CHANGING MEDICINE.
CHANGING LIVES.®



# Foundations & Innovations

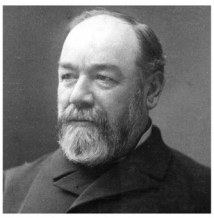
## Department of Internal Medicine


internalmedicineiowa.org

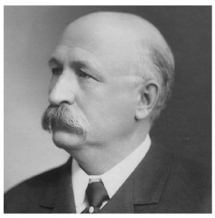
UNIVERSITY OF IOWA
CARVER COLLEGE
OF MEDICINE
University of Iowa Health Care

University of Iowa College of Medicine Faculty, 1870.

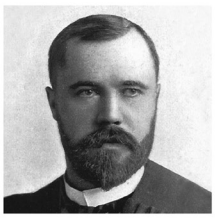
# Department of Internal Medicine Heads



William S. Robertson, MD
1870-1887



William D. Middleton, MD
1887-1891



Lawrence W. Littig, MD
1891-1903

Walter L. Bierring, MD
1903-1910

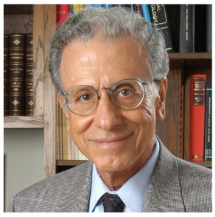
Campbell P. Howard, MD
1910-1924

Fred M. Smith, MD
1924-1946

Willis M. Fowler, MD
1946-1948

William B. Bean, MD
1948-1970

James A. Clifton, MD
1970-1976



François M. Abboud, MD
1976-2001

Peter Densen, MD
2001-2004

Paul B. Rothman, MD
2004-2008

F. Jeffrey Field, MD
2008-2009

Mark E. Anderson, MD, PhD
2009-2014

Gary E. Rosenthal, MD
2014-2015

E. Dale Abel, MD, PhD
2016-

# From the Chair

For more than a century and a half, the Department of Internal Medicine at the University of Iowa has consistently and steadily transformed the practice of medicine. By engaging with our neighbors and with members of the wider global community, we constantly rediscover our commonalities, fostering collaborations and innovations to achieve our shared goals. We play leading roles in multidisciplinary research centers and promote team-based approaches, so that it is not unusual to see a nutritionist collaborating with a microbiologist or a pulmonologist sharing bench space with a neurologist. We use video-enabled tablets to connect internists and patients hundreds of miles away from each other. We learn over and over that there is nothing that separates us.

While respecting tradition, a spirit of invention infuses all of our activities in Internal Medicine. Our educators are devoted to training our next generation of physicians with methods that harness technology, but never forget that true mentorship relies on direct and individualized relationships, and that humanism and compassion always embodies our relationships with those that we serve. Each year, applications to our residency program exceed the previous year, and the quality of the applicants continues to rise along a similar trajectory. Upon completion of their housestaff training, many of our residents successfully compete for increasingly competitive fellowship positions in our own subspecialty programs and across the country, where they become compelling ambassadors of Iowa as trainees in other nationally ranked programs. For those who enter clinical practice, we are confident that their training will equip them to provide compassionate and high-quality care for their patients.

Working in partnership with the University of Iowa Hospitals & Clinics, our clinicians provide world-class care in a variety of locations to patients, many of whom travel a great distance to see us. Our facilities and equipment are modern, accessible, and afford our patients the opportunity to benefit from our expertise. Because we are also a research institution, we can offer our patients access to a diverse array of clinical trials and other novel therapeutics.

Our department members have been global leaders in many areas of research and many of our alumni are leaders in academic medicine across North America. An environment that allows these research breakthroughs could not be more welcoming than at the University of Iowa. Here we approach scientific inquiry with equal measures of curiosity and practicality. Our focus not only drills deeply to uncover very basic disease mechanisms, but also seeks to translate discovery in ways that impact the largest number of citizens in the local and broader global communities. Our institution places primacy on rigorous results, and with that has come broad-based admiration and respect by our peers and exposure in the most competitive venues. Thus, it is not difficult to see why some of the most accomplished researchers in cancer, renal disease, diabetes, cystic fibrosis, cardiovascular disease, inflammation, and health services research–to name a few–call our department home.

In the pages that follow, I invite you to read about what each division does to make the University of Iowa one of the most dynamic and well-rounded academic medical institutions in the world.

**E. Dale Abel, MD, PhD**
Chair/Department Executive Officer,
Department of Internal Medicine
Director, Division of Endocrinology and Metabolism,
Department of Internal Medicine
Director, Fraternal Order of Eagles Diabetes Research Center
Professor of Internal Medicine - Endocrinology and Metabolism
Professor of Biochemistry
Professor of Biomedical Engineering (BME)

# Division of Cardiovascular Medicine

During this past year, we have expanded our position as the only full-service provider of cardiovascular care, research, and education in the state of Iowa. The Interventional Section grew the Transcatheter Aortic Valve Replacement (TAVR) Program in collaboration with Cardiothoracic Surgery (performing more than 500 and averaging over 150 per year with mortality rates lower than the national average) and initiated the Transcutaneous Mitral Valve Repair Program for patients with mitral valve regurgitation not eligible for surgical repair (MitraClip).

The Electrophysiology Section, the largest in the region with 8 physicians and physician-scientists, expanded services as far as Sterling, Illinois, offered advanced procedures such as the Watchman atrial occluder device for stroke prevention in atrial fibrillation, and celebrated a first-in-the-world enrollment in the MADIT-SICD Trial.

