



ACCELERATING EXCELLENCE + INNOVATION 2023

DEPARTMENT OF MEDICINE ANNUAL REPORT



UNIVERSITY HOSPITALS CLEVELAND MEDICAL CENTER

Founded in 1866, University Hospitals Cleveland Medical Center has a long history of providing exceptional healthcare for the residents of Northeast Ohio. Among the nation's leading academic medical centers, we are leading the way in both the discovery and implementation of medical advancements and the delivery of exceptional patient care. As a comprehensive, integrated, academic health system our physicians and researchers span the full spectrum – from basic/translational to clinical/population research.

CASE WESTERN RESERVE UNIVERSITY SCHOOL OF MEDICINE

Since 1843, Case Western Reserve University School of Medicine has been at the forefront of medical education, dedicated to enhancing human health, and a leader and innovator in healthcare education and biomedical research. The School of Medicine is one of the top-25 medical schools in the country and both the #1 medical school and largest biomedical research institution in Ohio. It consistently ranks in the top tier of medical schools for NIH research funding.

LOUIS STOKES CLEVELAND VETERANS AFFAIRS MEDICAL CENTER

The VA Northeast Ohio Healthcare System provides outstanding health care, trains America's future health care providers, and conducts important medical research. At Louis Stokes Cleveland VA Medical Center, we conduct research to discover knowledge, develop VA scientists and health care leaders, and create innovations that advance health care for Veterans and the nation. Our goal is to use research to promote better health and health care for all.

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2023 ACCOMPLISHMENTS

PATIENT CARE

- Seventy-three Department of Medicine full-time faculty members and nineteen community physicians were recognized as “Top Doctors” by Castle Connolly Medical Ltd. and *Cleveland Magazine*.
- Four Department of Medicine faculty were named to the 2023 University Hospitals Distinguished Physician Class.
- The Department once again achieved successful representation in four specialty areas reported in the 2023 *U.S. News & World Report* annual rankings.
- In 2023, there was a 9% year over year increase in ambulatory visits and inpatient volume increased by 12%.

EDUCATION

- Our Chief Residents were instrumental in the implementation of the EPIC electronic medical record system at University Hospital. They took part in ‘train the trainers programs’ and were highly integrated into the EPIC roll-out operations.
- The Internal Medicine (IM) residency had it largest National Resident Matching Program (NRMP) match ever. Due to the increase in the size of the training program following the integration of residents from St. Vincent’s program, we have increased the number of intern positions in the match by eight. Despite the larger intern cohort in the NRMP match the program did very well- matching an outstanding PGY1 class – the largest ever in our history.

- The IM residency is adding another pathway- the Point of Care Ultrasound (POCUS) Pathway, which will facilitate a cohort of residents to gain expertise in point of care ultrasound, and teaching POCUS.
- The Department of Medicine at UH/VA remains the highest rated sites for CWRU student to complete their IM clerkship and their IM Acting Internships.

RESEARCH

- Awarded funds to departmental faculty, including University Hospitals Cleveland Medical Center, Case Western Reserve University and Louis Stokes Cleveland VA Medical Center, exceeded \$71.0 million.
- Continuing into its 9th year, the Harrington Physician-Scientist Pathway recruited a new resident. This pathway continues to focus on developing the next generation of academic medicine leaders in basic, clinical and translational research.
- Participation in the Department of Medicine's intramural research-related activities such as Research Day (78 posters, 3 faculty research talks) and mentorship programs remained strong.
- Research awards again favored the highly competitive and prestigious national venues with nearly 70 percent coming from federal sources.

A black and white portrait of a middle-aged man with short, light-colored hair, smiling slightly. He is wearing a dark suit jacket over a light-colored shirt and a striped tie. The background is dark and textured.

CHAIRMAN'S MESSAGE

Welcome to the Annual Report of the Department of Medicine for the 2023 calendar year. Our faculty, staff, and trainees had an outstanding year in advancing our clinical, research, and teaching missions.

Research support within the Department of Medicine remains strong with overall grant awards for the department at \$71.0 million for 2023 with 70% of awards related to the National Institutes of Health and other federal sources. This represents a broad portfolio of research across the divisions, centers, and institutes ranging from molecular mechanisms of disease, discovery and innovation, national and international clinical trials, as well as an increased emphasis on health service research and population health. Divisions highly invested in the research mission include Infectious Diseases & HIV Medicine, Cardiovascular Medicine, Gastroenterology & Liver Disease, and Hematology & Oncology. New recruitments in Infectious Diseases, Pulmonary, Critical Care & Sleep Medicine, Rheumatology, Nephrology, Hematology & Oncology, and Diabetes and Obesity will enhance the research profile and funding in the Department.

The University Hospitals and Case Western Reserve University sponsored Collaborative Science Pilot Awards took the place of the department's Team Science Awards in 2023. Both of these awards stimulate interdisciplinary translational research between divisions and departments. Department faculty participation was strong in this intramural research-related initiative with two of the three awards going to projects with Medicine faculty co-investigators, including Alvin Schmaier, MD, Andrew Blum, MD, PhD, and Eva Selfridge, MD, PhD.

The thirteenth annual Department of Medicine Research Day was held in-person for the first time in four years in 2023. Plenary talks started off the day in the Tinkham-Veale University Center's Grand Ballroom and were broadcast virtually. Following the talks, Department of Medicine trainees presented research posters in-person. This year's plenary speakers were Varun Sundaram MD, PhD, Sadeer Al-Kindi, MD, and Seth Field, MD, PhD. Over 100 faculty and trainees attended this successful event and our residents, fellows, graduate students, and postdoctoral investigators presented 78 posters.

In the eleven years since the inception of the Harrington Discovery Institute—part of The Harrington Project for Discovery & Development—the institute has increasingly gained the attention of leaders within academia, healthcare, finance, and beyond.

The year saw an increased focus on rare diseases. The Oxford-Harrington Rare Disease Centre (OHC) launched its Therapeutics Accelerator with an aggressive goal to deliver 40 new therapies for rare diseases into clinical trials over the next ten years. The Accelerator receives support from a partnership between University Hospitals, University of Oxford and investment company Oxford Science Enterprises. Former U.K. Prime Minister David Cameron was announced as the founding chair of the OHC Advisory Council.

In 2023, the institute welcomed its eleventh class of Harrington Scholar-Innovators, selecting 10 outstanding, inventive physician-scientists from institutions across the U.S. whose research demonstrates innovation, creativity and the potential to impact standards of care in medicine.

Since its founding, Harrington Discovery Institute has supported 175 drugs-in-the-making, 65 institutions, 38 new company launches, 19 clinical candidates, and 15 licenses to pharma. Just as important as the accomplishments to date, the institute is prepared for the future with an operational framework that has been designed to support the challenges that lie ahead.

This year, department clinical programs' focus was on transitioning to a new electronic medical record. This successful go-live of Epic was due to the countless hours devoted to preparation, planning and implementation by many Department of Medicine faculty and staff. Departmental productivity remained high throughout and after this transition. Clinical activities grew in 2023 with a 9.2% increase in clinical revenue over the prior year. There is more emphasis on clinical program development, recruitment, and alignment of faculty in University Hospitals Medical Group (faculty) and University Hospitals Medical Practices (community physicians). Ambulatory visits increased by 9% and inpatient volume by 12%. Increasing focus on patient experience, high-reliability medicine and value-based reimbursement will be one of the major points of emphasis in the next year. Seventy-three of our full-time faculty members and nineteen community physicians were awarded "Top Doctor" status by Cleveland Magazine in 2023.

Our clinical activities are led by Rajesh Chandra, MD in his role as Vice Chair for Clinical Affairs & Transformation and is joined by Betul Hatipoglu, MD as Vice Chair for System Clinical Affairs. A significant focus in 2023 was on "Systems of Care" and relationships with new acquisitions, development of multidisciplinary approaches to clinical care and patient access. The department, along with our Quality Institute, is highly involved in major quality initiatives at the programmatic, physician, and trainee levels.

Our educational programs, led by Keith Armitage, MD, remain enormously robust and are strongly supported by our faculty. Residents demonstrated dedication and diligence in caring for patients in the pandemic, and many participated in clinical research. The 2023 NRMP match was again highly successful with a substantial increase in total applications. All recruitment for the intern class starting 2024 continued to be conducted virtually. University Hospitals Cleveland Medical Center remained by a wide margin the top choice for our medical students completing internal medicine acting internships. Our full-time faculty members continue to provide nearly 40 percent of the total teaching time at Case Western Reserve University School of Medicine. Three additional medicine faculty members were selected as Master Clinician Educators in the spring of 2023; Christina Hirsch, MD, Simi Singh, MD, and Nathan Stehouwer, MD. This list of 39 total faculty, developed over 12 years, truly represents our department's clinical and educational Hall of Fame. This year, four Departmental faculty were named to the sixth class of Distinguished University Hospitals Physicians bringing the total number of Department faculty awarded this honor to 50 (Teresa L. Carman, MD, Brett E. Glotzbecker, MD, Steven J. Filby, MD, and Sona S. Kirpekar, MD).

In 2023, Dr. Heather Gornik was appointed as the inaugural Vice Chair of Quality and Strategic Initiatives in the Department of Medicine. In this role, Dr. Gornik has focused on coordinating the development of the 5-year strategic plan for the Department of Medicine. Based upon leadership interviews, strategic goals were identified to enhance the evolution and growth of the department and task forces were assigned to each area. The Department will host a retreat in the spring of 2024 to further refine and prioritize the initiatives identified by the task forces. We look forward to the creation of a proposed strategic plan for the Department of Medicine based upon this work in the latter half of 2024.

