Department of Internal Medicine faculty members participate in a variety of programs, clinics, and centers throughout Yale University, Yale School of Medicine, Yale Medicine, and Yale New Haven Health.

For more information, visit medicine.yale.edu/intmed/

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The Department of Internal Medicine continues to increase the size of its faculty and staff as well as expand the scope of its clinical care, research, and educational initiatives.

We saw patient volumes on the medicine service hit historic levels this year while finally emerging from the COVID-19 pandemic. In March 2022, Yale New Haven Hospital (YNHH) was named a leading hospital in early COVID care by Healthgrades, a Denver-based company that provides information about hospitals and health care providers. According to Healthgrades, YNHH’s mortality rates were some of the lowest in the country; more impressively, there were no observed differences in care outcomes between white, Black, and Hispanic people.

Our faculty members have been honored for their educational excellence. Research initiatives at Yale received applause on the national and international stages. And our entire department acquired new prominence as its website and Boardman entryway were updated to highlight everything that makes our department not only unique but also an excellent organization to belong to.

We are poised to succeed in all our missions while committing to ongoing improvements in the well-being and sense of community among our clinicians, educators, researchers, learners, and staff.

Thank you for reviewing this report, which contains so many highlights from our department this year. Be sure to read the story about the Committed to Excellence wall display—one of our many endeavors to showcase the clinicians, educators, researchers, trainees, and staff members of the department.

Scan the QR code below to learn more.

I would love to hear from you; please contact me with any questions or comments.

Sincerely,

Gary V. Déris, MD
Paul B. Beeson Professor of Medicine
Vice Provost for Faculty Development and Diversity
Chair, Internal Medicine, Yale School of Medicine
Chief, Internal Medicine, Yale New Haven Hospital
The Department of Internal Medicine has come a long way from its modest beginnings two centuries ago, and has grown remarkably under the stewardship of its leaders. Today, the department has nearly 2200 clinicians, educators, researchers, trainees, and staff.
Leadership

In March 2022, a nationwide search began for a vice chair for Diversity, Equity, and Inclusion (DEI) after Inginia Genao, MD, left Yale to become the Penn State College of Medicine’s first vice dean of diversity, equity, and inclusion. Genao accomplished much during her time at Yale in her role as vice chair for Diversity, Equity, and Inclusion (DEI) from November 2016 to August 2021. Among her many accomplishments, Genao accomplished much during her time at Yale in her role as vice chair for DEI. Among her many accomplishments, Genao accomplished much during her time at Yale in her role as vice chair for Diversity, Equity, and Inclusion (DEI) from November 2016 to August 2021. Among her many accomplishments, Genao accomplished much during her time at Yale in her role as vice chair for Diversity, Equity, and Inclusion (DEI) from November 2016 to August 2021. 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Overviews FROM THE VICE CHAIRS

Education & Academic Affairs

Vincent Quagliarello, MD
Vice Chair, Education & Academic Affairs

Dana Dunne, MD, MHS
Associate Chair, Education & Academic Affairs

Donna Windish, MD, MPH
Associate Chair, Educational Scholarship

Residency Updates

The Department of Internal Medicine
Traditional Residency Program at Yale School of Medicine was ranked ninth in the nation by U.S. News & World Report’s List of 2022’s Best Internal Medicine Programs. The Yale Medicine Pediatrics Residency Program enjoyed a very competitive match this year, and continues its tradition of innovative medical education and research, and enjoys a very competitive match this year, and continues its tradition of innovative outreach, quality improvement, and research projects. The Yale Primary Care Internal Medicine Residency continues to excel as a leading program in primary care education, innovative medical education and research, and meaningful engagement with communities in New Haven.

Medical residents at YSM may now choose one of five distinct pathway programs: Clinician Educator, Global Health & Equity, Investigation, Quality Improvement & Physician Leadership, and Race, Bias, and Advocacy in Medicine. Ten junior faculty members across Yale School of Medicine were appointed to the new role of Clinical Skills Mentor. The following six faculty are from the department:

- Alex Cho, MD
- Ben Gallagher, MD
- Michael Beasley, MD
- Santa Soares, MD
- Sharon Ostfeld, Johns, MD
- Angela Kang, MD, MPH

Members serve on clinical skills committees and contribute to educational innovation as well as curriculum development and evaluation.

Education Development and Scholarship

The Office for Education Development and Scholarship launched the [IM]EDucator educational faculty development series in March 2023 in partnership with the Yale School of Medicine Teaching and Learning Center. In addition, both the [IM]EDucator monthly noon Zoom series as well as the more intensive Clinical Teaching Faculty Development course (12-15 hours) are offered two to three times per year by the department in conjunction with the Yale School of Medicine Teaching and Learning Center.

In March 2021, the Advancement of Clinician Educator Scholarship (ACES) Faculty Development Program, led by Donna Windish, MD, MPH, announced its third class: Badri All Bawadyi, MD, assistant professor (Dietetic Diseases); Michael Beasley, MD, assistant professor (Cardiovascular Medicine); Astha Chichra, MBBS, assistant professor (Pulmonary, Critical Care and Sleep Medicine); Benjamin Gallagher, MD, instructor (General Internal Medicine); and Shana Glasgow, MD, assistant professor (Infectious Diseases).

The following 14 fellows were celebrated as they completed the fellows as Medical Educators (FAME) certificate course in July 2022:

Department of Medicine fellows:
- Cardiovascular Medicine: Ricardo Arevalo de Leon, MD, and Amarnath Annapureddy, MD
- Gastroenterology: Ray Chan, MD, and Laura Rutanaya Saky, MD
- Infectious Diseases: Brian Wright, MD, MPh
- Infectious Diseases: Mikel Tucker, MD, and Carlo Palacios, MD
- Medical Oncology – Hematology: Eric Chang, MD
- Occupational & Environmental Medicine: Romina Santiago, MD, MPH
- Pulmonary, Critical Care and Sleep Medicine: Katie McGovney, MD

Members of Pediatrics fellows:
- Gastroenterology: Sarah Abu-Alwas, MBBS
- Pulmonary: Eliza Bruner, MD
- Cardiology: Katherine Gioso, MD
- Infectious Diseases: Elisa Zimny, MD

The year-long course, co-led by Dana Dunn, MD, MHS, and Lindsay Johnston, MD, MEd, from the Department of Pediatrics, aims to enhance a fellow’s preparation for a career as a clinician educator through participation in sessions exploring learning theory, teaching skills, curriculum development, and clinician educator careers, among other topics.

Teaching Awards

The Yale Department of Internal Medicine’s Primary Care and Traditional Residency Programs celebrated their graduations on June 6, 2022 and on June 7, 2022 respectively. See the complete list of awards by scanning this QR code.

Faculty Affairs

Lawrence Young, MD
Vice Chair, Faculty Affairs

Adam Meyerson, MD
Associate Chair, Community & Voluntary Faculty

Mentoring Program Expansion

The department mentorship program, which is required for all instructors, assistant professors, and associate professors to support successful career development, has been expanded to include the Yale School of Medicine Faculty Development Annual Questionnaire (FDAQ). The FDAQ is an initiative from the Office of the Dean to promote mentorship for and feedback to faculty members from the department and section leadership.

Faculty Appointments/Promotions

The following faculty members were promoted or appointed to full professor:
- Joseph Alker, MD, PhD, clinician-educator track (Cardiovascular Medicine)
- Ursula C. Brewer, MD, clinician-educator track (Nephrology)
- Serwat Chaudhry, MD, clinician-scientist track (General Medicine)
- Lauren Cohn, MD, clinician-educator track (Pulmonary, Critical Care and Sleep Medicine)
- Jopha Curtis, MD, clinician-educator track (Cardiovascular Medicine)
- Neera Dhall, MD, PhD, clinician-educator track (Nephrology)

In addition, 23 faculty members were promoted or appointed to associate professor, 9 to assistant professor, and 21 to instructor, along with two adjunct faculty members who were promoted. Three people were promoted to senior research scientist, eight to research scientist, and 27 to associate research scientist.

Voluntary Faculty

Two members of voluntary faculty were recently promoted to associate clinical professor:
- Eric Fan, MD
- Steven Saunders, MD

Over the past five years, the number of voluntary faculty within the Department of Internal Medicine has increased to 427 members. Led by Adam Meyerson, MD, the group teaches in both inpatient and outpatient settings at various sites throughout the state, including Yale New Haven, Greenwich, Bridgeport, Griffin, Waterbury, St. Mary’s, Norwalk, Middlesex, and Danbury Hospitals.

The committee activities are coordinated by Laura Whiteley, manager, Faculty Affairs, with the assistance of Catherine Severino and Mami Ashikaga.
An End to Malaria?

BY RHEA HIRSCHMAN

Malaria, the world’s second most deadly communicable disease (after tuberculosis), has coexisted with humanity for over 100,000 years. While the mosquito-borne illness was virtually wiped out in this country in the early 1950s, many more U.S. travelers in the recent past have been returning from parts of the world where the disease is endemic. According to the Centers for Disease Control, about 2.5 million Americans are diagnosed with malaria each year, most of them frequent travelers or immigrants. But malaria exacts its greatest toll in sub-Saharan Africa, where it kills over half a million people annually. Most are children who have not yet developed any immunity to the disease. Another highly vulnerable population is pregnant women; immunity to the disease is decreased from the first trimester by pregnancy.

In addition to the personal suffering that malaria causes, its social and economic burdens are enormous. According to the Johns Hopkins Bloomberg School of Public Health, “The economic impact of malaria is estimated to cost Africa $22 billion every year. This figure factors in costs of health care, absenteeism, days lost in education, decreased productivity due to brain damage from cerebral malaria, and loss of investment and tourism. Malaria (results in) sub-optimal agricultural production [and] reduces labor productivity. ... In endemic areas, malaria may impair as much as 60% of schoolchildren’s learning.”

“Malaria is both a huge medical problem and a huge social problem,” says Richard Bucala, MD, PhD, the Lerner/Van Zandwijk Professor of Medicine (Rheumatology), and professor of pathology at the Yale School of Medicine, and of epidemiology (microbial diseases) at the Yale School of Public Health. “A malaria vaccine has long been the holy grail, but development has suffered from a lack of understanding of the disease’s basic immunology.”

Increasing resistance to treatment

The quest for a malaria vaccine is made even more urgent by limited treatment options. After World War II, DDT was used to kill the mosquitoes that carry the malaria parasite. Chloroquine, a cheap and effective drug, was developed to treat patients. But DDT proved to be toxic to humans and animals; the mosquitoes developed resistance to it, and the malaria organism developed resistance to chloroquine. Now, only one antibiotic treatment remains—artemisinin, a drug derived from an ancient Chinese herbal remedy. And, says Bucala, “We are finding resistance to artemisinin on the Thai-Cambodian border, which is the first place chloroquine resistance developed in the 1950s. We are losing tools for malaria control.”