In addition to providing state-of-the-art clinical care, physicians and physician-scientists in the Division are actively working on basic, translational, and clinical research projects to identify new ways to prevent and/or cure cardiovascular disease. During this past year, accomplishments included the identification of a new sodium channel modification (SIRT1-mediated acetylation) that may predispose to sudden cardiac death in heart failure (published in *Nature Medicine*), a new ion channel (SWELL1) that regulates the size and growth of fat cells and may play an important role in diabetes (published in *Nature Cell Biology*), a protein in the vascular endothelium (PPAR-γ) that protects against damage in high blood pressure (published in *Hypertension*), and studies documenting the regional variation in survival in victims of out-of-hospital cardiac arrest (published in *Circulation*).

The Division's highly coveted clinical fellowships train approximately 25 general and specialty fellows annually. In addition, the T32 grant for training research postdoctoral fellows was renewed for years 41 to 45, making it one of the longest-running training grants of its type at the National Heart and Blood Institutes of the National Institutes of Health.

**Barry London, MD, PhD**
Director, Abboud Cardiovascular Research Center
Director, Division of Cardiovascular Medicine
Potter Lambert Chair in Internal Medicine
Professor of Internal Medicine - Cardiovascular Medicine
Professor of Molecular Physiology and Biophysics


The University of Iowa Heart and Vascular Center's Pulmonary Hypertension Program received accreditation from the Pulmonary Hypertension Association, expanded outreach as far as Des Moines, and offered participation in 10 active clinical research protocols.

"Advances in pulmonary arterial hypertension pharmacotherapy over the past several years have significantly expanded treatment options," says Linda Cadaret, MD (right), director of the UI Pulmonary Hypertension Program.

The UI Pulmonary Hypertension Program provides a 24/7 multi-disciplinary team approach to disease management that includes: pulmonologists, cardiologists, surgeons, nurses, pharmacists, social workers, dieticians, and rehabilitation specialists. In addition, the UI program has a long history of active clinical trial participation. At present they are part of multiple trials for several novel therapies, including promising studies with Prostacyclin IP receptor agonists.

# Division of Endocrinology and Metabolism

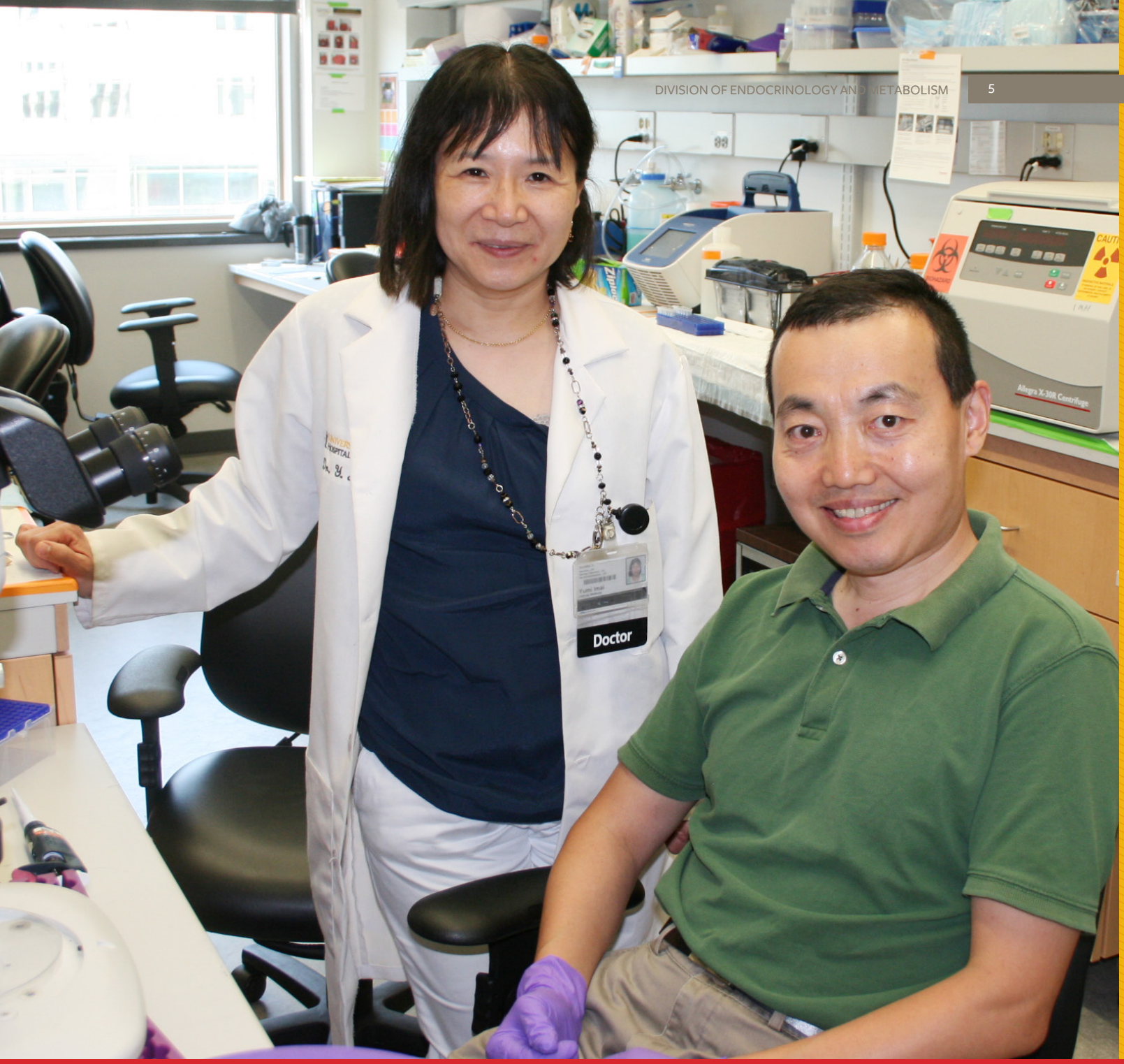
We are committed to using innovative approaches to advance all missions of the Department and the College of Medicine. After relocating most of our ambulatory services to the Iowa River Landing site more than three years ago, we have experienced a significant increase in our clinical volumes. We are piloting team-based multidisciplinary approaches to outpatient diabetes management incorporating input from nutritionists, diabetes educators, nurses, nurse practitioners, physician assistants, and endocrine physicians. We recently launched a medical weight management program and welcomed a podiatrist to our care team.