In the next year, we have plans to enhance the mentoring programs for young faculty and residents (with a coaching program involving 36 faculty) as well as increase our activities in the recruitment of women and minorities among our faculty and trainees. In addition, we plan to establish new high-level priorities in the clinical and research realms of diabetes, obesity, hypertension, adult asthma, cystic fibrosis, sleep medicine, congenital heart disease, end-stage renal disease, and respiratory health; as well as focus on our strengths in cancer, cardiovascular medicine, infectious diseases, and gastroenterology and liver diseases. To enhance our programs in diversity and faculty development, Usha Stiefel, MD, has led department-wide initiatives as Vice Chair for Diversity & Faculty Development.

I invite you to become more familiar with our department by examining this report and by visiting our website at: cwrumedicine.org

It is my distinct honor and pleasure to lead our outstanding faculty, staff, and trainees.

Respectfully,

Robert A. Salata, M.D.

Robert Salata, MD, FACP, FIDSA
STERIS Chair of Excellence in Medicine
John H. Hord Professor and Chairman,

Department of Medicine
Case Western Reserve University
Physician-in-Chief
Master Clinician in Infectious Diseases
Distinguished Physician
University Hospitals and
University Hospitals Cleveland Medical Center

DIVISION OF

CARDIOVASCULAR MEDICINE

SANJAY RAJAGOPALAN, MD, MBA, FACC, FAHA | DIVISION CHIEF

2023 has been a year of significant accomplishments for Cardiovascular Medicine and the Harrington Heart and Vascular Institute (HHVI) with outstanding progress and growth in our clinical care, research, and education programs. With over 17 distinct service lines and 9 distinct centers, the Division of Cardiovascular Medicine is the largest division in the Department of Medicine. The Division has had several new interdepartmental programmatic initiatives in 2023, including novel disease based specialized centers such as the Aortic Center and the Hypertrophic Cardiomyopathy Center.

A newly created Sports Cardiology Initiative has started seeing patients under the direction of Bradley Lander, MD that will cater to athletes and individuals at risk for sudden cardiac death. Clinical programs in structural/interventional cardiology, advanced imaging, electrophysiology, advanced heart failure, vascular medicine and critical care cardiology have seen incremental growth and continue to see some of the sickest patients in Northeast Ohio. Notable highlights have been outstanding growth in our ambulatory practice, with the Division and Institute dominating the Northeast Ohio region.

The Division of Cardiology's physician-scientists have dramatically expanded our work to encompass all phases of research from fundamental to clinical and implementation science. The Research and Innovation Center which serves as a unified entity for streamlined protocols and shared resources like data storage and analytical expertise comprises of a Clinical Trials Unit (CTU) and a Translational Science Unit (TSU).

The CTU, continues to focus on industry sponsored Phase II-IV clinical trials involving devices and pharmacotherapies with many trials following over 2,000 patients. The TSU facilitates investigator-initiated grants from industry and the National Institutes of Health and is currently supporting several nationally recognized physician scientists with innovative grants in pharmacotherapy, imaging, and implementation science. The Division boasts 10 R01 grants, an R35 and several foundation grants.

The publication record for CVM has been stellar with over 200 published papers in peer reviewed journals in 2023 including papers in the highest impact journals including the *New England Journal of Medicine*, *Circulation*, and the *European Heart Journal*.

Our fellowship training program has been immensely successful in recruiting top notch trainees from around the world. The Division has 8 professorships/chairs and 4 master clinician designees, making this one of the best endowed divisions at University Hospitals. The Division currently boasts 3 elected American Society of Clinical Investigation (ASCI) members, one member elected to the Institute of Medicine (IOM) and 2 Elected Members of the American Association of Physicians (AAP).

DIVISION OF

CLINICAL + MOLECULAR ENDOCRINOLOGY

BAHA ARAFAH, MD | DIVISION CHIEF

The Division of Endocrinology prides itself for focusing on its mission to continue to achieve excellence in providing outstanding patient care, advancing the field through basic, clinical and translational research and also educating the next generation of leaders in our specialty.

The Division's internationally renowned investigators have made important scientific contributions in basic science and clinical research projects covering several disease-specific disciplines within the specialty such as diabetes mellitus, thyroid illnesses as well as diseases of the pituitary and adrenal glands. Many research projects addressing these disciplines have been published in prestigious journals. Our faculty members have had a leading role in the planning and execution of several recent, NIH-sponsored nationwide clinical trials addressing diabetes management and its complications. These landmark studies have had a major impact on clinical practice as they have introduced a new paradigm in the management of some endocrine disorders such as diabetes mellitus. The recent establishment of the new diabetes and obesity program builds on the legacy the Division's contributions to the field.

It is quite an honor and a privilege to work with a group of highly dedicated physicians who are compassionate about delivering the best medical care to their patients and at the same time passing that trait to the next generation of endocrinologists. In advocating a patient-centered approach in the

management of endocrine diseases, our faculty have been recognized nationally for their efforts in promoting the need for integrating the social setting of our patients as well as their educational, economical and personal choices in designing therapeutic interventions.

The training program emphasizes the importance of understanding basic physiological mechanisms along with deep and thorough appreciation of our patients' individuality. The training program also emphasizes independent learning, inquiry and critical appraisal of the literature and prepares our graduates for successful future academic careers as many of our graduates have assumed leadership positions at other institutions.

DIVISION OF

GASTROENTEROLOGY + LIVER DISEASE

FABIO COMINELLI, MD, PhD | DIVISION CHIEF

The Division of Gastroenterology and Liver Disease continues to be an international leader in clinical and translational research, education, and community service. The following programs continue to flourish with important accomplishments and publications: the Cleveland Digestive Diseases Research Core Center, the Program Project Grant: Pathways of Injury and Repair in Barrett's Carcinogenesis, and the Barrett's Esophagus Consortium: Validation of Biomarkers for predicting Barrett's esophagus that will or will not: i) progress towards cancer, or ii) recur after ablation.

The division continues to be successful in large multi-disciplinary National Institutes of Health grants:

- Digestive and Liver Inflammatory Diseases: P30 Center (PI: Fabio Cominelli, MD, PhD)
- Inflammatory Bowel Disease: R01 and CCF Litwin Award (PI: Fabio Cominelli, MD, PhD)
- Barrett's Esophagus: P01 (PI: Amitabh Chak, MD)
- Gastrointestinal Cancers: P50 (Co-PI: Amitabh Chak, MD)
- Case Medical Student Summer Fellowship: T35 (PI: Fabio Cominelli, MD, PhD)
- Combined Training in Digestive Disease Sciences: T32 (PI: Fabio Cominelli, MD, PhD)
- Role of Diet in Patients with IBD: NIH K01 (PI: Abigail Raffner, PhD)
- Role of Fungal Infections in IBD: NIH K01 (PI: Luca Di Martino, PhD)

The division's clinical activity remains highly productive, providing integrated care within the primary and secondary markets, which have further expanded the development of our clinical programs to the east and west sides of Cleveland. We have further developed our Telemedicine Program both in Hepatology and Gastroenterology. All Providers in our Division are currently offering virtual and phone visits to accommodate the needs of our patients and increase patient access. Our division has expanded Therapeutic Endoscopy to St. John's Medical Center on the west side. Another key initiative is we recently partnered with UH Specialty Pharmacy to open a second Infusion Center at UH North Ridgeville with plans to expand to a third location. Finally, our division has integrated a handful of Dieticians to assist with assessing patient's nutritional status and provide personalized nutrition treatments for patients within the UHHS System.

We continue to pursue excellence in all areas of the departmental mission and strive to provide state-of-the-art care for patients with digestive diseases, while at the same time remaining inquisitive researchers and educational innovators.

DIVISION OF

GENERAL INTERNAL MEDICINE

RAJESH CHANDRA, MD, FHM | DIVISION CHIEF

It gives me great pleasure to present our division's 2023 accomplishments that demonstrate our ongoing commitment to patient centered care, quality and process improvement and medical education.

At University Hospitals Cleveland Medical Center, our Teaching Hospitalist faculty continued their excellence in clinical care, averaging a Risk Adjusted Mortality ratio of 0.54 (observed/expected) and Risk Adjusted Length of Stay ratio of 1.35, which based on metrics currently available to us, keeps them on par with peer academic institutions in the Premier database. Additionally, in an effort to improve patient throughput and decrease length of stay (LOS), our hospitalists piloted a novel "Advanced Practice Provider (APP) embedded Teaching team model of care" in which an APP was incorporated into the team with a goal of enhancing discharge efficiency. The 7-month pilot study demonstrated the positive impact of an APP-embedded team compared to a regular teaching team, by posting a 1.2 day shorter LOS and a higher percentage of discharges before 2pm, effects that ultimately translated into a cost savings of over a quarter million dollars for the length of this study.

In Primary Care, our ambulatory faculty continued to deliver an outstanding care experience to our patients and maintained their multiple year survey record of 96 – 100 % Top box choice in Patient satisfaction in the overall domains of "Rate the Provider" and "Recommend the Provider". Additionally, 3 of our faculty members including 2 hospitalists were honored as Cleveland Magazine's "Top Doctors" in 2023.

We are also very proud to be home to outstanding Clinician-Educators who have had a longstanding record of excellence in teaching and educational program development. In keeping with that tradition, our faculty nearly swept the 2023 faculty teaching awards with two division members conferred the Faculty Clerkship Teaching award and Outpatient Teacher of the Year award and a 3rd faculty honored with the Department of Medicine's highest teaching accolade of Master Clinician Educator.

In conclusion, I would like to say that even though we are a small division we have been impactful in all areas of University Hospital's mission to "To Heal, To Teach, To Discover" and I am very proud of my faculty's dedication to high quality service, process improvement and education. In 2024, in addition to continuing our current contributions, one of our top strategic initiatives is to expand our academic Primary Care enterprise at Cleveland Medical Center, so that we can better serve our neighboring community and provide a higher quality primary care educational experience for our trainees.



