatives. In Pakistan, she leads several HIV education and research programs and is authoring a book for healthcare providers on HIV in the country. In summary, her work centers on healthcare informatics, clinical quality improvement, analytics, and health outcomes research.

Erica J. Hardy, MD, MMSc. Research interests include infectious disease in pregnancy and post-partum as well as sexually transmitted infections in women and the medical care of women after sexual assault as well as sexual assault prevention. Grant funding has included funding to explore genital immunology as it relates to sexual violence and current grant funding supports creating a novel online curriculum to teach trauma informed care of the sexual assault survivor.

Joseph I. Harwell, MD focuses his research on HIV and related complications in international settings. Through his work with the Clinton Health Access Initiative Dr. Harwell has helped to design an ANRS-funded study to explore the optimal approach to third line antiretroviral therapy in Cambodia. Dr. Harwell has designed operational research programs to describe the barriers and facilitators in LMIC to the nationwide adoption of dolutegravir as initial HIV therapy in adults and to examine delivery approaches to dolutegravir dispersible tablets in children.

Leah Harvey, MD, MPH: Dr. Harvey specializes in Infectious Diseases and Addiction Medicine. Her research focuses on harm reduction and de-centralized models of care delivery, including the prevention and treatment of injection-associated infections in low-barrier care settings and utilizing implementation science to address health disparities and stigma around substance use.

Infectious Diseases (cont)

Rami Kantor, MD: Dr. Kantor's research focuses on HIV drug resistance in diverse populations, ages, and settings, locally and globally; HIV transmission networks and their integration with public health; and treatment monitoring of people living with HIV. He runs a NIH-funded laboratory at the Providence-Boston Center for AIDS Research and has multidisciplinary expertise and interests, involving clinical, bioinformatics, molecular epidemiology, and basic science research. Some current projects address HIV drug resistance in Kenyan youth and adults, and integration of molecular epidemiology into public health activities in Rhode Island to prevent HIV transmission. He is committed to training and education, and also has a NIH grant dedicated to mentoring of individuals with research interests at all levels."

John R. Lonks, MD: Using whole genome sequencing to uncover transmission of *Pseudomonas aeruginosa*. Whole genome sequencing of mupirocin resistant *Staphylococcus aureus*. Impact of two-step vs. single step PCR testing for *C. difficile*.

Leonard Mermel DO, ScM research interests: Understanding how infections occur and spread; understanding diagnostic modalities of infections. Current studies: impact of a urine culture diagnostic stewardship program on urine culture practices; impact of respiratory viral infections on risk of stroke & MI.

Maria Mileno, MD, is interested in immunocompromised host travelers. She has published in this area and is currently working on a systematic review of vaccinations in compromised hosts with local and European colleagues.

Gerard Nau, MD, PhD, is a physician-scientist with interests in immunity and infections. The Nau laboratory studies how autoantibodies that develop after critical illness alter host defenses and susceptibility to infections. We are developing new antimicrobial compounds derived from the "volatilome" to treat fungal and bacterial infections. We work closely with collaborators to develop novel qPCR-based diagnostics informed by RNA-seq of infected patients. The ultimate objective is to translate information from pre-clinical studies into new diagnostics and therapies for infectious diseases.

Bharat Ramratnam, MD, currently has an NIH funded project which is focused on reversing HIV-1 latency using exosomal delivery of HIV-1 activating proteins. A separate interest is in designing viral vectors to deliver exosomal cargo to CD4+ T lymphocytes and sanctuary sites within the CNS.

Donald P. Rice, Jr. MD, focuses on research, treatment, and education at the intersection of addiction and infectious diseases including treatment and prevention of HCV, HIV, and bacterial infections as well as tick-borne diseases.

Louis B. Rice, MD Is interested in microbial infections and antimicrobial resistance. His basic research lab investigates the molecular mechanisms of antimicrobial re-

sistance in *Enterococcus faecalis* and *Enterococcus*. On the clinical side, he is interested in the relationship between antimicrobial use and resistance in a variety of nosocomial pathogens.

