Yale Internal Medicine
EXCELLENCE • SAFETY • EQUITY • RESPECT

Annual Report 2018–2019
MESSAGE FROM THE CHAIR

I am delighted that you are reading our annual report and believe you will discover a department that is both inspired by the richness of its traditions and determined to meet the extraordinary opportunities afforded to the modern Department of Medicine.

Here we aim to further medical research, deliver world-class clinical care, and educate medicine's future leaders. As importantly, we commit to fostering an inclusive, respectful, and collaborative culture. And this commitment to excellence, diversity, fairness, and transparency guides our daily thoughts, decisions, and actions.

We are among the nation’s premier departments, bringing together an elite cadre of clinicians, investigators, and educators in one of the world’s top medical schools. We have approximately 1200 faculty, 350 residents and fellows and a staff of 400. Among the faculty are members of the Institute of Medicine, the Association of American Physicians, and the American Society for Clinical Investigation. We are embedded in a remarkable basic science environment that affords extraordinary opportunities for interdisciplinary and translational research.

Our recent work on diversity, equity, and inclusion has become a cornerstone of the department. And we are extremely proud that over the past four years, 55% of faculty appointed or promoted to the rank of professor in our department were women and/or members of minority groups underrepresented in medicine.

We also know that what is highlighted in this report in no way fully captures the richness of our culture, all we have accomplished together, and certainly does not do justice to all who have contributed. But I hope this book will provide insight into our values, our passions, what gives us joy, and what we strive to accomplish. And I also hope they will inspire us to aim higher, and will motivate you to get to know us better.

I would love to hear from you. Please contact me with any suggestions and questions.

Gary Desir, MD
Paul B. Beeson Professor of Medicine
Chair, Internal Medicine, Yale School of Medicine

COVER PHOTOGRAPHY
1. Aba Black, MD, evaluates a patient with back pain in the Yale New Haven Hospital (YNHH) Primary Care Clinic.
2. The lab of Silvia Vilarinho, MD, PhD, uses whole-exome sequencing to look for causes of liver disease.
3. Whitney Beese, MD, and Xin Tran partner on projects while working in the lab of Stefan Somlo, MD.
4. Karl Iagnocco, MD, evaluates patient Robert Delkawer Jr. with X-Linked Hypophosphatemia at YNHH.
5. Harriet Kluger, MD, and Mario Sznol, MD, work as part of the Yale SPORE in Skin Cancer (YSPORE-SC).
6. Anne Eichmann, MSc, PhD, aims to uncover the cellular mechanisms and molecular factors that regulate cell behavior.
7. Abhijeet Danve, MBBS, MD, FACP, evaluates a patient with ankylosing spondylitis in the Spine Center at YNHH.
8. Researchers Farida Ahangari, MD, and Norihito Omote, MD, PhD, work in the lab of Naftali Kaminski, MD, where they study chronic lung diseases.
9. Postdoc Omkar Chaudhary, PhD, and Brinda Emu, MD, work to understand immune system deficits in individuals with HIV infection despite antiretroviral therapy.

CONTENTS

Message from the Chair | 1
Yale New Haven Hospital on National Honor Roll as One of Top 20 U.S. Hospitals | 2
Department of Internal Medicine Vital Stats | 3
Diversity, Equity, & Inclusion | 4
Overview from Vice Chairs | 6
Clinical Affairs
Education & Academic Affairs
Faculty Affairs
Research
Veterans Affairs
Update from Section Chiefs | 16
Cardiovascular Medicine
Digestive Diseases
Endocrinology & Metabolism
General Internal Medicine
Geriatrics
Hematology
Infectious Diseases
Medical Oncology
Nephrology
Pulmonary, Critical Care & Sleep Medicine
Rheumatology, Allergy & Immunology

Other Programs | 38
Philanthropy | 42
A Gift to the Place Their Daughter Loved
Kapo is Named to an Endowed Academic Position
Department Leadership | 45
Acknowledgments | 48
YNHH continues to rank among the best U.S. hospitals with its placement among the top 20 hospitals in the nation on this year’s U.S. News & World Report’s national Honor Roll. Of the nearly 5,000 hospitals surveyed in the magazine’s annual “America’s Best Hospitals” rankings, YNHH ranks nationally in 12 of 16 specialties.

Among the YNHH specialties ranked in the top 50 by the magazine, seven areas are in Internal Medicine. Geriatrics is ranked at #16; Pulmonology & Lung Surgery at #16; Kidney Disorders at #20; Diabetes & Endocrinology at #24; Gastroenterology & GI Surgery at #45; Cancer at #45; and Heart & Heart Surgery at #48.

This achievement would not have been possible without the work of many researchers and clinicians. Thanks to the following Internal Medicine faculty members for their contributions to quality and improvement work at YNHH:

- Karin Adelson, MD (Medical Oncology)
- Ursula Brewster, MD (Nephrology)
- Jeptha Curtis, MD (Cardiovascular Medicine)
- Silvio Inzucchi, MD (Endocrinology & Metabolism)
- Richard Marottoli, MD, MPH (Geriatrics)
- Aldo Peixoto, MD (Nephrology)
- Michael Schilsky, MD (Digestive Diseases)
- Jonathan Siner, MD (Pulmonary, Critical Care & Sleep Medicine)

According to U.S. News & World Report, hard numbers (death rates, patient safety, procedure volume, and other objective data) support the rankings in most specialties. The full national listing is available online at [www.usnews.com/best-hospitals](http://www.usnews.com/best-hospitals).

As gratifying as it is to receive public recognition of the department’s work, we are most proud of our dedication and commitment to providing excellent care to our patients.
Three years ago, Inginia Genao, MD, was appointed as Associate Chair for Diversity, Equity, & Inclusion for the department. Many steps have been taken since then to create a unique and inviting environment rich in diversity and inclusivity. Initiatives were undertaken to further the department’s diversity efforts during the 2018–2019 academic year.

Recruitment

The 62-member diversity committee was restructured to include an executive committee. The group comprises department faculty, trainees, and staff who focus on faculty pipeline programs through recruitment efforts on trainees. Committee members visit historically black colleges and universities across the United States each year to encourage medical students to learn more about Yale through receptions and fairs. During this academic year, the group visited Meharry Medical College in September; Morehouse College in January; and Howard University in February.

Committee members also attended the Student National Medical Association’s national conference in April to expand recruitment efforts. Almost 230 students expressed interest in YSM as a whole, and 40 asked for more information about internal medicine specialties.

Carmen Canales, staff member of the Diversity Committee, is leading the Early Pipeline Subcommittee and plans to concentrate on New Haven public schools in collaboration with the New Haven State Affairs.

The department has approved a budget to cover the costs of physician coverage for current residents who wish to attend recruitment events. This funding will be in place in September.

Training

In the fall, faculty and staff at the VA Connecticut Healthcare System participated in a two-day retreat at which Genao led workshops on diversity, equity, and inclusion. Genao will host a diversity retreat for the Section of General Internal Medicine this upcoming November.

Program Administration

The program was awarded a Yale Center for Clinical Investigation (YCCI) grant to conduct teaching across the department on unconscious bias and health disparities. In addition, the Department of Internal Medicine provided a supplemental grant for the effort. We are in the process of finalizing phase I of the report.

Diversity resources for residents and faculty were added to the department website, with additional changes planned for the fall.

Yale Visiting Program for Students Underrepresented in Medicine Program

The Yale Visiting Program for Students Underrepresented in Medicine (YVP-SUM) offers URiM medical students the opportunity for immersion in a four-week medicine elective at YNHH. The program also exposes students to clinical and research faculty, medical students, residents, and leadership across the medical school. For the upcoming academic year, the program has been expanded to grant participating students financial assistance for housing in addition to a stipend. In addition to the program, an annual dinner is held each January, in conjunction with the Office of Graduate Medical Education. Sixty-six students attended the dinner, of which 10 were our program applicants: five matched in the Primary Care Residency Program; one in Med/Peds, and four in the Traditional Residency Program. A total of 10 URiM residents join the department this fall.

To learn more about the Department of Internal Medicine’s diversity, equity, and inclusion efforts, visit: medicine.yale.edu/intmed/diversity/.

Over the past four years, 55% of faculty appointed or promoted to the rank of professor in our department were women and/or underrepresented in medicine.
Within clinical affairs, efforts have been under way to increase faculty support through a new orientation strategy, and to assist physicians by creating new tools and strategies to use with electronic medical records (EMR).

**Orientation**

The department started its own onboarding process over seven years ago, but orientation was enhanced during the 2018–2019 academic year. Originally a shorter seminar, orientation has grown into a robust two-day Resiliency, Innovation, and Sustainable Excellence (RISE) at Yale program with interactive workshops on emotional skills, unconscious bias, disclosure, and critical conversations. Faculty leaders from many of the department’s 11 sections facilitated the workshops, which new faculty attendees called inspiring, helpful, and motivating. The new format lends itself well to interaction among new faculty and senior leadership in a more casual environment. Sixty new faculty members attended the RISE at Yale initiative in 2018, which intended to launch them with some tools for resiliency to stave off burnout, increase retention, and enhance ways to help them recognize professional satisfaction.

**EMR Enhancements & Support**

When Epic was adopted as our EMR over five years ago, some of the new workflows caused difficulties for physicians. Along with teams at Yale Medicine (YM) and Yale New Haven Health (YNHHS), efforts have been made to have physicians spend less time typing and more time caring. Mobile Heartbeat allows care team members to communicate securely on a mobile device, streamlining communications and minimizing interruptions. Tap and Go allows for a single sign-in once in 24 hours, with subsequent badge swipes, expediting log in, saving time and clicks. In addition, physicians can now write a note in Epic using any of several processes: physically typing it into Epic, dictation with a transcription service, mModal voice-to-text software, or with a virtual scribe (a certified medical transcriptionist who documents a patient’s visit from an off-site location). Use of these services have reduced EMR workload.

**Ambulatory Support**

Year over year, the department has grown between 8–14% on average in the ambulatory space. Each year, Yale Ambulatory Support

Clinical Optimization Services (YCOS) conducts comprehensive reviews of YM’s operations to identify opportunities for improvement, and implements a variety of recommendations from workflow changes to physical renovations. The team’s work has resulted in measurable improvements in many areas, including higher patient satisfaction scores, improved patient access, and decreased costs.

**Telehealth**

Telehealth programs are being developed that will include video visits between patients and physicians, eConsults between providers, and remote device monitoring. Telehealth services will be expanded over the next few years. In 2018, an executive committee with YM and YNHHS representatives outlined strategic priorities, along with business and funding plans, to support the initiative for the next few years.

**Population Health**

In 2018, YM joined the Association of American Medical Colleges (AAMC) Project CORE (Coordinating Optimal Referral Experience) program. The program seeks to reduce unnecessary specialist referrals through the use of eConsults and enhanced referrals.
The department made several innovative changes in its educational programs during the 2018–2019 academic year.

Medical Grand Rounds
Medical Grand Rounds continues to be a strong training forum for faculty, residents, fellows, and medical students. The weekly event draws very strong attendance and is often standing room only. This year, the department transformed select Medical Grand Rounds, including the annual Philip K. Bondy Lectureship and the annual Jack A. Elias Advances in Biomedical Sciences Lectureship, to highlight the world-renowned section chiefs and physician-scientists at YSM within the Department of Internal Medicine.