Malaria is caused by several species of Plasmodium parasites that are spread to humans through the bites of infected mosquitoes. The organism has evolved elaborate mechanisms to avoid destruction by the body’s immune system, including secreting a protein (PMIF) that kills immunity-generating memory T cells. “It’s been so difficult to create an effective vaccine,” Bucala says, “because the infection is not associated with sterilizing immunity”—the ability of the immune system to stop pathogens from replicating within the body. “With malaria,” he explains, “once you are infected, you are always infected. Even if the infection responds to treatment, you remain at risk for reinfection because protective memory T cells don’t form. Moreover, it’s not the organism itself that kills, but the body’s inflammatory response to the infection.”

In 2012, Bucala, whose research focuses on the relationship between protective immune responses and immunopathology, published a paper showing that the function of PMIF is to kill memory T cells. The next step was to develop a vaccine that would inhibit PMIF activity, allowing the body to attack the parasite and generate a natural immune response to the disease.

A former postdoctoral student in Bucala’s lab, Andrew Geall, PhD—now at Replicate Bioscience—suggested using a novel RNA technology as the vaccine platform. Self-amplifying RNA to the rescue

The mRNA (messenger RNA) vaccines so prominent in the news during the COVID-19 pandemic work differently from traditional vaccines. Rather than introducing a small amount of pathogen (live attenuated or inactivated) or one of its proteins into the body to trigger immunity, mRNA teaches cells how to make a specific protein to create a protective immune response against infection. Bucala and Geall created their anti-malarial vaccine on a second-generation RNA platform: self-amplifying RNA (saRNA).

Self-amplifying RNAs contain the “teaching” vaccine mRNA plus a code for an enzyme that allows the material to self-replicate inside the vaccinated cell over several weeks. “Replication means that you can inject much smaller amounts of vaccine to achieve adequate immunization,” Bucala says, “making the vaccines cheaper and easier to distribute — much more accessible for the developing world.” The replication function of saRNA is also critical because it activates intracellular immune pathways necessary for the generation of long-term protective memory T cells. To test their vaccine, Bucala’s group injected it into mice infected with a murine strain of malaria. In 2018, Bucala and Geall published the results in Nature Communications, showing that the saRNA-vaccinated rodents combated a series of malaria infections better than those that received a control vaccine. “In the mouse models we used,” Bucala says, “we saw an unprecedented level of protection against malaria by using saRNA for the MIF antigen.”

While more research is needed—for instance, in determining the length of vaccine efficacy—Bucala is hopeful. Yale was granted a patent for this approach in 2021, paving the way for continued development and ultimate testing in human clinical trials. “We’ve been working on this vaccine for years,” he says, “but the entire landscape has changed.” He notes that one positive outcome of the COVID-19 pandemic has been widespread acceptance of the mRNA vaccine platform with its potential for tremendous positive results, including the possibility of similar vaccines for other parasitic diseases. “What we have now is not just an improved iteration of an accepted approach but an entirely new strategy that targets the precise mechanism used by the parasite to subvert a person’s immune response,” he adds. Currently, Bucala is working with Oxford’s Jenner Institute to further test the PMIF saRNA vaccine. Planning is also underway for testing against infection by Plasmodium falciparum, which causes the most lethal form of human malaria, in a trial in non-human primates.
Administration

The size of the department’s staff increased over the past year, with 436 staff working on administrative, finance, clinical support, or research roles.

There were additional changes within the business office leadership. In March 2022, Julie Parry was promoted to associate director of communications. The centralization of support services continued this year with the creation of a new associate director of administration position. Sarah Hagan, who had previously worked as operations manager in YSM’s Department of Finance/Central Administration Unit, was hired for the new position in May 2022.

Finance

The department continues to grow and expand its reach with an operating budget of $350 million. The Blue Ridge Institute for Medical Research released its annual findings in February 2022. The Department of Internal Medicine earned a top 10 spot on the list with over $141 million in funding from the National Institutes of Health—an increase of $8 million from FY21. In addition, government and public sector funding increased during FY22. Overall, the department has approximately 890 active awards and 800–900 new proposals out for approval.

Clinical volume continues to grow year after year, with clinical work relative value units (RVUs) exceeding 16M units.

Administration Workplace Survey Committee

During this fiscal year, the workplace survey committee started a business office learning series, an informal meeting designed to provide background on each team, its responsibilities, and how the team’s work interacts with others in the business office. The group also launched an onboarding buddy initiative to help new members of the business office as they join the team. At the beginning of the summer, the committee also instituted a “No Meeting Friday” policy to provide the office with a large block of time to focus on work and projects.

Communications

The department communications team continued to extend its reach this year. The team organized to provide the administration, finance, clinical support, and lab staff with professional headshots. These headshots were then added to the website along with a new “Our Team” tab, which now features everyone who works within the department. During its fiscal year, the team also launched additional section publications. In March, Amy Anderson was promoted to communications officer.

Department of Internal Medicine Service Excellence Awards

In June, Cynthia Frank, PhD, RN, clinical research nurse 3 (Infectious Diseases); and Susan Ardito, senior administrative assistant (Pulmonary, Critical Care and Sleep Medicine), were honored with the Department of Internal Medicine Service Excellence Awards. These awards are presented annually at the spring Town Hall Meeting to recognize the outstanding attributes of one or more staff members of the Department of Internal Medicine at the Yale School of Medicine.

Quality & Safety

Aldo Peixoto, MD

Vice Chair, Quality & Safety

The Department of Internal Medicine is dedicated to the ongoing improvement of quality and safety to provide the best possible patient care. The focus over the past year has been on building capacity and fostering a collaborative environment by aligning quality and safety efforts across the Department of Internal Medicine and Yale New Haven Health (YNHHS).

Several programs have expanded their reach, including the Graduate Medical Education (GME) Distinction Pathway in Health Equity, Quality Improvement, and Patient Safety. The pathway provides practical real-world education and experience for trainees interested in health care improvement, and is now offered to all residents and fellows. Developed by GME Quality and Safety Director Linda Fan, MD; faculty members Nawaema Merchant, MBBS; and Michelle Hughes, MD; and key participants in the program’s planning and structure.

The department launched its Quality Improvement Bootcamp in the fall of 2021. The multi-session course provided the foundation of quality improvement methodology. The curriculum was based on a course for trainees developed by Beth Emerson, MD, pediatric emergency medicine, and was adapted to include formative small-group discussions. The new format evolved into a GME course open to all faculty and trainees across YNHHS and Yale School of Medicine (YSM). The course, titled “The 2022–2023 Bootcamp in Health Equity and Quality Improvement,” debuted in late fall 2022, and used a curriculum developed by Beth Emerson, MD, Aldo Peixoto, MD, Louis Hart, MD; and Linda Fan, MD.

A newer addition to programming is the monthly morbidity and mortality conference for resident physicians. Established in 2020 by Lloyd Friedman, MD, and former VA Chief Resident in Quality and Patient Safety (CRQS) Jadry Gruen, MD, the conference’s aim is to foster a culture of safety for trainees by holding open dialogues on sensitive topics and cases without an attending present. This initiative is synced with the department-wide deployment of morbidity and mortality conferences in every section.

Another significant impact on quality and safety has been the expanded use of care pathways. The Care Signature enterprise across YNHHS is led by Deborah Rhodes, MD, and the Medicine Care Signature Council is chaired by Lynn Tanzious, MD, MBA. Multidisciplinary teams of experts determine processes and roadmaps for multiple inpatient and outpatient settings to standardize practice in care provision. The group decides on best treatment for clinical conditions, and also builds pathways to improve process, efficacy, and safety. Since October 2020, 375 pathways have been launched—including COVID, mpox, heart failure, chronic obstructive pulmonary disease, pneumonia, acute kidney injury, and alcohol use disorders.

While there are many successes in the area of quality and safety, a noteworthy improvement was YNHHS’s reduction in COVID readmissions from 26 percent to 20 percent from 2021 to 2022. The significant decrease in readmissions speaks to the collaboration and teamwork involved, including the work of key collaborators Adam Ackerman, MD; Evelyn Adekolu, MD; Olutayo Temitope Imevbore, MD; and Carolyn Rochester, MD.

In addition, the department has begun to observe strong results from the sponsored Quality Improvement grant projects in diverse areas—from screening for hepatitis B and tuberculosis in rheumatology patients receiving biological agents to monitoring of self-administered erythropoiesis agents and end-of-life discussions in oncology. The department continues to sponsor a yearly quality improvement grant competition in the spirit of supporting innovation in patient care. One of the grant-winning teams is pictured above.
Overviews FROM THE VICE CHAIRS

Harriet Kluger, MD
Vice Chair, Basic Research

Her research interests include mechanisms of bacterial virulence, antibiotic resistance, and immune evasion. Under her leadership, TFM’s MD/PhD Program has grown to be the fourth largest in the country. She will strengthen the basic science infrastructure and foster stronger connections between faculty within and beyond the department. Deeply appreciated is Boyd G. Canfield, MD, who had served in that position for the past 15 years.

Kluger was named vice chair of collaborative research. This new leadership position was created to assist the department in facilitating interdisciplinary research within the Yale School of Medicine. Kluger directs the Yale Specialized Programs of Research Excellence (SPORE) in Skin Cancer, an example of the type of multi-project large grants that the department intends to pursue. She plans to expand what is being done in the laboratory into the clinic and vice versa, and increase the number and range of interdisciplinary investigations.

New PhD Program in Translational Biomedicine

In recognition of the growing research expertise in clinical departments, the school has launched the Program in Translational Biomedicine, a new training initiative for PhD students. This program, co-led by Richard Kibbey, MD/PhD, from Endocrinology, and Megan King, PhD, from Cell Biology, supports the research training of PhD students interested in translational research. In addition, the program offers a track leading to graduate school appointment and the attendant ability to mentor graduate students for faculty in the department even if the faculty members do not have a secondary appointment in one of the basic science departments.

New Team Science Pilot Award Program

The Yale Office of Team Science launched a new program for YSM faculty who are developing large multi-component NIH grant submissions (e.g., P30, P51, POI, U01, U54, and similar complex funding mechanisms). Principal investigators will be able to schedule a “studio” to convene a panel of experts to review proposals in the development stage. The department has made the use of this new program a priority.