Our goal remains to be a premier site for advanced endocrine and diabetes care using a model that integrates closely with referring practices. We have expanded our inpatient Diabetes Consult Service, which has improved diabetes management across many inpatient services in conjunction with highly focused care coordination. We are gathering data to evaluate the impact of this service on length of stay and early re-admissions. We are piloting technology platforms incorporating telephonic transmission of blood glucose data that will enhance our ability to remotely manage patients who live many miles away.

Many of our faculty direct vibrant research programs and we were pleased to expand our ranks through the recruitment of four new faculty members in the last year: Drs. Yumi Imai, Sam Stephens, Brian O'Neill, and Sue Bodine. These faculty comprise two new assistant professors, one associate professor, and one full professor representing a broad-based growth of our research mission. We also celebrate achievements of our faculty and their influence on the national stage.

Dr. Christopher Adams, was appointed to the FOE Diabetes Research Chair. The Director of our Endocrinology Fellowship Program, Dr. Amal Shibli-Rahhal, was appointed Assistant Dean of Education in the Carver College of Medicine, and Dr. Janet Schlechte serves as Chair of this year's Clinical Endocrinology Update Steering Committee that organized the Endocrine Society's annual clinical education meeting.

**E. Dale Abel, MD, PhD**
Director, Division of Endocrinology and Metabolism, Department of Internal Medicine
Director, Fraternal Order of Eagles Diabetes Research Center
Professor of Internal Medicine - Endocrinology and Metabolism
Professor of Biochemistry
Professor of Biomedical Engineering (BME)




Our relationship with the FOEDRC has been vital to our success. We recently celebrated the NIH decision to award a five-year, $2.02M training grant, which will fund up to six post-doctoral trainees or subspecialty fellows per year, who will train in metabolic research. More than three dozen multidisciplinary and interactive faculty, including Dr. Yumi Imai (left), from basic science and clinical departments, will cover nine distinct thematic areas of training and focus. This T32 grant is a perfect symbol of our Division's ability to combine all three components of our mission: training future physicians and researchers with cutting-edge approaches to improve the quality of life of those in our care.

# Division of Gastroenterology and Hepatology

We are actively partnering with other departments to enhance patient care, research, and educational opportunities for Iowans. One recent example is our introduction of interventional radiology for radiofrequency liver ablation (RFA). Dr. Tomohiro Tanaka, who has previously performed these procedures in Japan, has brought his expertise to Iowa, and is working alongside our interventional radiologists to perform RFA. In addition, Dr. Henning Gerke and Dr. Rami El Abiad are among the very few gastroenterologists working alongside cardiothoracic and minimal invasive surgeons to perform peroral endoscopic myotomies (POEMs). The spirit of Iowa not only permits but fosters close collaboration. This partnering harnesses the broad expertise of multiple disciplines, enhances fellowship training, and ensures delivery of comprehensive cutting-edge medical care.

The University of Iowa is the first and only institution in the state to perform POEMs, a less-invasive treatment for achalasia, an esophageal motility disorder. "The success of this procedure depends on a great team," said Dr. Gerke, Clinical Associate Professor. "Here we are surrounded by expertise, with thoracic surgeons, specialized interventional gastroenterologists and GI motility experts." The POEM procedure is performed endoscopically and approached transorally. A slit is made in the esophageal mucosa, and a tunnel is created in the esophageal wall. This workspace is then used to divide the circular muscle layer and lower esophageal sphincter, thereby alleviating the obstruction to food passage. As the endoscope is removed, clips are placed to repair the mucosal slit.

Though the POEM procedure is fairly new, only performed on humans since 2008, it has proven to achieve excellent short-term outcomes. Of the 40+ procedures that have taken place at UIHC, greater than 90% have resulted in significant symptom relief. Indications for the procedure are growing, as applications expand into areas formerly the domain of more invasive approaches.