Another new initiative is the awarding of maintenance of certification (MOC) credits for select Medical Grand Rounds attendees. To wrap up the academic year, the department held its third annual "Stories of Yale Internal Medicine," a special grand rounds centered on sharing stories. Storytelling is fundamental to being a physician, including writing/presenting a history of present illness; guiding the goals of patient care; writing research grants and manuscripts; and mentoring colleagues. This year, six persons from the department were selected to read their submissions. Of the six presenters, five were women, five were underrepresented in medicine, and four were immigrants.

Medical Grand Rounds will be forthcoming this upcoming academic year.

Research in Residency Day
In April, the department held its 17th annual Research in Residency Day, established to increase the exposure of YSM residents to department investigators through the creation of dedicated time for research and mentorship to refine their skills in clinical judgment at the bedside. In previous years, poster presentations were held throughout the day. A new format was adopted for this year to give residents a larger audience and to better accommodate faculty schedules. Three residents were chosen to showcase their work during the department’s Thursday morning Medical Grand Rounds. In addition, all residents participated in an afternoon poster presentation.

Firms
Another critical change last year was the new financial support for the attending physicians from YNHH on the hospital’s inpatient firms. Previously, such support was given only to select faculty members. This financial commitment is a win for physician engagement and faculty support that strengthens the relationship between YSM and YNHH, the school’s primary teaching hospital.

Clinical Teaching Skills
The Office of Education expanded to include a robust offering for faculty to improve their clinical teaching skills and ability to produce scholarship from educational activities. Six seven-week clinical teaching courses with such topics as setting an optimal learning climate; identification and communication of goals; assessment and feedback; and teaching content were implemented. To date, over 200 department faculty and hospital residents have completed this training. In addition to the live training, a website update is under way to include topics and faculty available to assist those who wish to improve their teaching skills. There is a close connection with the YSM Teaching and Learning Center, which in addition to sponsoring some of the aforementioned sessions, offers a one-year medical education fellowship and a two-year master’s degree in health science with a concentration in medical education.

Educational Scholarship
In July, the department launched the Advancement of Clinician-Educator Scholarship (ACES) Faculty Development Program to foster the career development of junior clinician-educators in educational scholarship. Five junior faculty members were named to this one-year program, which aims to enhance knowledge and skills in educational scholarship, provide resources to aid in the success of education scholarship, and provide mentorship to foster success in clinician-educators.

The "Stories of Yale Internal Medicine" Grand Rounds is one of the most popular grand rounds each year.

Anna Reisman, MD, and Lisa Sanders, MD, FACP, offered guidance to selected authors for the "Stories of Yale Internal Medicine" Medical Grand Rounds. The duo also run the Yale Internal Medicine Residency Writers’ Workshop.
During the 2018–2019 academic year, Department of Medicine Faculty Affairs expanded the department mentorship program; streamlined the review process for faculty reappointments and promotions; and introduced the School of Medicine’s new faculty clinical track.

Faculty Mentorship Program
The Department of Internal Medicine Faculty Mentorship Program was created to facilitate mentorship of junior faculty in their academic progress and career development. Senior faculty members within the department serve as mentors to help junior faculty set research, clinical, and educational goals with reasonable timelines, while also providing them with relevant feedback and guidance. Every section within the department has now implemented the mentorship program.

Associate Professor Reappointments
Referee letters are no longer required for associate professor reappointments for the Appointments & Promotions review process. Going forward, a department senior faculty vote on reappointment is required only at the end of the second associate professor term. These changes have streamlined the review process and improved the turnaround time for approvals.

Track Declarations
Effective July 1, 2019, declaration of a specific academic track is required for all assistant professors. Previously, tracks were not declared until the end of the second assistant professor term. Defining a track for junior faculty members better enables their section chiefs and mentors to provide appropriate career guidance. At any point during the assistant professor rank, faculty have the flexibility to request a change of track as their interests and focus are refined.

New Clinical Track
The new YSM Clinical Track was announced and introduced to the department in April. This track provides a career path for clinically focused physicians on the full-time faculty as well as the opportunity to contribute to the mission of the department. To be eligible for this new track, physicians are required to be predominantly patient care-focused, have high-level clinical expertise, and a visible commitment to clinical education, support the clinical investigative mission of the department, and serve as role models for trainees.

FACULTY AFFAIRS
The research efforts of the Department of Internal Medicine have grown significantly during the 2018–2019 academic year. More than two-thirds of our faculty are actively involved in research, spanning the spectrum from clinical outcomes and epidemiologic studies to translational and basic science investigations. These research efforts are supported by $587 million dollars from the National Institutes of Health (NIH), U.S. Department of Health and Human Services (HHS), State of Connecticut, foundation, and foreign grants as well as $33 million dollars in industry funding for the drug development and clinical trials.

To build upon this flourishing record of research achievements and assure a prosperous enterprise for the future of our department, leaders identified key infrastructure concerns. The leadership maintained that any future construct will more likely endure with input from those who have previously contributed to our success. Accordingly, advisory groups of faculty from the various research domains and ranks were formed, and met to identify and strategize on key concerns to address the present research workflow. These groups are interactive and form a community unified in purpose and values through a process of inclusion. A survey with structured questions to internal medicine faculty with nearly 100 attendant detailed narrative responses was completed. The reorganization of informatics and biostatistics accounted for 75% of the concerns of the internal medicine faculty.

Department Chair Gary Desir, MD, presented the findings to the National Clinical and Translational Science Awards (CTSA) Program PIs. He received feedback on successful strategies for improvements and reorganization of informatics and biostatistics based upon the experiences of Program CTSA PIs with successful implementation of such infrastructure.

The other issues identified by the survey were: non-NIH contract process; system-wide biobanking & DNA effort; clinical genomic core; and mentoring. The central campus was lobbied in regard to the non-NIH contract approval time frames. Findings resulted in additional hires to shorten approval time frames and design a process to index time-sensitive proposals and/or outstanding approvals for expedited review. Space constraints are critical for extant recruitments and long-term planning. Discussions concerning present and future needs for research space across diverse biomedical research methodologies has been initiated with YSM. As space becomes available, our department has anticipated, lobbied, and prepared to justify occupancy on the basis of prospective planning. We are in the process of organizing appropriate information from department leaders, and meetings with YSM leadership will follow.

Accordingly, the department is addressing infrastructure vulnerabilities to enhance accessibility and to support Investigators who employ a spectrum of quantitative and/or qualitative tools. We believe that such support will provide a broader availability of these in-demand services for researchers across all our sections, and thus ensure our continued leadership in promoting human health.

More than 2/3 of our faculty are actively involved in research, spanning the spectrum from clinical outcomes and epidemiologic studies to translational and basic science investigations.
The VA Connecticut Healthcare System (VACHS) serves as one of the teaching hospitals for YSM faculty. Its inpatient facilities and Ambulatory Care Center are based in West Haven, with another Ambulatory Care Center located in Newington. The system boasts six other primary care outpatient clinics across the state of Connecticut.

The Department of Medicine at VACHS has twelve subspecialty sections along with primary care. Considered a national leader by the Veterans Health Administration (VHA), VACHS hosts over 300 credentialed internal medicine physicians. In addition, nearly 80 residents and fellows train onsite in West Haven. YSM students also rotate at the VA. VACHS-based Yale ladder track faculty hold important leadership roles at YSM in student and resident education, training, advising, and research.

Patient Care

Last year, VA Medicine subspecialists saw 32,447 patients and had 169,729 clinical encounters. Primary Care treated over 500,000 veterans and generated over 200,000 clinical encounters across 72 patient-aligned care teams involving more than 70 trainees.

During the 2018-2019 academic year, VACHS began using a video consult service. The medicine department completed over 5,000 eConsults and had telemedicine clinics in nephrology, cardiology, sleep, rheumatology, primary care, and GI/Ever, reaching patients throughout the Northeast.

The Primary Care service line of VACHS, led by Christopher Ruser, MD, also rolled out a new platform called VA Video Connect or VVC. VVC allows primary care clinicians to have video visits with veterans at any location relying simply on a smartphone, tablet, or camera-enabled laptop. By the end of the fiscal year, the goal is to have every VA primary care physician complete at least one video visit. Ultimately, trainees will be part of this innovation.

Faculty

Many faculty members at YSM work at both the VA and YSM. Anna Raisman, MD, is one such physician. She is based clinically in West Haven, and directs the Program for Humanities in Medicine at YSM in New Haven. She led a writer’s 0p-ed workshop that led to many published pieces by VA faculty. The op-ed by Juliette Spelman, MD, on medical marijuana for chronic pain was published in various news sources, including the Hartford Courant.

David Rosenthal, MD, is the medical director of VA Connecticut’s Homeless Patient Aligned Care Team (H-PACT). Rosenthal’s H-PACT team has repeatedly been named the top performing program out of 65 in the country. In March, Rosenthal and his team in New Haven launched a free smartphone app, BUP Home Induction, which walks patients through the first three days of taking buprenorphine. Buprenorphine relieves opioid withdrawal symptoms and helps patients stay off unsupervised or street opioid drugs. The app has been adopted at VACHS with plans to incorporate it into research.

VA Connecticut Healthcare System Center of Excellence in Primary Care Education

The VACHS Center of Excellence in Primary Care Education (CoEPCE/CoE) is an innovative team-based primary care clinic that trains internal medicine residents from the Yale Primary Care and Traditional Residency Programs alongside nurse practitioners, pharmacy, health psychology, physical therapy, and social work trainees.

The CoEPCE was started in 2011 as one of five grant-funded sites nationwide. During this time, the program has received both local and national recognition for educational innovations, impact on patient care, quality improvement, and resolution of systems issues. As of summer 2019, the VACHS CoE has published over 45 peer-reviewed publications; has made over 100 presentations at local and national meetings; and completed over 50 quality improvement projects. One of the flagship educational and interdisciplinary education innovations is a clinic that was developed to reduce polypharmacy in elderly veterans. As part of efforts to disseminate this innovation, the program has also developed a website open to the public to provide the tools to develop similar clinics at training sites within and outside the VA.

Directed by Rebecca Brienza, MD, MPH, the CoEPCE/CoE teams are led by interprofessional faculty, and supported by registered nurses and licensed practical nurses who work collaboratively with residents within the patient-centered medical home model. This year, the CoE leadership was successful in securing sustainability funding to continue the program in perpetuity when grant funding ends in 2019.

New Catheterization Lab

Led by Steve Pfau, MD, director, the VACHS introduced its new state-of-the-art catheterization lab in May. The 1000-sq-ft space is a notable upgrade from its former lab built in 1997, and complements the existing lab installed in 2007. The new lab provides the highest quality vascular imaging with the lowest possible level of radiation exposure to the patient and physicians. The new facility expands available services to include diagnostic and interventional peripheral vascular and carotid procedures; biventricular pacemakers and ICDs; and capability for general anesthesia. The lab strengthens the position of West Haven as a regional cardiology referral center, serving patients from New York, Massachusetts, and Rhode Island as well as the rest of Connecticut.