New Leadership

In July, the department announced two new leaders in research. Barbara Kazmierczak, MD, PhD, and Harriet Kluger, MD. Kazmierczak became the new vice chair for basic research, and Kluger, the site-Pi for SUMOUNT-1 at Yale, presented findings from the study at the American Diabetes Association Scientific Sessions in New Orleans on Saturday, June 4.

“Tirzepatide is FDA-approved as a medication for the treatment of obesity. Tirzepatide was FDA-approved for the treatment of type 2 diabetes in May 2022, and is now commercially available for that use. The drug’s sponsor, Eli Lilly, is working with the FDA on a timeline for approval of tirzepatide as a treatment for obesity.

Research

Barbara Kazmierczak, MD, PhD
Vice Chair, Basic Research

Research Space

Robert Soufer, MD, and the new departmental research vice chairs continue to partner with leaders across the school regarding the ongoing expansion of clinical and translational research space. Proposals have been submitted from strategic areas. In this past year the clinical research space at 135 College Street has increased by 4,400 square feet. The space has been remodeled to provide several dry bench workstations, clinical examination rooms, interview space, and accommodations for data management and storage.

New PhD Program in Translational Biomedicine

As of late 2022, the initiatives in translational genomics, bioinformatics/data analysis, and the program in immunometabolism are moving forward. In September 2022, the Yale Claude D. Pepper Older Americans Independence Center launched a new pilot grant program focused on translational genomics, and solicited letters of interest for projects to facilitate innovative and high-impact genomics research, and establish or strengthen cross-disciplinary collaborations.

The department has prioritized the following areas to enhance clinical and translational research infrastructure: biostatistics and bioinformatics, and integrated EHR-genomics/biospecimen collection. The department is also working to improve post-award support, along with increasing support for junior investigators in such areas as the K-IR transition, grant writing, and career science, along with establishing research forums to improve awareness and strengthen community. Plans to expand the Hospital Research Unit (HRU) are also being drafted.

Research

Richard Kibbey, MD/PhD

During the previous fiscal year, research leadership held two retreats focused on expanding the scope of research, creating prioritization for specific areas of exploration, and outlining the strategy for increased research infrastructure. Retreat participants identified four priority areas for the department’s focus:

• Bioinformatics/data analysis
• Translational genomics
• Program in immunometabolism
• Applied data science and precision medicine

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Overview from the Vice Chairs

Harriet Kluger, MD
Vice Chair, Collaborative Research
Robert Soufer, MD
Vice Chair, Clinical Research

NEWS

Medication Results in More Than 20% Weight Reduction in Individuals With Obesity

People with obesity treated with a novel GIP/GLP-1 receptor agonist, tirzepatide, lost about 32 pounds on average, according to results of a new study that were published in The New England Journal of Medicine. The study, “Tirzepatide Once Weekly for the Treatment of Obesity,” reports that highly significant weight reduction can be attained with tirzepatide.

“In this study, about nine out of 10 individuals with obesity lost weight,” said Ania Jastreboff, MD, PhD, associate professor of medicine (Endocrinology) and pediatrics (Pediatric Endocrinology) at Yale School of Medicine and the lead author of the study. SUMOUNT-1 was a Phase 3 trial investigating the efficacy and safety of tirzepatide. The study included 2,539 participants with obesity who were randomized to receive placebo, tirzepatide 5 mg, tirzepatide 10mg, or tirzepatide 15 mg for 72 weeks. Study participants on average had a body mass index (BMI) of 38 kg/m2 and an average weight of 313 lbs. At the end of the study, those taking the 15 mg dose of tirzepatide had an average body weight reduction of 22.5%. Treatment with all three doses of tirzepatide resulted in substantial and sustained body weight reduction, the study’s authors said. Side effects were primarily gastrointestinal, and included nausea, vomiting and diarrhea, and mainly occurred in the dose-escalation phase.

Ania Jastreboff, MD, PhD

Currently, tirzepatide is not FDA-approved as a medication for the treatment of obesity. Tirzepatide was FDA-approved for the treatment of type 2 diabetes in May 2022, and is now commercially available for that use. The drug’s sponsor, Eli Lilly, is working with the FDA on a timeline for approval of tirzepatide as a treatment for obesity.

Research

Barbara Kazmierczak, MD, PhD
Vice Chair, Basic Research

The New England Journal of Medicine. “Obesity should be treated like any other chronic disease—with effective and safe approaches that target underlying disease mechanisms; these results underscore that tirzepatide may be doing just that.”

Richard Kibbey, MD/PhD
For the recipients of the 2022 Iva Dostanic Physician-Scientist Trainee Award, patient care guides their scientific studies.

Dennis Shung, MD, PhD, associate research scientist (Digestive Diseases), uses machine learning to identify patients most at risk from gastrointestinal (GI) bleeding. “How can we increase the time available for doctors to spend with patients? How can we make sure that providers are equipped to make the best decisions possible for their patients?” Shung said. “Machine learning tools can be used to improve the patient experience and enhance the hands-on presence of providers.”

Benjamin Goldman-Israelow, MD, PhD, instructor and ABIM Physician-Scientist Research Pathway resident, arrived at the Yale School of Medicine (YSM) with a background in molecular virology. Caring for patients leads him to the scientific inquiries that can provide a better understanding of viruses, such as how they cause disease, and how scientists can create cures and vaccines to treat them. “I'm driven by my patients to improve their experience and enhance the hands-on presence of providers.”

Dostanic’s parents, Dragana and Predrag Dostanic, have used her legacy to provide support for the Iva Dostanic Physician-Scientist Trainee Award and Lecture in 2011 to recognize outstanding trainees, and staff members working at the VA Connecticut Healthcare System (VACHS) in West Haven, Conn.

Veterans Affairs

Daniel Federman, MD
Vice Chair, Veterans Affairs

The Section of Internal Medicine has 97 faculty, trainees, and staff members working at the VA Connecticut Healthcare System (VACHS) in West Haven, Conn. What began pre-COVID as a small opportunity to partner with the Hudson Valley VA has now blossomed into a large and ever-expanding virtual care program. In June 2020, F. Elissa Albin, MD, responded to the appeal of a provider who was frustrated by sending many of her patients with foot wounds on long bus trips to the Bronx VA to see a vascular surgeon. Albin travelled to Hudson Valley, taught a technician to use a vascular Doppler, and set up a live camera joint clinic so that she could examine a patient’s foot wounds from her office in Connecticut. This experience led to a busy clinic that provided a convenient local experience for the patient and the treating provider. This model of care has been replicated for cardiac device patients in western Massachusetts within the next year.

Between 2018 and 2019, the VA system; improve care coordination; and stimulate considerable nationwide interest during the COVID pandemic. Albin’s innovation quickly led to other ideas about extending VACHS physician expertise to other relatively underserved VA facilities. Albin’s remote vascular clinic now serves both Hudson Valley and Central Western Massachusetts.

Shung arrived at YSM as an intern, and completed his internal medicine residency before joining the Digestive Diseases GI program as a fellow in 2017. In his first year as a fellow, he completed a systematic review of machine learning in GI bleeding; presenting his review at an international meeting in 2018 where it was designated a poster of distinction. He later developed a machine-learning model that was available to clinicians anywhere in the world so that they could use it to identify high-risk patients with GI bleeding. Shung’s manuscript for this work was published in Gastroenterology, the highest-impact journal in the field.

“His work and passion is, in addition to his professional goals, his focus was on Hepatitis C. At Yale, he was interested in gaining a better understanding of the interactions between viruses and the immune system. In January 2020, as the virus that causes COVID-19 emerged, Goldman-Israelow developed a unique disease model for studying COVID-19.”

Shung and Goldman-Israelow received their awards and gave talks about their research at the Department of Internal Medicine’s Medical Grand Rounds on June 13.
VACHS Endocrinology is staffed by six faculty members (with a total of 21 FTE) who provide endocrine care for veterans in outpatient clinics in West Haven Healthcare System, and supervise endocrine fellows in their longitudinal clinic.

New programs in preventive cardiology and coronary physiology have been a section highlight over the last year. The preventive program has expanded care and intervention to those patients at highest risk of heart disease, partnering with Health Psychology and Endocrinology (lipid and diabetes management) to devise a comprehensive care model. Over the last year, approximately 100 patients have gone through an extensive screening/consulting program and/or cardiac rehab. The program also has a nascent academic arm, generating four abstracts and manuscripts in the last 12 months. In contemporary endocrinology, Sami Shah, MD, PhD, is the principal investigator for a multicenter study to understand the common clinical problem of patients with typical ‘shock’ pain but without obstructive atherosclerosis—also known as ischemia with no obstructive coronary artery disease (INOCA). Using a protocol developed and refined in the West Haven VA catheterization lab, Shah now runs the Discover INOCA registry, using invasive methods to characterize dysfunctional aspects of coronary physiology in this challenging group of patients. Robert Soufer, MD, has devoted his career to understanding the relationship between mental stress and heart disease, is applying these same invasive methods to understand changes in coronary physiology during mental stress—a program unique to VACHS catheterization laboratory.

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The section is led by Chief Richard Sutton, MD/PhD, who has been on medical leave. Louise-Marie Dembry, MD, MS, MBA, has served as acting chief in his absence. The ID team has an additional Newington HIV clinic staffed by Springer, and two outpatient consultation clinics currently serving underserved veterans (e.g., Community Living Centers). A Multicenter Retrospective Cohort Study.”

Two section faculty were awarded honors related to their VA work and research in 2022. Spring received the Avant-Garde Award for HIV/AIDS and substance use disorder research; a focus of her VA-based research. Datta was awarded the Society for Healthcare Epidemiology of America (SHEA) Epi Project Competition grant to study antibiotic stewardship within VA home-based primary care.

**Kidney Medicine**

Led by Susan T. Crowley, MD, MBA, the Kidney Medicine section has new clinicians who provide consultations for inpatients around the clock at the West Haven facility, and clinician-staffed dialysis units for patients receiving dialysis in an outpatient setting. In addition, the clinicians treat patients and their caregivers on peritoneal dialysis.

The team runs clinics in person or via telemedicine in both West Haven and Newington. In conjunction with VA Boston HCS, Justin Belcher, MD/PhD; Robert Safirstein, MD; and John Hwang, MD, operate three national nephrology clinics currently serving underserved veterans across California, Ohio, and western Colorado. Patients in Montana and Wyoming will be added later this year. The section also contributes hundreds of clinical faculty to the e-consult service in New England.

The team runs the Employee Occupational Health service as well as the Occupational and Environmental Medicine consult service. The Employee Occupational Health service is responsible for the management of all administrative medical exams (including new employee onboarding), medical surveillance, and work injuries. In addition, the service continues to work very closely with Hospital Epidemiology/Infection Prevention on COVID-19 responses.