DIVISION OF

GERIATRICS + PALLIATIVE CARE

AMANDA LATHIA, MD, MPHIL | CHIEF, GERIATRICS; SECTION CHIEF, PALLIATIVE CARE

The Division of Geriatrics and Palliative Care at University Hospitals Cleveland Medical Center (UH CMC) provides clinical services, educational programs, and research activities aimed at improving care and outcomes for older adults and those living with serious illness across the care continuum through compassionate, person-centered, collaborative, and innovative practice.

On the geriatrics side, we offer diverse clinical services across the care continuum including acute inpatient geriatric co-management and consultation at UH CMC; outpatient geriatric assessment and longitudinal care at UH Foley ElderHealth Center; outpatient geriatric assessment clinic at UH Portage Health Center; home visits to homebound patients in the community, including independent and assisted living facilities, through the UH House Calls program; post-acute, memory care, and long-term care at Judson; medical directorship of Judson senior living communities and Judson hospice; and an interdisciplinary falls clinic at UH Parma and UH Foley ElderHealth Center.

Geriatrics highlights in 2023 include:

- Partnership with UH Family Medicine residency program to provide supervision and education of 2nd and 3rd year residents weekly at Judson Park skilled nursing unit
- Continued regular education and supervision of internal medicine interns and of medical students on the inpatient geriatrics consultation service at UH CMC
- Continuation of the geriatric medicine fellowship program

- Collaboration with nursing leadership at UH CMC to increase awareness on the Age Friendly Health System initiative
- Receipt of a micro grant at UH CMC to provide devices to use with older adults with hearing loss in order to improve patient care, experience, and outcomes

The Palliative Care Section continues to exemplify the UH “Art of Compassion” focus through its inter-professional patient- and family-centered approach to care. We are engaged in UH system-wide initiatives to offer services to all UH patients with palliative care needs, and solicit and honor patient values and preferences in the face of life-threatening illness. We encourage early, proactive palliative care consultation among high-risk patients admitted to the ICU. The hospice and palliative care fellowship program was initiated in 2021 and received accreditation in 2022.

Palliative care highlights in 2023 include:

- Expansion of the inpatient palliative care teams at UH CMC, Ahuja Medical Center, and Geauga Medical Center through the hiring of additional nurse practitioners
- Communication training for fellows from multiple specialties at UH CMC
- Weekly virtual palliative care grand rounds, featuring talks from palliative care interdisciplinary practitioners from across the country
- Continuation of well-being mortality rounds at the medical intensive care unit at UH CMC
- Continuation of regular palliative care rounds with ICU teams for patients on extracorporeal membrane oxygenation (ECMO)

DIVISION OF

HEMATOLOGY + CELLULAR THERAPY

KOEN VAN BESIEN, MD, PHD | DIVISION CHIEF

2023 was a year of restructuring, recruitment and growth for the Division of Hematology and Cell Therapy Program. Under new leadership, the Division was reorganized with an emphasis on disease specific research and care.

The Leukemia Program (Ben Tomlinson, MD) excels in the care of older adults with MDS and Acute Leukemia. We provide access to numerous novel drugs and drug combinations that are more efficacious and better tolerated. Assessment and mitigation of frailty and social barriers allows us to offer curative donor transplants to many older patients.

The Lymphoma and Chronic lymphocytic leukemia (CLL) program (Changchun Deng, MD, PhD, Director) was marked by rapid growth of research protocols, now offering innovative options in both frontline as well as relapse settings. As the treatment landscape in lymphoma is increasingly dominated by CAR T-cell therapy, we are a leader in this field. Our in-house rapid CAR T-cell program has accrued 5 patients with exciting preliminary results. Our first patient, an older man with aggressive mantle cell lymphoma has achieved a durable remission with minimal side effects.

The Myeloma program has been completely reorganized over the past year. New bispecific antibody treatments (BITEs) and CAR-T's are revolutionizing treatment and prognosis and we are poised to be at the forefront. We recently opened a trial for B cell-activating factor (BAFF) CAR T-cell. This novel targeted therapy, developed by UH scientists, provides yet another treatment option for our patients.

The care of patients with sickle cell disease (Sam Anim, MD, Director) is entering a new era. Several new medications have been approved to alleviate sickle cell symptoms. But even more exciting is the recent approval of gene therapy for patients with sickle cell disease – finally a curative therapy with wide implementation. UH Rainbow and Seidman Cancer Center are the major referral center for sickle cell care in Cleveland and are one of a few centers in Ohio to offer both gene therapy and allogeneic transplant for patients with advanced sickle cell disease.

The study of bleeding and clotting disorders (Lalitha Nayak, MD Director) has a long tradition of excellence at UH. We continue to build on this excellence with several faculty members overseeing research labs and a budding clinical research program.

The Cell Therapy program (Koen van Besien, MD, PhD) is enmeshed with each of the disease programs and offers advanced therapeutic including stem cell transplant, CAR T-cell and gene therapy. The program is driven by innovation and quality. It was fully reaccredited by the Foundation for Accreditation of Cell Therapy and outcomes as reported by the National Marrow Donor Program are excellent. Innovation is driven by our close integration with the Wesley Center for Immunotherapy and the National Center for Regenerative Medicine.

Finally, the combined Hematology/Oncology Fellowship under the direction of Dr. Benjamin Tomlinson, continues to do very well. Five new fellows were recruited, two of them are Harrington scholars, and we were able to recruit our highest ranked applicants.



DIVISION OF

SOLID TUMOR ONCOLOGY

JORGE GARCIA, MD, FACP | DIVISION CHIEF

What are our strengths; what are the possibilities; what are our dreams and aspirations; what are the meaningful outcomes? These are the vital questions our division must embrace as we embark on a new year. Defining our individual and collective destiny demands dedication and resilience and cannot solely rely on external influences. It is essential to acknowledge that healthcare in our country faces unprecedented uncertainty and complexity. These challenges compel our faculty to embrace the diversity within our teams and recognize the significance of team effectiveness and clinical/academic productivity.

In 2023, our division demonstrated remarkable clinical and academic productivity, and our new faculty members are finding their paths in their respective fields. Undoubtedly, this journey differs for each of us, emphasizing the importance of supporting and mentoring those who need it most. As we embrace these differences, our division has initiated programmatic changes to address our strengths and aspirations. Our ultimate goal is to have every person who cares for one of our patients fully engaged in our mission to deliver the most sophisticated, innovative, compassionate, and state-of-the-art cancer care to every patient that enters our institution. We must connect the dots between individual values and purpose and our institutional values, purpose, and vision.

Three clinical programs of significant importance for our division include our oncology supportive and palliative program, our cancer patient survivorship program, and the integrative oncology program.

These programs are integral components of our comprehensive approach to cancer care, addressing the diverse needs of our patients at different stages of their cancer journey. Several initiatives aimed to expand these services are underway.

Equally important is the development of our young onset gastrointestinal (GI) cancer program. This initiative recognizes the unique challenges and complexities faced by individuals diagnosed with GI cancers at a younger age. Our comprehensive approach, combined with our commitment to innovation, research, and continuous improvement, sets us apart as a center of excellence in the field. By focusing our efforts on this critical patient population, we can make a significant impact on their lives and establish ourselves as leaders in young onset GI cancer care on a national scale.

Moving forward, research expansion will become a top priority. While our accrual to therapeutic trials continues to improve, we recognize the importance of producing smart trial designs and creating disease-specific research portfolios that reflect the population of our catchment area.

As the academic year unfolds, we envision our division becoming a pioneering force in oncology research, setting new standards of excellence and innovation in the field. I cannot be more excited for what this new year will bring and how we can contribute to the life of those who we serve and to the overall strategic vision of our healthcare system.



DIVISION OF

INFECTIOUS DISEASES + HIV MEDICINE

W. HENRY BOOM, MD | DIVISION CHIEF

2023 has seen a continued return to a more normal year for the Division with fading of the COVID-19 pandemic and recognition that RSV and Influenza are also major respiratory pathogens. Research and service remain strong components of the Division in addition to its robust clinical programs and graduate medical education.

While antimicrobial resistance, HIV/AIDS and its complications, toxoplasmosis, and tuberculosis remain major research foci of the Division, 2023 saw continued expansion in the areas of human vaccinology of viral respiratory infections including influenza, RSV, and COVID-19. This newer expanding focus bridges CWRU, VA, and UH with studies on immune responses in the elderly to respiratory infections and vaccines, initially flu and expanded to COVID-19 in 2021. It was further expanded with a 5-year CDC contract based at UH for the “Cleveland Ohio Respiratory Viruses Vaccines Effectiveness across Traditional Risk Factors and Social Determinants of Health (CORVETS)”. Faculty continue to lead or are involved with major University-wide ID programs including ACTU, Case-VA CARES, Center for AIDS Research, Center for Global Health and Diseases (CGHD), GRECC and TBRU.

The weekly Global Health and Infectious Diseases (GHID) Research Seminar, jointly sponsored by the Division of ID and CGHD has become one of the best attended seminar series on the UH-CWRU campus bringing together students, postdoc trainees, and faculty from the wider ID community. The global focus of the Division remains on Uganda where Divisional faculty (Boom, Johnson, Salata) have led major clinical research programs in HIV and TB since the beginning

of the Uganda-CWRU Research Collaboration (UCRC) in 1988. The generous gift from Ms. Roe Green to UH and CWRU in 2023 will allow construction of a research and education building in Kampala to house our research and training programs there in 2024. Research funding in the ID division for 2023 continues to be robust at \$24.2M million (\$13.9M CWRU, \$5.5M UH and \$4.8M VA (\$3.1M VA Merit/CDA & \$1.7M Foundation)).