The VACHS Medicine Service has one of the strongest research programs within the VHA nationwide. The service has grant funding from various sources, including the NIH, the Department of Veterans Affairs, the Department of Defense, and numerous foundations and companies within the industry. The team conducts numerous clinical trials in West Haven, and in turn produces hundreds of publications annually. In addition, VA faculty members are invited to make presentations and are recognized nationally and internationally.

The VACHS medicine service is considered preeminent in VISN 1, receiving awards for an engaged work force, an outstanding work environment, and excellent clinical outcomes. VACHS is a VA (MCG) High Complexity Medical Center, which received a five-star rating for quality last year.

For more information on VACHS, visit www.connecticut.va.gov/
Research
With ongoing advances in treatment and preventive therapies, we have seen a two-decade low in heart attack mortality rates across the United States. Today, Yale researchers are including more women and minorities as subjects in cardiovascular research. One example is a study published in the International Journal of Cardiology that shows how a sex-specific classification system can provide a more precise guide for the treatment and diagnosis of heart attacks in women.

Section Expansion
In the previous academic year, YCM added 15 new physicians and additional staff, and expanded many of our clinical programs and services. Examples include the Comprehensive Heart Failure program and the 400th heart transplant performed by the Yale New Haven Hospital Heart and Vascular Center (HVC) in May 2019 — making us a top-performing heart transplant center in the country. Likewise, we’ve also made tremendous strides in strategic genetic testing so that patients with hereditary cardiovascular diseases have access to more treatment options. This year YM physicians became the first in Connecticut to offer a new treatment for a fatal hereditary cardiovascular disease. We also saw a wider application of interventional cardiology. YCM become the first center in Connecticut to perform a transcatheter mitral valve repair (TMVR) procedure. This is the first procedure of its kind designed specifically to treat severe mitral regurgitation, a condition that causes blood to flow backward within the heart. We are the first and only program in Connecticut to offer this procedure and the second in New England to have performed it.

Education
Our alliance between YSM, YNHH, and YNHHS streamlines the application of new technology from the research lab to the patient bedside. Moreover, these critical findings are also shared in the classroom. The Yale Cardiovascular Medicine fellowship program provides an academically and clinically rigorous environment for fellows to obtain the necessary skills to become outstanding specialists in cardiovascular diseases. This year we welcomed 46 fellows; almost half the general cardiology fellows are women. As we look to the future, we anticipate advances in personalized medicine to improve the patient experience. Digital health records have made it possible to better evaluate a patient’s health and mitigate the progression of disease. Cardiovascular imaging research can also provide a more accurate guide for treatment and diagnosis. Yale physicians were the first in Connecticut and among the first in New England to offer an advanced cardiac test that can analyze blood flow to the heart and reduce the number of unnecessary cardiac catheterizations — thereby reducing complications, providing value, and accelerating diagnosis.

To learn more about the Section of Cardiovascular Medicine, visit medicine.yale.edu/intmed/cardio/.
Deborah D. Proctor, MD, AGAF, and Fred S. Gorelick, MD, won 2019 American Gastroenterological Association Recognition Awards, given in honor of outstanding contributions and achievements in gastroenterology.

Since forming one of the nation’s first sections of hepatology and then gastrointestinal and liver disorders, the Section of Digestive Diseases has had an enduring impact on research and clinical care in gastrointestinal and liver disorders.

**Genetic Testing**
Researchers led by Silvia Vilain and MD, PhD, are using whole-exome sequencing to look for the cause of chronic liver disease. For almost 30% of these patients, the cause is considered idiopathic, or unknown. In unrevealing workup by a hepatologist explained liver disease underwent an occult bleeding (FIT) is preferable in screening for colorectal cancer. This landmark study to determine whether colorectal cancers develop in families; the underlying mechanisms of colorectal cancers in families, including diet and genetics, and the role environmental factors play in colorectal cancer development. Boland and section researchers hope this work will lead to better and more personalized prevention and treatment strategies that will save lives and make the term “cancer family” obsolete.

**Obesity & Liver Health**
In the fall of 2018, Wajahat Mehal, MD, discussed obesity and patient care in a story on National Public Radio. He shared statistics regarding weight loss and how even moderate weight loss can affect diabetes and other diseases. People with diabetes, obesity, high blood pressure, and high lipids are at risk of fatty liver disease. The Yale Fatty Liver Disease Program can diagnose the presence of fatty liver and then determine strategies to improve this condition. In July, Albert Do, MD, MPH, was named clinical director of the program in June.

**Gastrointestinal Cancers**
As part of National Colorectal Cancer Awareness Month in March, Xavier Llor, MD, PhD, discussed colon cancer risk factors, screening, and prevention to highlight the work of the Colorectal Cancer Program at YCC.

Research by Llor and by Rosa Munoz Xicola, PhD, on familial and hereditary GI cancers is now supported by a recent gift by C. Richard Boland, MD (YSM ’73). Inspired by an intense curiosity about his family’s long history of colon and other cancers, Boland has devoted his entire medical career to finding the causes of hereditary colorectal cancer. Llor and Munoz Xicola will seek to discover additional cancer-causing genes; the ways in which colorectal cancers develop in families; the underlying mechanisms of cancer disparities; and the role environmental factors play in cancer development. Boland and section researchers hope this work will lead to better and more personalized prevention and treatment strategies that will save lives and make the term “cancer family” obsolete.

The section is also participating in a landmark study to determine whether colonoscopy or a simple stool test for occult bleeding (FIT) is preferable in screening for colorectal cancer. This 50,000-person study is a nationwide VA Cooperative Study, with Petr Protiva, MD, MPH, serving as the local principal investigator at the Yale-affiliated VACHS.

**Recognition**
In February, Deborah D. Proctor, MD, AGAF, and Fred S. Gorelick, MD, won 2019 American Gastroenterological Association Recognition Awards, given in honor of outstanding contributions and achievements in gastroenterology. Proctor won the Distinguished Educator Award, which recognizes an individual who has made outstanding contributions throughout their career as an educator in gastroenterology on the local and national level. Gorelick was honored with the Distinguished Mentor Award, which recognizes someone who has made a lifelong effort dedicated to the mentoring of trainees in the field of gastroenterology and for achievements as an outstanding mentor throughout their career.

In October, the section established annual lectureships in honor two exceptional mentors: Rosemarie Fisher, MD, and Guadalupe Garcia-Tsao, MD. The Dr. Rosemarie Fisher Lectureship was held in the fall, and the Dr. Guadalupe Garcia-Tsao Lectureship was hosted in the spring. The speakers, chosen by Fisher and Garcia-Tsao, will be in various stages of their academic careers to reflect the diversity of career paths in digestive diseases.

**Clinical Updates**
Digestive Diseases is among the earliest groups incorporating an integrated care model to provide uniform high-quality evidence-based care across the health system via a model developed for screening and surveillance colonoscopies. GI hospitalists were added at YNH to expand inpatient gastroenterological care; they are full-time section faculty and will teach digestive diseases fellows and residents as part of this new role. Clinical services were also expanded into North Haven with the opening of an outpatient endoscopy unit at North Haven Medical Center.

**Future Outlook**
Planning has just begun for the establishment of a Digestive Health Institute within YNHHS. We anticipate significant clinical growth for the section due to this new initiative, with the development of multidisciplinary programs designed to offer patients the full range of options needed to maintain their digestive health and manage their digestive disorders. To learn more about the Section of Digestive Diseases, visit medicine.yale.edu/intmed/digestive/diseases.
The Section of Endocrinology & Metabolism works to improve the health of individuals with endocrine and metabolic diseases by advancing scientific knowledge, applying new information to patient care, and training the next generation of physicians and scientists to become leaders in the field. Section faculty focus on type 1 diabetes and complications of hypoglycemia; type 2 diabetes and insulin resistance/obesity; and metabolic bone disease and calcium metabolism.

Type 1 Diabetes and Complications of Hypoglycemia

In a groundbreaking NIH-funded Diabetes TrialNet study led by Kevan Herold, MD, investigators showed that immunotherapy in people at high risk for type 1 diabetes can delay the onset of type 1 diabetes by two+ years. This randomized placebo-controlled trial was conducted at 14 TrialNet sites testing teplizumab’s disruption the immune system’s destruction of pancreatic beta cells or type 2 diabetes reported using less insulin than prescribed due to the high cost. Their report in JAMA Internal Medicine noted that over a third of patients experiencing cost-related underuse said they never discussed this problem with their provider. Patients that indicated any type of insulin underuse were also much more likely to have poor glycemic control. Given her expertise in this area, Lipska testified in Washington before the House Committee on Energy & Commerce Oversight and Investigations Subcommittee on the severe harm that the high price of insulin inflicts on patients.

Type 2 Diabetes and Insulin Resistance/Obesity

Yale researchers published research that revealed the basic biology of leptin, and how the endocrine system mediates its effect to regulate food intake under conditions of starvation and poorly controlled diabetes. Their findings advance knowledge about leptin, which has been the focus of research on obesity and weight loss since its discovery in the 1990s, and also suggests a potential strategy for developing future weight loss treatments. Gerald Shulman, MD, PhD, was co-corresponding author.

Metabolic Bone Disease and Calcium Metabolism

The director of the Yale Bone Center, Karl Insogna, MD, FACP, teamed with Thomas Carpenter, MD, in pediatrics to investigate factors that lead to skeletal disease in patients with X-linked hypophosphatemic rickets (XLH). Yale has long been a leading referral center for patients with XLH. Insogna was the lead author on the Journal of Bone and Mineral Research report about the efficacy of burosumab for adults with XLH.

Elizabeth Jonas, MD, has had a long-standing interest in how intracellular calcium affects the efficiency of mitochondrial ATP production. Her studies have led to an improved fundamental understanding of the mitochondrial permeability transition pore. She has recently applied these fundamental insights into studies showing how mitochondrial affect neuronal plasticity, neuronal cell death, insulin secretion, and energy metabolism. Herold won the Donald F. Steiner Award for Outstanding Achievement in Diabetes Research. His research focus is the autoimmune causes of type 1 diabetes; his lab is identifying the immune cells responsible for attacking pancreatic islets as well as studying how beta cells respond to these attacks.

Richard Kibbey, MD, PhD, was inducted into the American Society for Clinical Investigation in April. Kibbey credited his nomination to his diabetes work. Kibbey and team identified a mechanism to explain how beta cells are responsible for blood glucose release in the body developed a new technology to provide a greater understanding of metabolism, and designed a new possible target to treat diabetes in animal models. Kibbey and team are working with the NIH on approvals to start human clinical trials.

Rachel Perry, PhD, received the YCC Translational Science Research Prize for a July 2018 paper in Cell Reports that showed that both mitochondrial uncoupling with a controlled-release mitochondrial protonophore and glucose lowering with metformin slowed obesity-associated tumor growth in two mouse models of colon cancer in an insulin-dependent manner.

Clinical Care

In addition to caring for patients with all endocrine and metabolic diseases through YNHH, section faculty provide outpatient and inpatient care at the VACHS through numerous multidisciplinary clinics, including the Clinical Diabetes Center, the Bone Center, and the Multidisciplinary Neoplasia Clinic. Silvio Inzucchi, MD, is the clinical director of the section. He is a master clinician whose research focuses on prevention of vascular complications of type 2 diabetes and metabolic syndrome. In addition, he is widely recognized as a national expert in the role of SGLT2 inhibitors in the prevention of cardiovascular disease in diabetes.