**Occupational Medicine**

The Occupational Environmental Medicine section is led by Chief Brian Lind, MD, MPH, and has three physician members: Eila James, MD, MPH; Richard Smith, MD; and Lind. In addition, the section has a part-time physician associate (PA) and one registered nurse.

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The Occupational and Environmental Medicine consultation service, which addresses clinical questions related to health effects of military/occupational environmental exposures, is preparing to expand the service following passage and signature of the newest appropriation bill. Our ongoing projects include:

1. **Opioid-Induced Constipation (OIC)**
   - Project: creation of a risk-stratification tool
   - PI: Heather Hsieh, MD, MPH

2. **Musculoskeletal Ultrasound**
   - Project: development of a musculoskeletal ultrasound curriculum
   - PI: Kathleen Akgün, MD, MBA

3. **Creation of a Global Health Pre-Departure Orientation Program**
   - Project: development of a comprehensive orientation program for global health volunteers
   - PI: Kathleen Akgün, MD, MBA

**Pulmonary, Critical Care and Sleep Medicine**

**Section Chair**: Hilary Can, MD, continues to serve as co-chair for the Pulmonary, Critical Care, and Sleep Medicine (PCPSM) program. Can is a pulmonary and critical care intensivist and maintains a robust research agenda focused on precision medicine for sleep and critical care illness. Her current research focuses on the role of circadian disruption in sleep and critical care illness.

**Assistant Section Chairs**: John Chang, MD, PhD, and Robert Safirstein, MD, continue to serve as the assistant section chairs. Chang is an associate hospital epidemiologist, and Safirstein is the part-time assistant hospital epidemiologist.

**Fellows**: The section has two fellowship programs: the Yale New Haven Hospital Pulmonary and Critical Care Medicine fellowship and the Yale New Haven Hospital Sleep Medicine fellowship. The fellowship programs are led by Hilary Can, MD, and John Chang, MD, PhD, respectively.

**Clinical Practice**: The section maintains a robust clinical practice, offering consultative services to patients across the VACHS West Haven campus, including primary care, pulmonology, occupational medicine, and sleep medicine. The section also offers specialized services, such as the Yale Pulmonary Critical Care Consult Service, which provides consultative services to patients requiring critical care management.

**Research and Education**: The section continues to be active in research and education, with multiple faculty members involved in clinical trials, basic science research, and leadership roles in professional societies. The section also offers a fellowship program for early-career physicians, providing opportunities for residents and fellows to develop their skills and advance their careers.

**Philanthropy**: The section has a strong history of philanthropy, with many alumni and friends supporting the section through donations and volunteer work. The section also participates in the annual Giving Day campaign, which raises funds to support the section's mission and programs.

**Conclusion**: The section continues to be a dynamic and active part of the VACHS West Haven campus, providing excellent care to patients and training the next generation of providers.
Section
UPDATES

The Department of Internal Medicine consists of the Office of the Chair, a centralized business office, and 11 academic sections, each with its own administrative structure. Over the past five decades, these sections, through their clinical, educational and research activities, have gained national and international prominence.

HONORING
Those we lost this year

Thomas Duffy, MD
Peter Harvey Maher, MD
Robert Sideleau, RN
Laura M. Whitman, MD
Barry L. Zaret, MD
The current research portfolio of Cardiovascular Medicine includes dozens of active grant awards supported by nearly $200 million in total funding, including over $8 million in new funding during the past year, from the National Heart, Lung, and Blood Institute, the National Institute of Diabetes and Digestive and Kidney Diseases, the Doris Duke Charitable Foundation, and the American Heart Association, among others. Michael Nanna, MD, MHS, is the principal investigator on the randomized trial, “A TriaL ComparIng the EffectiVEness and ToleraBility of MEdicaTions in Older Adults with STablE Angina and Multiple ChRonic Conditions: LIVE BETTER” which was selected for a $7 million funding award by the Patient-Centered Outcomes Research Institute to study coronary artery disease in older adults with multiple chronic conditions.

Norrisa Haynes, MD, MPH
Katherine Clark, MD, MBA

Education
The Section of Cardiovascular Medicine offers training programs in general cardiovascular medicine, as well as subspecialty training in adult congenital heart disease, advanced heart failure and transplantation, cardiac imaging, electrophysiology, interventional cardiology, cardio-oncology, and research fellowships. Several programs offer robust T-32 postdoctoral fellowship training programs in vascular outcomes research and multi-modality molecular and translational cardiovascular imaging, imaging technology, and image-guided therapeutic interventions to identify novel targets for future interventions. Several undergraduate researchers participated in a fellowship program funded by the American Heart Association, now in its second year. Veer Sangha ’23 was recognized by the American Heart Association for his work on ECG Dx©, a promising research tool that uses AI to detect atrial fibrillation and other heart rhythm and conduction disorders.

This year also saw the growth of core and advanced fellowship training programs, with 43 accomplished fellows who continue to shape the practice of medicine for future generations. Jiun-Ruey Hu, MD, MPH, and Jia Wei Tan, MD, were recognized by the American Heart Association for their interactive consultation tool called GDMT for Everyone. Two fellows, Ricardo Avendano, MD, and Amarnath Annapureddy, MD, completed the Fellows as Medical Educators (FAME) certificate course. Five graduating fellows in the Section of Cardiovascular Medicine were also promoted to faculty status: Antonio A. Guarno, MD; Attila Fehér, MD, PhD; Jennifer M. Kwan, MD, PhD; Katherine Clark, MD, MBA; and Samuel W. Renhardt, MD.

Norrisa Haynes, MD, MPH

Clinical Work
The section is committed to ensuring that the appropriate diagnostic technology, expertise, and preventive measures are available for patients. In the current digital era, guidelines have been established to ensure quality and equity for the telehealth program and other services. Recent milestones include the launch of the Sports Cardiology Program, which offers a multidisciplinary approach to the identification and treatment of potentially life-threatening cardiac abnormalities in athletes. The Heart Failure Program, led by Tariq Ahmad, MD, MPH, celebrated the 500th heart transplant at Yale New Haven Hospital (YNHH) Heart and Vascular Center, and the introduction of donation after circulatory death (DCD) transplant—a U.S. Food and Drug Administration (FDA)-approved method of heart transplantation that greatly expands the number of viable donor hearts. In addition, the section launched a novel blood pressure screening program in collaboration with the American Heart Association. The YNHH Barbershop Blood Pressure Program in New Haven is directed by Erica Spatz, MD, MHS, and dedicated staff from the Preventive Cardiovascular Health Program. Last, the Structural Heart Program under the leadership of John K. Forrest, MD, received the Mitral Valve Repair Reference Center Award from the American Heart Association and the Mitral Foundation for excellence in mitral valve repair surgery.

Norrisa Haynes, MD, MPH
Katherine Clark, MD, MBA
Michael Nanna, MD, MHS
Erica Spatz, MD, MHS

Diversity, Equity, and Inclusion
Lauren A. Baldassare, MD, is the vice chief for Diversity, Equity, and Inclusion (DEI) in the Section of Cardiovascular Medicine. She works closely with the section chief to strengthen the recruitment of members of groups underrepresented in medicine and to bolster clinician well-being. In the past year alone, the section has welcomed over 30 new faculty who enrich the department and expand service to the greater community.
The Yale Liver Center is one of the premier research centers for hepatology in the country, and one of only three such centers sponsored by the National Institute of Diabetes and Digestive and Kidney Diseases. First supported by the NIH in 1984, the Yale Liver Center was recently funded by the National Institute of Diabetes and Digestive and Kidney Diseases. First supported by the NIH in 1984, the Yale Liver Center was recently funded by the NIH to expand its research in the field. Among its many significant accomplishments, the Yale Liver Center has supported the development of a more effective technique for diagnosing spontaneous bacterial peritonitis, an infection of the abdomen fluid, which affects many patients with cirrhosis. It is the director of the Liver Cancer Program at VA Connecticut.

For 32 years, the Section of Digestive Diseases and the Yale Liver Center have honored Gerald Klatskin, MD, who founded the Liver Study Unit at Yale School of Medicine in 1947, with a lectureship in his name. In 2022, the lectureship added the name of James L. Boyer, MD, who trained with Klatskin. Boyer is the founder and director emeritus of the Yale Liver Center and oversaw the national and international expansion of Yale Hepatology.

The section has been dramatically expanding its gastroenterology programs with new positions in inflammatory bowel disease, weight-loss management, functional gastrointestinal (GI) disorders, motility, advanced endoscopy, GI cancer genetics, and general gastroenterology. The section has been expanding its faculty and programs, with 33 new ladder-track faculty hired in the past four years. The section continues to enhance its programs in hepatology, with new faculty who specialize in fatty liver disease, cholestatic liver disease, hepatocellular carcinoma, and transplantation.

New clinical sites have opened throughout Connecticut, New York, and Rhode Island—most recently a digestive diseases hub in North Haven designed for clinical care and to support clinical research, patient education, and healthy nutrition with a state-of-the-art teaching kitchen.

The section continues to maintain its longstanding reputation for excellence in research, recruiting a number of young investigators to fill its research pipeline. In the last two years, Digestive Diseases has added seven junior faculty who have NIH K awards or other federally funded career development awards. The section also is building a liver home to provide multidisciplinary care with all the necessary wraparound services to improve outcomes and reduce readmissions for patients with cirrhosis.

Gastroenterology Hospitalist Program

The new Gastroenterology Hospitalist Program has greatly improved inpatient care and fellowship training. Yale introduced these physicians across Yale New Haven Health in 2019. As emerging leaders in this new field, Yale Digestive Diseases faculty members led the first national conference on inpatient gastroenterology in December 2021. Yale’s GI hospitalists provide increased efficiency in endoscopic operations, improve interdisciplinary care coordination, enriching specialized knowledge and expertise to the management of GI emergencies and complex gastrointestinal diseases.

Honors and Awards

Tamar Taddei, MD, was named chief of Digestive Diseases at the Veterans Affairs Connecticut Healthcare System in 2022. Taddei also is the director of the Liver Cancer Program at VA Connecticut.

Tamar Taddei, MD

Growing the Section

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Yale Diabetes Center's Tradition of Excellence

Led by Clinical Chief Silvio Inzucchi, MD, the internationally recognized Yale Diabetes Center has helped to establish standards of care for outpatient and inpatient care of diabetic patients. The robust nature of the clinical practice has allowed clinical and basic research in both type 1 and type 2 diabetes to flourish within the section.