Clinical service demands continue to increase at the VA, UHCMC, and the UH system. Major clinical programs include traditional infectious diseases consultation, transplant ID, HIV/AIDS care, and travel medicine. ID faculty also staff the Carpenter Service, an infectious diseases-focused internal medicine team at UHCMC. We also provide ID support remotely to Samaritan Hospital in Mansfield, Ohio. Other major UHCMC and UH system ID activities led by our faculty include antimicrobial stewardship (Leila Hojat), infection control (Elie Saade) and internal medicine residency training (Keith Armitage). In 2023 we were able to initiate recruitment of clinical track faculty for the increased service demands, and we plan to recruit 3-4 new faculty in 2024 for transplant ID, increased infection control, and stewardship needs, as well as an Assistant Program Director for our ID fellowship.

Faculty remain active in 2nd year medical school teaching in microbiology and infectious diseases (Block 5), graduate courses, supervising PhD and MD-PhD students in their labs, serving on thesis committees, and through clinical teaching of our medical students, residents, and ID fellows.



DIVISION OF

NEPHROLOGY + HYPERTENSION

MAHBOOB RAHMAN, MD | DIVISION CHIEF

The Division of Nephrology and Hypertension continues to excel in providing care to patients with kidney disease throughout Northeast Ohio. In addition to excellence in patient care, the division has innovative programs in optimizing care of patients with advanced kidney disease, improving blood pressure control, and care of complex patients with glomerular disease.

Collaboration between University Hospitals Cleveland Medical Center and the Louis Stokes Cleveland Veterans Affairs Medical Center continues to be strong, as does the longstanding relationship with the Centers for Dialysis Care. Members of the division play key leadership roles in the kidney and pancreas transplant programs at the University Hospitals Transplant Institute; in 2023, 191 kidney transplants were performed at UH Cleveland Medical Center reflecting one of the most successful years in the history of the transplant program. The Onco-Nephrology program at UHCCMC, is nationally recognized for the care of patients who have cancer and kidney disease.

The Division has provided major leadership for key National Institute of Health sponsored multicenter research trials including the Systolic Blood Pressure Intervention Trial and the Chronic Renal Insufficiency Cohort Study. Other areas of research include factors that influence the progression of chronic kidney disease and studying the association between kidney and cardiovascular disease. Our faculty continue to publish papers in high profile journals and contribute to growing knowledge in the field.

Faculty members are active in national societies spearheading the transformation of Nephrology into a precision medicine based specialty.

The Division has a successful training program for clinical nephrology fellows and participates in a National Institute of Health training grant for the training of physician-scientists. We are also accredited by the American Society of Transplantation to train fellows in transplant nephrology. Our trainees benefit from both bench and translational opportunities in a multidisciplinary environment encompassing the Departments of Medicine, Pathology, Physiology, and Biophysics.

The ultimate goal of the division is to prepare tomorrow's academic physicians, scientists, and clinician-educators to continue our mission: To Heal, To Teach, and To Discover.



DIVISION OF

PULMONARY, CRITICAL CARE + SLEEP MEDICINE

FRANK JACONO, MD | DIVISION CHIEF

“Breathe Better, Sleeping Well”. We strive to be a diverse and inclusive division with research, teaching, and clinical activities aligned to provide innovative, value-based, and patient-centered care throughout the communities we serve.

The Division of Pulmonary, Critical Care & Sleep Medicine has worked to sustain quality, implement new programs and expand our clinical footprint over recent years. Under the leadership of Frank J. Jacono, MD, the division continues to strengthen our role as a national leader in the delivery of quality care through our integrated clinical practice, disease-focused centers of excellence, innovative research, and professional education.

We continually seek to enhance the care we provide throughout Northeast Ohio. Our clinical expertise includes asthma, COPD, cystic fibrosis, lung nodule, lung cancer, pulmonary hypertension, pulmonary vascular disease, allergic lung disease, interstitial lung disease, lung transplantation, sleep disorders, interventional pulmonology, pulmonary rehabilitation, and advanced pulmonary function testing.

The MICU team led by Rana Hejal, MD, is integrating multidisciplinary critical care teams across our healthcare system, with outcomes and quality metrics exceeding expectations. Silpa Kilaru, MD, Medical Director of Lung Transplantation, is helping to expand this service and advance state-of-the-art treatment of patients with end-stage lung disease. Our system-wide AASM-accredited Sleep Medicine program provides multi-disciplinary care under the leadership of Susheel Patil, MD. Our adult Cystic Fibrosis program, accredited by the Cystic Fibrosis Foundation Center

Committee and led by Alex Gifford, MD, continues to provide nationally recognized care for adults with CF for over 60 years. Ken Remy, MD, was named the Inaugural Director of the Case Western Reserve University and University Hospitals of Cleveland Blood, Heart, Lung, and Immunology Research Center.

The Division maintains three ACGME clinical fellowship programs: Pulmonary/Critical Care, Sleep Medicine, and Allergy/Immunology. Our goal is to produce excellent clinicians trained in the art and science of medicine, with a strong research component, ready to succeed as leaders in academic and clinical settings. This is exemplified by the fact that several projects led by our fellows were awarded GME Medical Innovation Award pilot funding.

The Division boasts a broad-based research enterprise with numerous active investigations in clinical, translational, and basic research at UHCMC, the VA Medical Center, and Case Western Reserve University, resulting in multiple publications and grant support. Major areas of research emphasis include sleep apnea, infection prevention, sepsis, acute lung injury, neural control of breathing, pulmonary immunology and inflammation, immune monitoring, brain-organ interactions and developing bio-surrogates of disease progression and patient trajectory, as well as numerous clinical trials focused on investigational therapies to treat a range of diseases including COPD, pulmonary hypertension, sepsis, ARDS, and COVID-19.

DIVISION OF

RHEUMATOLOGY

MARINA MAGREY, MD | DIVISION CHIEF

The Division of Rheumatology continues to grow in reputation in Northeast Ohio and nationally. Our faculty, staff, and trainees had an outstanding year advancing our clinical, research, and teaching missions.

The division's clinical activity remains highly productive, providing integrated care to patients with complex rheumatic diseases. We have expanded the development of our clinical programs to the east and west sides of Cleveland with 5,858 new patient visits and 26,638 follow-up visits in the last year. We developed a virtual consult program for patients admitted to Ahuja Hospital.

The research programs of the division continue to grow. We are collaborating with Johns Hopkins University in a clinical trial funded by the National Institute of Health's Helping to End Addiction Long-term Initiative—the Sequenced Strategy for Improving Outcomes in People with Knee Osteoarthritis Pain (SKOAP) study. We have started new trials in systemic lupus erythematosus and are collaborating with our international partners, ASAS and GRAPPA, for axial spondyloarthritis trials. The 21st annual Spondyloarthritis Treatment and Research Network (SPARTAN) meeting, which took place in Cleveland, was planned and chaired by Dr. Magrey. The conference celebrated the 50th anniversary of the HLA-B27 gene discovery and its pivotal connection to hereditary factors in spondyloarthritis. Approximately

200 rheumatologists from around the world converged both in person and virtually to discuss the remarkable evolution of the field of spondyloarthritis over the past five decades. Patients with axial spondyloarthritis from University Hospitals also participated in the meeting.

Our faculty remains very active in teaching and participating in Block 5 rheumatology lectures at the medical school and supervising MD and MD-PhD students in the Clinics. We have made significant progress in the scholarly activities of our trainees, who presented 11 abstracts at the American College of Rheumatology Convergence meeting in San Diego and had multiple papers published in peer-reviewed journals. Dr. Mattar joined the American College of Rheumatology Workforce project to develop virtual Grand Rounds for Family Medicine, Internal Medicine, and Pediatric Resident Programs. Our faculty remain engaged in various committees at CWRU.

We continue to provide state-of-the-art care to our patients, expand our research of developing new biomarkers and reducing co-morbidities in patients with rheumatic diseases, and provide high-quality education to our trainees.



HARRINGTON DISCOVERY INSTITUTE

JONATHAN S. STAMLER, MD | PRESIDENT

While Harrington Discovery Institute scholar programs have expanded to include scientists working in multiple areas of unmet need, supporting physician-scientists remains at the core of what we do. We were pleased to see numerous Harrington scholars reaching critical milestones in 2023. Successful scholars include:

- **2014 Harrington Scholar Jean Tang, MD, PhD, Stanford University:** Sol-Gel Technologies acquired orphan drug candidate Patidegib and announced Phase 3 testing of SGT-610 (patidegib gel, 2%) for Gorlin syndrome with the first patient screened.
- **2018 and 2020 Harrington Scholar Jeffrey Glenn, MD, PhD, Stanford University:** Published findings from a multicenter Phase 3 trial that a single dose of pegylated lambda-interferon, or PEG-lambda, reduced hospitalization among COVID-19 outpatients.
- **2020 Harrington Scholar Michel Nussenzweig, MD, PhD, The Rockefeller University:** Aerium Therapeutics licensed monoclonal antibodies from Rockefeller University which included AER004, discovered by Dr. Nussenzweig, to protect immunocompromised persons against COVID-19.

The year saw an increased focus on rare diseases. The Oxford-Harrington Rare Disease Centre (OHC) launched its Therapeutics Accelerator with an aggressive goal to deliver 40 new therapies for rare diseases into clinical trials over the next ten years. The Accelerator receives support from a partnership between University

Hospitals, University of Oxford, and investment company Oxford Science Enterprises. Former U.K. Prime Minister David Cameron was announced as the founding chair of the OHC Advisory Council.

Harrington made six investments in companies developing treatments for neurodegenerative disorders, respiratory diseases, cardiovascular, autoimmune, and osteoarthritis. Harrington portfolio companies reported strong progress, including:

- **Allyx Therapeutics, (2019 Harrington Scholar-Innovator Stephen Strittmatter, MD, PhD, Yale University)** presented Phase 1a single ascending dose study results showing that all doses of its oral therapy ALX-001 were well tolerated, up to and including levels high enough to achieve full brain target engagement.
- **AcuraStem (2017 Harrington Rare Disease Scholar Justin Ichida, PhD, University of Southern California)** announced it entered into a license agreement with Takeda to develop and commercialize AcuraStem's PIKFYVE targeted therapeutics including AS-202, an innovative antisense oligonucleotide for the treatment of Amyotrophic Lateral Sclerosis.

