Case Western Reserve University School of Medicine is ranked in the “Best Medical Schools” in America by U.S. News & World Report

University Hospitals Case Medical Center is also ranked in the “Best Hospitals” in America by U.S. News & World Report

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The commitment to exceptional patient care begins with revolutionary discovery. University Hospitals Case Medical Center is the primary affiliate of Case Western Reserve University School of Medicine, a national leader in medical research and education and consistently ranked among the top research medical schools in the country by U.S. News & World Report.

Through their faculty appointments at Case Western Reserve University School of Medicine, physicians at UH Case Medical Center are advancing medical care through innovative research and discovery that bring the latest treatment options to patients. All National Institutes of Health (NIH) funding for basic and clinical research is awarded to the School of Medicine at Case Western Reserve University.

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CLINICAL

- Fifty-seven Department of Medicine faculty members recognized as “Best Doctors” by Cleveland Magazine.
- The trend in benchmarked physician services against compensation levels continued to show a high degree of professional value and efficiency.
- In-hospital productivity under a high case mix index again grew positively in 2013 – 2014 as defined by hospital contribution margin. This success was underpinned by an overall well-managed average length of stay and prudent ancillary utilization.
- Quality and patient satisfaction as quantified against national databases again showed the faculty as “best performers” in a number of patient service delivery categories.

RESEARCH

- The Department of Defense awarded $734,000 to the Institute for Transformative Molecular Medicine to develop and test novel s-nitrosylation-based therapeutics.
- The National Heart, Lung, and Blood Institute awarded $674,000 to the Division of Pulmonary, Critical Care & Sleep Medicine to research the expression signatures of tuberculosis-specific memory responses within the human lung.
- The National Institute of Allergy and Infectious Diseases awarded $470,000 to the Division of Infectious Diseases & HIV Medicine to study CD4+ T and B cell mechanisms of influenza vaccine nonresponsiveness in older adults.
- The National Eye Institute awarded $396,000 to the Division of Clinical & Molecular Endocrinology to investigate the role of photoreceptors in the pathogenesis of diabetic retinopathy.
- The National Heart, Lung, and Blood Institute awarded $396,000 to the Division of Cardiovascular Medicine to explore the role of KLF15 in cardiac metabolism.

EDUCATION

- The Internal Medicine Residency program had the most successful fellowship match in its history with graduates matching to highly competitive programs including The Johns Hopkins University; University of Pennsylvania; Duke University; University of Michigan; University of California, Los Angeles; Washington University; and Mayo Clinic.
- The Internal Medicine Residency program continues to grow with the introduction of a new pathway offering exemplary training for applicants pursuing a career in medical education.
- Clerkship and residency leaders have strong visibility at national educational meetings with multiple posters, presentations and workshops.
- Recent residency program graduates, including a chief resident, have joined primary care practices at University Hospitals.
CHAIRMAN’S MESSAGE

Welcome to the Annual Report of the Department of Medicine for the academic period 2013 – 2014. Our faculty, staff and trainees had an outstanding year in advancing our clinical, research and teaching missions. The Harrington Discovery Institute at University Hospitals continued to expand by supporting 27 physician-scientist research programs across the nation. New relationships were established with the Alzheimer’s Drug Discovery Foundation and Oxford University. In partnership with the American Society for Clinical Investigation, the inaugural Harrington Prize for Innovation in Medicine was awarded in 2014. Also, the State of Ohio Third Frontier Commission bestowed a $25 million grant to the Harrington Discovery Institute to improve current programs, provide enhanced support for physician-scientists, and ensure that the impact of the initiative is felt here, in Ohio.

Overall research support for the Department of Medicine remains strong. Over the past three academic years, total awarded funds increased by 18 percent with the majority derived from the National Institutes

Richard A. Walsh, MD
Chairman
Department of Medicine
of Health (NIH). This represents a broad portfolio of research across our divisions, centers and institutes ranging from molecular mechanisms of disease to national clinical trials. The Division of Gastroenterology & Liver Disease had a particularly strong year securing incremental NIH funding, including a Digestive Diseases and Metabolism P30 Center Grant, an Inflammatory Bowel Disease P01 and a Barrett’s Esophagus U54 Program among others.

Our clinical programs continue to grow in both volume and quality. Departmental faculty admitted over 20,000 patients and provided 100,000 ambulatory visits between University Hospitals Case Medical Center and the Louis Stokes Cleveland VA Medical Center. As a testimony to our ongoing high-quality service delivery, all seven of our eligible specialties were ranked highly by U.S. News & World Report. These include digestive disorders and gastroenterology, cancer, cardiology and heart surgery, geriatrics, nephrology, diabetes and endocrinology, and pulmonary. Fifty-seven of our full-time faculty were awarded “Best Doctor” status by Cleveland Magazine in 2014.

The Department of Medicine unites a dedicated team of the country’s leaders in cardiology, endocrinology, gastroenterology, internal medicine, geriatrics, oncology, infectious diseases, nephrology, pulmonology and rheumatology, and has been a trusted resource for compassionate patient care across the nation.

Our educational programs remain enormously robust and are strongly supported by our faculty. The 2014 match was again highly successful with a substantial increase in total applications. University Hospitals Case Medical Center remained by a wide margin the top choice for our medical students completing internal medicine acting internships. This year marked the strongest subspecialty match ever. Our full-time faculty continue to provide nearly 30 percent of the total teaching time in the School of Medicine.

I invite you to become more familiar with our department by examining this report and visiting our website at medicine.case.edu. It remains an honor and a pleasure to lead our outstanding faculty, staff and trainees.

Respectfully,

Richard A. Walsh, MD
Chairman
Department of Medicine
It was another strong year for the Division of Cardiovascular Medicine in our continuous pursuit of excellence in cardiovascular care. Critical aspects of our divisional activities include providing outstanding clinical care with personalized attention and an evidence-based approach focused on disruptive technologies (e.g., TAVR, LV restoration therapy, renal denervation, adult stem cell/regenerative medicine therapies) to differentiate from competitors. Revitalizing clinical services required enabling rapid access to University Hospitals Case Medical Center by transferring physicians, improving communication with referring physicians and primary care providers, as well as greater accountability among faculty for inpatient responsibilities.