Inzucchi presented new data from the DETERMINE trial at the European Association for the Study of Diabetes in September 2022. The data examined the effectiveness of the SGLT2 inhibitor dapagliflozin on clinical outcomes in over 4,000 patients with heart failure and mildly reduced or preserved ejection fraction. Dapagliflozin, originally developed as a glucose-lowering agent for type 2 diabetes, appears to be equally effective in reducing the composite outcome of worsening heart failure and cardiovascular death in those with diabetes, prediabetes, and normoglycemia.

Kasia Lipska, MD, MHS, looked at catastrophic spending on insulin in a national U.S. sample in a paper in the journal Health Affairs. Lipska and colleagues provided data on people who use insulin, whether and how they are insured, and who is at highest risk of extreme financial burden. According to the team’s findings, 14 percent of people who use insulin are insured, and who is at highest risk of extreme financial burden.

Yale Bone Center Celebrates 35 Years of Progress

For 35 years, Karl Insogna, MD, built the Yale Bone Center into a thriving clinical practice that accounts for one-third of the section’s outpatient encounters. In addition to clinical care, the Yale Bone Center is an important provider for bone density services and routine clinical measurements of calciotropic hormones for Yale New Haven Hospital. The center has also been a site of important clinical research into the pathophysiology of hypercalcemia of malignancy, hyperparathyroidism, rickets, and rare genetic disorders of phosphate and calcium metabolism.

Treating Obesity

Yale endocrinologists are at the center of the expanding field of obesity medicine, including the development of a new class of drugs that target the brain’s system for regulating food intake. Ania Jastreboff, MD, PhD, an internationally recognized researcher and educator in obesity medicine, was the on-site principal investigator at Yale and lead author of SUBMOUNTAIN, a study that demonstrated that people with obesity treated with tirzepatide, a novel GIP/GLP-1 receptor agonist, lost on average 52 pounds with the highest dose of the medication. Jastreboff also leads an R01 study looking at the impact of the GLP-1 receptor agonist semaglutide on the desire to eat highly palatable foods.

Read more on page 15.

New Faculty

The section welcomed Priyadarshini Balasubramaniam, MBBS, MD, and Brian Woo, MD, MPH, as assistant professors in July 2022. Both are former Yale endocrinology fellows.

Honors and Awards

Gerald I. Shulman, MD, PhD, won the 2021 Marpei Suzuki International Prize for Diabetes Research in recognition of his extensive pioneering contributions over many years, leading to several paradigm shifts in the understanding of physiologic regulation of liver and muscle carbohydrate and fat metabolism in humans, and its dysregulation in type 2 diabetes. Shulman is co-director of the Yale Diabetes Research Center.

Elizabeth Jonas, MD, professor of medicine, was elected to the Association of American Physicians during the organization’s annual meeting in April 2023. She is currently investigating a novel hypothesis for the way in which changes in mitochondrial ion channels occur during ischemic brain disease and developmental disease.

Inzucchi, the section’s fellowship program director, received a Rosemarie L. FUA, MD, Excellence in Graduate Medical Education Award for 2022.

Education

Clinical case conferences and endocrine grand rounds, both CME-accredited, bring the section together to learn from one another and from experts from around the world. The section’s educational programs benefit from a fund established upon the retirement of Arthur Broadus, MD, PhD, which now serves as a tribute to his memory.

If you would like to contribute to the Broadus Fund, please email John Wysolmerski, MD, (john.wysolmerski@yale.edu) for details.
Clinical Care
Patient care spans both inpatient and outpatient settings across several locations throughout Greater New Haven. There are six inpatient programs and farms, and five ambulatory programs.

Outpatient Care
Yale Internal Medicine Associates (YIMA) has an obesity clinic embedded in its practice. Specialists Janelle Duff, MD, and Jorge Moreno, MD, are board-certified in obesity medicine; they care for patients who have obesity-related medical conditions or are trying to lose weight. Clinicians in the Yale Occupational and Environmental Medicine Program (YSEMP) began evaluating long COVID patients to address work-related issues. Both the New Haven Primary Care Consortium (NHFCC) and the VA Primary Care Practice continue to provide outstanding care and education in primary care.

Research
Research from GIM members has been published widely in such journals as the Annals of Internal Medicine, JAMA, the Journal of General Internal Medicine, The Lancet, and The New England Journal of Medicine. There were nearly 500 research papers published between September 2021 and September 2022. Some examples of GIM research programs include:

• The Yale University-Mayo Clinic Center for Excellence in Regulatory Science and Innovation (CERSI)

The Integrative Management of Chronic Pain and Opioid Use Disorder for Whole Recovery-Yale and Organizations United (PRO-WAY-YOU) Research Center opened in November 2021. The principal investigators (PIs) of the grant are William Seidman, MD; Declan Barry, PhD; and David Finnin, MD. Read more about the Yale-GIM’s Program in Addiction Medicine on page 46.

Education
GIM is devoted to educating and training the next generation of diverse leaders and clinicians at all levels. In addition to the key leadership roles held by GIM faculty in Dean Nancy Brown’s office, faculty members also provide leadership in many, if not most, important student programs as the residency training programs, four fellowship programs, and the YSM Physician Associate Program. Below are some examples of GIM education programs:

Asylum Medicine
In 2021, the Society of Asylum Medicine was founded by Katherine McKeen. McKeen directs the Yale Center for Asylum Medicine (YCAM), whose mission is to support the field by promoting collaboration, providing information, and sharing resources with the NYH Haven community to help asylum seekers requiring medical evaluation.

Podcasts
Faculty members have engaged in new ways to deliver educational materials, including through podcasts. Primary Care Pearls is hosted by GIM’s Kathi Gabless, MD, MPH, and TPC chief resident Joshua Doryongo, MD, MHS. The Caruthers Addiction Medicine miniseries was launched under the direction of Carolyn Chan, MD, in collaboration with Kenneth Morford, MD; Shawn Cohen, MD, and YPC Collaborative Behavioral Health and Addiction Medicine in Primary Care (CHAMP) trainee Zina Husley-Reicher, MD, and Hannah Darsaw, MD, MPH.

Interprofessional Teaching Program in Addiction Medicine
A new interprofessional training program, the Yale-University of Jordan Joint Training Program in Addiction Medicine, was developed by YSM and the Yale School of Public Health in partnership with the University of Jordan School of Pharmacy in Amman. The program is a bidirectional culturally competent addiction medicine program for health professions students.

Diversity, Equity, and Inclusion
The section is committed to cultivating an inclusive, collaborative, and professional culture that respects individual differences; recognizes and rewards diverse talent; and helps each person reach their full potential and individual goals. Rosana Gonzalez-Colio, PharmD, MPH, was named deputy director for diversity, equity, and inclusion (DEI) for the Physician Associate Program. Darin Latimore, MD, YSM’s deputy dean and chief diversity officer, launched an online training program to foster people’s ability to build a supportive culture founded on diversity and inclusion.

Awards, Recognitions, and Distinctions
• Auguste Fortin VI, MD, retired in June 2022 after 37 years in medicine.
• Cary Gross, MD, and Patrick O’Connor, MD, MHS, were elected to the Association of American Physicians (AAP).
• Amy Justice, MD, PhD, was honored with the Department of Veterans Affairs (VA) William S. Middleton Award.
• Jorge Moreno, MD, appeared on the Telemundo show, “Tu Salud Tu Fortuna—Cura con Balancitas,” which received a 2022 Emmy Award.
• John Moriarity, MD, was awarded the 2022 Rosemarie L. Fisher, MD, Excellence in Graduate Medical Education Award.
• Marcella Nunez-Smith, MD, MPH, was elected to the American Society for Clinical Investigation (ASCI).
• Lisa Prifki, MD, was honored with YSM’s Leonard Tow Humanism in Medicine Award.
• Sara Soares, MD, was honored with the Yale School of Medicine’s SGIM Distinguished Professor of Women’s Health Best Oral Abstract Award.
• Daniel Sarpong, PhD, joined GIM as a senior research scientist and executive director of the Office of Health Equity Research (OHER).
• Sarita Soares, MD, won YSM’s Francis Gilman Blake Award for outstanding teaching of the medical sciences.
• Jonathan Weiber, MA, PA-C, was recognized as a Distinguished Fellow of the American Academy of PAs (AAPA).
• Thilain Wijesekera, MD, MHS, was the recipient of YSM’s 2022 Charles W. Bohmfeld Teaching Prize in Clinical Sciences.
• Donna Winstead, MD, MPH, was named associate chair of Educational Scholarship for the Department of Internal Medicine.
Geriatrics

TERRI FRIED, MD
SECTION CHIEF
JAMES LAI, MD
CLINICAL CHIEF

With a year’s experience as the Section Chief of Yale Geriatrics, Terri Fried, MD, remains focused on the Institute for Healthcare Improvement’s ‘4Ms’: mentation, mobility, medication, and matters most to promote the mission and values of the section. These factors shape the most vulnerable patients—older adults with multiple chronic medical conditions or living with such problems as cognitive impairment or physical disability. For these patients, the use of standard therapies may cause as much harm as good; focusing clinical, educational, and research in geriatrics around the 4Ms addresses the challenges geriatricians face while weighing different approaches to care in the context of the patient’s current health and goals.

Clinical: Geriatrics Programs and the 4Ms

One of the best ways to assess the 4Ms is right in the patient’s home. Home-based primary care not only decreases the burden of health care for frail and disabled older persons, but also allows the clinician to understand how patients function in their own environments. At the VA, the Home-Based Primary Care service continues under the leadership of Maura Singh, MD. Through the interdisciplinary team at the VA, pharmacists review medications and provide recommendations, and physical therapists assess mobility and provide modifications to the patient’s home. Ann Datunashvili, MD, and James Lai, MD, lead the Yale-based house call program, which is contributing to national quality improvement initiatives for homecare.

The section continues its educational activities that provide training in the 4Ms to an interdisciplinary group of clinicians at all stages of training. As director of the Interprofessional Longitudinal Clinical Experience, Barry Wu, MD, has incorporated the 4Ms into this course. Chandrika Kumar, MD, brings the 4Ms to one of the master courses, “Across the Lifespan,” as its co-leader. Mecca and Jan Ouellet, MD, lead traditional and primary care resident education didactics. This year’s series focuses on “Matters Most and Medication Management (Deprescribing) and Primary Care for the Older Adult.”

The Connecticut Older Adult Collaboration for Health (COACH) under the leadership of Richard Marottoli, MD, MPH, supports the dissemination of educational and clinical activities into the community. With the support of COACH, the IMPROVE clinic has been pilot-tested at the New Haven Primary Care Consortium, involving internal medicine residents, pharmacists, nurses, and COACH 4M faculty. In a second initiative, COACH faculty worked with public health students on a pilot project deploying simple communication technology equipment in long-term care settings to enhance communication among patients, families, and staff.