Josiah D. Rich, MD., MPH., research focus on the overlap between infectious diseases and illicit substance use and disadvantaged populations, especially people caught up in the criminal justice system. He is also focused on addressing the overdose crisis. He is the Principal or Co-investigator on several research grants involving the treatment and prevention of HIV and other infectious diseases, and addiction as well as, the COBRE on Opioids and Overdose.

Natasha Rybak, MD, Interests are in tuberculosis (TB), HIV and TB co-infection, and multi-drug resistant (MDR) tuberculosis among adults and children. She co-founded the Brown University Ukraine Collaboration, a collaborative clinical and research exchange between Brown University faculty and Ukrainian clinical and research leaders in HIV and TB to address the challenges of HIV, TB and MDR-TB in Ukraine through research and evidence-based medicine. She also serves as site-PI for a clinical trial on Non-tuberculosis mycobacterial infections.

Karen Tashima, MD directs the ID Clinical Trials Unit at The Miriam Hospital at 180 Corliss St. Her unit consists of research staff and physical space dedicated to clinical research. She oversees the specimen processing lab at the RISE building at 14 3rd St., near The Miriam Hospital. She assists researchers who need access to research staff, specimen processing or a repository for specimens. Dr. Tashima oversees studies that involve recruitment of patients living with HIV infection, in collaboration with the medical director of The Miriam Hospital Infectious Disease and Immunology Center, Dr. Joseph Garland.

Francine Touzard Romo, MD is interested in clinical research in diagnostic stewardship, hospital acquired infections and hardware associated infections. Her projects include diagnostic stewardship interventions to optimize *Clostridioides difficile* (CD) diagnosis and reduce hospital onset CD infection rates and how to apply PCR cycle threshold values to CD treatment decisions in patients with discordant testing (PCR+/Toxin EIA neg) results. Most recently, worked with the System Wide Lifespan Infection Control, implementing a blood culture diversion device to decrease the rates of blood culture contamination.

Kidney Diseases & Hypertension

Susie Hu, MD primary research interests include peritoneal dialysis and onco-nephrology. Currently, she and her group are exploring how the peritoneal membrane changes with time on dialysis and which factors impact outcomes. She is also interested in the risk factors for AKI (including intravenous contrast exposure) in patients with advanced chronic kidney disease who present to the emergency department.

Ankur Shah, MD MPH is interested in home dialysis, infection, health policy, and planetary health. His current research includes conducting national epidemiologic studies on peritoneal dialysis trends, outcomes, and complications, evaluating the implementation and outcomes of on-site dialysis in skilled nursing facilities, characterizing hospital-acquired infections among hemodialysis patients, and testing wearable digital health tools to monitor sleep and outcomes in dialysis patients.

Jie Tang, MD MSc MPH is interested in kidney stone disease, nutrition, pharmacoepidemiology, and global health research. His current research includes studies examining the impact of diet and metabolic syndrome on kidney stone risk, and key determinants of survival in this population as well as studies evaluating the kidney disease burden in LMICs and health disparities.

Shougang Zhuang, MD PHD is a research scientist whose work focuses on the mechanisms of acute kidney injury (AKI) and the biological processes that promote renal regeneration after injury. His overarching research goal is to translate mechanistic discoveries into therapeutic strategies that accelerate renal recovery and prevent the progression of AKI to chronic kidney disease and renal fibrosis. His laboratory applies molecular, cellular, and translational approaches to define intracellular signaling pathways that regulate renal tubular cell death, survival, and fibrogenesis. His team investigates the role of epigenetic regulation in renal epithelial cell regeneration, with particular emphasis on histone modifications and chromatin remodeling as critical determinants of cellular plasticity and repair.

George Bayliss, MD is interested in kidney transplantation, ethics in nephrology, and cardiorenal disease. His current research includes clinical trials in transplantation and chronic kidney disease, studies of immunosuppression management after allograft failure, and collaborative work on renal fibrosis and epigenetic regulation of kidney injury and repair

Eric Kerns, MD research interests include risk factors for acute kidney injury, peritoneal dialysis (specifically urgent-start peritoneal dialysis), and Mesoamerican nephropathy and CKD in immigrant populations. He is currently studying the impact of iodinated contrast on acute kidney injury in patients with chronic kidney disease.