With more than 175 drugs-in-the-making, 65 institutions supported, the launch of 38 companies, 19 clinical candidates and 15 licenses to pharma, Harrington Discovery Institute is rapidly expanding its footprint while staying true to its mission of advancing new medicines for the benefit of humankind.

VETERANS AFFAIRS

SHERRIE DIXON WILLIAMS, MD, MHS | CHIEF OF MEDICINE, CLEVELAND VA MEDICAL CENTER

The **Acute Medicine Section** led by Dr. Laura Brown celebrated the promotion of Amy Hise to Professor and welcomed 13 junior faculty appointments. Dr. Attila Nemeth was accepted into the American Board of Medical Specialties (ABMS) Visiting Scholars Program for the 2023-2024 cohort. Dr. Paul Shaniuk & Dr. Nadim El Chakhtoura were recipients of Scholarship in Teaching Awards for educational projects at the CWRU Annual Educational Retreat in Spring 2023. Other faculty members continue to publish in peer reviewed journals, engage in research and medical leadership.

The **Cardiology Section** congratulated Dr. Jose Ortiz on his semi-retirement after 18 years as Section Chief. The section continues to offer top-of-the line general cardiology care in addition to advanced cardiac care including structural, interventional, imaging, electrophysiology, and advanced heart failure. Dr. David Zidar's research program as a translational immunologist has been highly successful over the last several years, leading to over 7 new NIH or VA grants totaling over \$5 million. The Advanced Heart Failure team led by Dr. Varun Sundaram continues a successful trajectory in research, obtaining a VA merit grant and presenting groundbreaking findings at the Late Breaking Clinical Science Session at the 2024 European Society of Cardiology Heart Failure Congress.

Dr. Laure Sayyed-Kassem leads the **Section of Endocrinology** and the fellowship program. This year the section welcomed Dr. Kavita Nyalakonda as the Medical Director for the ever-growing weight

management program. The National Diabetes Field Advisory Board chose VANECHS as a site of Continuous Glucose Monitoring best practices.

Geriatrics/Palliative Care and the Geriatric Research Education Center (GRECC) had a very busy year.

Clinically, GeriPACT remains the 2nd most productive 1a GeriPACT facility nationwide. The section continues to train significant numbers of learners including medical students, residents, and geriatric fellows. In 2023, Dr. Muralidhar Pallaki became the Medical Director of the GRECC. Expanding tele - palliative care is a national priority and the section under Dr. Cory Chevalier's palliative care leadership has been working with pharmacy and nursing to bring new order sets and medication therapy to end of life care for Veterans. There are now educational offerings for trainees in the inpatient hospice unit, Heroes Harbor.

Dr. Yngve Falck-Ytter and the **Gastroenterology Section** lead an advanced multidisciplinary liver lesion and hepatitis C program. They have expanded GI/liver specialty access in Akron with the addition of Dr. Sheriff. The section remains strong in research and publications. Dr. Katarina Greer was the recipient of a \$1.1 million grant from the Department of Defense for her research project entitled "Nonendoscopic Screening for Barrett's Esophagus and Esophageal Cancer in At-Risk Veterans Without History of Chronic Gastroesophageal Reflux".



The **Hematology/Oncology Section** is busy with clinical research and clinical expansion. The Clinical Research Center in conjunction with the Cleveland VA Research and Education Foundation, and Dr. CJ Nock were selected as one of four VA sites to take part in the NCI and VA Interagency Group to Accelerate Trials Enrollment (NAVIGATE) program expansion. The overarching goal of this program is to establish and cultivate a VA consortium of sites to successfully participate in NCI National Clinical Trials Network (NCTN) and NCI Community Oncology Research Program (NCORP) activities. Section Chiefs, Dr. Michelle Treasure and Dr. Timothy O'Brien have recruited faculty and support staff to expand services in Cleveland and Akron. The Akron infusion center will open in late April 2024 under the leadership of Dr. Katherine Leininger with support from Julie Broze, CNP.

The **Infectious Disease Section** led by Dr. Usha Stiefel, recently promoted to Professor, continues to excel in Antimicrobial Stewardship. Their IDSA designation as a Center of Excellence was renewed competitively in 2023. In addition to offering a long COVID program, ID continues to deliver a robust HIV program with VA faculty who are national leaders. Dr. Lewis Musoke and Dr. Puja Van Epps received the IDSA 2023 Program Committee Award and Dr. Musoke delivered a presentation at the IDSA annual meeting in Boston. Dr. Curtis Donskey was awarded the 2024 Distinguished Scientist Award from the Association for

LEFT TO RIGHT

LAURA BROWN, MD
ARABI NASO, MD
NIRAJ DESAI, MD
RAWAD EL GHOUL, MD
MOHAMMAD SHATAT, MBBS
MICHELLE TREASURE, MD
TIMOTHY O'BRIEN, MD
LAURE SAYYED-KASSEM, MD
YNGVE FALCK-YTTER, MD
MURALIDHAR PALLAKI, MD

NOT PICTURED

USHA STIEFEL, MD
MAYA MATTAR, MD
JOSE ORTIZ, MD, FACC



Professionals in Infection Control and Epidemiology. The section is a national leader in HIV, LGBTQ health, and drug resistant organisms and has over 93 publications in the last year.

Dr. Niraj Desai and the **Nephrology Section** have a robust research presence. Staff are actively involved in education and utilize a homegrown CKD database to improve CKD detection, use of medications to slow progression of CKD, and enhance referral to nephrology clinic.

The **Pulmonary/Critical Care and Allergy Section** led by Dr. Mohammad Shatat has a robust interventional pulmonary program with the largest bronchoscopic lung volume reduction program in the VHA (Dr. DiFelice). The section remains strong in NIH and VA funded research (Dr. Jacono and Dr. Silver) and the section has close collaboration with oncology in the lung cancer screening program.

Dr. Maya Mattar and the **Rheumatology Section** offer comprehensive care in Cleveland and Akron, and monthly injection clinic in Canton and Youngstown. They also offer telehealth services in Chillicothe. They offer a multi-disciplinary collaborative clinic with dermatology in Cleveland, MSK consults and e-consults in osteoporosis. They remain strong in teaching and research endeavors.

Dr. Rawad El Ghouli and the **Sleep Section** welcomed new faculty members Dr. Nhi Lam and Dr. Suzanne Mazhuvanchery. The staff continues to care for a record number of patients and congratulates Dr. Ambrose Chiang on several peer reviewed papers and book chapters and his invitation to be the guest editor of a special issue on sleep technology: "The Promise of Sleep Technology".

A black and white portrait of Dr. Betul Hatipoğlu, a woman with shoulder-length wavy hair, smiling. She is wearing a dark blazer over a floral patterned top. Her hands are clasped in her lap.

DIABETES + METABOLIC CARE CENTER

BETUL HATIOĞLU, MD | MEDICAL DIRECTOR AND VICE CHAIR, UH SYSTEM CLINICAL AFFAIRS

The overarching mission of the Diabetes & Metabolic Care Center is to empower individuals with diabetes, obesity, and related metabolic conditions to live longer, higher-quality lives. Through multidisciplinary teamwork and system-wide patient care initiatives, we continue to innovate in diabetes and metabolic care. Our multidisciplinary team grew this year and now includes four physicians, three advanced practice providers, one diabetes clinical pharmacy specialist, two diabetes care and education specialists, one registered dietitian, and one clinical psychologist. We have grown so much that in August 2023, we opened the UH Diabetes & Metabolic Care Center at Monarch, a dedicated clinic space.

As the Center grows, we continue to provide innovative clinical solutions, including our diabetes population health efforts, hypoglycemia reduction, individualized obesity treatment approach, nationwide diabetes quality-improvement efforts, patient wellness retreats, technology trials, and research interventions to address barriers to self-management. Our Obesity Program continues to succeed in patient attendance and weight loss outcomes. We collaborated with various departments and included patients with complex medical needs. We added an additional dietitian and an eating disorder Clinical Psychologist and expect more expansions in 2024.

Improving the quality of diabetes care and education also remains central to our mission. In 2023, we analyzed follow-up data from our Diabetes Population Health Collaboration, Diabetes System of Excellence, led by Jillian Fetzner, CNP. Our findings, that A1C significantly decreased, were presented at American Diabetes Association's Scientific Sessions and published in Population Health Management. Additionally, the inpatient endocrinology service partnered with the

pharmacy department to provide patients access to meds2beds, the pharmacy platinum program, and the hospital discharge clinic. These programs allowed for close follow-up, medication titration, improved outcomes, and reduced readmission rates. Through an extensive data review, we found that inpatient hypoglycemia rates are very high, with significant amounts attributed to non-insulin cases. We are preparing to implement an FDA-approved, computer-directed insulin dosing decision support algorithm to help improve inpatient hypo/hyperglycemia. We are also working with anesthesia to create a safe and effective protocol for perioperative insulin management. Lastly, we are thrilled to announce that we are now a site for the Type 1 Diabetes Exchange Quality Improvement Collaborative (T1DX-QI), which brings together over 50 clinics from across the US to improve best clinical practices for type 1 and 2 diabetes, led by Dr. Yumiko Tsushima.

Our team had a very productive year in research with eight active research investigators who published 21 peer-reviewed articles and led over 20 clinical research trials. Dr. Betul Hatipoğlu's diabetes and metabolic care retreat program had five one-day-long programs with over 98 attendees in 2023. We are excited to expand the retreat program and continue collecting data for type 1 diabetes and mental health in 2024! Julia Blanchette, PhD, also brought in over \$2.3 million from the Helmsley Charitable Trust to develop a type 1 diabetes financial and health insurance toolkit. We are also proud to be a site for an automated insulin delivery system trial for type 2 diabetes led by Dr. Hatipoğlu and Natalie Bellini, DNP.