**David E. Elliott, MD, PhD**
Professor and Director
Division of Gastroenterology and Hepatology


## Emerging Technology: Radiofrequency and Microwave Liver Ablation

Dr. Tomohiro Tanaka, Clinical Assistant Professor, is one of the only GI clinicians in the United States to offer microwave ablation of liver tumors. This emerging intent-to-cure approach is less invasive than surgery, and is generally offered to patients with small lesions of less than 3 cm and otherwise uncompromised liver function. According to retrospective data from Japan, five-year survival after initial tumor ablation is greater than 60 percent. Although tumor ablation therapy in the United States is more often provided only by radiologists, Dr. Tanaka believes that participation of a hepatologist in such cancer therapy can be more effective, providing a "total approach" to liver tumors.

## Gastroenterology/Hepatology by the Numbers

Number of GI/ Hepatology Faculty: **26**
Number of GI/ Hepatology Advanced Practice Providers: **6**

Inpatient E/M Units Billed: **4,639**

RVUs: **94,000**

Digestive Diseases Procedures:
UIHC: 14,483
IRL: 2,506
Total: **16,989**

**~10,000**
unique patients seen per year

Digestive Diseases Clinic Appointments:
UIHC: 22,267
IRL: 4,629
Total: **26,896**

# Division of General Internal Medicine

**Health Services Research:**
Dr. Eli Perencevich was named the Associate Chair for Clinical and Health Services Research for the Department of Internal Medicine. In this newly created position, Dr. Perencevich and his team will strengthen and grow the Department of Internal Medicine's research portfolio by training, mentoring, and supporting both fellows and junior faculty in the area of clinical and health services research. Dr. Perencevich's leadership is expected to further enhance the Department's national recognition for research.

**Primary Care Redesign:**
In line with UI Health Care's Strategic Plan to increase access to primary care, the Division of General Internal Medicine is partnering with the Departments of Family Medicine, Gynecology, Behavioral Health, and Pediatrics to redesign the way primary care is delivered at an institutional level. The initiative strives to optimize access to care for the institution's patients by creating team-based approaches and expanding services.


***Transformed Care Delivery Model***

**PreP Clinic:**
Dr. Nicole Nisly and Dr. Michelle Miller (College of Pharmacy) co-lead the newly developed Pre-Exposure Prophylaxis Clinic (PreP), which is designed to significantly reduce the risk of HIV/AIDS among high-risk populations by providing antiviral medications. The clinic, modeled after the Pharmacotherapy/Anticoagulation Clinic, allows for cost-effective and accessible preventive care. Patients receive considerable education about ways of reducing HIV/AIDS transmission, routine follow-up visits and phone contact, quarterly HIV testing, and lessons on self-collection methods to allow for more convenient testing. The clinic has been well received by patients, referring providers, and the surrounding community.

**Richard M. Hoffman, MD, MPH**
Director, Division of General Internal Medicine
Professor of Internal Medicine - General Internal Medicine

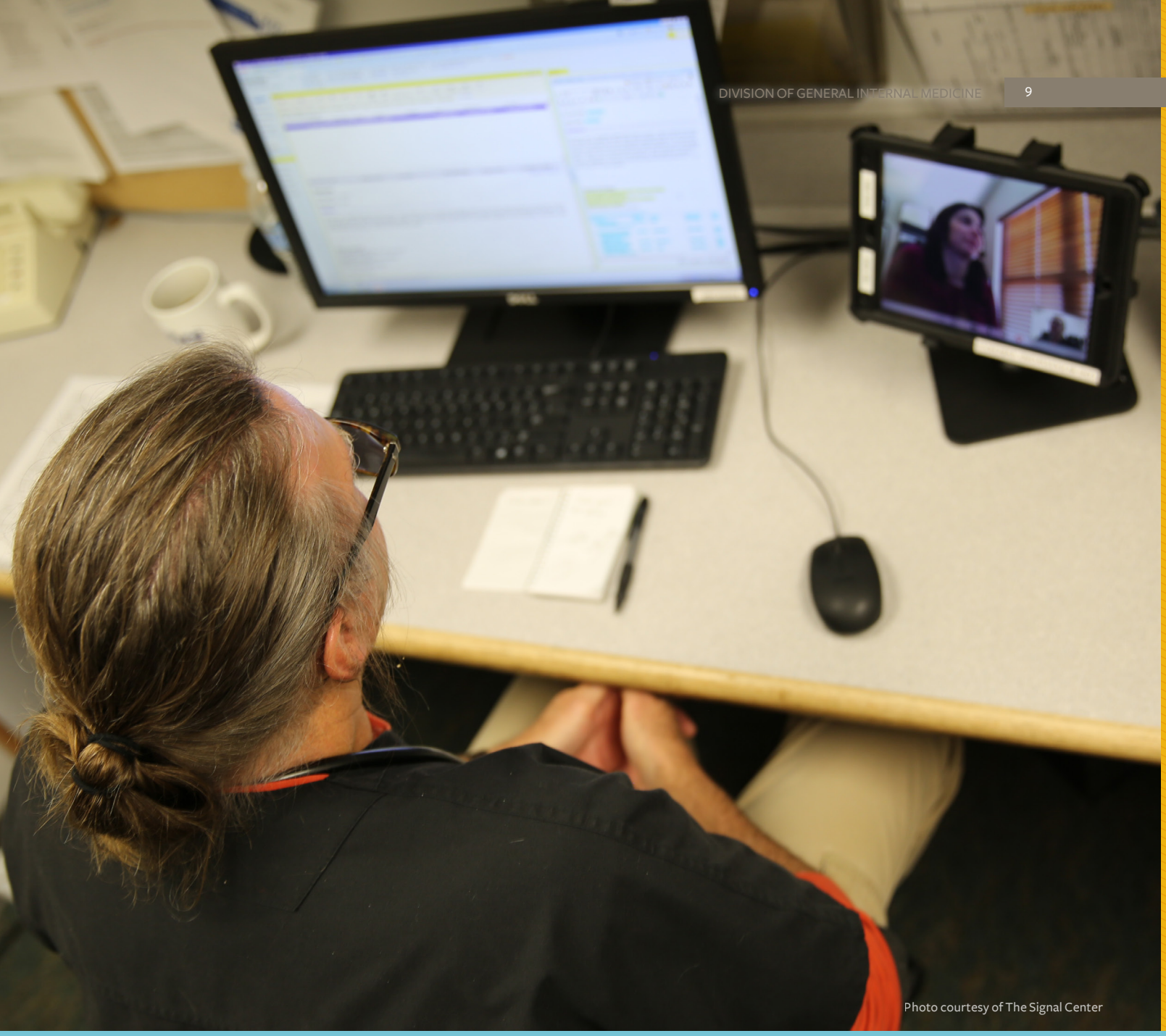
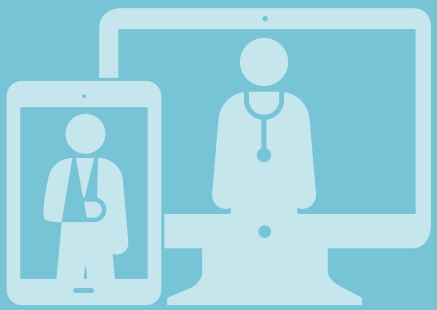