Basma Merhi, MD is interested in kidney transplantation, living kidney donation, and transplant immunology. Her research focuses on evaluating urinary biomarkers for acute cellular and antibody mediated rejection, understanding cardiovascular risk and graft outcomes in kidney transplant

recipients, and identifying factors associated with early readmissions and infection risk following transplantation. She is also dedicated to developing strategies that promote equity and improve outcomes in living donor kidney transplantation.

Sandipan Shringi, MD is interested in kidney stone disease, acute kidney injury, and cardiovascular-renal interactions. His current research includes studies using NHANES data to evaluate dietary factors and kidney stone risk and mortality, investigations into the association of alcohol and magnesium intake with nephrolithiasis, and case-based research exploring acute kidney injury in unique clinical scenarios such as post-procedure complication.

Pulmonary, Critical Care & Sleep Medicine

Overview

We have many ongoing funded research projects in a wide variety of fields both within our own division and through collaboration with other divisions and departments in the Brown research community. Our Brown Respiratory Research Training Program (T32) is a demonstration of our commitment to mentoring young investigators in pulmonary, critical care, and sleep medicine.

Active Areas of Research Include:

Sepsis (mechanisms and treatment)

Knowledge translation

Acute lung injury

Pulmonary vascular disease (mechanisms and treatment)

Pulmonary vascular permeability and endothelial dysfunction

Extracorporeal life support

Sleep medicine

Systemic vascular co-morbidities of COPD

Tuberculosis/NTM

End-of-life care in the ICU

Ethical and practical aspects of rationing medical care

Health-related quality of life

Role of Stem Cells, progenitor cells and extracellular vesicles in lung injury repair

Pulmonary fibrosis and interstitial lung diseases

Pulmonary, Critical Care & Sleep Medicine (cont)

The Brown Respiratory Research Training Program (T32 HL134625 01)

The Brown Respiratory Research Training Program has as its overall objective the training of physicians and scientists to become independent investigators in the pathobiology of respiratory diseases and in the health services, outcomes, and epidemiology of these diseases. The Program aims to bridge gaps between biomedical, behavioral, and public health disciplines to advance knowledge regarding how best to reduce disease burden among patients with diseases that affect the respiratory system.

ICU Research

Acute Respiratory Distress Syndrome (ARDS)

Maya Cohen MD ScM (T32 graduate) has many research interests which center on the care and outcomes of critically ill patients. In particular, Dr. Cohen was recently awarded an F32 through the NHLBI that focuses on multimorbidity phenotypes and effects on endothelium in critically ill patients with sepsis and sepsis-induced ARDS

Extracorporeal life support

Rhode Island Hospital is an Extracorporeal Life Support Organization (ELSO) Center of Excellence. **Corey Ventetuolo MD MS** is the Medical Director and **Maya Cohen MD ScM** is the Associate Medical Director of the Adult Extracorporeal Life Support Program. The research mission of the ECLS service includes participation in registries (ELSO, International Research Database For Extracorporeal Support (INDEX)), and biorepositories, collaboration with the Artificial Intelligence Laboratory at the Brown Center for Biomedical Informatics to apply machine learning algorithms to predict outcomes in ECLS, translational studies of novel biomarkers, and work in best practice for anticoagulation monitoring modalities.

Biobank

Maya Cohen MD ScM and **Corey Ventetuolo MD MS** (Associate Division Chief) are amassing a database for all patients admitted to the Medical Intensive Care Unit with sepsis, ARDS and those requiring extracorporeal life support. Blood is being collected for Proteomic and Genomic evaluation, and we have multiple research projects (collaborating with fellows and faculty from other departments) utilizing samples from this database.

Post-Intensive Care Syndrome

Maya Cohen MD ScM recently started a Post-ICU clinic in the Center for Advanced Lung Care (CALC). The mission of this clinic is to assess, treat, and support patients and their families after a critical illness by addressing Post-Intensive Care Syndrome (PICS), a constellation of physical, cognitive, and mental health issues that can persist after ICU discharge. This clinic is meant to provide a multidisciplinary approach to care, offering rehabilitation, edu-

cation, and medication management to restore function, improve well-being, and promote a return to prior functional status and quality of life