Elizabeth Holt, MD, PhD, heads the thyroid and endocrine tumor service at YCC. She is widely recognized as an outstanding endocrinologist within YNHH. She has served as president of the CT Endocrine Society and on the Board of Governors of YM. She also oversees the endocrine curriculum for Yale medical students. In recognition of her outstanding clinical service and teaching ability, she was recently named firm chief of the Fitkin Inpatient Medical Service at YNHH.

To learn more about the Section of Endocrinology & Metabolism, visit medicine.yale.edu/intmed/endocrinology. 
The 140+ full-time faculty members within Yale General Internal Medicine (GIM) are committed to the core missions of patient care, research, education, and community health from the “generalist” perspective.

Patient Care
GIM faculty oversee patient-centered care in five primary care clinics, three hospital general medical services, and within focused practice settings utilizing faculty expertise in areas such as occupational medicine, addiction medicine, and refugee health. Several GIM faculty have been recognized nationally as “Best Doctors” including Peter Ellis, MD, MPH; Matthew Ellman, MD, MPH, SHFM; Walter Kiernan, MD; John Moriarty, MD, FACP; Patrick O’Connor, MD, MPH, FACP; and Daniel Tobin, MD, MPH.

Research
Research in GIM focuses on core issues in the field including the clinical epidemiology of chronic diseases, health equity and diversity, health policy, and medical humanities.

Chronic Epidemiology of Chronic Diseases
YSM has led in addiction research and the training of caregivers in the care of those with substance use disorders. With the addition of Melissa Weimer, DO, Yale Addiction Medicine Consult Service (YAMCS) was established. YAMCS treats patients suffering from various substance use disorders when admitted to the hospital for a medical condition related to substance use, or are found to have a substance use disorder during their evaluation. Weimer joins the nationally recognized group of faculty in the Yale GIM’s Program on Addiction Medicine, led by David Fiellin, MD. Other advances include new grants focused on treatment and training in primary care, the latter is overseen by Jeanette Tetrault, MD, along with Kenneth Morford, MD, recruited to the faculty in July 2019. In a related project, David Rosenthal, MD, and his team launched a free smartphone app, called BUP Home Induction, which has been adopted at the VACHS.

Cancer is another focus of the section through the Cancer Outcomes, Public Policy and Effectiveness Research (COPPER) Center. Much of the work by Cary Gross, MD, Ilana Richman, MD, and others study cancer prevention and treatment. Major focuses included equity in care, cancer drug approvals, alternative cancer treatments; and use of 3D mammography. A June 2019 study, published in the Journal of Clinical Oncology, showed that racial disparities in timely cancer treatment disappeared in states that expanded Medicaid under the Affordable Care Act.

Health Equity and Diversity
This section promotes diversity within YSM through research and training, along with its Equity Research and Innovation Center (ERIC) program led by Marcela Nunez-Smith, MD, MHS. In “Minority Resident Physicians’ Views on the Role of Race/Ethnicity in Their Training Experiences in the Workplace,” lead author, Abla Black, MD, and team concluded that minority residents face extra workplace burdens such as bias, merit further attention from educators, institutions, and accreditation bodies.

Led by Nunez-Smith, the new Pozen-Commonwealth Fund Fellowship in Minority Health Leadership at Yale funds three fellows per year to complete the MBA for Executives degree program with a focus on health care, while receiving training and mentoring from experts in health care disparities across Yale and beyond. GIM faculty care for thousands of individuals recently released from prison within the Transitions Clinic Network (TCN), 41 community health centers nationwide who care for and employ individuals with a history of incarceration as community health workers. A study led by Emily Wang, MD, in JIM/ Open found that former prisoners who received health care in TCN sites were less likely to be reincarcerated. Katherine C. McKenzi, MD, FACP, director of the Yale Center for Asylum Medicine, highlighted the plight of migrants seeking asylum and the condition of U.S. jails with a plea to provide improved medical care to prisoners in “Policymakers, provide adequate health care in prisons and detention centers,” an op-ed on CNN. In addition to the programs above, work continues to increase diversity across all levels of the medical community. Section faculty who lead these efforts include Nunez-Smith, Inginia Gonzao, MD, and Darin Latimore, MD.

Health Policy
In November, the Yale University-Mayo Clinic FDA Center of Excellence in Regulatory Science and Innovation (CERSI), led by Joseph Ross, MD, MPH, won FDA grant renewal of up to $20 million to continue their work ranging from opioid use to generic drug efficacy.

Education
GIM faculty oversee educational programs for trainees at all levels. For example, this year, Tetraut led an effort to create a new addiction thread throughout the YSM curriculum. Both the Yale Primary Care Internal Medicine Residency Program led by John Moriarty, MD, FACP, and the Yale Combined Medicine Pediatrics Program led by Ben Doolittle, MD, MA, Div are training the next generation of generalist physician leaders. Along with the Addiction Medicine Fellowship mentioned above, the section has three additional outstanding fellowship programs—the National Clinician Scholars Program (NCSP), led by Cary Gross, MD, the Occupational and Environmental Fellowship led by Carrie Redlich, MD, and the Medical Education Fellowship, led by Donna Windish, MD. The Medical Education Fellowship graduated its first class this year, each of who will undoubtedly have a substantial impact on their fields in the future.

Many of the faculty within the section also work at the VACHS; please refer to pages 14-15 for more information on their work.

Many of the faculty within the section also work at the VACHS; please refer to pages 14-15 for more information on their work.
Yale Geriatrics is devoted to the health and health care of older adults. Our faculty members provide clinical care informed by cutting-edge discoveries in aging, and we are home to one of the largest and most productive aging research programs in the world. We have a deep and longstanding commitment to training leaders in medical practice, education, and clinical investigation. Embedded throughout our work is the recognition that older adults differ widely in their health conditions, life contexts, and priorities. Embracing and understanding this heterogeneity is essential to ensuring that these elders receive high-quality care.

**Medication Safety and Optimal Medical Therapy**

By some estimates, more than two-thirds of older adults (aged 65 and older) take at least five medications per day for multiple medical conditions. Polypharmacy has been a major focus of our work in the 2018–2019 academic year. In an article published in June in the Journal of the American Geriatrics Society, Marcia Mecca, MD, and Terri Fried, MD, point out that the benefits of a medication are attenuated when it is added to an already complex regimen, while the potential harms increase. They offer clinicians a new model for evaluating medication appropriateness in older adults. Medication prescribing and deprescribing is also the main area of interest for Gregory Ouellet, MD, who was recently awarded NIH funding to study anticoagulation use in adults with dementia and atrial fibrillation.

**Building a Geriatric Workforce and Focusing on What Matters Most**

Our faculty members continue to be leaders in two large-scale efforts to improve the health care delivered to older patients. Richard Marottoli, MD, MPH, is the director of the Connecticut Older Adult Collaboration for Health, or COACH 4M. Building upon partnerships between Yale University, YNHHS, and other organizations in greater New Haven, COACH 4M is working to increase the number of health care professionals with expertise in the principles of geriatric care. Its goal is to build and retain a diverse multidisciplinary geriatrics workforce. COACH 4M is supported through a grant from the U.S. Health Resources and Services Administration; funding was renewed for a second cycle in the 2018–2019 academic year.

Momentum has also continued to build for Patient Priorities Care, a project led by Mary Tinetti, MD, section chief of geriatrics. This approach to care helps patients and clinicians make health care decisions aligned with what matters most to the patient. A new free online training curriculum for health care professionals developed by the Patient Priorities Care team in partnership with the American College of Physicians was disseminated nationwide in May.

**New Investigation into Multifactorial Geriatric Conditions**

Yale Claude D. Pepper Older Americans Independence Center, directed by Thomas Gill, MD, provides intellectual leadership and innovation for aging research that is directed at enhancing the independence of older persons. In the 2018–2019 academic year, the Pepper Center was funded for another term by the National Institute on Aging and has now been continuously funded for more than 25 years. In addition to providing support to dozens of aging-related projects, a core mission of the Pepper Center is to encourage junior faculty members to pursue research that benefits older adults. This year, career development grants were awarded to two outstanding young investigators. Brienne Miner, MD, MHS, is conducting work to understand insomnia in older patients; and Maor Sauler, MD, is studying the response to DNA damage in the aging lung and in patients with chronic obstructive pulmonary disease.

**Future of Yale Geriatrics**

We hope to expand the clinical, educational, and research areas of Yale Geriatrics, increasing the number of faculty in all three areas. We continue expanding our scope through collaboration across the department, school, university, the greater New Haven community, and other institutions. To learn more about the Section of Geriatrics, visit medicine.yale.edu/intmed/geriatrics/.
The Section of Hematology has a long tradition of excellence in clinical care, research, and training with national and internationally renowned faculty. The section's faculty is committed to advancing the science and practice of hematology by understanding the molecular basis of disease, and by translating basic discoveries from the lab to the clinic.

**The DeLuca Center for Innovation in Hematology Research**

In April, Yale Cancer Center (YCC) and Smilow Cancer Hospital (SCH) announced a five-year grant awarded by the Frederick A. DeLuca Foundation to establish the DeLuca Center for Innovation in Hematology Research. The gift can be. The new center will facilitate recruitment of new faculty and provide grants to young scientists eager to develop promising ideas. It will also foster collaborations between clinicians and basic scientists to develop and test new therapies. A major focus of the center will be a biospecimen bank of samples taken from patients with all blood disorders.

Prior to the creation of the DeLuca Center for Innovation in Hematology Research, the foundation supported the work of Stephanie Halene, MD, PhD; Nikolai Podoltsev, MD, PhD; and Stuart Seropian, MD. The scientific advances made possible by the generosity of the foundation demonstrates how important philanthropic support can be.

Podoltsev’s research and medical prac- tice addresses not only acute myeloid leukemia (AML) but also such less-er-known blood malignancies as my- elodysplastic syndromes (MDS) and myeloproliferative neoplasms (MPNs). One of the papers supported by the foundation’s grant was published in October 2011 in Blood Advances. In this article, Podoltsev, along with other section researchers and faculty from the Yale School of Public Health, reaffirmed the treatment recommen- dations for polycythemia vera (PV) made by the National Comprehensive Cancer Network (NCCN). Although the NCCN recommends hydroxyurea (HU) as a first-line therapy for older PV patients, some physicians won’t prescribe it because of doubts about its efficacy or misplaced fears that it can lead to acute leukemia.

Halene’s research interests are the mechanisms that lead to MDS and AML, which are difficult to study because blood stem cells don’t grow well in cultures and there are only a few cell lines that model a patient’s princi- mary disease. Partnering with faculty in immunobiology, Halene’s lab works with genetically modified MISTRG mice with a human immune system that won’t reject human cell grafts. In a January 2019 paper published in Nature Communications, Halene and her co-authors described how they successfully engrafted human MDS cells into MISTRG mice developed in the Flavell Laboratory at Yale. As a result, they were able to reproduce the clonal complexity of those cells and follow the progression of the disease. This work translates to studying human cells and how mutations can occur and alter the production of blood.