We are excited to launch more diabetes programs in 2024 and are proud to continue growing diabetes and metabolic patient care, research, and education at University Hospitals.

GRADUATE EDUCATIONAL PROGRAMS

KEITH ARMITAGE, MD, MACP | VICE CHAIR, EDUCATIONAL PROGRAMS

The Internal Medicine residency program at Case Western Reserve University, University Hospitals, and the Cleveland Veterans Affairs Medical Center is based on two primary themes: career development and patient care. While engaging in their professional development our residents continue to provide outstanding care to patients at UH and the Cleveland VA. Below are select accomplishments from the 2022-2023 academic year.

- Our Chief Residents were instrumental in the implementation of the EPIC electronic medical record system at University Hospital. They took part in 'train the trainers programs' and were highly integrated into the EPIC roll-out operations.
- The IM residency had it largest NRMP match ever. Due to the increase in the size of the training program following the integration of the residents From St. Vincent's, we have increased the number of intern positions in the match by eight. Despite the larger intern cohort in the NRMP match the program did very well, matching an outstanding PGY1 class – the largest ever in our history.
- Under the leadership of Dr. Debra Leizman, Clerkship Director, and Director of Undergraduate Education, the student programs at UH and VA remain the highest ranked among the optional sites for CWRU students.
- Twelve 2023 residency graduates will be staying at UH/VA for fellowship or faculty positions. In addition, our residents continue to excel in the

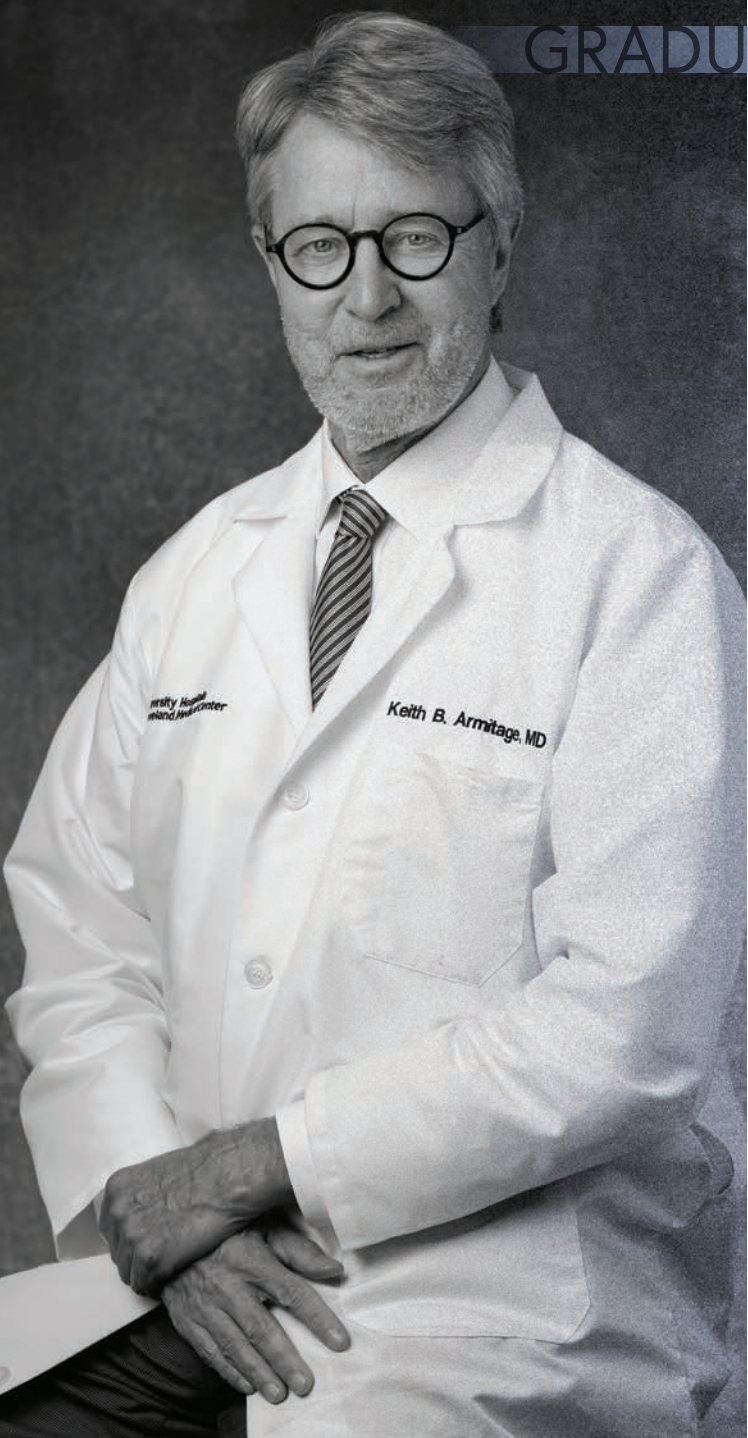
Subspecialties match- with residents matching into many of the most competitive programs in the most competitive subspecialties.

- The Department of Medicine sponsored fellowships in thirteen subspecialties. All subspecialty programs received full accreditation from the ACGME in 2023.

The continuing education component of the educational program remains strong. As examples, weekly Grand Rounds and Morbidity & Mortality Conferences provide outstanding education for students, residents, and faculty while also providing type 1 CME for faculty. We moved to a hybrid Zoom/in person format for large conferences. We continue to offer ABIM MOC Part 2 credit for faculty who attend Grand Rounds.

The Department of Medicine educational programs continue to evolve in the 'post-COVID' era with more use of remote learning and some conferences in a hybrid in-person and remote learning format.

The Department is prepared to meet new health care challenges through the strength and balance provided by the excellence and expertise of our faculty in fulfilling our mission of exemplary medical care, development and application of new knowledge, as well as superior training of health care professionals.



UNDERGRADUATE EDUCATIONAL PROGRAMS

DEBRA LEIZMAN, MD, MACP | DIRECTOR, INTERNAL MEDICINE CLERKSHIP

The Department of Medicine faculty serve as mentors and teachers for medical students, primarily those from Case Western Reserve University (CWRU) School of Medicine, each year contributing hours of direct teaching time for CWRU medical students at every level of their education. The UH faculty effort represents more than 40 percent of total faculty teaching time for the CWRU medical school. Our Internal Medicine residents are integral to the teaching mission supporting students on the wards, leading physical diagnosis and small group sessions at the medical school and in the hospital. Northeast Ohio Medical University (NEOMED) College of Medicine is another new primary affiliate and we are engaged in teaching and mentoring their medical students primarily in the community but also involving students in research and innovation opportunities.

Medical student education highlights from the 2023-2024 academic year include

- Our combined 3rd year Internal Medicine core clerkship program at UH/VA continues to be the highest rated clerkship experience for students at CWRU. We offer clerkship spots to 96 CWRU medical students during their 3rd year Internal Medicine (IM) core clerkship. Students may rotate at University Hospital (UH) Cleveland Medical Center and at The Louis Stokes Cleveland Veteran's Administration (VA) Medical Center for their 3rd year clinical experiences.
- UH St. John Medical Center also offers a 3rd year Internal Medicine clerkship opportunity for 20 Northeastern Ohio Medical College (NEOMED) students. Next year Geauga, Parma and Lake will offer Internal Medicine clerkship spots to NEOMED students as well.

- 125 medical students (96 from CWRU, 4 from Technion, 7 from NEOMED and 18 from other medical schools) completed a 4th year acting internship in Internal Medicine at UH/VA. Other divisions hosted another 75 medical students for electives.
- 47 medical students, nearly 25% of the 2024 CWRU graduating class, chose a career that includes Internal medicine with 45 students matching into a residency program in Internal Medicine, 2 into a combined residency program in Internal Medicine-Pediatrics. Several students also matched into preliminary spots in Internal Medicine as well.
- More than 130 letters were submitted by the Department of Medicine on behalf of medical students in support of their residency applications.
- The majority (44%) of first year CWRU medical students found research projects with UH faculty for the first mandatory research summer. Medical students participate in research with UH and VA Department of Medicine faculty at many different times throughout their medical school career beyond the formal thesis.

The Department of Medicine sponsors and advises the CWRU School of Medicine Internal Medicine Interest Group which hosts events throughout the academic year. These events provide venues for students to interact with residents, fellows, and attending faculty in the Department and to learn about research, clinical opportunities, and potential careers in Internal Medicine.

The Department of Medicine's commitment to scholarship, excellence in patient care and research allows us to offer exceptional educational opportunities for future health care professionals.



A black and white portrait of W. Henry Boom, MD, a middle-aged man with light-colored hair, wearing a dark sweater over a collared shirt. He is smiling slightly and looking towards the camera. The background is dark and textured.

RESEARCH

W. HENRY BOOM, MD | VICE CHAIR, RESEARCH PROGRAMS

The Department of Medicine's research programs continue to expand both in existing strengths as well as new areas. Awards to its faculty through Case Western Reserve University, Louis Stokes Cleveland VA and University Hospitals Clinical Research Center increased by 12.5% to \$71.0M in 2023 (\$31.5M CWRU (\$23.5M direct/\$8.0M indirect), \$32.3M UH and \$ 7.2M (\$5.1M VA Merit/CDA & \$2.1M VA Foundation)).

The Department of Medicine continues to have the largest research portfolio at both UH and VA. The renewed and invigorated affiliation between UHMC and CWRU has allowed for continued growth in clinical research funding through UH, with a remarkable 39% increase since 2021. During 2023, the DOM saw new basic and translational science research programs initiated or expanded in Barrett's Carcinogenesis (A. Chak), Artificial Intelligence for Detection of Cardiovascular Disease (S. Rajagopalan) and diabetes care (J. Blanchette). The VA continues to build robust research programs in medicine with a goal of strengthening VA collaborations across the Cleveland biomedical research community, through VA CARES, the Case Comprehensive Cancer Center and the Cleveland Digestive Diseases Core Center.