Knowledge translation in sepsis

Mitchell Levy MD is conducting work on performance improvement techniques and has been working with The Surviving Sepsis Campaign to improve the survival of sepsis. He has conducted several trials, testing the impact of these "sepsis bundles" and a multiple-faceted intervention in facilitating knowledge transfer. He was recently awarded a grant from the National Heart Lung and Blood Institute (NHLBI) from the National Institutes of Health (NIH) for a type 2 Hybrid effectiveness-implementation trial, involving a cluster randomized controlled trial of 18 hospitals, to test the efficacy of the Hour-1 bundle vs the 3-hour bundle for the treatment of sepsis and septic shock. This grant and study are entitled, Assessment of Implementation Methods in Sepsis (AIMS study). The grant is for 5 years. His work with the New York State Sepsis Initiative was published (2017 and 2018) in the New England Journal of Medicine and the American Journal of Respiratory and Critical Care Medicine. A study on racial disparities from the New York State database was published (2019) in Health Affairs. He continues to access the 150,000 patient NYS DOH database to work with fellows and other collaborators on further manuscripts. This includes: 1) Impact of sepsis bundles on patients with chronic kidney disease and congestive heart failure, 2) Development of sepsis phenotypes from clinical data, and 3) Readmission rates and unintended consequences of sepsis performance measures.

Health services ICU research

Mitchell Levy MD is examining large data sets of severely septic patients (Centers for Medicare and Medicaid services) to determine the viability of a disease-specific risk-adjusted mortality model in patients with severe sepsis and septic shock. Using recursive partitioning and regression analysis, statistical correlations with these features are being identified. The aim is to generate a predictive model incorporating these factors to identify mortality risk. These efforts are in collaboration with Stan Lemeshow and Gary Phillips, from Ohio State University School of Biostatistics.

End-of-life care

Our division has been involved in multiple research projects for improving end of life care in the critically ill and improving communication for caregivers during end-of-life conversations. **Nicholas Ward MD** has a special interest in ethics and has also led several initiatives for physician/patient ratios in the ICU and well as decision-making during the COVID-19 pandemic. **Mitchell Levy MD** is continuing his work in end-of-life care. Over the past years, he has published numerous manuscripts in

Pulmonary, Critical Care & Sleep Medicine (cont)

the field, including one on the visiting hours in the MICU, as well as several opinion pieces, describing the barriers to adequate end-of-life decision-making. Dr. Levy has completed a state-wide initiative on communication bundles in the ICU (with a research fellow as lead author) the results of which have been published in Critical Care Medicine.

Quality Improvement

Jason Aliotta MD (Interim Division Chief) is involved in several quality improvement projects that focus on ICU utilization and physician workflow and staffing at Rhode Island Hospital Medical ICU.

Pulmonary vascular disease

The Pulmonary Hypertension Center (PHC) was established in 1991 and has been under the leadership of **James Klinger MD** since 2001. It also includes **Corey Ventetuolo MD MS**, **Christopher Mullin MD MHS**, and **Navneet Singh MD ScM** (T32 graduate). The PHC was the first center in New England to be accredited as a Center of Comprehensive Care by the Pulmonary Hypertension Association. The Center participates in numerous clinical trials of new and approved therapies for the treatment of pulmonary arterial hypertension (PAH) and is currently enrolling patients in several NIH- and industry-funded clinical trials. The PHC also regularly enrolls patients in several registries.

Corey Ventetuolo MD MS : Dr. Ventetuolo's research includes both clinical and translational studies focused on the genetic and molecular mechanisms of sex hormone signaling and metabolism as a means for understanding sexual dimorphism in PAH and right ventricular function in health and disease. She has served as study co-chair for an NIH-funded clinical trial of anastrozole in PAH and is the Principal Investigator of the EDIPHY Study, the first NIH-funded clinical trial of a naturally occurring hormone, dehydroepiandrosterone, in PAH. She has developed a novel method to endotype patients with pulmonary vascular disease using "liquid biopsies" from pulmonary artery endothelial cells during routine right heart catheterizations and is developing this method for therapeutic screening and to identify novel mechanistic paradigms in pulmonary arterial hypertension. Active collaborations also include quality of life research with Kate Guthrie, PhD in the Center for Behavioral and Preventative Medicine at Brown.