Halene is also working with other scientists to test PARP inhibitors in combination with other drugs against mutations of a common enzyme in MDS called isocitrate dehydrogenase (IDH). With Thomas Prebet, MD, PhD, associate director of the Myeloid Malignancies Program, they hope to bring their research to a clinical trial by this fall. New therapies for MDS are needed. Currently the only cure is a bone marrow transplant, which isn’t possible for everyone.

Finally, we are pleased to announce that in addition to all of Halene’s research achievements, she was recently named interim section chief for the Section of Hematology. We look forward to further transformative re- search programs under her leadership.

**Chimeric Antigen Receptor T-cell Therapy**

In March, YCC announced that chimeric antigen receptor (CAR) T-cell therapy is available for patients at the hospital. A promising new therapy, CAR T is a groundbreaking immunotherapy that can cure patients with certain blood cancers who have exhausted other treatment options. CAR T therapy works by reprogramming a patient’s own T-cells to target tumor antigens. It has shown complete remission rates of 80 to 90% in children with B-cell acute lymphoblastic leukemia and 40 to 50% in adults with aggressive B-cell non-Hodgkin’s lymphomas who have failed other avenues of treatment.

In March, YCC announced that chimeric antigen receptor (CAR) T-cell therapy is available for patients at the hospital. A promising new therapy, CAR T is a groundbreaking immunotherapy that can cure patients with certain blood cancers who have exhausted other treatment options. CAR T therapy works by reprogramming a patient’s own T-cells to target tumor antigens. It has shown complete remission rates of 80 to 90% in children with B-cell acute lymphoblastic leukemia and 40 to 50% in adults with aggressive B-cell non-Hodgkin’s lymphomas who have failed other avenues of treatment.

Stuart Seropian, MD, and Iris Isufi, MD, co-direct the Chimeric Antigen Receptor (CAR) T-cell program, a therapy which reprograms a patient’s own T-cells to target tumor antigens.
Throughout the 2018–2019 school year, the work of the Section of Infectious Diseases has been featured on many platforms, ranging from “NBC Nightly News” to The New England Journal of Medicine. In addition, various faculty members were honored within Yale School of Medicine and nationally for their work in the field.

Research
The research throughout the section ranges from work in HIV/AIDS to tickborne illnesses to mosquito-transmitted diseases and the immunology of aging.

$40 million in grants was awarded in March to study medication treatment for veterans with opioid addiction. Faculty within the section will lead the research, which is supported by the Veterans Affairs (VA) Cooperative Study. Their work will compare the effectiveness of two forms of buprenorphine, an FDA-approved medication to treat opioid use disorder.

An important finding as part of the section’s HIV/AIDS research was published in August in The New England Journal of Medicine. The study, “Phase 3 Study of Ibalizumab for Multi-drug-Resistant HIV-1,” concluded that in patients with MDR HIV-1 infection who had advanced disease and limited treatment options, ibalizumab had significant antiviral activity during a 25-week period.

In addition to its national efforts, the section works across the globe and worldwide patient populations to improve treatments for and reduce the transmission of HIV. One study published in October in PLoS Medicine, “Retention in HIV care during the 3 years following release from incarceration: A cohort study,” focused on HIV treatment after prison release. The researchers concluded that supporting community-based efforts and reducing racism are key to improving treatment in this population.

Other threats to global health include infections transmitted by mosquitoes, including West Nile virus, Zika, and malaria. In a March study published in Nature Microbiology, section researchers demonstrated that blocking a protein (AgBR1) found in the saliva of mosquitoes and transmitted to hosts could reduce Zika infection. For the July report in NPJ Vaccines, they tested the same theory in mice exposed to West Nile by the same mosquito, Aedes aegypti, and found that an AgBR1 antiserum delayed the appearance of West Nile virus infection in mice. This work provides further evidence to support the targeting of AgBR1 to protect against West Nile virus and other mosquito-borne threats. Another section study highlighted in The Lancet showed a reduction of childhood malaria with the use of irinotecan. In September, “NBC Nightly News” showcased the section’s efforts to develop a new type of vaccine for Lyme disease.

In a study published in November, section researchers created the first-ever continuous in vitro system of Babesia duncanii, allowing them to examine the parasite in human red blood cells over time and study its biology. Noted as a tipping point on Babesia duncanii, this invention allows researchers to design new diagnostic tests to search for more effective therapies. In conjunction with this work, YSM hosted the 2nd International Babesiosis Meeting in April to foster scientific collaboration in babesiosis.

Clinical Care
Infectious diseases faculty treat patients at both YNHH campuses and the VACHS in West Haven. Since YNHH draws patients from across New England, the section can treat patients with rare diseases. One such case was highlighted in a November New York Times story, “A Rash on Her Palms and the Bottoms of Her Feet Was the Clue That Turned the Case.” Section faculty diagnosed and treated a case of rat bite fever.

Faculty Highlights
Vaccine expert Saad B. Omer, MBBS, MPH, PhD, joined the section and is the inaugural director of the Yale Institute for Global Health (YIGH). He holds a joint appointment with the Yale School of Public Health. Omer will leverage Yale’s preeminence in research, teaching, and clinical care for solving major global health problems to develop signature programs in partnership with colleagues around the world that improve health and reduce preventable deaths.

In December, Barbara Kazmierczak, MD, PhD, was named the Gustavus and Louise Pfeiffer Research Foundation MD-PhD Program Director, a position she will hold while she serves in that directorship.

Recognized for her kindness and dedication, Dana Dunne, MD, was awarded the Charles W. Bohnfalk Prize for teaching in the clinical sciences at the May YSM commencement.

Philanthropy
Yale College graduate Dr. G. Alexander (Sandy) Carden recently established the Dr. George A. Carden Jr. Fellowship in memory of his father to support YSM undergraduates and graduate student scientists or current fellows pursuing several months of work in biological science or clinical research areas of investigation related to infectious diseases. Carden was an accomplished internist who was a leader of the Malaria Research Team of the Office of Scientific Research and Development (subsequently the National Institutes of Health) during World War II and performed important research in the vital area of malaria prevention and treatment. The gift builds on the tradition of supporting the education of young medical scientists and will help provide vital research experiences and learning opportunities for future leaders in the field of infectious diseases.

Future Outlook
Section faculty will continue their emphasis on understanding and preventing such vector-borne diseases as those transmitted by mosquitoes and other insects through their research programs. Within education, the team will focus on the global impact of infectious disease when teaching medical students, fellows, and residents. Section physicians will provide clinical care for patients with HIV and other infectious disease issues associated with organ transplantation and cancer.

To learn more about the Section of Infectious Diseases, visit medicine.yale.edu/intmed/infdis/.
Yale Cancer Center (YCC), Smilow Cancer Care Center (SCC), and Satellite Care Centers

YCC is a National Cancer Institute (NCI)-designated comprehensive cancer center for over 45 years and is Connecticut’s only such facility. SCC treats nearly half the 20,000 patients diagnosed with cancer in the state each year. Through the recent integration of 13 satellite care centers, YCC and SCC are able to care for more patients and offer them possible enrollment in one of 300+ open clinical trials of novel therapies and therapeutic approaches.

Specialized Programs of Research Excellence (SPORE)

NCI-funded SPOREs are large five-year program grants focused on specific organ sites. They promote collaborative interdisciplinary translational cancer research within and among institutions. These prestigious awards are extremely selective and highly coveted. Yale has two SPORE programs in lung and skin cancers led in part by section members (Roy Herbst, MD, PhD, and Harriet Kluger, MD, respectively). Each project within the SPORE focused on advanced disease is co-led by a section clinical and/or translational principal investigator and a team of clinicians and clinician-scientists. The research in progress within this funding modality is truly innovative and has the potential to make a significant impact on the prevention and treatment of lung cancer and melanoma.

Siglec-15

As part of the SPORE in lung cancer, Liaping Chen, MD, PhD, and his team discovered the immune cell transmembrane protein Siglec-15 as a potential novel target for cancer therapy. This work builds on the earlier findings of Chen and his colleagues related to the use of immunotherapy targeting the PD-1/PD-L1 checkpoint pathway in cancer, findings that helped lead to the FDA’s approval of anti-PD-L1 therapies that are the standard of care today for multiple advanced cancer types. Through partnership with NextCure, Inc. (founded by Chen), an anti-Siglec-15 antibody, NC518, was developed and is now in a Phase I/II clinical trial in five hospitals, with YCC as the lead investigational site. Patricia LoRusso, DO, and other section faculty serve as the principal and co-investigators, and David Rimm, MD, PhD, is analyzing the tumor microenvironment from trial biospecimens. Scott Gattlinger, MD, and Herbst have developed an investigator-initiated study as part of our SPORE efforts. This trial promises to improve the standard of care in advanced cancers, providing a much-needed treatment option for patients who may not respond to or stop responding to current immunotherapies.

CD40

Mario Szol, MD, (a SPORE in skin cancer project principal investigator) was a lead investigator on clinical trials of the PD-1 inhibitor nivolumab in metastatic melanoma, leading to its FDA approval. Like Chen, Szol, and section members Kluger and Sarah Weiss, MD, among others, understand the critical need for new immunotherapeutic options for the nearly 80% of cancer patients who don’t respond to current immunotherapies. They identified CD40, a co-stimulatory receptor, as a potential candidate treatment target and are evaluating the anti-CD40 antibody APX005M through clinical trials in combination with nivolumab for the treatment of metastatic melanoma and non-small-cell lung cancer (NSCLC). Preliminary results were presented by Weiss at the American Association for Cancer Research annual meeting, showing that the novel combination triggers an immune response in those individuals who didn’t achieve long-term benefit from anti-PD-1/PD-L1 therapies.

Center for Immuno-Oncology at Yale

The Yale Center for Immuno-Oncology was established in 2018 to build on YCC’s international leadership in immunology, immunobiology, and the development of innovative cancer immunotherapies. Led by Herbst, the Center is a partnership between YCC and the Department of Immunobiology at YSM.

Faculty Recognition

Michael DiGiovanna, MD, PhD, won the 2019 Alvan R. Feinstein Award by Dean Robert Alpern, MD. Other recognition includes Szol’s being named president of the Society for Immunotherapy of Cancer. Lajos Pusztai, MD, DPhil, became chair of the breast committee of the SWOG Cancer Research Network.

Training Opportunities

Two training grants have been awarded to the section in the past two years, one to fund continued research training for fourth-year fellows and one for junior faculty. These grants provide protected time and research support to advance the careers of clinician-scientists. Administration of the training programs is supported by Edward Kaftan, PhD, and Meina Wang, PhD, from the Office of Translational Research.

For more information on the Section of Medical Oncology, visit medicine.yale.edu/intmed/medonc/
Almost 100 years after John Peters, MD, founded the metabolism section at YSM, the Section of Nephrology continues to thrive and grow. Focused on excellence in patient care, research, and education, the section’s faculty members are national and international leaders in the field.

Research
A research team led by former fellow and assistant professor Dennis Molechina, MBBS, PhD, found biomarkers that could assist with a diagnosis of acute interstitial nephritis (AIN). As outlined in the study published in JCI Insight, patients who were diagnosed with AIN had higher levels of urinary TNF-alpha and interleukin-9. AIN can lead to permanent kidney damage if not diagnosed and treated in a timely fashion, so testing for these markers may lead to improved clinical care as well as quicker diagnosis and treatment.