Photo courtesy of The Signal Center

# Virtual Hospitalist Program



The Hospitalist Program, in collaboration with UI Health Care and The Signal Center for Health Innovation, recently launched a Virtual Hospitalist Program to provide care for patients in rural critical access hospitals through a secure telemedicine connection. Using a shared electronic medical record and real-time video conferencing, the service allows patients to be hospitalized in their local community while simultaneously receiving high-level care from UI providers.

# Division of Hematology, Oncology and Blood & Marrow Transplantation

Our Division continues to grow clinically to serve the people of Iowa with cancer and hematological diseases. We are expanding our involvement in clinical trial investigation and training of future Hematology/Oncology physicians via our accredited Fellowship Program. Some noteworthy accomplishments this past year include the following:

- The UIHC Blood and Marrow Transplantation Program expects to maintain full accreditation status from the Foundation for the Accreditation of Cellular Therapy (FACT), earned in part because of our well-formulated quality management plan and improvement process. Our allogeneic transplantation program has been recognized as one of only 10 over-performing centers for three years in a row by the Center for International Blood and Marrow Transplant Research (CIBMTR).
- The University of Iowa Oncology Network, led by Dr. M. Obinna Nwaneri, has expanded the availability of hematology/oncology services to all Iowans. The February 2017 opening of UIHC Cancer Services in the Quad Cities, staffed by Dr. Shobha Chitneni and Dr. Mario Sy, includes infusion services and provides Quad Cities-area patients greater access to clinical studies and advanced cancer treatments.
- Drs. Varun Monga and William Terry (Pediatrics) have led the establishment of the Adolescent Young Adult (AYA) Program in the Holden Comprehensive Cancer Center (HCCC) and the UI Stead Family Children's Hospital. AYA services include care coordination, cancer clinical trials, oncofertility services, psychosocial support, and survivorship programs for adolescent and young adult cancer patients.
- Dr. Yousef Zakharia made national headlines with his presentation of an interim analysis of a phase 2 clinical trial of immunotherapy for patients with advanced melanoma during the Plenary Session of the 2017 American Association of Cancer Research annual meeting.
- Our Division is committed to training the next generation of hematologists and oncologists. We are pleased that two of our senior fellows, Dr. Rohan Garje and Dr. Grerk Sutamtewagul, are joining the Division as faculty members in 2017. Postdoctoral research training in hematology is supported by an NIH-funded T32 training grant that provides support for advanced training in basic or clinical research.

**Steven R. Lentz, MD, PhD**
Professor and Director
Division of Hematology, Oncology and
Blood & Marrow Transplantation

Our cancer clinical research, particularly in critical phase 1 clinical trials, has also grown substantially. In the first six months of 2017 we enrolled 46 patients in phase 1 studies, which is a sixty percent increase over the number enrolled in all of 2016. Our effort to expand our reach has been led by Dr. Mohammed Milhem, MBBS, the Holden Family Chair in Experimental Therapeutics and Deputy Director for Clinical Research and Clinical Services for the HCCC.