The 13th annual Research Day held in May was finally able to be held in person in CWRU's Tinkahm-Veale University Center, and was extremely well attended by faculty, fellows, residents, and students. Three very diverse and excellent faculty presentations led the event, followed by a highly interactive poster session- a testimony to the vibrancy of research in the Department's trainees with 78 posters (34 by residents, 13 by fellows and 31 by students). The Department of Medicine's successful Team Science Initiative has been rolled into a larger initiative through UH Research and Education Institute (UH-REI) to fund interdisciplinary research across Departments at UH and CWRU.

The Harrington Physician-Scientist Pathway recruited one new resident. This track provides residents aspiring to research careers direct admission to research training in the subspecialty of their choice after two years of training in general internal medicine. Drs. Proweller and Armitage lead this program, now in its 11th year.

QUALITY + STRATEGIC INITIATIVES

HEATHER GORNIK, MD | VICE CHAIR, QUALITY & STRATEGIC INITIATIVES

In 2023, the role of Vice Chair of Quality and Strategic Initiatives was created in the Department of Medicine. Dr. Heather Gornik is the first to serve in this role.

This year's activities have focused on coordinating the development of the 5-year strategic plan for the Department of Medicine.

Based upon a series of structured interviews conducted by Dr. Gornik with all division chiefs, vice chairs, Veterans Administration (VA) leaders, and additional key stakeholders during the summer of 2023, a comprehensive assessment of the Department in its present state was completed. Key strengths of the Department of Medicine identified by interview of its leaders were: its strong leadership team including Dr. Salata and Kim Sanders; its important role as an "academic hub" and the linkage to the CWRU School of Medicine; excellence of the Department's people across clinical, academic, and interpersonal/collaborative domains; strength of its medical education and training programs, including the internal medicine residency programs.

Based upon the leadership interviews, we have identified strategic goals for the evolution and growth of the Department of Medicine in the next 5-years:

1. Develop the UH Department of Medicine as a leader of adult medical care across the UH health system
2. Strengthen and grow the academic portfolio of the Department and its partnership with CWRU School of Medicine

3. Make the Department a forum for faculty recruitment and development, engagement, and retention

4. Strengthen the partnership of UH and the VA within the Department of Medicine

5. Expand Departmental activities related to diversity, equity, and inclusion

Targeted initiatives to address each of these goals were developed by five individual task forces led and comprised of Department physician and administrative leaders at University Hospitals, the VA and our internal medicine chief medical residents. A strategic planning retreat will be held at the Cleveland Medical Center in the spring of 2024 where Department members will work to finalize and prioritize proposed initiatives. We look forward to presenting the proposed strategic plan in the second half of 2024 and intend to engage many members of the Department in its initiatives in the years ahead.



DIVERSITY + DEVELOPMENT

USHA STIEFEL, MD | VICE CHAIR, DIVERSITY AND FACULTY DEVELOPMENT

In 2023, faculty in the Department of Medicine continued to flourish academically. From January of 2023 thru January of 2024, eighteen Department of Medicine faculty achieved senior-level promotion to Associate or Full Professor, or received the Award of Tenure. This talented and diverse group encompassed seven women faculty, eleven faculty based primarily at University Hospitals, seven VA faculty, and even one married faculty pair who achieved the rank of Associate Professor synchronously. Divisional support of faculty was broad, and nine different faculty divisions were represented among those promoted. Most promoted faculty had previously taken advantage of the Department's Committee on Appointments, Promotions, and Tenure (DCAPT) pre-reviews of curriculum vitae, which offer valuable portfolio feedback to faculty who are considering whether to submit for academic promotion. Additionally, to sustain the level of equity and fairness critical to a high-quality promotions process, the entire committee continues to participate in formal bias training at the beginning of each academic year, in a process that the Department of Medicine may assist other departments to implement in the upcoming years.

Education surrounding diversity, bias, and environment continues to be a focus for the Department. From grand rounds sessions on psychological safety in medical education and on eliminating racism in clinical supervision, to workshop sessions on the importance of building diversity into research teams, faculty and trainees have taken part in ongoing programming intended to optimize inclusivity and wellbeing within the Department. In terms of professional development,

Departmental participation in extensive School of Medicine and University programming has continued. Additionally, novel programs developed by the Department have been externally commended, as the WIN (Women In Networks) professional development program for women faculty throughout the University, implemented in 2023 by the Faculty Senate Committee on Women under leadership from Department of Medicine faculty, has been selected by the CWRU School of Medicine as a recipient of a 2023 Scholarship in Teaching Award.

As always, the Department continues to take pride in the quality of its mentorship. In 2023, the CWRU School of Medicine's Faculty STAR Award was won by Department of Medicine faculty member Dr. Federico Perez. This award, given annually by the School to only one individual per year among 3400 School of Medicine faculty, remains one of the highest honors given by the School for accomplishment in the realm of supporting other faculty. His selection only continues a strong tradition of excellence in mentorship, as other Department of Medicine faculty have also secured mentoring awards from the School of Medicine most recently in 2020 and 2021. This highlights the fact that of course, the most important and precious resource sustaining our Department's commitment to the development of its faculty and trainees remains those outstanding faculty and trainees themselves.



A black and white portrait of Kimberly Sanders, Administrative Director of Medical Services. She is a woman with shoulder-length, wavy blonde hair, smiling at the camera. She is wearing a dark, long-sleeved top and a necklace with a large circular pendant. Her hands are clasped in front of her.

CLINICAL DEPARTMENTAL ADMINISTRATION

KIMBERLY SANDERS, BSN, MBA | ADMINISTRATIVE DIRECTOR, MEDICAL SERVICES

2023 was an epic year for the Department of Medicine. Much of our focus was on transitioning to a new electronic medical record. Many hours were devoted to preparation, planning and then the implementation in October with the go-live for all sub-specialties and the hospitals. The go-live was a success due to the dedication of many individuals and teams who were part of the planning and implementation. One month post go-live, department productivity was at the 78th percentile. With the implementation of Epic, we have been able to improve communication with patients including online scheduling and messaging with MyChart.

Some divisions had significant growth, while others had limited growth and opportunities for optimization. With a conservative increase year over year of 6.3% of clinical recruitment, ambulatory visits increased by 9% and inpatient volume increased by 12%. The increase in clinical recruitment and inpatient volume was largely due to expansion of pulmonary intensive care services at community hospitals.

Post COVID international travel has increased and along with that the number of patients requiring travel visit screening and vaccination through our Roe Green Center for Travel Medicine and Global Health. There was a 22% year over increase in overall travel visits, with a 110% increase in teletravel visits. A dedicated nurse practitioner was hired to support the travel medicine program, supported by the Roe Green Center.

The annual Roe Green Center for Travel Medicine and Global Health Joint Advisory Board met to review the work being done in the center, including the work supported by the Center for three Roe Green scholars. The Roe Green Foundation generously provided funding to Case Western and University Hospitals to advance global health initiatives and establish a new Research, Training and Education Center in Kampala, Uganda.

Overall engagement for the department was 78%, with top scores in having the opportunity to do challenging work, a personal sense of accomplishment from work, commitment from the team to doing high quality work, and pride working for the organization.

We look forward to continued growth with expanded clinical services across Northeast Ohio in 2024 to better meet the needs of our patients.

ACADEMIC DEPARTMENTAL ADMINISTRATION

MATTHEW ZELESNIK, MBA | ACADEMIC ADMINISTRATOR

The past year saw growth in existing initiatives for the Department and its divisions and contained a number of noteworthy achievements. Several notable awards include;

- Amitabh Chak, MD, and Co-investigator Kishore Guda, PhD, from the Case Comprehensive Cancer Center, were awarded a five-year, \$11.2 million grant from the National Cancer Institute. They are investigating what causes, and how to reduce and treat, cancers of the esophagus.
- Reshmi Parameswaran, PhD, and Carlos Subauste, MD, both received awards from the Dr. Ralph and Marian Falk Medical Research Trust. Dr. Parameswaran for her work in B-cell cancer research and Dr. Subauste for his work on CD40-TRAF2,3 blocking peptides.
- Two of the three Collaborative Science Pilot Awards included faculty from the Department:
 - ~ “Bradykinin Formation in Malaria Cerebral Edema” Alvin Schmaier (Department of Medicine) and James Kazura (Department of Pathology)
 - ~ “Natural Killer Cells in Combination with TGFbeta Targeted Therapies in Gastroesophageal Cancer” Andrew Blum (Department of Medicine), Eva Selfridge (Department of Medicine), David Wald (Department of Pathology), Kishore Guda (Case Comprehensive Cancer Center)

In Dr. Salata's seventh year as Chair of the Department of Medicine, we place continued emphasis on our academic activities. Extramural research has seen increases in funding from public and private sources for our basic, translational, and clinical research

activities. These activities are facilitated by University Hospital's Clinical Research Center and by our affiliations with Louis Stokes Cleveland Veteran's Association Medical Center and the Case Western Reserve University's School of Medicine.

The Department of Medicine continues to support research for investigators at all levels and to enhance collaborative research efforts. This year, in lieu of the Department of Medicine Team Science Challenge, University Hospitals and Case Western Reserve University sponsored the Collaborative Science Pilot Awards. Two of the three awarded projects included faculty members from the Department of Medicine.

The 13th Annual Department of Medicine Research Day, which highlights the investigative talents of our residents, fellows and post-doctoral trainees, was held in person for the first time in four years at the Case Western Reserve Tinkham-Veale University Center's Grand Ballroom. Plenary sessions by Varun Sundaram MD, PhD, Sadeer Al-Kindi, MD, and Seth Field, MD, PhD, were held in-person and broadcast virtually. These excellent talks were followed by 78 poster presentations from the Department's trainees.