Academic year 2013 – 2014 has been notable for significant volume and revenue growth. The Division of Cardiovascular Medicine is responsible for 70 percent of revenue generation for UH Harrington Heart & Vascular Institute. Compared to 2012, annual net patient revenue in 2013 increased from $217 million.
to $248 million, accounting to a 14.2 percent increase; direct contribution margin from $94 million to $122 million, resulting in a 28.7 percent increase; and total margin from $34 million to $48 million, amounting to a 40.9 percent increase.

Central to our mission is providing tertiary and quaternary cardiovascular care to Northeast Ohio, while serving the primary cardiovascular needs of the community. Our faculty also strive for a practice philosophy that is grounded in an academic and scholarly environment.

The Cardiovascular Research Institute (CVRI) and Research & Innovation Center of the UH Harrington Heart & Vascular Institute comprise the clinical and research activities of the Case Cardiovascular Center (CCC). The mission of the CCC is to develop premier research programs that span the full spectrum of activities from basic benchside research to translational research (first-in-human) and clinical trials related to heart and vascular disease.

The Cardiovascular Research Institute is focused on basic and translational studies. The Research & Innovation Center of UH Harrington Heart & Vascular Institute is dedicated to innovative clinical trials and applied technology. Investigators in both areas are closely linked with the Institute for Transformative Molecular Medicine and the newly established Harrington Discovery Institute at University Hospitals, focused on advancing discoveries related to cellular function at the molecular level into novel therapeutic approaches to treatment of disease. The CVRI has $30 million in committed NIH funding and received a commitment of $3.4 million for basic and translational heart failure research by the Prentiss Foundation. At present, the Research & Innovation Center has 81 active clinical trials following nearly 2,000 patients with an estimated total budget of more than $11 million.

Our strong educational programs are highly sought after with many graduates having gone on to successful academic careers. We offer fellowship training programs in cardiovascular disease, electrophysiology, interventional cardiology, cardiovascular imaging, advanced catheterization as well as heart failure and cardiac transplantation. Our fellows strive in an environment that supports the highest standards of health care and pursuit for groundbreaking medical advancements.
The Division of Clinical & Molecular Endocrinology prides itself for having a highly dedicated and strongly motivated team of physicians, scientists, trainees, nurses and nurse practitioners working synchronously to achieve our mission: excellence in patient care, innovative conduct of research and outstanding education of the next generation of leaders in the field.

The division’s internationally renowned investigators have made important scientific contributions in basic and clinical research projects. Our faculty members have held leading roles in the planning and conduct of several recent NIH-sponsored national clinical trials addressing diabetes management and its complications. These include the Action to Control Cardiovascular Risk in Diabetes trial (ACCORD), Bypass Angioplasty Revascularization Investigation for Type 2 Diabetes (BARI 2D) and Epidemiology of Diabetes Interventions and Complications (EDIC) studies. The division’s contributions to clinical research have culminated in several high-impact articles recently published by our faculty in prestigious journals that set the standards of care for patients with diabetes. The studies have made a major impact on the future management of the disease and led to newer NIH-sponsored clinical trials that have just begun, such as the Glycemia Reduction Approaches in Diabetes Comparative Effectiveness (GRADE) study.

In addition, our faculty members have conducted clinical studies that have highly impacted our understanding of pituitary hormone dysfunction, mechanisms of hypopituitarism and demonstrated its reversible nature in many patients. Other research projects the division concentrated on provided critical appraisal of the biochemical methods used in the assessment of adrenal function in patients, particularly during critical illness, and raised concerns about their serious limitations while offering newer, scientifically supported testing approaches. The division’s focus on innovative research and pursuit of medical advancements has benefited the lives of patients through the region and beyond.

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**Divisional faculty members offer clinical expertise in all disciplines of the specialty and many are nationally and internationally recognized experts in their respective disciplines.**

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All faculty members are advancing the field through a passionate commitment to training tomorrow’s clinicians. Our training program emphasizes independent learning, inquiry, debate and critical appraisal of literature along with deep and thorough appreciation of a patient’s individuality. An important
attribute of our faculty is that many have secondary appointments in basic science departments such as biochemistry and pharmacology. This promotes and strengthens potential collaborations as well as offers greater opportunities for linking basic and clinical translational research activities.

Our trainees are given ample opportunities to be involved in clinical, translational or bench research. They proceed to have successful careers in academic institutions as well as clinical practice. Our educational program also hosts a city-wide multidisciplinary weekly conference covering all aspects of the field. The division offers talks, presentations and discussions to the community at large on an as-needed basis. The division’s long history of academic achievements and productivity in several disciplines within the specialty has been nationally recognized as the division is consistently on the U.S. News & World Report list of “Best Hospitals” for endocrinology.
With over 40 members, our nationally ranked group of gastroenterologists, hepatologists, PhDs and nurse practitioners together creates the medical anchor of University Hospitals Digestive Health Institute. During the past year, we listened to our community and have broadened our geographic reach, making specialized care more accessible across Northeast Ohio.

Regional expansion of our clinical programs continues to be a focus within the division. With the integration of University Hospitals Parma and Elyria medical centers into our health system, we continue to transform academic care delivery and have plans to enhance existing digestive disease offerings at these sites within the coming year. The division continues to boast the highest ranked U.S. News & World Report adult subspecialty within the health system (nationally ranked 14th), which validates the clinical outcomes and service line offerings we provide to the communities we serve.
The division has also enhanced clinical programs at our flagship site University Hospitals Case Medical Center. We have improved access to care by providing patients the opportunity to receive their colonoscopy screenings on Saturday mornings. The division has also improved the physical infrastructure by relocating and renovating outpatient offices to a new location boasting larger waiting rooms and more exam rooms. This expansion allows us to see more patients and creates a better environment for teaching our residents and fellows.

The division’s internationally renowned investigators were very successful in obtaining incremental extramural funding this past year, creating one of the most diverse digestive disease research portfolios in the country.