# Holden Comprehensive Cancer Center by the Numbers

**1** of only **47**
**NCI-DESIGNATED** COMPREHENSIVE CANCER CENTERS
in the United States

**IN THE LAST FIVE YEARS**

**2,211** PEOPLE PLACED ON THERAPEUTIC CLINICAL TRIALS

**$210 million+**
IN PEER-REVIEWED FUNDING

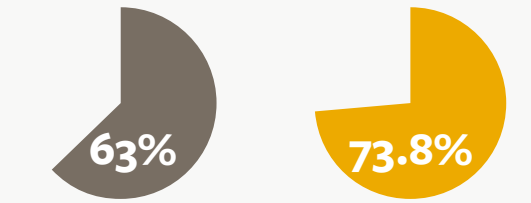
**$65 million+**
IN NON-PEER-REVIEWED FUNDING

**1** of only **15**
**CANCER CENTERS IN ORIEN**
a national initiative that uses data sharing to drive research, development and discovery of cancer treatments

HOLDEN COMPREHENSIVE CANCER CENTER
**MORE PEOPLE HELPED LAST FISCAL YEAR**

**21,517** FY2015 **vs.** **22,352** FY2016
unique cancer patients

**BONE MARROW TRANSPLANT PROGRAM QUALITY**




**EXPECTED** SURVIVAL RATE | **ACTUAL** SURVIVAL RATE

Exceeded survival expectations and was rated an **"outperformer"** for allogenic transplant

# Division of Immunology

The Division of Immunology is the combined group of Allergists-Immunologists and Rheumatologists who endeavor to be Immunology leaders in patient care, medical education, and scholarship. We value high-quality patient care and have several unique specialty clinical services, including a scleroderma clinic; a drug allergy clinic; an ocular inflammation clinic—a combined venture with the Department of Ophthalmology; a complex disease service focused on patients with conditions difficult to diagnose or manage; and the severe combined immunodeficiency newborn screening service.

The Division's cellular immunology lab supports the newborn screening program and is instrumental in the development of new knowledge. The HLA/Tissue Typing laboratory, as well as divisional transplant-related research, supports the institution's transplant program. Our scholarship is vigorous and includes basic immunology and collaborations with the Center for Immunology and the Graduate Program in Immunology. Clinical research includes the use of Veterans Affairs databases and registries, as well as investigator-led projects such as hyperinflammation therapy. The Division also has a growing presence in clinical trials, offering new therapies for patients with challenging diseases including a new clinical trial on oral desensitization for peanut allergy. Scholarship within the Division includes co-editorship of the flagship Allergy-Immunology journal, the Journal of Allergy and Clinical Immunology and several of our faculty members hold leadership positions within national societies and ABMS member boards. Education is also a priority of the Division with members leading important courses for the Carver College of Medicine, providing medical education for all levels of learners including two robust, statewide continuing medical education courses.

We have two exceptionally strong fellowships in Allergy-Immunology and Rheumatology. We are one of the few Divisions in the country that offers a combined training pathway for learners to train in both specialties. Our Rheumatology fellows recently won the national fellow knowledge bowl competition for the third year in a row and an Allergy/Immunology fellow received one of the top abstract awards at the AAAAI annual meeting. Our future lies in recruiting talented young faculty members to evolve these exciting programs into national and international leadership. Our greatest strength remains our Division's members—their talents, enthusiasm, and energy.

**Scott Vogelgesang, MD**
Professor and Director
Division of Immunology


Returning Champions
The Hawkeyes
University of Iowa
2016 ACR Knowledge Bowl
Finals – Final Question
SCORE BOARD
Rheum-Nados Franciscan
Tram-a-dolls Oregon
Hawkeyes Iowa
0
3500
9801

# Division of Infectious Diseases

Our members provide expertise in the diagnosis, treatment, and prevention of infection; perform ground-breaking research to advance our understanding of infection and inflammation; and train the next generation of infectious diseases specialists.

Our clinical programs include all aspects of infectious diseases, from common community-acquired infections to life-threatening diseases in those with compromised immune systems. We have recently expanded our programs in Transplant Infectious Diseases, Bone and Joint Infections, Antibiotic Stewardship, and Telehealth, and provide clinical expertise to providers across Iowa and the region.

We perform research spanning laboratory investigation, translational research, clinical trials, and healthcare epidemiology. Recent developments include: our **Inflammation Program**, an interdisciplinary program dedicated to understanding the cell and molecular biology of inflammation, recently added two new investigators; the **Emerging Infections Network**, a cooperative agreement with CDC and the Infectious Diseases Society of America, was recently funded to remain at Iowa for another five years; and members of our Division, along with General Medicine, received a **CDC Prevention Epicenter** award to develop and test interventions to prevent pathogens from spreading in healthcare environments. Additional areas of active, funded investigation include basic and clinical virology (HIV, GB virus C, hepatitis C, and CMV), parasitology and global health (*Leishmania* species and *Trypanosoma cruzi*), surgical site infection prevention, antimicrobial resistance, antimicrobial stewardship, hand hygiene promotion, computational epidemiology, and evaluating models of HIV care delivery.

Most importantly, our Division is dedicated to training the next generation of infectious diseases physicians and scientists, providing a comprehensive clinical experience along with ample opportunities for research training, assisted by a T-32 NIH Training Grant that provides support for a multidisciplinary group of trainees. Training grant opportunities are also available in immunology and parasitism, and through our VA Quality Scholars program.

**Daniel J. Diekema, MD**
Professor and Director
Division of Infectious Diseases


Led by Dr. Patricia Winokur (right), our Vaccine and Treatment Evaluation Unit (VTEU), one of nine sites nationwide funded by the NIH to research vaccines and treatments against infectious diseases, recently began enrolling subjects in a study of a new vaccine for Chikungunya virus.