The section’s newest clinician-educator, Gregory Ouellet, MD, MPH, was accepted into the Department of Internal Medicine’s Advancement of Clinician-Educator Scholarship Faculty Development Program. Ouellet will develop a curriculum focused on training residents in patient-centered decision making for persons with dementia. Alexandra M. Hajduk, PhD, MPH, became deputy director of Scientific Affairs at the Yale School of Medicine’s Office of Student Research.

Research: Aging Research and the 4Ms

Under the direction of Thomas Gill, MD, the Yale Claude D. Pepper Older Americans Independence Center (OAIC), sponsored by the NIH, provides pilot and career development funding to investigators across a range of disciplines whose research is at the intersection of their own specialty and the 4Ms. Notably, Gill was awarded the 2022 Irving Wright Award of Distinction from the American Federation for Aging Research. The OAIC officially launched a new departmental research initiative, focusing on translational geroscience by soliciting letters of intent for its pilot grant program. The new program is designed to facilitate innovative and high-impact translational geroscience research and establish/strengthen cross-disciplinary collaborations.

The section focuses on innovating and testing models to improve treatment decision-making for older persons, with a focus on the Matters Most of the 4Ms. Mary Tinetti, MD, continues to disseminate the Patient Priorities Care approach, which addresses the Matters Most ‘M’ of the 4Ms. Andrew Cohen, MD, authored an editorial on advance care planning in the Annals of Internal Medicine and led a series of training. As director of the Interprofessional Longitudinal Clinical Experience, Barry Wu, MD, has incorporated the 4Ms into this course.

Priorities Care approach, which addresses the Matters Most ‘M’ of the 4Ms, along with Jennifer Ouellet, MD, and Marcia Mecca, MD, who designed and implemented a national Train-the-Trainer curriculum. Fried published the results of a randomized clinical trial demonstrating the efficacy of the STAMP program on increasing engagement in advance care planning in the Annals of Internal Medicine.

With the support of COACH, the IMPROVE clinic has been pilot-tested at the New Haven Primary Care Consortium, involving internal medicine residents, pharmacists, nurses, and COACH 4M faculty. In a second initiative, COACH faculty worked with public health students on a pilot project deploying simple communication technology equipment in long-term care settings to enhance communication among patients, families, and staff.

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Research

The National Cancer Institute honored Markus Müschen, MD, PhD, with its Outstanding Investigator Award. Müschen’s research program leverages negative selection mechanisms of the immune system for the treatment of drug-resistant leukemia and lymphoma—the most frequent types of cancer in children and young adults.

The National Institutes of Health (NIH) awarded a grant to study cellular senescence research in lymphoid organs in October 2021. The five-year $6.5 million grant will help generate multiscale molecular and cellular maps of cellular senescence in primary and secondary human lymphoid organs to improve understanding of cellular senescence in development, aging, and disease, including cancer. The research team is led by Rong Fan, PhD; Stephanie Hale, MD, Dr Med; Joseph CRAFT, MD, Fyss KLUDER, PhD; and Min Xu, MD.

The following faculty presented their research findings at the 2021 American Society of Hematology’s annual meeting:

- Amer Zeidan, MBBS, shared research showing that it is not cost effective to use the intravenous formulation of cytarabine and daunorubicin (previously known as CPX-351), compared to conventional cytarabine and daunorubicin to treat older patients with acute myeloid leukemia (AML).
- Rory Shaila, MD, shared his work demonstrating that less than a third of older patients with chronic myeloid leukemia had optimal laboratory monitoring, and that only two-thirds were adherent to tyrosine kinase inhibitor therapy during the first year after diagnosis.
- Natalie Neparidze, MD, discussed research showing that white patients had more telemedicine visits for hematologic care during the early months of the COVID-19 pandemic than Black patients. The observed disparities require further study into possible causes that include economic and social factors.

Clinical Care

Nikola Podoloff, MD, PhD, received an award for Excellence in Clinical Care during the annual Yale Cancer Center Conclave. The award is given annually to Yale Cancer Center physicians who best exemplify outstanding clinical care, including superb clinical skills; the use of a patient- and family-centered approach to care; and isolation of a multidisciplinary care model.

Cesalia Calhoun, MD, MSPH, MBA, is streamlining care for patients with sickle cell disease (SCD). There are about 200 adults and 200 children being seen jointly through the adult and pediatric SCD programs. Inconsistent stress granule formation—A possible mechanism of clonal outgrowth in myelodysplasia

The Yale Cancer Center was selected by the American Society of Hematology (ASH) in June 2022 for the ASH Hematology-Focused Fellowship Program to enlarge the hematology workforce. Yale will receive funding for five annual cohort of classical hematology-focused fellows who will lead the field in both clinical and innovative scholarly pursuits, including basic and translational science; medical education; health equity research; and the promotion of diversity, equity, and inclusion.

Hematology

The Section of Hematology continues to grow and enlarge its scope to provide outstanding patient care in classical and malignant hematology, and to expand its research findings.

New Faculty Members

In July 2022, Goshua and Anna Kress, MD, were appointed as assistant professors of medicine (hematology). Both Goshua and Kress completed the Yale Hematology-Medical Oncology Fellowship Program in June. Goshua will see patients as part of the Smilow Classic Hematology Program and build the first research program in the country focused on decision-analytic modeling and health economics in classical hematology. Kress will care for patients as part of the Smilow Classic Hematology Program in North Haven and Trumbull.

Lourdes Mendez, MD, PhD, and Anish Sharda, MD, MPH, joined the department as assistant professors of medicine (hematology) in August 2022. Mendez will see patients with leukemia and develop its clinical hemotopoesis clinic in New Haven. Sharda’s clinical and research interests are in bleeding, clotting, and platelet disorders. His research in vascular biology is funded by the NIH.

Recognitions

Hale was appointed the Arthur H. and Isabel Bunker Associate Professor of Medicine (Hematology) in December 2021. In February 2022, Brian R. Smith, MD, professor of laboratory medicine, biomedical engineering, of medicine (hematology) and of pediatrics was elected to the Connecticut Academy of Science and Engineering.

Alfred Lee, MD, PhD, was named full professor in July 2022, and was chosen as the keynote speaker at the White Coat Ceremony in August 2022.
In March 2020, Maricar Malinis, MD, and colleagues were called to an emergency meeting. COVID-19 was on the horizon, and no one knew what to expect. The anxiety was palpable. The date itself was inauspicious: Friday the 13th. Faculty from infectious diseases and other disciplines, as well as nurses and pharmacists, came together in a series of meetings to formulate a treatment strategy for COVID. From these meetings, a multidisciplinary team took shape—a collaboration between the Yale School of Medicine and Yale New Haven Health. The team recognized the need to provide consistent treatment recommendations for COVID inpatients, as having a consistent pattern for COVID therapy would be critical in managing a rapidly rising number of cases. The team used data to create an algorithm that had been updated 25 times as of September 2022. As a result of these efforts, the Yale New Haven Hospital COVID-19 mortality rate between March 2020 and September 2022 was half the national average, with no differences in mortality between ethnicities and races.

Honors and Awards
Barbara Kazmierczak, MD, PhD, was named vice chair for basic research for the Department of Internal Medicine in 2022. According to Kazmierczak, the future of medicine depends on how effectively departments of medicine support discovery and the creation of knowledge. Focusing on clinical research and its implementation also has tremendous effects on patients’ well-being.

Sandra A. Springer, MD, received the Avant-Garde Award from the National Institute on Drug Abuse for research on HIV prevention and treatment among individuals who use drugs. Springer’s research plan is inspired by the U.S. Department of Health and Human Service’s Ending the HIV Epidemic in the U.S., which aims to scale up key HIV prevention and treatment strategies to reduce new HIV infections by 90 percent by 2030. According to Springer, individuals often go without care due to poverty, housing instability, involvement with the justice system, racial stigmatization, and lack of transportation. Her plan will highlight substance use disorder, especially opioid use disorder. A mobile health clinic and pharmacy targeting people at risk of HIV infection and at high risk of overdosing are central to her plan.

Yale Team Develops Vaccine for Deadly Leptospirosis Bacteria
A Yale research team has developed a vaccine that prevents leptospirosis while nearly eliminating the deadly bacterium from the body. The team, led by Joseph Vinetz, MD, and Reetika Chaurasia, PhD, a postdoctoral associate, used the genome project to identify the Leptospira secreted protein exotoxin as the leading candidate for the cause of death in leptospirosis. The research team then showed that vaccination with the toxin eliminated the disease, and an antibody neutralized the toxins in preclinical models. The development of a vaccine for leptospirosis would have major implications for global public health, said Vinetz, the paper’s senior author, with the greatest benefit occurring in developing countries with a higher disease burden that is presently unmet.

Fellowship Program
After being named fellowship director in October 2021, Marwan Azar, MD, and his team made several changes to address the stress trainees underwent during the COVID-19 pandemic. Azar was named fellowship director after his predecessor, Manisha Juthani, MD, took a leave of absence to serve as the commissioner of the Connecticut Department of Public Health. Among the changes Azar implemented was an “emergency week off” after the Omicron surge. With second-year fellows agreeing to take on additional shifts, Azar was also able to add additional days off to break up 12-day work schedules.
Research
Herbst presented results from the Phase III AZD9291 trial at the European Society for Medical Oncology Congress in September 2022. The trial revealed that osimertinib yielded a 5.5-year median disease-free survival in the postsurgical treatment of patients with EGFR-mutated lung cancer.

In June, medical oncologists presented their research at the American Society of Clinical Oncology (ASCO) conference: Herbst; Harriet Kluger, MD; Patricia LoRusso, DO; Maryam Lustberg, MD, MPH; Pamela L. Kizer, MD; Maryam Lustberg, MD, MPH; and Eric Winer, MD. The team has been able to shorten the patients’ length of stay by 1.1 days so far.

Clinical Care
Daniel P. Petrylak, MD, partnered with Craig M. Crews, PhD, to formulate a new medication to treat prostate cancer—proteolysis-targeting chimeric molecules, or PROTACs.

Sarah Schellhorn, MD, presented an initiative to offer patients next-day access to oncologic consultations designed to improve care at Yale Cancer Center (YCC) at the National Comprehensive Cancer Network Annual Conference in May 2022.