James Klinger MD: Dr. Klinger's research is funded by the NHLBI and is concentrated on the pathobiology of pulmonary vascular remodeling in pulmonary hypertension and pulmonary vascular endothelial barrier function. In collaboration with Drs. Peter Quesenberry and Olin Liang at the Rhode Island Center for Stem Cell Biology, Dr. Klinger has been investigating the role of mesenchymal stem cell extracellular vesicles and bone marrow-derived progenitor cells in the pathogenesis and treatment of pulmonary hypertension. Dr. Klinger's interests also include several newly identified transcription factors that have recently been implicated in pulmonary vascular disease. Dr. Klinger's other research

interests include natriuretic peptides, nitric oxide and downstream signaling mechanisms that are regulated by cGMP and cGMP-dependent protein kinase. His interest in these pathways is related to their role in modulating pulmonary hypertensive and right ventricular hypertrophic responses, as well as pulmonary endothelial barrier function. Dr. Klinger's lab has also been studying transcriptomics in bone marrow progenitor cells and spatial profiling in pulmonary hypertension.

Christopher Mullin MD MHS: Dr. Mullin's research is focused on PAH related to systemic sclerosis (SSc) and other forms of connective tissue disease (CTD) as well as chronic thromboembolic pulmonary hypertension (CTEPH). He has ongoing clinical research projects examining and predicting outcomes and hospitalizations in SSc-PAH and CTD-PAH. He has interest and expertise in the use of pulmonary vascular responses to exercise (measurement of cardiopulmonary hemodynamics with exercise during right heart catheterization) to identify early pulmonary vascular disease in SSc and other patient populations at-risk for PAH.

Navneet Singh MD ScM: Dr. Singh's research interests include translational approaches to developing novel phenotypes of extrapulmonary manifestations of PAH. His work aims to incorporate what we know about systemic inflammation and metabolic dysfunction, and more clearly define how these processes influence PAH pathobiology and harness that knowledge for the development of novel therapeutics. Dr. Singh is the awardee of an American Thoracic Society Early Career Award in Pulmonary Vascular Disease and a Rhode Island Medical Foundation that focuses on the Liver is an inflammatory mediator of pulmonary arterial hypertension. Additionally, he is an awardee of a CHEST Foundation Research grant which focuses on mitochondrial dysfunction and oxidative stress in pulmonary arterial hypertension

Venous thromboembolism

Led by **Christopher Mullin MD MHS** and in conjunction with interventional radiology, emergency medicine, cardiothoracic surgery and cardiology, the Pulmonary Division has developed and plays an integral role in the Pulmonary Embolism Response Team (PERT) that evaluates all cases of pulmonary embolism (PE) admitted to Lifespan hospitals. Dr. Mullin also oversees a Post-PE Clinic as part of the PHC which includes an active population of patients with CTEPH.

Interstitial Lung Disease Center

The Brown Medicine-Rhode Island Hospital Interstitial Lung Disease (ILD) Center was established in 2014 to provide comprehensive care to those afflicted by these complex and often life-threatening diseases. The Brown-RIH ILD Center has grown steadily and includes active research, educational and community support programs to compliment a multidisciplinary approach to patient

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care. In 2018 it was selected as a member of the Pulmonary Fibrosis Foundation (PFF) Care Center Network. As members of PFF network, Dr. Jack A Elias and Dr. Chun Geun Lee have been actively involved in the pulmonary fibrosis research using various animal models and samples obtained from the pulmonary fibrosis patients with multiple grants supports from NIH and Department of Defense. Recently, the research team identified a novel contribution of chitinase 1 (CHIT1) and chitinase 3-like-1 proteins (CHI3L1) in the pathogenesis of pulmonary fibrosis and developed small molecules and monoclonal antibodies that specifically and effectively target these chitinase and chitinase-like proteins. In addition, the team further revealed a novel pathogenetic mechanism that involves interaction between immune cells and structural cells to drive pathologic lung fibrosis and alveolar remodeling. Significant efforts are being currently made to translate these discoveries to the clinical application.