Our faculty will be able to continue their industry-leading research in numerous subspecialties through the following NIH mechanisms:

- Digestive Diseases and Metabolism: P30 center application (PI: Fabio Cominelli, MD, PhD)
- Inflammatory Bowel Disease: P01, R01 (PI: Fabio Cominelli, MD, PhD)
- Barrett’s Esophagus: U54 (PI: Amitabh Chak, MD)
- Gastrointestinal Cancers: P50 (Co-Pls: Amitabh Chak, MD, and Gregory Cooper, MD)
- Alcoholic Hepatitis: U01 and P20 (PI: Pierre Gholam, MD)
- Therapeutic Endoscopy: U01 (PI: Amitabh Chak, MD)
- Education and Training: T32 (PI: Fabio Cominelli, MD, PhD)

In addition to our federally funded research portfolio, faculty and fellows alike have also been successful in obtaining both industry and foundation funding for innovative clinical trial activities. A noteworthy example of this is the collaborative efforts of second-year fellow Prachi Biyani, MD, and Associate Professor Jeffry Katz, MD (responsible investigator). They were awarded funding from the American College of Gastroenterology to begin a clinical trial later this year, studying the effectiveness of fecal microbiota transplantation for treatment of chronic antibiotic dependent pouchitis. This collaborative effort between faculty and fellows is one of the reasons our highly competitive fellowship and educational programs have ensured the sustainability and progress of our clinical and research activities.
As part of its core mission, the Division of General Internal Medicine seeks to provide high-quality comprehensive patient care while pursuing health services research and clinical inquiry in a stimulating academic environment. The division is home to a diverse group of clinician-educators and researchers whose professional interests span across multiple areas, including health care services and outcomes research, hospital medicine, primary care education, population health, patient safety and quality improvement, health care disparities, cancer screening, cancer genetics, medical informatics and medical education.

As generalists, we are proud to be the “big picture” people who see a patient in an overall clinical situation, without focusing on one aspect of illness, so as to formulate a comprehensive treatment plan with the goal of restoration of health and wellness in the hospital and beyond. On the general medicine inpatient units, our hospitalists who specialize in inpatient medicine manage complex, acute illness. In the ambulatory setting, our general internists offer continuous care emphasizing prevention, health promotion and maintenance, as well as management of chronic illnesses. In both settings, the coordination of care, including the judicious use of subspecialty colleagues, is a key function of the general medicine faculty.

Academic year 2013 – 2014 proved to be another productive year for the division. In the area of hospital medicine, University Hospitals Case Medical Center’s hospitalist service’s mortality index (observed/expected) of 0.44 was one of the lowest in the University Hospitals Consortium, and was ranked 32 out of 96 hospitals. The average length of stay of 5.47 days also remained below the consortium average of 5.68 days. This past year, two faculty members were also featured in Cleveland Magazine’s “Best Doctors” honor list.

Our faculty members are proud of their contributions to medical education and patient care and remain committed to providing and teaching high-quality health care, while developing a culture of safety and accountability amongst trainees.

In medical education, our faculty who are well-known for their outstanding contributions, having won multiple teaching awards over the past decade, continued that tradition as two members were honored with the Department of Medicine’s prestigious Master Clinician Educator award and Outpatient Teacher of the Year award. The academic hospitalists serve as inpatient clinical teachers and staff for two teaching teams as both ward and teaching attendings throughout the year. Teaching rounds are conducted in small group conferences prior to rounding or through clinical instruction during walk rounds or as didactic lectures after rounds.
Several VA faculty also received Scholarship in Training awards from Case Western Reserve University School of Medicine. Through the Center of Excellence in primary care education at the Louis Stokes Cleveland VA Medical Center, our faculty members are engaged in teaching primary care medicine residents and nurse practitioner residents the principles and practice of patient-aligned care. The curriculum involves learning interdisciplinary team-based care, training in quality improvement as well as exploring proactive care and virtual health care.

Looking ahead to 2014–2015, issues of value-based care, patient satisfaction and physician accountability will continue to shape the national conversation on health care. It will be crucial for our clinician-educators to incorporate these values into the medical curriculum and, as part of that effort, our division will be looking into creative innovations in inpatient and outpatient clinical care and training.
The Division of Geriatrics & Palliative Care offers compassionate and comprehensive health care to adults and seniors. The division was again ranked among the top 30 in the nation by U.S. News & World Report. Through the Center for Geriatric Medicine, our faculty provide inpatient geriatric and palliative care consultative services at University Hospitals Case Medical Center, outpatient geriatric primary care at the UH Foley ElderHealth Center, subacute rehabilitative care at Hanna House and other nearby nursing facilities.

As an example of the evolving strength of the division’s clinical programs, and under the coordination of Peter DeGolia, MD, the Program for All-Inclusive Care for the Elderly (PACE) was launched at University Hospitals. With the assistance of Cindy Balina, MD, a palliative care service, house calls program and teaching venues in assisted living, long-term care, and home hospice were also developed and enhanced within our health system and community. The division and center also opened a nurse practitioner apprenticeship program organized by Cathy Roscoe-Herbert, CNP, DNP.

Stefan Gravenstein, MD, MPH
Interim Division Chief
Geriatrics & Palliative Care
The Palliative Care consultation service focuses on preventing and easing pain, stress and suffering and improving communication during a serious illness to patients and their families, regardless if they are receiving curative treatment or not. The Palliative Care service is often consulted for goals of care discussions with patients and their loved ones. Palliative care has been an active and growing program that began in 2008 with 200 consults and in 2014 is projected to have close to 900 consults. In early 2015 the Palliative Care Unit will be opened on main campus.

The leadership of the division brings a new patient-driven philosophy of care. Our faculty members engage with patients in a unique way that empowers and encourages older adults to become active participants in their own care and health outcomes.

This new model of care focuses on each patient as an individual with health issues and social concerns. Our doctors and nurses provide personalized education to patients about prescribed medications, warning symptoms and proactive health care.

The Division of Geriatrics & Palliative Care focuses on supporting the educational mission of the Department of Medicine by training residents and fellows in the practices and principles of caring for older patients. Faculty members educate residents on in-depth evaluation of seniors, focusing on geriatrics syndromes, functional disabilities and the impact of medications on the health and well-being of older adults. The Geriatric Fellowship program concentrates on fostering a rich academic environment for the next generation of trainees to effectively manage today’s challenges and meet tomorrow’s changes in geriatric medicine. The program grew and extended academic leadership to both UH Bedford and Richmond Medical Centers, campuses of UH Regional Hospitals, piloting a program to support system-based geriatrics leadership.