The Phase 1 Clinical Trial Infusion Center at Smilow Cancer Hospital celebrated its sixth year in May 2022. Patricia LoRusso, DO, is director of the center, and Joseph Paul Edes MD, directs the Phase I Clinical Trial Program. Stacey Stein, MD, and Heid Fischbach, MD, were named assistant medical directors of the Yale Cancer Center’s Clinical Trials Office in October 2021.

In March, Barbara Baruness, MD, and Jong Woo Lee, PhD, presented their findings on mutations in the KRAS-G12C gene on chromosome 12, and how these findings may explain why some women develop breast cancer at relatively young ages; it may become a future marker of breast cancer risk. The monoclonal antibody sotigalimab combined with the immunotherapy drug nivolumab resulted in tumor shrinkage in patients with advanced melanoma whose tumors had progressed with prior immunotherapy.

Kluger and Mario Sznol, MD, participated in the research.

Education
Anna Kross, MD, and Benjamin Y. Lu, MD, created the First Diversity, Equity, and Inclusion curriculum as part of the Yale Medical Oncology/Hematology Fellowship Program in December 2021.

New Faculty
The section welcomed the following new faculty members:

- David Braun, MD, PhD
- Jacqueline Gaddy, MD, MSc
- Michael Greten, MD
- Sharone Hall, MD, PhD
- Christi Kim, MD
- So Yeon Kim, MD
- Ian Krop, MD, PhD
- Eric Winer, MD

Recognitions
Kim Blenman, PhD, MS, received the 2022 Joint Breast Cancer Research Foundation-American Association for Cancer Research (AARC) Career Development Award.

D. Barry Boyd, MD, MS, was awarded the inaugural Spirit of Excellence in Oncology Award from Gilda’s Club of Westchester.

David Braun, MD, PhD, received a Trailblazer Award from the Kidney Cancer Association.

Baruness is co-director of the Facciari Amene Research Fund-Farrah Fawcett Foundation Head and Neck Cancer Research Team, as part of the team Up to Cancer.

Michael Cacinoni, MD, earned a K08 grant, or a Mentored Clinical Scientist Research Career Development Award, from the National Cancer Institute to continue his clinical trial efforts for patients with colorectal cancer.

Herbst won the 2022 Giants of Cancer Care award for lung cancer. He was also honored by Friends of Cancer Research in 2022 as one of their 25 scientific and advocacy leaders who have been instrumental over the course of the last 25 years in making significant advancements for patients through their work and partnership.

Herbst was named chair of the AACR’s Scientific Policy and Government Affairs Committee. He was also honored by the International Association for the Study of Lung Cancer in recognition of his years of dedication and invaluable service to the organization and the lung cancer community.

Herbst was named the inaugural Deputy Director for Clinical Affairs at YCC and Smilow Cancer Hospital.

• Kluger was named vice chair of Collaborative Research for the Department of Internal Medicine, and appointed the Harvey and Kate Clasching Professor of Internal Medicine (Oncology) and Dermatology in July.

• Patricia LoRusso, DO, was named a Fellow of ASCO.

She also was awarded the 2022 Joseph H. Barchenal Award for Outstanding Achievement in Clinical Cancer Research from the AACR.

• Maryam Lustberg, MD, MPH, was named president of the Multinational Association of Supportive Care in Cancer (MASCC) in June 2022.

• Edward Perry, Jr., MD, won an educational scholarship grant from the department for his project titled Development and Implementation of a Novel Oncipal Pain-Management Curriculum for Oncology Fellows.

• Winer was appointed professor of medicine (medical oncology), named the Alfred Gimel Professor of Pharmacology and Professor of Medicine (Medical Oncology), and started his term as president of the ASCO in June.

The Section of Medical Oncology has a long and rich tradition of excellence in clinical care, research, and training. Its 125+ faculty members are led by Section Chief Roy S. Herbst, MD, PhD.

Clinical Care
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In March, Barbara Baruness, MD, and Jong Woo Lee, PhD, presented their findings on mutations in the KRAS-G12C gene on chromosome 12, and describing two drugs that target KRAS-G12C. Two months later, the FDA approved one of these drugs, adagrasib, as a “breakthrough therapy,” putting it on the fast track toward approval—which was granted on December 12, 2022.

The Smilow Hospitalist Program, which was launched in July 2021, expanded to 10 clinicians this year. The team has been able to shorten the patients’ length of stay by 11 days so far.
The Section of Nephrology has extensive programs in patient care, research, and education. As national and international leaders in their field, Yale nephrologists are committed to educating the next generation of specialists through four robust clinical and research fellowships: a two-year clinical fellowship; a two-year combined nephrology-palliative care fellowship; a three-year research fellowship; and a three-year combined nephrology and critical care fellowship. Fellows care for patients at Yale New Haven Hospital and the VA Connecticut Healthcare System, making for a rich learning experience. The fellowship program is led by Ursula Brewster, MD, director; and Randy Luciano, MD, PhD, associate director.

Yale SUMR Program Nurtures Undergraduate Learning

During the Yale Summer Undergraduate Medical Research (SUMR) program, students engage in hands-on research in laboratories and clinics; attend a variety of didactic teaching sessions led by faculty mentors; socialize; and present their work to faculty and peers at the end of the 10-week session. Yale is one of only eight institutions across the country to host the program, which is funded by a R25 NIH-NIDDK/NIH grant. Students from across the United States develop their knowledge of kidney, urology, and hematology research. Shuta Ishibe, MD, has been the program director since its inception at Yale in 2014.

Honors and Awards

In recognition of his commitment to the field of transplantation and outstanding service to the American Society of Transplantation (AST), William Asch, MD/PhD, director of the Transplant Nephrology Fellowship at Yale, was selected as an AST Fellow in 2022. Asch is the founder of the Transplant Nephrology Fellowship, which is one of 62 programs in the United States accredited through the AST. The fellowship is an intensive year of advanced clinical training in transplant nephrology for applicants who have completed an Accreditation Council for Graduate Medical Education (ACGME) certified fellowship in nephrology.

Susan Crowley, MD, was awarded the National Kidney Foundation’s highest honor, the David M. Hume Memorial Award, in 2022. This award is given to the scientist-clinician whose work in kidney and urologic diseases exemplifies the highest ideals of both scholarship and humanism. Crowley, who served in the U.S. Navy, is the Veterans Health Administration Executive Director for Kidney Medicine Program, leading the development of clinical programs and policies in nephrology for the largest integrated health care system in the United States. She is chairperson of the VHA Kidney Health Committee, where she collaborates with a diverse group of health care specialists to share evidence-based policies on dialysis services and preventive measures to maintain kidney health. She also is the Veterans Affairs Connecticut Healthcare System’s kidney medicine section chief.

Mark Perazella, MD, has achieved a national and international reputation as an educator in the field of nephrology during his 30-year career at Yale. He has also developed a vigorous educational component for Yale Nephrology. In November 2022, Perazella was honored for his lifetime achievements in education with the Robert G. Narins Award from the American Society of Nephrology—the society’s highest honor. Perazella was a nephrology subspecialty board member and item writer for the American Board of Internal Medicine (ABIM). He was co-chair of the National Kidney Foundation Annual Spring Clinical Meeting in 2019 and chair in 2020. He has served on educational committees for the American Society of Nephrology since 2008 and will be the co-chair of the 2023 Kidney Week meeting in Philadelphia. He also was chair of the onco-nephrology forum, a committee of the American Society of Nephrology. He is the co-editor of the Journal of Onco-Nephrology. Perazella has served as a co-medical director for the American Society of Nephrology’s board review course and updates.
Yale-PCCSM’s mission is to deliver compassionate and effective patient care; perform cutting-edge clinical, translational, and basic science research; and provide rigorous training of future leaders in academic pulmonary, critical care, and sleep medicine. To fulfill this mission in the best possible setting, the section focuses on work-life balance, community, diversity, and engagement.

Last year was one of growth and recovery after two hard pandemic years. There have been record numbers of outpatient clinic visits; new clinical technologies implemented; research funding secured; and prestigious national and international awards received by faculty. The secret to Yale-PCCSM’s success is its members: their unique talents, diverse backgrounds, and range of subspecialties, interests, and expertise. Of Yale-PCCSM’s ladder faculty, 51 percent are women and 13 percent belong to groups underrepresented in medicine. Fifty-five percent of senior faculty members are women; and 48 percent of early-career faculty are Yale-PCCSM fellows. Recently seven new faculty members were hired, and nine faculty were promoted.

Clinical Successes & New Procedures

When the renovated Winchester Center for Lung Disease opened in 2021, an increase in patient visits was expected, but the numbers exceeded expectations. Overall outpatient visits increased by 44 percent, and new visits by 83 percent, compared to pre-pandemic years. Some subspecialties saw a doubling in the number of visits. New technologies have been implemented that improve diagnostic and therapeutic options for patients, including “shape-sensing” robotic bronchoscopy for better guidance of biopsy procedures; endoscopic bronchial valve placement for treatment of severe emphysema; and invasive cardiopulmonary exercise testing (iCPET) to identify the causes of unexplained shortness of breath. In collaboration with cardiothoracic surgery and interventional cardiology, access to pulmonary thromboendarterectomy and balloon pulmonary angioplasty is also offered.

Fellowship and Training

The section continues to offer six fellowship slots each year for pulmonary, critical care (overall 22 fellows); four for sleep; four for critical care medicine; and one for interventional pulmonary. There are also nine slots that support research training on the T32 grant.

Multidisciplinary Human Disease-Relevant Research

Yale-PCCSM published 237 papers; overall research funding came to more than $82 million. There are five early-stage investigators who secured NIH K08 grants: Maurizio Chioccioli, MSc, PhD; Jose Gomez Villalobos, MD, MS; Melissa Knauert, MD, PhD; Maor Sauler, MD, and Xiting Yan, PhD.

Diversity, Equity, and Inclusion

The DEI committee, led by Vivian Aware, MD, organized educational and social activities, and offered a fellowship URM Mentoring Program to residents at historically Black colleges and universities. Aware also received an American Academy of Sleep Medicine Foundation Community Sleep Health Grant to provide funding for the Yale Compassionate CPAP Service, which offers equipment and assistance to offset the costs of sleep apnea therapy to uninsured and underinsured patients.

Award-winning Team Members

- Erica Herzog, MD, PhD: ATS Recognition Award for Scientific Accomplishments.
- Lynn T. Tarone, MD, MBA: ATS Thoracic Oncology Lifetime Achievement Award.
- Charles Dela Cruz, MD, PhD: Elected to membership in the American Society of Clinical Investigation (ASCI).
- Lauren Ferrante, MD, MHS: ASCI Young Physician-Scientist Award; ATS Assembly on Critical Care Early Career Achievement Award.
- John Huston, MD: Bear Cage Competition at the ATS 2022 International Conference.
- Snigdha Jain, MD, MHS: ASCI Emerging Generations Award; Claude D. Pepper Older Americans Independence Center Scholar Award.
- Susan Arndt, senior administrative assistant: Internal Medicine Service Excellence Award.