VTEUs are responsible for testing vaccines in specific populations which increases the NIAID's ability to direct clinical research to quickly respond to public health needs. Every year the University of Iowa VTEU conducts clinical trials on traditional flu vaccines with added adjuvants. Adjuvants are agents that enhance the body's immune system response.

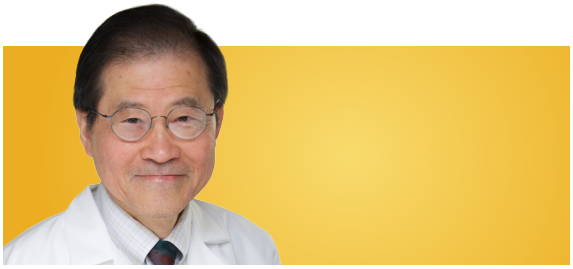
Additionally the University of Iowa VTEU continues to study vaccines for eradicated infectious diseases such as smallpox in the event it is used as a bioterror weapon. The University of Iowa site has been involved with NIH studies testing new vaccines for H1N1, Avian H5N1, Smallpox, Yellow Fever, H5N8, Tuberculosis, and many more. Our mission is to research vaccines and treatments against infectious diseases in people of all ages and risk categories to better enhance global health.

# Division of Nephrology and Hypertension

We welcomed our new director, Dr. Chou-Long Huang, in April. Dr. Huang came from the University of Texas Southwestern Medical Center where he was a Professor of Internal Medicine. He received residency training at the University of Iowa after obtaining his M.D. in Taiwan and Ph.D. at the University of California San Francisco, followed by a renal fellowship and a postdoctoral fellowship at the Howard Hughes Medical Institute in UCSF. His research and clinical interests focus on fluid and electrolyte disorders, hypertension, and skeletal and cardiovascular complications of chronic kidney disease.

The Division also celebrated the recruitment of Dr. Massimo Attanasio, an eminent scientist from UT Southwestern. Dr. Attanasio discovered a new genetic cause for atypical hemolytic-uremic syndrome and C3 glomerulopathy. He is also interested in understanding mechanisms of disease in cystic diseases like polycystic kidney disease.

The Division continues its long tradition of training patients for home hemodialysis in addition to peritoneal dialysis, while also offering center hemodialysis at several locations. We also participate in clinical trials for patients with kidney disease, and a clinic for patients with polycystic kidney disease is currently being expanded. A novel tele-nephrology program for rural population-based health care is being developed at the VA Medical Center, and we continue to provide kidney transplant services at one of the national VA organ transplant centers.



**Chou-Long Huang, MD, PhD**
Professor and Director
Division of Nephrology and Hypertension


The University of Iowa's Renal Genetics Clinic, led by Dr. Christie Thomas, continues to expand its services beyond the state for the evaluation and management of renal genetic diseases. The clinic— which also comprises Master's trained genetic counselors—provides consultative services to patients, families, and referring physicians and facilitates genetic testing.

The Renal Genetics Clinic and the Nephrology Division work closely with the Iowa Institute of Human Genetics and have co-developed the world's only comprehensive genetic testing panel, KidneySeq™, for diagnosis of patients with genetic renal diseases. The panel includes 170 plus genes causally related to more than 75 genetic kidney diseases. Its application includes screening of transplant donor candidates, diagnosis of polycystic kidney and other cystic kidney diseases, and many other genetic diseases including Alport syndrome, Juvenile Nephronophthisis, Bartter syndrome, inherited FSGS, ApoL1 nephropathy, and many others.

# Division of Pulmonary, Critical Care and Occupational Medicine

We strive to foster a deep sense of camaraderie among our members, each of us working as a team and focused on providing top-quality care to our patients, advancing discoveries in the quest to understand physiology and treat disease, all the while preparing a new generation of physician scientists.

Two members of that next generation have distinguished themselves in the last year. Dr. Mahmoud Abou Alaiwa has recently received an early-career grant from the NIH to study the mechanisms of mucociliary transport in airways affected by cystic fibrosis. Another graduate of our fellowship program, Dr. Alejandro Pezzulo, earned the prestigious Parker B. Francis Fellowship in pulmonary research to study how to chemically revert airway goblet cell metaplasia.

We are proud of our more senior faculty's accomplishments this year as well. Dr. Michael Welsh, Director of the Pappajohn Biodiscovery Institute, won the 2017 Steven C. Beering Award. Dr. Jeffrey Wilson, director of our fellowship program, won the Ernest O. Thielen Award, one of the Carver College of Medicine's highest honors, for his humanism and dedication to teaching. Dr. Alejandro Comellas was selected by the Internal Medicine Residents as Teacher of the Year.

Four of our Obstructive Pulmonary Disease clinicians continue to innovate in their delivery of care. Their reorganization and team-based approach, sharing patients and schedules, has virtually eliminated wait-times, increasing the number of new patients seen by a factor of four. We are fortunate to be surrounded by curious and diligent colleagues and are excited about what we can accomplish together in the next year.