The division has been actively shaping the intellectual discourse through pioneer research. Stefan Gravenstein, MD, MPH, led funded research programs in influenza prevention and evaluating consumer engagement upon hospital discharge. The division was awarded a research proposal on improving patient engagement and empowerment in the PACE program funded by the MacGregor Foundation. The division faculty members also secured a grant from the Cleveland Foundation to develop a Preventing Incident Delirium in Elderly (PRIDE) program, which launched mid-2014. The division has contributed over a dozen peer-reviewed papers and commanded $3 million in grant funding during 2013 – 2014.
HEMATOLOGY & ONCOLOGY

The overall goal of the Division of Hematology & Oncology is to advance the field through clinical and basic research, while providing innovative leading-edge clinical care, and training the next generation of leaders in hematology and oncology. With 72 members, the division is among the largest within the Department of Medicine, and has a scope of activities that span our research, patient care and educational missions. Divisional faculty include physician-scientists, PhDs conducting laboratory research, clinical researchers, and clinical members focused on patient care and teaching. We provide care at University Hospitals Case Medical Center, the Louis Stokes Cleveland VA Medical Center, and through a regional network of community practices, all of which participate in clinical trials research.

Our nationally recognized faculty members have expertise and interest in benign hematologic conditions, including coagulation disorders and hemoglobinopathies, as well as hematologic and solid tumor malignancies.

Our faculty members serve in a variety of national positions, including NCI Board of Scientific Counselors (Sanford Markowitz, MD, PhD); NCI Board of Scientific Advisors (Stanton Gerson, MD); NCI GI Steering Committee Chair (Neal Meropol, MD); and American Society of Clinical Oncology Board of Directors (Neal Meropol, MD). The division is closely aligned with University Hospitals Seidman Cancer Center, a principal member of the NCI-designated Case Comprehensive Cancer Center (CCC), and our faculty play key roles in Case CCC research and clinical activities. Leadership roles in the Case CCC include Center Director (Stanton Gerson, MD); Associate Director for Clinical Research (Neal Meropol, MD); and leaders of genetics (Sanford Markowitz, MD, PhD), developmental therapeutics (Afshin Dowlati, MD), breast cancer (Lyndsay Harris, MD), hematopoietic disorders (Marcos de Lima, MD), and basic science (Clark Distelhorst, MD) scientific programs. In 2013, UH Seidman Cancer Center was recognized as a top 15 cancer hospital by U.S. News & World Report. Nineteen of our division members were recognized as “Best Doctors” by Cleveland Magazine in 2014.

Hematology and Oncology is a research-intensive division, conducting wet-lab, dry-lab and clinical investigation. Our division research efforts follow six general themes (senior investigator): 1) hematology and vascular biology (Alvin Schmaier, MD); 2) cancer cell biology (Clark Distelhorst, MD); 3) developmental therapeutics and translational research (Afshin Dowlati, MD); 4) cancer genetics and genomics (Sanford Markowitz, MD, PhD); 5) hematologic malignancies (Marcos de Lima, MD); and...
6) patient decision-making and health services research (Neal Meropol, MD). Division members hold an NCI contract for Phase II trials (Neal Meropol, MD), and an NCI Specialized Program of Research Excellence (SPORE) award for translational research in gastrointestinal cancers (Sanford Markowitz, MD, PhD).

In addition to training medical students, basic science graduate students, post-docs and residents, the division has an ACGME-accredited Hematology and Oncology Fellowship program. Furthermore, in 2013 – 2014, we hosted a trainee from Uganda, funded through an ASCO Conquer Cancer Foundation award. Divisional faculty also oversee an NCI-funded K12 training program for clinical investigators (Stanton Gerson, MD), and an NCI-sponsored T32 cancer biology training program (Clark Distelhorst, MD).
Research funding in the Division of Infectious Diseases & HIV Medicine remains strong at over $24 million, despite recent challenges. Our work includes several major programs: AIDS Clinical Trials Unit, Microbicides Trials Network, Oral HIV/AIDS Research Consortium, Tuberculosis Research Unit, Phase I Clinical Trials Unit for Therapeutics and Emerging Infections, and Geriatrics Research (GRECC) based at the Louis Stokes Cleveland VA Medical Center.

Interwoven through all of our research activity is outstanding international research. The international programs encompass multiple geographic sites with the most significant activity in Uganda. An infectious diseases infrastructure was recently established and investment in the Uganda – Case Western Reserve University Collaboration (UCRC) took place. UCRC was historically focused on HIV and tuberculosis and has now been broadened and leveraged to include cancer, cardiovascular disease, neurology, genetics and renal disease.

Robert Salata, MD
Executive Vice Chairman
Department of Medicine
Division Chief
Infectious Diseases & HIV Medicine
The Infectious Diseases and Immunology Institute (IDII), established to strengthen research and education in the priority areas of virology, clinical research and molecular diagnostics, has received annual support from the School of Medicine to aid in accomplishing its goals. A new website for the institute has been developed, and the first pilot grants were awarded to faculty for interdisciplinary research. An interdisciplinary course for high-level undergraduates and graduate/medical students is currently underway. Along with the significant research imprint of the division, there are robust clinical programs in both inpatient and ambulatory settings. Infectious Diseases continues to be one of the most highly respected and consulted services at University Hospitals Case Medical Center and in the University Hospitals system.

Our division’s major research strengths include basic, translational and clinical research in HIV/AIDS, tuberculosis, antimicrobial resistance, infections in elderly, as well as biodefense and emerging infections.

A new systemwide Antimicrobial Stewardship Program (ASP) is being developed and will include oversight by the division’s faculty. These activities will also provide an additional venue for operational and clinical research. The inpatient service provides health care for patients with HIV and other infectious diseases and accommodates admissions for over 100 patients a month. There are now two infectious diseases consult services with approximately 150 consults per month and the divisional wRVUs are at the 95th percentile. Our community-based physicians continue to provide excellent care for the inpatient population at UH Ahuja Medical Center and UH Richmond Medical Center, a campus of UH Regional Hospitals. The division’s outpatient activities have greatly expanded since the implementation of the General Infectious Diseases and Travelers Clinic in Westlake, and a Transplant Infectious Diseases Clinic staffed by divisional faculty with specialty interests. The Special Immunology Unit received additional federal funding from the Ryan White program to maintain the highest quality of care for HIV-infected patients.

Our fellowship program is thriving and currently has 10 trainees. The program offers a master’s in epidemiology and public health, while providing outstanding training with diverse faculty members who boast extensive research and clinical experience.
The Division of Nephrology & Hypertension has held a strong track record of clinical and translational research in hypertension, chronic kidney disease and kidney transplantation.