Rachel Putman MD MPH: Dr. Putman will be joining our faculty on December 15, 2025, after having spent the first 8 years of her career at Brigham and Women's Hospital. Dr. Putman will be the Director of the ILD Center at the CALC as well as the Associate Medical Director of the CALC. Her research has focused on the genetics and epidemiology of early Interstitial Lung Disease. She was a K08-funded investigator from 2018-2023 (grant title, "Progression of Interstitial Lung Abnormalities: the role of imaging and telomere length regulation"). Currently, she is a co-investigator on an R21 titled, "Biomarkers of interstitial lung abnormalities predict poor outcomes in ARDS", as well as a co-investigator on 2 R01s which focus on the genetics and phenotypes of pulmonary fibrosis.

William Oldham MD PhD: Dr. Oldham joined our faculty on June 1, 2025, after spending the first 10 years of his career at Brigham and Women's Hospital. His research has focused on cellular metabolic reprogramming and its role in the pathogenesis of pulmonary hypertension and pulmonary fibrosis. His R01 titled, "The role of lactate transporters in pulmonary fibrosis", was awarded in 2023 and represents a longstanding track record of NIH (K08, 2016-2021) and professional society (American Thoracic Society) funding as a PI, and as a co-investigator on several other grants.

Cystic Fibrosis

Roger Auth MD is the Associate Director of the Adult Cystic Fibrosis Clinic. Dr. Auth is the awardee of a Cystic Fibrosis Foundation Program for Adult Care Excellence (PACE) grant meant to focus on training and education within the CF center.

Community Health

Debasree Banerjee MD has a research interest in community health and barriers to access health care. She was recently awarded a CHEST Foundation grant that focuses on creating pathways for sustainable pulmonary subspecialty care, specifically lung cancer screening and access to smoking cessation programs, for individuals experiencing homelessness in Rhode Island.

Global Health

E. Jane Carter MD (Professor Emeritus) has a primary interest in Tuberculosis- both domestically and internationally. Dr. Carter is the co-director of the HIV-TB Scientific Working Group of the Providence Boston Center for AIDS Research (CFAR). Her most recent research project has focused on pediatric TB diagnosis and treatment in high burden, resource poor countries, such as Kenya. She is also a co-founder of the Pulmonary Critical Care Training Program at Black Lion Hospital in Addis Abba, Ethiopia. Dr. Carter has headed the Brown Kenya Program medical exchange program (<http://brownmedicine.org/kenya/>) for 20 years which also contains a broad scope of research projects and opportunities. This program is now being led by **Debasree Banerjee MD**.

Vascular Research Laboratory, Providence VA Medical Center

The Vascular Research Laboratory (VRL) is a multidisciplinary group of investigators studying pulmonary circulation and cardiopulmonary interactions using cells, animal models, clinical studies, and epidemiology studies using database approaches. Faculty include MD's, PhD's, pulmonary/critical care and cardiology specialists. Research is multidisciplinary with a focus on diseases resulting in pulmonary edema, pulmonary hypertension, and cardiac complications of pulmonary hypertension. The VRL faculty cumulatively have over \$2.3 million in direct costs per year of funding to support their research. In addition, the VRL is the site of the CardioPulmonary Vascular Biology Center for Biomedical Research Excellence (CPVB COBRE) which has supported faculty research through pilot projects and core facilities for the past 11 years and brings in ~\$1.5 million in direct costs per year.

Gaurav Choudhary MD (Ruth and Paul Levinger Professor of Cardiology): His focus of research is to evaluate the mechanisms underlying exercise intolerance, vascular dysfunction and cardiac dysfunction seen in pulmonary vascular diseases. His laboratory uses a variety of in vitro, ex vivo and in vivo approaches utilizing the pre-clinical models of pulmonary hypertension and emphysema. His NIH-funded research is focused on mechanisms of right ventricular fibrosis in pulmonary hypertension. He also performs epidemiological (using VA and non-VA data) and clinical studies in area of pulmonary hypertension and right heart function. He is site PI with **Matthew Jankowich MD** on a VA-funded Merit Review grant to study the effects of tadalafil on pulmonary hypertension associated with COPD, lung vascular remodeling, and RV dysfunction. Dr. Choudhary is funded by an R01 and collaborates with **Richard Clements PhD, Matthew Jankowich MD, Elizabeth Harrington PhD, Sharon Rounds MD, Wen-Chih Wu MD MPH, and Peng Zhang MD MS**.