Shuta Ishibe, MD, led research into histone deacetylase 1 (HDAC1) and HDAC 2, identified as contributors to the development of proteinuric kidney diseases. In the study published in the Journal of Clinical Investigation, the team found that restricting HDAC 1 and HDAC 2 could slow the progression of disease through the regulation of podocyte early growth response 1, and, in collaboration with F. Perry Wilson, MD, provided evidence that inhibition of HDACs may also be effective in patients. In March, Robert Safirstein, MD, and team reported that the progression of acute kidney injury (AKI) to chronic kidney disease caused by chemotherapy drug cisplatin was due to unresolved injury and sustained activation of regulated necrosis pathways rather than fibrosis.

In JCI Insight, Nikhil Singh, MD, PhD, a fellow mentored by Lloyd Cantley, MD, used imaging mass cytometry to create an atlas of the human kidney. The team identified cell types present in normal and abnormal kidneys and showed how application of this technology can lead to greater understanding of the mechanisms of kidney disease.

Whitney Besse, MD, led a project looking at patients with genetically unresolved diagnosis of autosomal dominant polycystic kidney disease (ADPKD). Published in August in the Journal of the American Society of Nephrology, section researchers used whole-exome sequencing to identify ALG9 as a candidate gene causing ADPKD. They validated and extended their findings using a novel “genotype first” approach to show 88% of individuals with ALG9 mutations have kidney cysts on abdominal imaging, adding ALG9 to the list of genes underlying polycystic kidney disease (PKD), an inherited kidney disorder that leads to cyst development in the kidneys and liver as well.

Clinical Care
Namira Dahl, MD, PhD, teamed with Stefan Somlo, MD, to build patient care and research around PKD. They created a program encompassing diagnosis, treatment, and risk assessment. Dahl leads a clinical trial looking at the use of teosintatini, an experimental drug, in the treatment of autosomal dominant polycystic kidney disease (ADPKD). The trial runs through 2020.

Other current studies run by the section’s physician/scientists investigate the genetics of polycystic livers, hyperoxaluria and hyperoxalemia, IgA nephropathy, C3 glomerulopathy, diabetic nephropathy, resistant hypertension, and neurogenic orthostatic hypotension. Jeffrey Turner, MD, cares for patients with a wide variety of kidney-related ailments, including nephrotic syndromes, glomerulonephritis, kidney disease in the setting of heart failure, diabetic nephropathy, and hypertension-associated kidney disease. Turner co-leads two trials that evaluate the safety and effectiveness of investigational devices to treat resistant hypertension.

In addition to new programs in New Haven, plans to add a new practice in Greenwich, Connecticut, are under way.

Education
Ursula Brewster, MD, leads the nephrology fellowship program. In April, Brewster traveled to Kampala, Uganda, to expand the fellowship through YSM’s partnership with Makerere University. Although Uganda’s population is over 40 million, there are currently only seven nephrologists in the entire country. Access to kidney care is very limited at YSM nephrology fellows with an interest in global health will rotate at Makerere University, working on the nephrology unit and in the clinics. Fellows will be active in the educational conferences there and participate in teaching students, interns, and residents. The partnership is made possible by teaming with the department’s Office of Global Health and the Yale/Stanford Johnson & Johnson Global Health Scholars program. This new collaboration will continue to expand in the future.

Recent program graduates Besse and Molechina recently received career development awards from the NIH Ravi Kodali, MD, joined the faculty in August.

Faculty
Section faculty won numerous awards throughout the 2018–2019 academic year. Peter Aronson, MD, received the 2019 Walter B. Cannon Award Lectureship from the American Physiological Society in April 2019. Aronson has a joint appointment in nephrology and cellular and molecular physiology. Namrata Krishnan, MD, teamed with Gowthaman Gunabushanam, MD, in radiology and biomedical imaging to win the 2018 American Society of Nephrology’s Innovations in Kidney Education Contest for their interactive teaching module on hemodialysis access. The duo was one of the three winning teams in the fourth annual Innovations in Kidney Education Contest recognized at ASN’s Kidney Week.

Margaret J. Bia, MD, won a lifetime achievement award from the National Kidney Foundation Serving Connecticut and Western Massachusetts in the fall. The George M. O’Brien Kidney Center at Yale School of Medicine. In August, the George M. O’Brien Kidney Center at YSM received renewed funding from the National Institute of Diabetes and Digestive and Kidney Diseases of the NIH for $6 million for the five-year period from 2018–2023. The center, which is directed by Aronson, facilitates basic, translational, and clinical research that will advance the prevention and treatment of kidney diseases.

A critically important benefit of the center is to provide renal investigators both at YSM and across the country with access to highly specialized services not otherwise routinely available, and to support their research through its three research service cores: Animal Physiology and Phenotyping, Disease Models and Mechanisms, and Human Genetics and Clinical Research. In addition, the center supports pilot grants for junior investigators and summer research fellowships for undergraduate and medical students.

To learn more about the Section of Nephrology, visit medicine.yale.edu/intmed/nephrol/
The Section of Pulmonary, Critical Care & Sleep Medicine (Yale-PCCSM) is a rapidly growing, dynamic academic section with a strong commitment to outstanding patient care, cutting-edge research, and education, with a special focus on well-being and work climate. The number of our faculty has increased significantly in the last few years. Of the 55 faculty, 50% are women and 10% identify as members of underrepresented in medicine (URIM).

NAFTALI KAMINSKI, MD
Section Chief

PULMONARY, CRITICAL CARE & SLEEP MEDICINE

Clinical
Section faculty members carry out the clinical mission on the floors, units, and clinics at the York Street and Saint Raphael campuses of YNHH, the VACHS in West Haven, and North Haven Medical Center. Inpatient services include the 60-bed medical intensive care unit (MICU) with a 10-bed step-down unit; the 100-bed telemetry unit that covers many hospitals statewide; the Consult Service, and the Thoracic Interventional Program, which performs thousands of complex procedures annually. The section’s ambulatory services include the Yale Sleep Centers, the Yale ILD Center of Excellence, the Yale Center for Asthma and Airways Disease (YCAAD), the Yale Pulmonary Vascular Disease Center, the Yale Adult CF Center, the Yale COPD program, the Thoracic Oncology Program, and the Comprehensive Pulmonary Program. Over 10,000 patients are seen at Yale-PCCSM outpatient facilities — a number which will continue to grow after the completion of additional outpatient facilities. The team was recently ranked 16th on the U.S. News & World Report “America’s Best Hospitals” list.

Over 10,000 patients are seen at Yale-PCCSM outpatient facilities — a number which will continue to grow after the completion of additional outpatient facilities.

Education
In recent years, the size and depth of the section’s educational mission has significantly increased. This year, Yale-PCCSM has 26 fellows, including 17 traditional pulmonary/critical care medicine fellows; four critical care medicine fellows; four sleep medicine fellows; and one interventional pulmonary fellow. Research training, an integral part of the traditional pulmonary/critical care medicine fellowship, is usually supported through an NIH-NHLBI T32 grant. In the past decade, 85% of Yale-PCCSM fellowship graduates have gone on to academic careers, including 13 who have joined the faculty at Yale. In addition to the fellows, multiple postdoctoral, predoctoral, and postbaccalaureate research trainees receive their training at Yale-PCCSM laboratories and research programs. Continued education of faculty is considered an integral part of the education mission of Yale-PCCSM. All faculty participate in individual career development mentoring programs, and faculty retreats, regardless if they are researchers, educators or clinicians.

Research
Yale-PCCSM has a strong tradition of research excellence that has been augmented in recent years. In addition to the clinical centers and programs, two research centers, the Center for Precision Pulmonary Medicine (PaMED) and the Center for Pulmonary Infection Research and Treatment (CPIRT), were added in the last five years. Yale-PCCSM boasts a well-rounded research portfolio with NIH-funded researchers in most areas of lung research, including the pathogenesis, progression and outcomes of asthma, COPD, cystic fibrosis, acute lung injury, pulmonary vascular disease, sleep disordered breathing, and pulmonary fibrosis. The disciplines included range from bench research and translational and clinical research to genomics, informatics, and big data.

Research at Yale-PCCSM has undergone unprecedented growth in recent years. NIH funding per year increased more than twofold, from $6,167,642 in fiscal year 2013 to $12,647,936 in fiscal year 2018. The funding increase was accompanied by a threefold increase in productivity. Publications authored and co-authored by members of Yale-PCCSM increased from 42 in 2013 to 121 in 2018, including publications in such top biomedical journals as The New England Journal of Medicine, Nature Medicine, Science Translational Medicine, Lancet Respiratory Medicine, e-LIFE, JAMA Internal Medicine, American Journal of Respiratory and Critical Care Medicine, and European Respiratory Journal. Importantly, the increase in productivity has not been limited to federally funded researchers, but has included members in all areas of the section.

For more information on Yale-PCCSM, visit medicine.yale.edu/intmed/pulmonary or on Facebook (facebook.com/yalepccsm), and Twitter (twitter.com/YalePCCSM).
The Section of Rheumatology, Allergy & Immunology is dedicated to providing state-of-the-art and evidence-based clinical care for patients with rheumatic, allergic, and immunologic disorders; educating future leaders in these fields; and conducting cutting-edge research into fundamental questions of autoimmunity and immunology.

**Faculty**

Last year, the section brought in new faculty members and launched several initiatives to expand its footprint in clinical care, research, and education. Richard Bucala, MD, PhD, was appointed chief in May 2019. A graduate of Yale College, he joined YSM in 2002 and has appointments in internal medicine, pathology, and epidemiology & public health. He studies immune responses that can lead to autoimmunity, as well as the functional, nutritional, psychological, gynecological, urological, and/or sexual health challenges as well.

Evelyn Hsieh Donnio, MD, MPH, who has conducted extensive collaborative work in China on bone health, became the chief of the Rheumatology, Allergy & Immunology fellowship program.

Monique Hinchcliff, MD, MS, was named director of the newly founded Yale Scleroderma Program in July. She leads a multidisciplinary team of physician-scientists with an interest and expertise in systemic sclerosis and its multiorgan complications, which accounts for the highest case fatality rate of all rheumatologic diseases. The team provides coordinated, multidisciplinary care for patients with a wide array of clinical manifestations of scleroderma — including skin, lung, heart, renal, and gastrointestinal involvement — while addressing functional, nutritional, psychological, gynecological, urological, and/or sexual health challenges as well.

The YM Lupus Program, led by Fotios Koumpouras, MD, continues to grow; it now serves over 150 patients. The program affords patients participation in clinical trials and research studies.

The YM Lupus Program, led by Fotios Koumpouras, MD, continues to grow; it now serves over 150 patients. The program affords patients participation in clinical trials and research studies.
Office of Global Health
The Department of Internal Medicine’s Office of Global Health continues to focus on bilateral capacity-building and applied research, with the goal of improving the care of patients in resource-limited communities both in the United States and abroad through its numerous programs.

Yale/Stanford Johnson & Johnson (J&J) Global Health Scholars Program
This program provides career-changing experiences for medical residents and faculty who want to participate in patient care while seeking to expand their own understanding of human health and disease by experiencing the practice of medicine and medical education in resource-limited environments. This year, the program sponsored a total of 52 scholars selected nationally (9 from Yale) at the following sites: 15 in Uganda; 16 in South Africa; 16 in Rwanda; and five in Colombia. Forty of these scholars received a stipend from J&J.