This past year, divisional faculty members continued demonstrating their outstanding efforts in research. Jackson Wright, MD, PhD, led the multicenter Systolic Blood Pressure Intervention Trial (SPRINT) examining the role of blood pressure reduction in halting the progression of chronic kidney disease. Serving as Protocol Chair, Donald Hricik, MD, secured funding for a third cycle of Clinical Trial in Organ Transplant (CTOT) research for a multicenter study that will examine the influence of tumor necrosis factor inhibition on kidney transplant outcomes. Thomas Hostetter, MD, continued his role as a PI on a multicenter study of bicarbonate replacement in patients with chronic kidney disease. In addition, the division welcomed two junior clinical investigators (Mirela Dobre, MD, MPH, and Anne Huml, MD). Dr. Dobre was awarded an American Heart Association Career Development grant. By being on the forefront of groundbreaking clinical research, the division is actively working on elevating the treatments and quality of care patients receive.

The impact of the division’s clinical research has advanced the field of nephrology and benefited patients throughout the region and beyond.

At several locations throughout Northeast Ohio, the division offers innovative and individualized clinical care to patients with kidney disease and hypertension. The division has expanded its clinical reach with the opening of a new pretransplant clinic at University Hospitals Westlake Health Center and a freestanding dialysis unit at the Louis Stokes Cleveland VA Medical Center. We opened a new Chronic Kidney Disease Education Clinic, designed to provide patients with options for renal replacement therapy and early interventions designed to slow the progression of their underlying kidney diseases. Now with a bigger presence in the community, the division is increasing its effort to help patients with kidney disease lead healthy, full lives.

Several of our faculty members also play key roles in the kidney and pancreas transplant programs at University Hospitals Transplant Institute, including active participation and further development of the Outreach Clinic in Akron that provides services for the evaluation of potential transplant recipients. The clinical care has recently been further enhanced with the recruitment of new nurse practitioners who provide assistance on rounds and education of patients.
Our faculty members combine research excellence, clinical commitment and enthusiasm for teaching to create a congenial and supportive atmosphere for trainees. The division offers fellowship training in transplant nephrology, clinical practice and kidney-related research. Under the leadership of Lavinia Negrea, MD, as Director of the Nephrology Training program, the division had another successful fellowship match. Our trainees benefit from both bench and translational opportunities in a multidisciplinary environment including the departments of medicine, pathology, physiology and biophysics. Divisional faculty members are consistently recognized as outstanding teachers and mentors for fellows, residents and medical students. The ultimate goal of the division is to prepare tomorrow’s academic physicians, scientists and clinical educators to continue our legacy.
The Pulmonary, Critical Care & Sleep Medicine Division continues a legacy of clinical excellence and research. The division has once again been named to the top 40 pulmonary divisions in the United States by U.S. News & World Report with representation on the list of “America’s Best Physicians.” Our staff members continue to have leadership roles within national and international organizations. The medical intensive care unit is seen as a national leader in critical care, recognized with an unprecedented fifth consecutive American Association of Critical-Care Nurses Beacon Award, the only ICU in the nation to achieve such recognition.

Our multidisciplinary pulmonary, critical care and sleep programs provide a full range of services from the diagnosis and management of common conditions to state-of-the-art distinguishing technologies such as lung transplantation, diaphragm pacing or the management of pulmonary vascular disease. Other subspecialty centers include lung cancer, cystic fibrosis, interventional bronchoscopy, sleep, asthma/emphysema,

Robert Schilz, DO, PhD
Interim Division Chief
Pulmonary, Critical Care & Sleep Medicine
pulmonary rehabilitation and critical care. Jordan Kazakov, MD, who is a board-certified specialist in interventional pulmonary medicine, performs minimally invasive endoscopic procedures for the diagnosis and treatment of pulmonary and airway disorders. Pulmonary physicians in conjunction with physicians from UH Harrington Heart & Vascular Institute have initiated two new clinical programs. The first program offers state-of-the-art evaluation of cardiopulmonary dyspnea; the second program focuses on the diagnosis and surgical removal of chronic blood clots in lungs through a procedure known as pulmonary thromboendarterectomy.

Our faculty members continue to be dedicated to providing state-of-the-art patient care, performing leading-edge research, proving to be forward thinkers in clinical care, and developing the next generation of leaders through our highly competitive fellowships.

The division supports a broad-based research enterprise from basic to clinical and translational science, representing epidemiology, physiology, neuroscience, cell and molecular biology. With numerous individual research grants from the NIH, and a training grant that supports graduate students as well as PhD and MD postdoctoral fellows, novel therapies for the treatment of pulmonary diseases are being developed. A recent trial performed at UH Case Medical Center was reported in the New England Journal of Medicine. Kingman Strohl, MD, senior author of this article and member of the steering committee, introduced an implantable hypoglossal nerve stimulator for the treatment of severe sleep apnea. We are the first program in Ohio to offer this new treatment to patients. The division is not only committed to providing top quality patient care, but also focused on being regional and national thought leaders by significant research contributions to the field.

Training pulmonary physicians and medical scientists of the future continues to be one of the main priorities of our faculty members. Their commitment to providing outstanding education and innovative research opportunities to trainees attract the finest candidates to our programs who share their talent and contribute to our division’s success.
The Division of Rheumatology delivers the most advanced diagnostic and therapeutic treatments for personalized care of rheumatic diseases to the Northeast Ohio population. The division offers state-of-the-art disease management through a multidisciplinary approach in which the latest medical technologies and clinical breakthroughs are used. Our division’s research efforts focus on expanding the uses of conventional techniques while our basic research evaluates the safety and effectiveness of new treatments.

Although Sjögren’s syndrome, rheumatoid arthritis, systemic lupus and osteoporosis are the major diseases of our health care delivery, we diagnose and treat a number of other conditions such as psoriatic arthritis, osteoarthritis, spondyloarthropathies and fibromyalgia. Clinical activity of the Division of Rheumatology has soared this year with a 14 percent increase in wRVUs. Referrals from neighboring and distant states are an attestation to our quality of care. Furthermore, the endowment of two chairs to the division and the election of Ali Askari, MD, to the American College of Rheumatology Master Designation are indicative of local and national support of our endeavors.