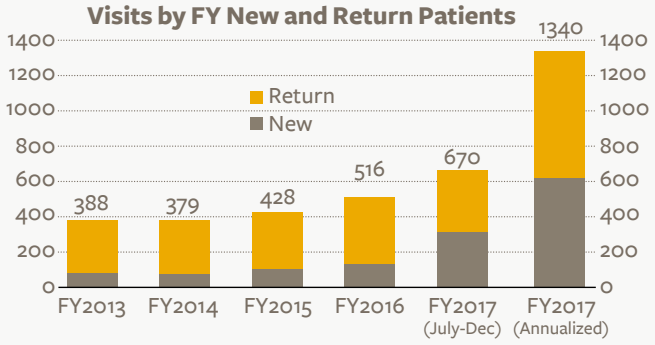
**Joseph Zabner, MD**
Professor and Director
Division of Pulmonary, Critical Care & Occupational Medicine

# Welsh Honored by the American Physiological Society

Michael J. Welsh, MD, of Howard Hughes Medical Institute and the University of Iowa, was awarded the Physiology in Perspective: The Walter B. Cannon Award Lectureship. This lectureship is the most prestigious award that APS bestows and recognizes the lifetime achievement of an outstanding physiological scientist and APS member. Welsh presented his lecture "Insights into the Pathogenesis of Cystic Fibrosis Lung Disease" at the APS annual meeting at Experimental Biology 2017 (April 22 in Chicago). He is pictured here with past APS president Jane F. Reckelhoff, PhD.

# Obstructive Pulmonary Disease (OPD) Clinic by the Numbers

Clinic opened **July 2016**




**4X** increase in gross charges

**$140,000** cost savings

**5X** increase in new visits

**86%** increase in return visits

# Education

The commitment of Internal Medicine to the mission of education threads through all our activities. While we have a long tradition of training outstanding physicians and physician-scientists, we also continually work to keep our curriculum and methods cutting-edge.

The program leadership works closely with chief residents and other core educators and invites input from residents in designing and refining innovative programs. For example, in the last 2 years we instituted a "4+1 program" that allowed residents an improved ambulatory experience, guided career and mentor choice at the same time maintaining a well-balanced work-life experience. This also allowed our residents to immediately begin exploring the subspecialty that interests them while also exposing them to fields they may not have previously considered.

We believe that our residents should not only be life-long learners of medicine, but life-long teachers of medicine. The Internal Medicine Residency Program values the important role that residents assume as teachers. The program also recognizes how complex medical teaching can be when the teacher must meet the needs of the learner while providing care for the patient. In an effort to help residents develop teaching skills as well as gain confidence as teachers, the program has designed opportunities for residents to improve their teaching skills during their training. To that end, the program has developed the Teaching Skills Curriculum, which many residents find complements their formal training and enhances their clinical skills. The Internal Medicine Residency at the University of Iowa is also committed to teaching and giving hands on experience in quality improvement. The program provides each and every resident the time, resources, and mentorship to complete different Quality Improvement (QI) projects in order to continuously improve and enhance patient care.

**Fellowship Training and Match**

We are committed to developing an individualized career path for each of our trainees. Each resident is given career guidance throughout residency by multiple faculty mentors. From 2012-2016, 55% of our graduates pursued fellowship training, and 92% matched, obtaining subspecialty fellowship positions. Nearly half of these graduates chose to remain at the University of Iowa for their fellowship training, attesting to resident satisfaction with our educational environment, the hospital system, and our collegiality. The other half matched in many of the finest programs nationwide.

**Manish Suneja, MD, FASN, FACP**
Director, Internal Medicine Residency Program
Clinical Professor of Internal Medicine
Nephrology

# OSCE Day for Incoming Interns

More than a dozen faculty members, all four Chief Residents, four room proctors, and two dozen professional simulated patients participate in a yearly exercise in order to evaluate eight different professional skills demonstrated by more than 30 interns in one day within their first week. The Objective Structured Clinical Examinations (OSCE) will help us design individualized development plans for each intern. The data gathered from the OSCE will also help the Residency Program refine its curriculum going forward.

Philanthropy has enhanced much of the activity featured in this publication. Research discoveries, innovative training methods, life-saving care, and more emerge in part because of private gifts and endowments.

To become a part of the future of Internal Medicine at the University of Iowa contact:

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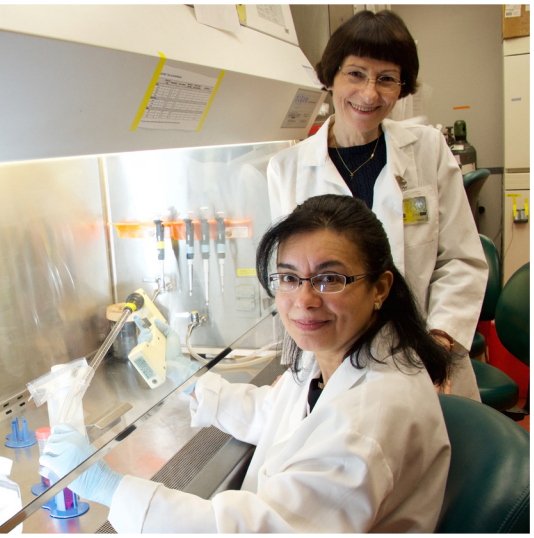

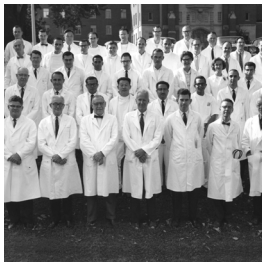


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