Training Initiatives
Global Health sponsored 10 visiting faculty/chief residents for further training at YNNH. These included six physicians from Uganda (neurology, emergency medicine, and Ob/Gyn); three physicians from Rwanda (a nephrologist who trained for 18 months and two chief residents); and one chief resident from Liberia (internal medicine). In addition, four medical students from the Makerere University School of Medicine in Uganda were hosted as part of an ongoing exchange program.

The seven-year Human Resources for Health project in Rwanda that involved eight medical schools, including YSM, concluded in June 2019. The project included physicians in internal medicine, pediatrics, Ob/Gyn, and public health, and resulted in triple the number of enrolled medical students training will be implemented for the entering 2020 class. In addition, a program to train specialists in infectious diseases headed by Onyema Ogbuagu, MBCh, FACP, in collaboration with the University of Jos School of Medicine in central Nigeria, was inaugurated in the past year. In collaboration with the YNHH Office of Graduate Medical Education as well as the Hospitalist Program, chief residency positions were created in Global Health. These individuals worked clinically for the hospitalist service for six months of the year in addition to serving in New Haven-based teaching roles within the residency programs. They then spent six months at a Global Health partner site as clinician and need of the community. This site, as well as the Chinle site, are now available for Yale residents to undertake clinical rotations.

International Alliances
The work in Liberia is funded by the World Bank, the U.S. Health Resources and Services Administration, and the National Academy of Science. Highlights of the program include the restructuring of the A.M. Dogliotti School of Medicine curriculum, led by Kristina Talbert-Slagle, PhD, with support of YSM’s Center for Teaching and Learning. The school is located in Monrovia. This new model of training will be implemented for the entering 2020 class. In collaboration with the University of Liberia College of Health Sciences, a certificate program in health management was inaugurated, which trained 20 mid-level managers this past year. In addition, a program to train specialists in infectious diseases headed by Onyema Ogbuagu, MBCh, FACP, in collaboration with the University of Jos School of Medicine in central Nigeria, was inaugurated in the past year.

In addition, four medical students from the Makerere University School of Medicine in Uganda were hosted as part of an ongoing exchange program.

The seven-year Human Resources for Health project in Rwanda that involved eight medical schools, including YSM, concluded in June 2019. The project included physicians in internal medicine, pediatrics, Ob/Gyn, and public health, and resulted in triple the number of enrolled medical students participating. This model is under evaluation.

The Global Health and Equity Distinction Pathway (GHEDP), one of four distinction pathways in the department, is led by Tracy Rabin, MD, MS. It had a successful year with 26 residents from our three training programs participating.

The office hosted the Ninth Annual Global Health Day in March, exploring the role of academic institutions in global health with representation from the Schools of Medicine, Public Health, and Nursing, and the newly formed YIGH. The fourth annual Continuing Education in Refugees Health program (“Physical and Mental Health of Refugees: Supporting Families”) concluded the day.

The Program of Applied Translational Research (PATR)
The Program of Applied Translational Research (PATR) applies the discoveries generated in the lab and preclinical experiments to the creation of clinical studies and the design of clinical trials. Current work by PATR encompasses various kidney diseases and injuries ranging from biomarker discovery and validation to interventional data science and analytics. One large project the PATR team is currently working on is a six-center randomized trial to improve outcomes for patients with acute kidney injury (AKI). AKI affects 15% of hospitalized patients and is associated with a 10-fold increase in the risk of mortality. Through the Electronic Alerts for Acute Kidney Injury Amelioration (ELAIA) study, the team is analyzing whether an electronic AKI alert can improve outcomes. To date, more than 2,000 patients have been enrolled in what is the largest study of this type ever conducted. Another PATR project is highlighted in the Section of Nephrology update on pages 32-33. The team comprises physicians and scientists; it has been led by F. Perry Wilson, MD, since July 2018.

The Center for Outcomes Research & Evaluation
The Center for Outcomes Research & Evaluation (CORE) is a world-renowned outcomes research center that improves health and health care through targeted research and evaluation projects that combine scholarship and service to have positive effects on policy and people’s lives. CORE is involved in projects with government agencies, including the Centers for Medicare and Medicaid Services and the Food and Drug Administration, health systems, insurers, industry and patient groups.

In June 2019, among other accomplishments, CORE, with the Cold Spring Harbor Laboratory and the BMJ launched a preprint server to foster collaboration and improve research transparency. For decades the medical community has struggled to disseminate new information. medRxiv (pronounced “med-archive”) enables authors to share research findings and receive feedback on their work before submitting it to a journal. Joseph Ross, MD, MHS, medRxiv co-founder and a professor of medicine and of public health, is a leader on this project together with Harlan Krumholz, MD, the Harold H. Hines, Jr. Professor of Medicine (Cardiology), the Director of CORE. In its first months, the server received hundreds of manuscripts from researchers across the world.

A group of former trainees from Uganda meet with current U.S.-based J&J Scholars, Rabin (far right), NOU administrators, Pericles Lewis, vice president and vice provost for Global Strategy (center), and Edita Mandry from the Office of International Affairs (fifth from the right).
In addition to the programs detailed above, Department of Internal Medicine faculty are involved in the following programs:

**Education & Training**
- Addiction Medicine Fellowship Program
- Advanced Cardiac Imaging Fellowship
- Advanced Endoscopy Fellowship
- Advanced Heart Failure Fellowship
- Advanced Transplant Hepatology Fellowship
- Allergy & Immunology Fellowship
- Biopsychosocial Approach to Health Clerkship
- Cardiovascular Research Training
- Echocardiography Fellowship
- Endocrinology Fellowship
- Electrophysiology Fellowship
- General Cardiology Fellowship
- Geriatric Medicine Fellowship
- Geriatric Research Fellowship
- Global Health Scholars Program
- Hospice and Palliative Medicine Fellowship
- Infectious Diseases Fellowship
- Internal Medicine Subspecialty Critical Care Fellowship
- Interventional Pulmonary Fellowship Program
- Investigative Medicine Training Program
- Investigational Training Program in Gastroenterology
- Investigational Training Program in Hepatology
- Leadership in Internal Medicine Fellowship
- Medical Education Fellowship Program
- Medical Oncology-Hematology Fellowship
- National Clinician Scholars Program (NCSIP)
- Nuclear Cardiology Fellowship
- Palliative Care and End of Life Curriculum
- Program for Humanities in Medicine
- Pulmonary and Critical Care Medicine Fellowship
- Rheumatology Fellowship
- Skills Curriculum
- Sleep Medicine Fellowship Program
- Wednesday Evening Clinic
- Yale Office-Based Medicine Curriculum
- Yale Internal Medicine/Pediatrics Residency Program
- Yale Investigative Medicine PhD Program

**Research**
- Aging Conferences
- Atopic Dermatitis, Pattern Recognition TLR and NOD-Like Receptors & Lyme Disease
- Cancer Outcomes, Public Policy, and Effectiveness Research (COPPER) Center at Yale
- Clinical Epidemiology Research Center
- Comprehensive Evaluation of Risk Factors in Older Patients with AMI (SILVER-AMI)
- Developmental Therapeutics Research Program
- Diabetes Research Center (DRC)
- Immune Profiling
- Inflammation and Innate Immunity
- Inflammatory Bowel Disease Program
- Insulin Resistance Intervention after Stroke Trial (IRIS)
- Inter-cellular Communication by Nanovesicle Exosomes
- In Vivo Imaging Facility
- Lyme Disease
- Microbiome Research in Systemic Autoimmune Diseases
- Pain Research, Informatics, Multi-morbidities and Education (PINE) Center
- playPrevent (pP) Lab
- Research in Addiction Medicine Scholars (RAMS) Program
- STRIDE Study
- The George M. O’Brien Kidney Center at Yale
- Transitions Clinic Network
- Translational Research Office (Yale Cancer Center)
- Veterans Aging Cohort Study (VACS)
- Yale Academic Hospitalist Program
- Yale Cancer Center Research Programs
- Yale Cardiovascular Clinical Research (YCCVR)
- Yale Cardiovascular Research Center (YCCR)
- Yale Center for Clinical Investigation
- Yale Center for Disability and Disability Disorders
- Yale Center for Healthcare Innovation, Redesign and Learning (CHIRAL)
- Yale Center for Immuno-Oncology (YCOI)
- Yale Center for the Study of Polycystic Kidney Disease
- Yale Center for X-Linked Hypophosphatemia (YXCLH)
- Yale Core Center for Musculoskeletal Disorders (YCCMD)
- Yale Drug Use, Addiction, and HIV Research Scholars (DAHRS) Program
- Yale Equity Research and Innovation Center (ERIC)
- Yale Liver Center
- Yale Lupus Program
- Yale Mouse Metabolic Phenotyping Center (YMMPC)
- Yale Occupational and Environmental Health Program
- Yale Claude D. Pepper Older Americans Independence Center (OLiac)
- Yale Program in Addiction Medicine
- Yale Program for Biomedical Ethics
- Yale Program for Medicine, Spirituality, & Religion
- Yale Rheumatic Diseases Research Core Center
- Yale Translational Imaging Research Center (YTRIC)
- Yale University-Mayo Clinic Center of Excellence in Regulatory Science and Innovation

**Patient Care**
- Acute Kidney Injury Program
- Adult Congenital Heart Program
- Advanced Heart Failure Program
- AIDS Care Program
- Antiphospholipid Antibody Syndrome
- Aspirin Desensitization Program
- Autoimmune Diseases Related to Cancer Immunotherapy
- Cardio-Oncology Program
- Cardiovascular Genetics Program
- Chronic Kidney Disease Program
- Colon Cancer Program
- COPD Program
- CV Imaging Program
- Dorothy Adler Geriatric Assessment Center
- Echocardiography
- Electrophysiology
- Fatty Liver Disease Program
- Gastrointestinal Motility Program
- Glomerular Diseases/Glomerulonephritis Program
- Inflammatory Bowel Disease Program
- Inherited Cardiovascular Disease
- Interventional Cardiology Service
- Interventional Endoscopy Program
- Lupus Program
- Lysosomal Disease Program
- Medical Intensive Care Unit
- Metabolic Health & Weight Loss Program
- Myostis Program
- Neurobehavioral Cardiovascular Service
- Northeast Medical Group Yale New Haven Geriatric Services
- Nuclear Cardiac Imaging program
- Occupational and Environmental Lung Diseases
- Pancreas Disease Program
- Peripheral Vascular Cardiac Program
- Pulmonary Function Lab
- Pulmonary Vascular Disease Program
- Refugee Health Program
- Rheumatoid and Inflammatory Arthritis
- Scleroderma Program
- Thoracic Interventional Program (TIP)
- Thoracic Oncology Program
- Transition Program for Young Adults
- Tuberculosis (TB) Clinic
- VA Connecticut Healthcare System Primary Care
- VA Connecticut Healthcare System Inpatient and Outpatient Geriatric Consultation
- Viral Hepatitis Program
- Winchester Chest Clinic
- Yale Adult Cystic Fibrosis Center
- Yale Autoimmune and Cholestatic Liver Disease Program
- Yale Bone Center
- Yale Center for Asthma and Airway Disease
- Yale Center for Asylum Medicine
- Yale Center for Restorative Care (CRC)
- Yale Center in Sleep
- Yale Diabetes Center
- Yale Endocrine Neoplasia Clinic
- Yale-ILD Center
- Yale Infectious Disease Clinic
- Yale Internal Medicine Associates
- Yale Multidisciplinary Thyroid Clinic
- Yale Primary Care Center–York Street Campus
- Yale Medicine/Pediatrics Clinic
- Yale Medicine Cardiology

For more information, visit medicine.yale.edu/intmed/
“We want her to be remembered for her exceptional talents and the joy she found in her work. Together we had the idea to make a gift to Yale, a place she loved, that would benefit young scientists.”