Our faculty members are internationally renowned rheumatologists, widely published researchers and respected educators.

The Division of Rheumatology has a national reputation for educating academic rheumatologists and is one of the most highly sought-after programs. Fellows are trained as investigative diagnosticians, innovative researchers and compassionate clinicians. A strong emphasis is placed on obtaining a broad clinical experience from a spectrum of rheumatic diseases, longitudinal patient care and primary decision-making responsibilities. In addition, the fellowship program provides training in the management of osteoporosis and Sjögren's syndrome at UH Sjögren's syndrome and osteoporosis centers. The training program has recently been updated by integrating pediatric and adult rheumatology fellowship programs. The program is ACGME-accredited (2013 – 2019), and nationally and internationally renowned faculty participate in teaching.

Over the years, we have trained numerous rheumatologists who are working in high clinical and academic positions across the country. Our fellows are accomplished internal medicine graduates from reputable residency programs (some are MBA or MPH) and participate in national clinical
research. Some of their research projects are pending for the American College of Rheumatology scientific meeting this year.

The Division of Rheumatology has established a dominant track in research and has presented notable attributes to the literature. The models of osteoarthritis, genetic and genomic pathway of inflammation, steroid-induced myopathies, noble treatment of polychondritis, apoptosis and DAF, complement role in inflammation, effect of hepatitis C on B and T cells implemented in pathogenesis of rheumatic disease, interrelationship of rheumatoid arthritis with periodontitis, prediction of lymphoma in Sjögren’s syndrome and the discovery of gingival bacterial DNA in failed arthroplasties are a few examples of our contributions to the field. The Division of Rheumatology is dedicated to further enhancing its rich tradition of innovative research by pursuing new medical advancements and breakthroughs.
Our core mission is to provide high-quality patient-centered care to more than 100,000 veterans in Northeast Ohio, educate the next generation of health care providers, and generate new knowledge through research programs. The general internal medicine section encompasses primary care services, inpatient hospital medicine and specialized women’s health clinics. A Center of Excellence in primary care delivery, quality, implementation science and translational research is present.

The cardiology section is a major referral center in the state of Ohio. The section has earned the AHA Heart Failure Gold Plus Quality Achievement award and will be launching a new LVAD Program this fall.

The pulmonary, critical care and sleep medicine section takes care of patients with complex lung ailments. Nationally funded programs in ventilation mechanics health and disease, along with tuberculosis and sleep apnea highlight the research accomplishments of this section.

Robert Bonomo, MD
Vice Chairman
Veterans Affairs
Physicians in the gastroenterology section are leading the country in the establishment of evidence-based guidelines in the screening and treatment of hepatitis C patients in collaboration with the United States Centers for Disease Control and Prevention and the World Health Organization.

**Our emphasis on compassion and integrity ensures that patients receive the highest quality of care from the nation’s top health care experts.**

The endocrinology section offers care in the area of diabetes. The Diabetes Registry and the ReSPECT trial actively enroll patients in research protocols to improve the care of patients suffering from diabetes.

The section of geriatrics is expanding services to a new state-of-the-art community living center and has various research programs, including a Geriatric Research Education & Clinical Center that address patient-centered care of the hospitalized elderly, Vitamin E and memantine, role of PET scan in diagnosis of HIV-associated neurocognitive disorders and management of delirium.

The nephrology section conducts clinical and research programs in hemodialysis, chronic ambulatory peritoneal dialysis, continuous venous hemofiltration and kidney transplantation. In addition, nationally recognized research in hypertension (Chronic Insufficiency Cohort study) and chronic renal diseases are in progress.

The infectious disease service is a nationally recognized leader in management of HIV infection and screening, C. difficile, methicillin-resistant staphylococcus aureus, and the molecular epidemiology of bacterial drug resistance. Federally funded research spans bacterial, viral, parasitic and mycobacterial diseases. The infectious diseases section also hosts two clinical and translational science collaborative scholars from Case Western Reserve University School of Medicine and is part of the NIH-funded Antimicrobial Resistance Leadership Group (ARLG).

The hematology and oncology section contains centers dedicated to the multidisciplinary care of complex medical and surgical patients with cancer, and is a national leader in the implementation of a novel program optimizing timely diagnosis and treatment of patients with lung cancer. The hematology and oncology section is also a national VA leader in the evaluation of clotting disorders.
The Department of Medicine has had a proud and distinguished record in medical education for over 150 years and is committed to maintaining educational programs of the highest academic standards. While we promote an environment of academic rigor, our faculty members foster a supportive and collegial relationship with medical students, residents and fellows. Our goal is to prepare our trainees to become the best in their career focus, whether it is an outstanding clinician, physician-investigator or leader in academic medicine.

Our trainees benefit from hands-on training delivered by leading medical experts and are exposed to the latest technologies and medical advancements.

The Internal Medicine Residency program has consistently been on the forefront of quality education for the next generation of leaders in medicine. Our program is continuously working on enhancing our offerings to trainees and has recently introduced two new pathways. Last year we launched the Harrington Physician-Scientist pathway that provides exceptional clinical and research training for tomorrow’s world-class investigators in academic medicine. This year we are introducing the Leadership in Medical Education pathway designed for applicants interested in becoming effective educators and leaders in the medical community.

Our residency program is based on two paramount themes: patient care and career development. Our residents continue to succeed in academic careers, successfully competing for the most prestigious and rigorous fellowships or preparing for life as general internists. While the majority of residents still seek subspecialty training, a growing number are opting to enter careers focused on ambulatory primary care practice, including recent graduates who joined University Hospitals Medical Practices in July 2014. Noted below are select accomplishments from academic year 2013 – 2014.

• The program’s 2014 residency match was highly successful, with a significant increase in total applicants, record number of interviewees and a vibrant incoming class.
• In 2014, our residents had their strongest fellowship match ever, with residents matching into top academic medical centers.
• The leaders of our student and resident education programs have played key roles at national meetings, with various presentations, posters and workshops in 2013 – 2014.
In addition to these core accomplishments, the continuing education component of the educational program remains strong. As examples, the annual Department of Medicine Research Day included poster presentations by 52 residents and attendance by over 120 house staff, fellows and faculty. Department of Medicine faculty remain a central component in the CME programs as activity leaders for eight regional and national programs.