The primary goal of the Department is to facilitate the success of our faculty. In pursuit of this objective, departmental academic administration is focused on increasing our extramural research footprint, continuing our intramural and team-based support, assisting in recruiting exemplary faculty and leadership, and continuing to support the Department's exemplary educational programs.

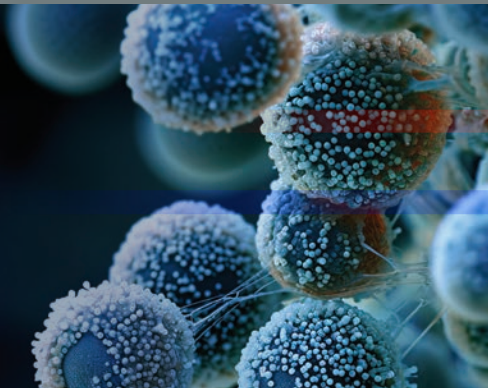
BY THE
NUMBERS

UHMG-BASED AMBULATORY PHYSICIAN SERVICE ENCOUNTERS

163,490

TOTAL NUMBER OF RESIDENTS

160



176

DEPARTMENT BASED IRB REVIEWS

900,636

TOTAL WORK RELATIVE VALUE UNITS

304

NUMBER OF ACTIVE UH-BASED CLINICAL TRIALS

113

NUMBER OF CLINICAL FELLOWS

PRINCIPAL AND CO-PRINCIPAL INVESTIGATORS

75

ANNUAL STEWARDSHIP RESPONSIBILITY

\$355.5M

NET PATIENT SERVICES REVENUE

\$45.1M



304

NUMBER OF FULL-TIME FACULTY

3 to 1

RATIO OF CLINICIAN-EDUCATORS TO PHYSICIAN-SCIENTISTS

LEADERSHIP

- **ROBERT A. SALATA, MD, FACP, FIDSA**
STERIS Chair of Excellence in Medicine
John H. Hord Professor and Chairman,
Department of Medicine
Case Western Reserve University
Physician-in-Chief
Distinguished Physician
Senior Attending Physician
University Hospitals Cleveland
Medical Center
- **SHERRIE D. WILLIAMS, MD, MHS**
Professor of Medicine
CWRU School of Medicine
Chief, Medicine Service
The Louis Stokes Cleveland VA Medical Center
Vice Chair, Veterans Affairs, Department
of Medicine
- **BAHA ARAFAH, MD**
Professor of Medicine
CWRU School of Medicine
Chief, Division of Clinical & Molecular
Endocrinology
Distinguished Physician
University Hospitals Cleveland Medical Center
- **KEITH ARMITAGE, MD, MACP**
Professor of Medicine
CWRU School of Medicine
Executive Vice Chair, Vice Chair Educational
Programs, Department of Medicine
Director, Internal Medicine Residency Program
The Robert A. Salata, MD, Chair in Infectious
Diseases
Senior Attending Physician & Distinguished
Physician
University Hospitals Cleveland Medical Center
- **ROBERT BONOMO, MD**
Distinguished University Professor of Medicine,
Pharmacology, Biochemistry, Molecular
Biology, and Microbiology
CWRU School of Medicine
Associate Chief of Staff for Academic Affairs
The Louis Stokes Cleveland VA Medical Center
- **W. HENRY BOOM, MD**
Scott R. Inkley Professor of Medicine
CWRU School of Medicine
Chief, Division of Infectious Diseases
& HIV Medicine
Vice Chair, Research, Department of Medicine
University Hospitals Cleveland Medical Center
- **LAURA BROWN, MD**
Senior Instructor of Medicine
CWRU School of Medicine
Section Chief, Acute Medicine
The Louis Stokes Cleveland VA Medical Center
- **RAJESH CHANDRA, MD, FHM**
Associate Professor of Medicine
CWRU School of Medicine
Chief, Division of General Internal Medicine
Vice Chair, Clinical Affairs & Transformation,
Department of Medicine
Distinguished Physician
University Hospitals Cleveland Medical Center
- **FABIO COMINELLI, MD, PHD**
Distinguished University Professor of Medicine
and Pathology
Associate Dean for Program Development
Chief, Division of Gastroenterology and
Liver Disease
Hermann Menges, Jr. Chair in Internal Medicine
Director, Digestive Health Research Institute
Director, NIH Cleveland Digestive Diseases
Research Core Center
Case Western Reserve University
Chief Scientific Officer, Digestive Health
Institute
University Hospitals Cleveland Medical Center
- **NIRAJ DESAI, MD**
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The Louis Stokes Cleveland VA Medical Center
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Director, Digestive Health Institute
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University Hospitals Cleveland Medical Center
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Section Chief, Sleep
The Louis Stokes Cleveland VA Medical Center
- **CORINNA FALCK-YTTER, MD**
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CWRU School of Medicine
Service Chief, Primary Care
The Louis Stokes Cleveland VA Medical Center
- **YNGVE FALCK-YTTER, MD**
Professor of Medicine
CWRU School of Medicine
Section Chief, Gastroenterology
The Louis Stokes Cleveland VA Medical Center
- **JORGE A. GARCIA, MD, FACP**
Professor of Medicine and Urology
CWRU School of Medicine
Chief, Division of Solid Tumor Oncology
George and Edith Richman Distinguished
Scientist Chair
Genitourinary Medical Oncology Program
Case Comprehensive Cancer Center
Distinguished Physician
UH Cleveland Medical Center & Seidman
Cancer Center
- **STANTON L. GERSON, MD**
Distinguished University Professor of Medicine
& of Environmental Health Sciences
Dean, School of Medicine
Senior Vice President, Medical Affairs
Director, National Center for Regenerative
Medicine
Asa and Patricia Shiverick–Jane Shiverick (Tripp)
Professor of Hematological Oncology
Case Western Reserve University
- **HEATHER L. GORNIK, MD**
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CWRU School of Medicine
John B. Lally Family Master Clinician in
Fibromuscular Dysplasia and Vascular Care
Co-Director, Vascular Center
University Hospitals Harrington Heart &
Vascular Institute
Vice Chair, Quality and Strategic Initiatives,
Department of Medicine
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Medical Director, UH Diabetes & Metabolic
Care Center
Vice Chair, UH System Clinical Affairs,
Department of Medicine
Mary B. Lee Chair in Adult Endocrinology
Distinguished Physician
University Hospitals Cleveland Medical Center
- **FRANK JACONO, MD**
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Virginia Hubbell Chair in Pulmonary Medicine
and Critical Care Medicine
Chief, Division of Pulmonary, Critical Care
and Sleep Medicine
Distinguished Physician
University Hospitals Cleveland Medical Center

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Program Director, Geriatric Medicine Fellowship
Medical Director of UH Foley ElderHealth
Senior Attending Physician
UH Cleveland Medical Center
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CWRU School of Medicine
Director, Undergraduate Medical Education
Director, Internal Medicine Clerkship Program
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University Hospitals Cleveland Medical Center
- **MARINA MAGREY, MD**
Roland Moskowitz Professor of Rheumatology
Case Western Reserve University School of Medicine
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Chief, Division of Rheumatology
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- **JOSE ORTIZ, MD, FACC**
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Section Chief, Geriatrics
The Louis Stokes Cleveland VA Medical Center
- **MAHBOOB RAHMAN, MD**
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CWRU School of Medicine
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Chief, Division of Nephrology and Hypertension
Vice Chair, Clinical Research,
Chair, Institutional Review Board,
Chair, Committee on Appointments,
Promotion, and Tenure, Department
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University Hospitals Cleveland Medical Center
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CWRU School of Medicine
Section Chief, Rheumatology
The Louis Stokes Cleveland VA Medical Center
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Chief Academic and Scientific Officer,
Harrington Heart & Vascular Institute
Herman K. Hellerstein, MD, Chair in
Cardiovascular Research
Director, Cardiovascular Research Institute
University Hospitals Cleveland Medical Center
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Section Chief, Endocrinology
The Louis Stokes Cleveland VA Medical Center
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CWRU School of Medicine
Section Chief, Pulmonary, Critical Care
& Allergy
The Louis Stokes Cleveland VA Medical Center
- **MEHDI SHISHEHBOR, DO, MPH, PhD**
Professor of Medicine
CWRU School of Medicine
Angela and James Hambrick Chair in Innovation
President, Harrington Heart and
Vascular Institute
Director, Interventional Cardiovascular Center
Co-Director, Vascular Center, Harrington Heart
and Vascular Institute
Distinguished Physician
UH Cleveland Medical Center
- **JONATHAN STAMLER, MD**
Professor of Medicine and Biochemistry
Director of the Institute for Transformative
Molecular Medicine
CWRU School of Medicine
President, Harrington Discovery Institute
Robert S. and Sylvia K. Reitman Family
Foundation Distinguished Chair in
Cardiovascular Innovation
UH Cleveland Medical Center
- **USHA STIEFEL, MD**
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The Louis Stokes Cleveland VA Medical Center
Vice Chair, Diversity & Faculty Development,
Department of Medicine
- **THEODOROS N. TEKNOS, MD**
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Deputy Director, Case Comprehensive
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Jane and Lee Seidman Chair in Cancer
Innovation
President and Scientific Director - UH Seidman
Cancer Center
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Senior Attending Physician,
Chief, Division of Hematology and Cellular
Therapy, Department of Medicine, UH
Cleveland Medical Center
Director Wesley Center for Immunotherapy,
Ron C. Dangler Chair of Stem Cell Research,
UH Seidman Cancer Center
Co-Director National Center for Regenerative
Medicine, Case Comprehensive Cancer Center



SCHOOL OF MEDICINE
CASE WESTERN RESERVE
UNIVERSITY



University Hospitals
Cleveland Medical Center

VA



U.S. Department of Veterans Affairs
Veterans Health Administration
VA Northeast Ohio Healthcare System