— Predrag Dostanic

PHILANTHROPY

A Gift to the Place Their Daughter Loved

Facing the final stages of ovarian cancer at just 35 years of age, Iva Dostanic asked her mother what the happiest day of her life had been. Without hesitation, Dragana Dostanic answered, “The day you were born.”

Dragana asked her daughter the same question. “Match Day 2011,” Iva replied. “This was the life she wanted.”

The family relocated first to Vienna, then to Athens, where Iva thrived in American international schools and decided to attend college in the United States. She earned her undergraduate degree with high honors from Manhattanville College, then pursued a PhD at the University of Cincinnati College of Medicine, where she did pioneering work using what were then new methods of gene manipulation to examine hypertension. She co-authored 12 papers, five as a lead author with more than 100 citations each — an outstanding achievement for any researcher, let alone a graduate student. “It is very moving that Iva formed such a deep commitment to Yale in her short time with us,” says Robert J. Alpern, MD, dean and Ensign Professor of Medicine. “We are most appreciative that her parents have honored us with this generous gift in her memory.”

Born in Belgrade, in what then was Yugoslavia, Iva grew up in a family that prized education. Her mother is a pulmonologist; her father, an engineer and business executive. As a child Iva often accompanied Dragana to the hospital. “Watching her mother at work in her white coat, Iva was inspired to become a physician too,” Predrag recalls.

Brilliant young scientist Iva Dostanic, MD, PhD, was a resident and research fellow at the School of Medicine when she succumbed to cancer in December 2011. Her parents have sought ways since then to celebrate her legacy.

“It is very moving that Iva formed such a deep commitment to Yale in her short time with us,” says Robert J. Alpern, MD, dean and Ensign Professor of Medicine. “We are most appreciative that her parents have honored us with this generous gift in her memory.”

“Iva chose Yale for its academic excellence and sense of community,” says Predrag. “She is remembered and celebrated here and became part of the Yale family. And through her, we became part of that family too. We are very grateful.”

To that end, Dragana and Predrag Dostanic have pledged their entire estate to Yale School of Medicine, in memory of their daughter Iva Dostanic, who succumbed to cancer at age 35 while a resident and research fellow.

“Iva was diagnosed with cancer in May 2011 and deferred her residency to undergo surgery and chemotherapy. After her treatment she came to New Haven to begin her research training. “Every day she woke up early, caught up on her reading, ran a few miles, then spent hours in the lab,” notes Dragana. “This was the life she wanted.”

Unfortunately, Iva’s cancer returned and her condition deteriorated. Less than a week before she died, she received the very first Iva Dostanic, MD, PhD, Physician-Scientist Trainee Award in a ceremony held in her room at Yale New Haven Hospital.

“We conceived of this award in Iva’s name to celebrate her intelligence, creativity, work ethic, and passion,” explains Aronson. “These qualities personify the ideals of the physician-scientist. Her parents’ gift will have a tremendous impact, allowing us to follow through on a key mission: training physician-scientists and enabling them to flourish as faculty.”

“Iva was diagnosed with cancer in May 2011 and deferred her residency to undergo surgery and chemotherapy. After her treatment she came to New Haven to begin her research training. “Every day she woke up early, caught up on her reading, ran a few miles, then spent hours in the lab,” notes Dragana. “This was the life she wanted.”

Unfortunately, Iva’s cancer returned and her condition deteriorated. Less than a week before she died, she received the very first Iva Dostanic, MD, PhD, Physician-Scientist Trainee Award in a ceremony held in her room at Yale New Haven Hospital.

“We conceived of this award in Iva’s name to celebrate her intelligence, creativity, work ethic, and passion,” explains Aronson. “These qualities personify the ideals of the physician-scientist. Her parents’ gift will have a tremendous impact, allowing us to follow through on a key mission: training physician-scientists and enabling them to flourish as faculty.”

“Iva was diagnosed with cancer in May 2011 and deferred her residency to undergo surgery and chemotherapy. After her treatment she came to New Haven to begin her research training. “Every day she woke up early, caught up on her reading, ran a few miles, then spent hours in the lab,” notes Dragana. “This was the life she wanted.”

Unfortunately, Iva’s cancer returned and her condition deteriorated. Less than a week before she died, she received the very first Iva Dostanic, MD, PhD, Physician-Scientist Trainee Award in a ceremony held in her room at Yale New Haven Hospital.

“We conceived of this award in Iva’s name to celebrate her intelligence, creativity, work ethic, and passion,” explains Aronson. “These qualities personify the ideals of the physician-scientist. Her parents’ gift will have a tremendous impact, allowing us to follow through on a key mission: training physician-scientists and enabling them to flourish as faculty.”
Kapo is Named to an Endowed Academic Position

Jennifer M. Kapo, MD, associate professor of medicine (geriatrics) and chief of palliative medicine at YNHH, has been named the Sherwin B. Nuland and Michael K. Vlock Associate Professor of Palliative Medicine, in April. Kapo, who joined the Yale faculty in 2012, received her MD degree from the University of Pennsylvania in 1997. Her work includes providing clinical palliative medicine to patients at Smilow Cancer Hospital; conducting research in palliative medicine; and expanding teaching opportunities for existing Yale faculty, staff, fellows, residents, and medical students.

She is recognized for her leadership as the inaugural chief of the Yale Palliative Care Program and YNHH Palliative Care Service, which includes an interdisciplinary team of more than 20 people, including two social workers and two chaplains, and other professionals including an art therapist. The program has achieved substantial growth in its first six years, both in clinical services provided and in patients/families served. The size and expertise of the palliative care faculty and interdisciplinary team have expanded rapidly with a resulting increase in clinical and scholarly collaborations across Yale. Kapo also has supported the development of the hospice and palliative medicine physician fellowship.

Kapo has promoted excellence in the quality of care for patients and their families while husbanding resources toward further program building to serve a wider community. These efforts are balanced by her championing of resilience practice and core values so that the palliative care team can continue to thrive.

Kapo has been recognized for her leadership as an international leader in research, education, and clinical care. Our programs are enhanced by the generous philanthropic support of our donors. A gift of any amount is vital to our mission and goals. To learn more about our work and opportunities to partner with us through charitable giving, please contact Erin Shreve, director of development, at erin.shreve@yale.edu or (203) 436-8529.

Giving to the Department of Internal Medicine

Yale’s Department of Internal Medicine is an international leader in research, education, and clinical care. Our programs are enhanced by the generous philanthropic support of our donors. A gift of any amount is vital to our mission and goals. To learn more about our work and opportunities to partner with us through charitable giving, please contact Erin Shreve, director of development, at erin.shreve@yale.edu or (203) 436-8529.
CLINICAL CHIEFS

Eric Velazquez, MD, Cardiovascular Medicine
Loren Laine, MD, Digestive Diseases (Interim)
Steve Hauser, MD, Endocrinology & Metabolism
Matthew Ellman, MD, General Medicine
James K. Lee, MD, Genitourinary Medicine
Charles Fuchs, MD, Rh/IM, Hematology
Vincent Quagliarello, MD, Infectious Diseases
Roy Herting, MD, PhD, Medical Oncology
Alida Reiss, MD, Nephrology
Jonathan Steele, MD, Pulmonary, Critical Care & Sleep Medicine
Wallace Chowdhury, MD, Rheumatology, Allergy & Immunology

PROGRAM DIRECTORS

Merceditas Villanueva, MD, AIDS Program
Cary Gross, MD, National Clinician Scholars Program
Carrie Redditt, MD, MPH, Occupational & Environmental Medicine
Audger Masiak, MD, Office of Global Health
Matthew Ellman, MD, Yale Internal Medicine Associates

POST-GRADUATE EDUCATION & TRAINING PROGRAMS

Internal Medicine — Pediatrics Residency Program
Benjamin Szurek, MD, MA, Div Program Director
Jasdeep Talwalkar, MD, Associate Program Director

Internal Medicine — Primary Care Residency Program
John Mancini, MD, FACP, Program Director
Stephen Hilt, MD, FACP, Associate Program Director

Internal Medicine — Traditional Residency Program
Mark Segal, MD, Program Director
Kalina Galkowski, MD, Associate Program Director, Ambulatory
Christopher Garvey, MD, FACP, NIH Associate Program Director

Investigative Medicine Program
Joseph Craft, MD, Program Director
Suguna Shapira, MD, Deputy Director
Pamela Fusco, Registrar

Yale Affiliated Hospitals Program
Silvio Inzucchi, MD, Program Director

2018-2019 Chief Residents

Brian Brown, MD
George Goshua, MD
Ahmad Gregory, MD
Frederick Howard, MD
Rosa Kristal, MD
Brian Persaud, MD

Christopher Soria, MD
Merilyn Varghese, MD
Anita Zimmerman, MD
The Department of Internal Medicine’s 2018–2019 Annual Report is published by DIM Communications. Correspondence may be sent to 2018–2019 Annual Report, The Anayan Center, 300 Cedar St. S255, New Haven, CT 06520, or internalmedicine@yale.edu.

EDITOR: Julie Parry

DIM COMMUNICATIONS: Amy Anderson, Ruth Arnold, Julie Parry, Elisabeth Reitman

CONTRIBUTING WRITERS: Ruth Arnold, Jessica Collins, Arne Doerr, Robert Forman, Renee Gaudette, Pamela Hartley, Angela Incassati, Ziba Kashef, Emily Montamerto, Elisabeth Reitman, Kendall Teare

Special thanks to Nancy Kravitz, Jill Max, Denise Asampora, Alaine Bartel, Tereesa Brooks, Carol Brown, Jennifer Caprio, Richard Carr, Lisa Delillo, Jill Ely, Lynn Gambardella, Stacy Giangrande, Krista Gibbs, Laurene Goode, Philip Grover, Drew Kristofik, Catherine Margarski, Christine Marien, Rease McLeod, Chence McNeil, Anne Prodoti, Jessica Santore, Stephanie Santore, Catherine Severino, Erin Shreve, Ann Souza, and Laura Whitley for their support of this project.

PHOTOGRAPHY: Harold Shapiro

GRAPHIC DESIGN: Lynne M. Reichenthal, Yale Printing & Publishing Services
Shelli Farhadian, MD, PhD, was named the 2019 Iva Dostanic, MD, PhD, Physician-Scientist Trainee Award honoree. (l-r) Predrag and Dragana Dostanic, Farhadian, Vincent Quagliarello, MD, and Peter Aronson, MD.