The Department of Medicine 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.
The commitment of the Department of Medicine to provide innovative treatment and evidence-based medicine to the community is greatly supported by faculty members who take an active role in developing breakthrough clinical trials, pioneering therapies and drugs that restore and preserve patients’ quality of life. Our physician-scientists and researchers work jointly with colleagues from other divisions and departments to identify the best therapeutic solutions and maintain recognition as leaders in their respective fields. The approach to patients as individuals has proven to be key in forming well-conceived studies to test new theories, underpin mechanisms of diseases and develop innovative models of effective care.

Overall research support to the Department of Medicine remains strong. Total awarded funds to the department exceeded $50 million in 2013 – 2014. The majority of this support comes from federal agencies. In spite of the current funding climate, direct cost research expenditures remained steady.

Thomas Hostetter, MD
Vice Chairman
Research
at nearly $42 million, with 60 percent coming from federal sources. In 2013 – 2014, the fraction of funded salary to the NIH cap for physician-scientists and PhD scientists remained impressive at 52 percent and 67 percent respectively.

Specific divisional highlights include research in the Division of Infectious Diseases and HIV Medicine which encompasses AIDS Clinical Trials Unit, tuberculosis, antibiotic resistance and global health. The Division of Cardiovascular Medicine has a wide range of interests including basic vascular biology, regulation of gene expression and clinical investigation, especially interventional studies. The Institute of Transformative Molecular Medicine focuses on NO and its effects on vascular physiology and protein modification. The Division of Gastroenterology & Liver Disease has strong programs in inflammatory bowel disease supported by a program project in Barrett’s esophagus. The Division of Hematology & Oncology has a broad portfolio of research including thrombosis, cancer cell biology and genetics as well as clinical trials and decision-making. The Division of Nephrology & Hypertension has NIH-funded research programs in hypertension, chronic kidney disease, uremia and transplantation. These include participation in several large NIH-supported consortia. The Louis Stokes Cleveland VA Medical Center has highly funded programs in implementation, quality and education research, and is home to one of eight VA National Quality Scholars Sites.

The unique collaborative atmosphere in the Department of Medicine puts our faculty members at the forefront of discoveries, allows us to consistently improve the quality of outcomes and offer patients access to the newest treatments and technologies. It is our unified dedication to excellence that makes us push the boundaries of medical innovation.

Several specific accomplishments associated with our research enterprise include:

- An intramural Request-for-Proposal for Team Science challenge grants was announced to develop competitive multi-PI proposals across disciplines; three awards were given.
- A research committee was organized to advise the Chairman on strategic development and direction.
- Research Day 2014 attracted posters from a record number of house staff, fellows, graduate students and post-docs. Inspirational plenary talks were presented by leading faculty researchers.
- The Department of Medicine identified and broadcast research opportunities for undergraduate medical students completing their research thesis. We work to inspire and attract students early on in their careers by providing personalized mentorship and focused guidance in research.
University Hospitals launched the Harrington Discovery Institute at University Hospitals early in 2012 through the generous support of the Harrington family. As part of The Harrington Project for Discovery & Development, a $250 million national initiative to accelerate the development of medical breakthroughs by physician-scientists, the Harrington Discovery Institute seeks to help transform scientific discoveries into therapies that improve patient outcomes and save lives.

I invite you to observe our progress and witness our future successes as we advance medicine and society by enabling inventive physician-scientists to turn their discoveries into medicines that improve human health.

The Harrington Project for Discovery & Development is designed to provide physician-scientists with financial capital for advancement and human capital in the form of expert industry guidance to manage the translation and development of their discoveries into products. The Harrington Project aligns nonprofit and for-profit efforts through mission and structure in a new model for drug development.

In the two years since the founding of the Harrington Discovery Institute, our leaders, administration, advisors, collaborators and physician-scientists have relentlessly pursued this ambitious goal, and their successes are highlighted by these achievements from the past year:

• The Harrington Discovery Institute is now providing support to 27 physician-scientist-led research programs across the nation. We have transitioned the first of these programs to our mission-aligned for-profit, BioMotiv, and to large pharma.
• We have entered into relationships with two like-minded disease-centered foundations, the Alzheimer’s Drug Discovery Foundation and the Foundation Fighting Blindness, which share a common purpose with us: fund leading scientists who are conducting the most promising, innovative drug research with the goal of finding cures.
• The Harrington Discovery Institute took its first step toward a larger community of support for the global physician-scientist network by establishing a partnership with the University of Oxford and is currently supporting one Oxford-Harrington Scholar.
HARRINGTON DISCOVERY INSTITUTE
AT UNIVERSITY HOSPITALS

• In partnership with the American Society for Clinical Investigation, we announced our first recipient of the Harrington Prize for Innovation in Medicine. This annual award recognizes the inventiveness and creativity that characterize physician-scientists’ par excellence and celebrate their role in curing diseases and improving quality of life.

• In June we convened the Second Annual Harrington Scientific Symposium, which brought together national Harrington Scholars, drug development experts, our new disease foundation partners and leadership in American medicine.

With a solid foundation set, we anticipate sustained progress in the upcoming years. In June, the State of Ohio Third Frontier Commission awarded the Harrington Discovery Institute $25 million in support of the initiative, which will provide momentum for us to enhance our current programs, offer more support for physician-scientists, and ensure that the impact is felt at home in Ohio.
Academic Year 2013 – 2014 included several notable achievements for department and divisional administration. First and foremost, administration again successfully supported the progress of the department with strong financial stewardship of $250 million in operating, research, philanthropic and developmental resources. Strong collaboration continues to exist with colleagues in the university, hospitals and faculty practice plan. This is evidenced by department and divisional administration continually being tapped as content experts for higher-level operational planning and implementation.

Less traditional areas such as e-media communications, web design and social networking help strengthen professional and referral relationships and set the standard for several new ways of supporting departmental development. Our annual report and internally developed and managed website continue to receive recognition and awards from various outside agencies.

Frederick Creighton, MHA, FACMPE, FACHE
Director
Administration
In June 2014, administration was formally recognized for its role in organizing the self-study associated with the External Review of the Department of Medicine. This 1,500-page document, used by a panel of outside expert reviewers, catalogued departmental accomplishments over the past five years in our multiple mission areas.