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Richard Clements PhD: His research interests include 1. improved cardioprotection strategies and therapeutics related to cardiac surgery and ischemic injury, 2. cardioprotective mechanisms of mitochondrial potassium channels focused on reactive oxygen species generation and cellular respiration, and 3. improving cardiac and skeletal muscle function in settings of heart failure and chronic disease such as diabetes. Additional areas of research include investigating the neuroprotective role of mitochondrial potassium channels in neurodegenerative diseases such as Alzheimer's. A combination of cell, molecular, and small and large animal physiologic studies are used regularly in the laboratory.

Elizabeth Harrington PhD is PI on the Brown Respiratory Research T32 Training Program. Dr. Harrington is PI or co-PI on three training grants that support undergraduate, medical student, and graduate student research. The focus of her research is characterization of intracellular signaling mechanisms regulating endothelial cell functions and/or responses to environmental cues. Current investigations include elucidation of the molecular mechanism by which extracellular vesicles regulate endothelial monolayer permeability and apoptosis and elucidation of signaling pathways.

Matthew Jankowich MD studies predisposing factors for pulmonary hypertension and RV failure. He also studies the interactions between systemic cardiometabolic diseases and abnormal pulmonary function, including the restrictive spirometry and preserved ratio impaired spirometry patterns. He has also studied the COPD phenotype combined pulmonary fibrosis and emphysema. Dr. Jankowich is the site-PI for the study "Effect of PDE5 inhibitor on respiratory symptoms in COPD complicated by pulmonary hypertension" aka Breathe Easier with Tadalafil Therapy for Dyspnea in COPD-PH, a VA-funded multicenter clinical trial (study PI: **Sharon Rounds MD**). He has conducted epidemiologic research with cardiologists **Gaurav Choudhary MD** and **Wen-Chih Wu MD MPH**, using data from the Jackson Heart Study (JHS), the largest prospective observational study of cardiovascular disease in African Americans.

Sharon Rounds, MD, is interested in mechanisms of lung vascular injury in conditions causing pulmonary hypertension and acute lung injury. Her work focuses on mechanisms of cigarette smoke exposure on the pulmonary circulation. Dr. Rounds is Contact PI and lead investigator on a VA Merit Review for a multi-center trial to study the effects of PDE5 inhibitor, tadalafil, on shortness of breath in Veterans with COPD complicated by pulmonary hypertension. She is also PI of Advance RI-CTR, a \$20 million, 5-year grant to develop research infrastructure in the state of Rhode Island. She collaborates with Drs. Choudhary, Harrington, and Jankowich.

Wen-Chih ("Hank") Wu MD MPH, is an Investigator in the Center of Innovation in Long-Term Services and Supports for Vulnerable Veterans (COIN) at the PVAMC. Dr. Wu studies the relationship between anemia, blood transfusion and death in elderly patients undergoing non-cardiac surgery and delivery of care to patients with CHF. In collaboration with Drs. Choudhary and Jankowich, he also studies factors predisposing to pulmonary hypertension and RV failure. He

is funded by VA Merit Review grants. He mentors in the areas of epidemiology and outcomes of pulmonary hypertension and CHF.

Eric Gartman MD has research interests in airway disease, diaphragmatic dysfunction, and exercise limitation. He is currently the principal investigator for a study evaluating the use of impulse oscillometry (IOS) in the prediction of COPD symptoms burden and re-admission following hospitalization for acute COPD exacerbation.

Lung Cancer Screening Program: The Providence VAMC implemented a clinical lung cancer screening program using LDCT starting in December 2013. They are currently evaluating the utility of lung cancer screening in the first years of implementation in terms of: rates of nodule detection and workup; prevalence of lung cancer at initial screening; sensitivity and specificity of lung cancer screening at the Providence VAMC; and outcomes of lung cancer diagnosis in the screened population compared to the pre-screening population.