Several significant new technologies were successfully implemented in 2013 – 2014 including a health systemwide ambulatory electronic health record product, and an interactive patient portal (MyUHCare) containing as its centerpiece a secure extract of a patient’s personal health record. The planning associated with the workflow redesign, refining of educational and training content, and implementation of these initiatives all relied heavily upon the expertise and involvement of the Department of Medicine administration.

The principal goals of departmental administration are to facilitate the success of the full-time faculty and continue to seek creative solutions to increasingly complex operational challenges.

Also begun in 2013 – 2014 was the automation of nearly $90 million of annual patient care billing through the implementation of electronic patient charge capture. This initiative will encompass patient services delivered in both the outpatient and in-hospital settings and creates a real-time information flow at the point of service delivery through its integration with the electronic medical record. This implementation also helps prepare the faculty for the sweeping changes in medical diagnosis coding (ICD-10) which has been mandated by the federal government for implementation in October 2015.

As health care reform continues, heightened patient consumerism takes center stage, and general economic conditions continue to pose challenges for the department’s administrative team, I congratulate this dedicated group of individuals on their creativity and ongoing commitment to excellence.
The Department of Medicine is proud of its large, diverse faculty. The budgetary sources that support the faculty are well-balanced between research, the clinical practice of medicine and our institutions. Overall, the Department of Medicine self-funds approximately 80 percent of its research, clinical and educational missions.
The Department of Medicine’s MD and PhD faculty who are oriented toward basic, translational and applied research again demonstrated a high level of productivity and quality during academic year 2013 – 2014. This success is measured by both quality and quantity of research applications sent to various granting agencies, as well as the success rate and amount of structured funding that is obtained from these agencies.

### Research Activity

#### Research Applications – Total Cost in Millions of Dollars

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Cost</th>
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<tbody>
<tr>
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<td>101.4</td>
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#### Total Research Expenditures – Direct Cost in Millions of Dollars

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<tr>
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<tr>
<td>VA</td>
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<tr>
<td>Nonfederal</td>
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#### Cardiovascular Medicine

<table>
<thead>
<tr>
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#### Endocrinology

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#### Gastroenterology

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#### Hematology/Oncology

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<th>Cost</th>
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</thead>
<tbody>
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<tr>
<td>FY 12/13</td>
<td>7.0</td>
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<td>FY 11/12</td>
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#### ID/HIV Medicine

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</thead>
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<td>FY 11/12</td>
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#### Nephrology/Hypertension

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<td>FY 12/13</td>
<td>3.5</td>
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<tr>
<td>FY 11/12</td>
<td>4.9</td>
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#### Pulmonary/CC/Sleep

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<tr>
<th>Year</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
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<td>FY 13/14</td>
<td>2.2</td>
</tr>
<tr>
<td>FY 12/13</td>
<td>2.4</td>
</tr>
<tr>
<td>FY 11/12</td>
<td>2.6</td>
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#### Rheumatology

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost</th>
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<td>FY 11/12</td>
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#### Cancer Center

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<th>Year</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 13/14</td>
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<tr>
<td>FY 12/13</td>
<td>13.1</td>
</tr>
<tr>
<td>FY 11/12</td>
<td>6.5</td>
</tr>
</tbody>
</table>
The Department of Medicine’s educational and clinical programs remain robust. One metric used to evaluate clinical service volume is work relative value units (wRVU). Each clinical service delivered to a patient carries a corresponding wRVU based on complexity. A second measure of program growth is clinical collections from patient care services.

The full-time faculty of the department continue to provide the majority of medical student teaching contact hours. The house staff program enjoyed another outstanding group of residents and fellows and continues to be the premier training program.

<table>
<thead>
<tr>
<th>wRVU and Clinical Collections Trend</th>
<th>wRVUs</th>
<th>Clinical Collections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular Medicine</td>
<td>193,389</td>
<td>210,480</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>12,506</td>
<td>12,713</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>67,512</td>
<td>71,630</td>
</tr>
<tr>
<td>General Medicine</td>
<td>51,808</td>
<td>49,925</td>
</tr>
<tr>
<td>Geriatrics</td>
<td>8,022</td>
<td>4,198</td>
</tr>
<tr>
<td>Hematology/Oncology</td>
<td>71,397</td>
<td>78,180</td>
</tr>
<tr>
<td>ID/HIV Medicine</td>
<td>42,484</td>
<td>38,710</td>
</tr>
<tr>
<td>Nephrology/Hypertension</td>
<td>41,520</td>
<td>40,807</td>
</tr>
<tr>
<td>Pulmonary/CC/Sleep</td>
<td>51,109</td>
<td>50,297</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>14,008</td>
<td>12,674</td>
</tr>
<tr>
<td>Totals</td>
<td>553,755</td>
<td>569,614</td>
</tr>
</tbody>
</table>

**Student Teaching Time**

- Third-Year Core Clerkship Students: 3,120 hours*
- Basic Science Curriculum: 2,200 hours
- Fourth-Year Students: 3,080 hours*

*25 percent direct contact time. Total hours represent approximately 30 percent of total faculty teaching time in the School of Medicine.

**Composition of the House Staff**

<table>
<thead>
<tr>
<th>FY 13/14</th>
<th>Categorical</th>
<th>Special Programs (International Health, Med/Peds, Med/Genetics)</th>
<th>Fellows</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>106</td>
<td>17</td>
<td>82</td>
</tr>
<tr>
<td>FY 12/13</td>
<td>104</td>
<td>18</td>
<td>82</td>
</tr>
<tr>
<td>FY 11/12</td>
<td>104</td>
<td>16</td>
<td>81</td>
</tr>
</tbody>
</table>
The Department of Medicine is committed to providing the highest standards of care and the best possible outcomes for our patients. This year’s U.S. News & World Report rankings reflect the hard work and dedication of our faculty members who continually strive to raise the bar in patient care, education and research.

**2014 – 2015**

14th Gastroenterology
18th Cancer
22nd Cardiology
28th Geriatrics
29th Nephrology
36th Pulmonology
38th Diabetes & Endocrinology
Patient Care

Education

Research

Department of Medicine
University Hospitals Case Medical Center
11100 Euclid Avenue
Cleveland, Ohio 44106-5029
216-844-3293

Case Western Reserve University School of Medicine
is ranked in the “Best Medical Schools” in America
by U.S. News & World Report

University Hospitals Case Medical Center
is also ranked in the “Best Hospitals” in America
by U.S. News & World Report

medicine.case.edu