Sleep Medicine

Ghada Bourjeily MD: Dr. Bourjeily's research focuses on sleep in women, particularly in pregnancy. She has led multiple studies funded by the NIH examining sleep disordered breathing, and its impact on perinatal outcomes-mainly cardiovascular and metabolic outcomes and fetal growth-, as well as ways to predict the new onset development of sleep disordered breathing in this population and examine factors impacting adherence to therapy in this population. She is currently funded to examine deep machine learning in sleep disordered breathing and will soon launch a new study aimed at examining the interplay between sleep, nutrition, and race in pregnancy. Dr. Bourjeily is a founding member of the Brown University Maternal and Perinatal Sleep Scientists (BUMPSS) team with expertise in sleep, epidemiology, nutrition, mental health, and obstetrics and the team is collaborating on studies examining sleep and nutrition in pregnancy. Dr. Bourjeily's other interests include mindfulness training and its impact on lung health and perinatal outcomes. In collaboration with researchers at UMASS, she served as site PI on a two site NCCIH study that examined the impact of mindfulness training on asthma control and is currently a Co-I on an NHLBI trial investigating mechanistic pathways of mindfulness training on cardiovascular perinatal outcomes. Dr. Bourjeily serves as a senior faculty advisor with **Sharon Rounds MD** for the advance K-scholars program of the advance CTR.

Vesna Buntak MD has a research interest in Restless Leg Syndrome in Pregnancy and was recently awarded a CHEST Foundation grant that studies Peroneal Electrical Nerve Stimulation in this patient population.

Rheumatology

Joanne Cunha, MD – is currently co-principal investigator working with OB-medicine at Women and Infant’s Hospital to characterize patient outcomes from our Specialty Care in Pregnancy (SCIP) clinic. This clinic uses a multidisciplinary approach, with the patient care team including obstetrical medicine internists and rheumatologists to provide preconception counseling and recommendations for the care of patients with rheumatologic diseases during their pregnancy, delivery, and postpartum periods.

Katarzyna Gilek-Seibert, MD – is dedicated to advancing medical education, fostering innovation, and optimizing patient care delivery. She has a keen interest in digital technology and presented on the application of ChatGPT in medicine at the Brown MedEd Talks in 2023. Additionally, Dr. Gilek-Seibert led a clinical project focused on the management of immunosuppressives during illness in rheumatology patients, known as “sick day rules.” This project, developed in collaboration with residents and fellows, was accepted for presentation at the American College of Rheumatology (ACR) conference in November 2023, with the second phase presented at 2024 ACR meeting.

She recently co-authored *A Consensus-Based Shoulder Examination for Rheumatology Training* (Arthritis Care & Research, 2025), a multicenter project with New England rheumatology program directors. Dr. Gilek-Seibert currently serves as Principal Investigator on a CAR-T cell therapy trial for systemic lupus erythematosus, advancing novel therapeutic approaches in collaboration with oncology colleagues. Her present scholarly focus also includes population health and is in early cross-team inception stage, with the goal of improving outcomes through earlier intervention and care redesign.

Anthony M. Reginato, PhD, MD – is currently co-principal investigator in working with Skin and Musculoskeletal (SAM) Center at Brown Health to characterize patient outcomes with skin and musculoskeletal diseases. He is involved in Point-of-Care Ultrasound (POCUS) projects involving Hidradenitis Suppurativa (HS), gout in psoriasis, and Pseudogout. He is involved in POCUS clinical trial BENEATH – Bimekizumab: EvaluatioN of the treEAtment of Ultrasound in Hidradenitis Suppurativa patients. He is currently involved in educational and certification programs in the Pan American League Against Rheumatism (PANLAR) for Latin America and Ultrasound School of North American Rheumatologists (USSONAR). Dr. Reginato supervises the rheumatology fellows on different ongoing projects such as: (1) machine learning model to accurately identify patients with rheumatoid arthritis using raw EMR data at Brown Rheumatology; (2) evaluation of coronary artery calcification and cardiovascular outcomes in patients with asymptomatic hyperuricemia gout, and pseudogout at the Providence VAMC; (3) Systemic analysis of rheumatic diseases using the National Inpatient Sample (NIS) database; and (4) clinical case reports. Dr. Reginato’s basic science interest involves the effect of aging hematopoiesis and the role of Myeloid-Derived Suppressor Cells (MDSCs) in the development and UPAR-Specific CAR T-cells in the treatment of rheumatoid arthritis (RA) using animal models.