Erica Herzog, MD, PhD: ATS Recognition Award for Scientific Accomplishments.

Lauren Ferrante, MD, MHS: ASCI Young Physician-Scientist Award; ATS Assembly on Critical Care Early Career Achievement Award.

John Huston, MD: Bear Cage Competition at the ATS 2022 International Conference.

Snigdha Jain, MD, MHS: ASCI Emerging Generations Award; Claude D. Pepper Older Americans Independence Center Scholar Award.

Susan Arndt, senior administrative assistant: Internal Medicine Service Excellence Award.

Christine Won, MD, MSc, medical director of the Yale Centers for Sleep Medicine and director of the Yale Women’s Sleep Health program, began her term as president of the Society of Anesthesia and Sleep Medicine in October 2022. Won’s interests include complex sleep-disordered breathing and sleep disorders in women.

Erica Herzog, MD, PhD, was appointed the John Slade Ely Professor of Medicine (Pulmonary) and professor of pathology. Herzog directs the Interstitial Lung Disease Center of Excellence and is an associate dean of medical student research.

Single-cell Analysis Technologies

The recent development of single-cell atlases is a highlight of Yale-PCCSM’s recent work. By profiling all the cells in samples from patients with such advanced lung diseases as idiopathic pulmonary fibrosis and COPD, Yale-PCCSM’s physician-scientists have discovered novel cell types, observed changes in the profiles of known cells, and highlighted interactions among different cell types. A team led by Maor Sauler, MD, and John McDonough, PhD, has compiled an unprecedented atlas of cells in the COPD-affected lung. Sauler and McDonough used single-cell RNA sequencing; a method that allows them to measure the gene activity within each individual cell of a tissue sample.

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Rheumatology, Allergy and Immunology

Richard Bucala, MD, PhD | Section Chief
Christina Price, MD | Clinical Chief (Allergy & Immunology)
Vaidhehi Chowdhary, MBBS, MD | Clinical Chief (Rheumatology)

Allergy and Immunology

Allergy and immunology successfully recruited new faculty members, including Elise Liu, MD, PhD, and Jake Kuster, MD, who have completed their clinical and research training in the section’s fellowship program. Liu has investigated the immune mechanisms of food allergies using animal models and human samples. Kuster has a keen interest in studying genetics in primary immunodeficiencies.

In addition, Jason Kwak, MD, MSc, furthered his research program in drug allergies, which serves as an important educational and research platform for allergy and immunology fellows. Junghae Jenny Shin, MD, PhD, and Insoo Kang, MD, director of allergy and immunology, have reported clinical and immunological predictors of poor immune responses to COVID-19 mRNA vaccines in patients with primary antibody deficiency, in collaboration with other members of the section.

Hsiao Receives Rheumatology Research Foundation’s Innovative Research Grant

Betty Hsiao, MD, received the national award for her proposal, “Overcoming Barriers to Treat-to-Target in Rheumatoid Arthritis Using Tailored Patient Videos.” Hsiao plans to further her research into the discrepancies between how rheumatologists and their patients think about rheumatoid arthritis treatment, specifically “treat-to-target,” which has low uptake in the United States. To address this hesitancy, Hsiao seeks to learn how to implement videos of people with rheumatoid arthritis sharing their treatment experiences with other patients who are unsure about initiating or escalating medication use. The videos were developed in a previous study.

Yale Rheumatology/Dermatology Clinic

Diversifying clinical trials for people with rheumatic and dermatologic diseases is a goal of the faculty leaders at Yale School of Medicine’s rheumatology/dermatology clinic. Rheumatologist Fotos Koumpouras, MD, and dermatologist Satika Ramachandran, MD, are the clinic’s co-founders. Koumpouras is also the director of the Lupus Program at Yale School of Medicine, overseeing clinical and translational research. The clinic was the first of its kind in Connecticut when it began five years ago. Hundreds of patients have been treated for skin disease due to such systemic disorders as lupus, which selectively affects people of color.

Yale Scleroderma Program

Six clinical trials for people with scleroderma, a rare connective tissue disease also known as systemic sclerosis, are taking place at Yale. Monique Hinchcliff, MD, MS, a national scleroderma expert, is the director of Yale Medicine’s scleroderma program. Yale was designated as a Scleroderma Center of Excellence by the Scleroderma Foundation in 2019.

Yale Rheumatology International State-of-the-Art Symposium

The 2023 symposium, “Do No Harm: Risk Mitigation in Rheumatic Disease Patients,” is planned for April 28-29, 2023. The annual International State-of-the-Art Symposium, now in its third year, demonstrates Yale Rheumatology’s leadership and commitment to improving the health of people with rheumatic diseases. The 2022 event, which focused on reactive arthritis—a disease that appeared with increasing frequency in patients diagnosed with COVID-19 during the pandemic—drew more than 200 attendees from around the world.

Yale Rheumatology and the American College of Rheumatology

Deborah Dyett Desir, MD, was sworn in as the American College of Rheumatology’s president-elect in November 2022. She is one of only a handful of women to hold that position and the first woman of color to hold it. Among the issues Desir plans to address as ACR president is the shortage of rheumatologists in the United States to care for both children and adults with rheumatic diseases. Desir plans to expand the ACR’s efforts to develop innovative solutions for expanding the workforce, and to increase and diversify ACR’s membership so that the demographics of ACR’s membership reflect those of the patient population.
Program in Addiction Medicine

The Yale Program in Addiction Medicine, founded in 2007, seeks to extend and improve services for the prevention and treatment of substance use and substance use disorders. Constructed on four pillars—research, education, clinical practice, and policy—the program comprises an interprofessional facultyspanning several schools at Yale University, including the Yale School of Medicine (YSM), the Yale School of Public Health (YSPH), the Yale School of Nursing, and the Yale Law School. The program is aligned with the section of General Internal Medicine but has core faculty in other sections within the department, including Infectious Diseases, Digestive Diseases, Pulmonary, Critical Care and Sleep Medicine, as well as faculty from the Department of Emergency Medicine.

The program has developed, researched, and disseminated innovations that shape the way in which addiction treatment is provided nationwide in primary care, emergency departments, hospitals, and HIV specialty settings, with ongoing research in obstetrical and hepatology settings. Educational initiatives train the next generation of generalists and addiction specialists. Faculty contributions to local, state, national, and international initiatives inform policy decisions related to the overdose epidemic, changes in cannabis and tobacco regulation, and other issues. Select achievements in the last year include expanded NIH HEAL Initiative funding; establishment of the IMPOWR-YOU Center; expansion of the YNHH Yale Addiction Medicine Consult Service; and extension of the program’s Addiction Medicine Rounds to a global audience. In addition, the program’s Addictions in Practice series, hosted by the Department of Emergency Medicine, has been presented to faculty from the Department of Emergency Medicine.

With an 18-core laboratories, the Yale Cardiovascular Research Center (YCVRC) is dedicated to discoveries to advance the prevention and treatment of cardiovascular disease. Established in 2008, the YCVRC houses basic and translational scientists with primary appointments in Cardiovascular Medicine who work to improve our fundamental understanding of cellular and molecular mechanisms as well as the physiology of the heart and vasculature. Major areas of research include cell and developmental biology, signaling, genetics, epigenetics, and metabolism.

Co-directed by a unique leadership council (Anne Eichmann, PhD; Daniel Greif, MD; Kathleen Martin, PhD; and Stefania Nicoli, PhD), the YCVRC is a community of collaborative investigators that provides a supportive environment for nearly 100 trainees. The YCVRC infrastructure facilitates access to cutting-edge technologies, including high-resolution confocal microscopy, advanced DNA sequencing and bioinformatics, and artificial intelligence and machine learning, as well as induced human pluripotent stem cells and other sophisticated cardiovascular disease models.
CLINICAL CHIEFS

Christina Price, MD
Allergy & Immunology

Nihar Desai, MD, MPH
Cardiovascular Medicine

Daniel Price, MD
Cardiovascular Medicine

Joseph Lin, MD
Dietetic Diseases (Liver)

Hannah Schlauch, MD
Dietetic Diseases (Endocrinology)

Silvia Inzucchi, MD
Endocrinology and Metabolism

Matthew Ellman, MD
General Medicine

James M. La, MD, MHS, MS
Geriatrics

Vincent Quaglino, MD
Infectious Diseases

Akra Petasis, MD
Nephrology

Jonathan Lin, MD
Pulmonary, Critical Care and Sleep Medicine

Valekli Choudri, MD, PhD
Neurology, Allergy and Clinical Immunology

STAFF LEADERSHIP

Sarah Hagans
Associate Director, Administration

Julie Jennings
Associate Director, Research & Compliance

Nancy Kravitz
Manager, Office of the Chair

Jennifer Lacerda
Associate Director, Clinical Affairs

Julie Parry
Associate Director, Communications

Stephanie Santore
Associate Director, Academic & Administrative Affairs

Joseph Velasco
Associate Director, Finance

Michael Yonkers, MBA, MS
Associate Director, Finance and Administration

Scan QR code to view full list of leadership.

POST-GRADUATE EDUCATION & TRAINING PROGRAMS

Medicine–Pediatrics Residency Program

Benjamin Stoeltzler, MD, MPH
Program Director

Jaideep Talwalkar, MD
Associate Program Director

Marylouise Thomas, MPH
Program Coordinator

Primary Care Residency Program

John Marzucy, MD
Program Director

Abe Block, MD, MPH
Associate Program Director

Stephen Hey, MD, MS
Associate Program Director, Ambulatory

Tracy Holtz, MD, MS
Associate Program Director

Sarita Gores, MD
Associate Program Director

Denise Brewster
Program Coordinator

Traditional Residency Program

Mark Goyal, MD
Program Director

Paul Burstein, MD
Associate Program Director

Melinda E. Demirel, MD
Advisor to the Physician-Scientists

Matthew Green, MD
Associate Program Director

Cynthia Poggio-Mellavolta, MD
Associate Program Director

Christopher Sarkey, MD
Associate Program Director

Brett Marks
Program Coordinator

Yale-Waterbury Residency Program

Ruth Wodacalunga
Program Director

Yale Affiliated Hospitals Program

Elaine Taussig, MD
Program Director

Courtney Amundson
Program Coordinator
INTERNAL MEDICINE CHIEF RESIDENTS 2021–2022

Kevin Barnum, MD, PhD
YNHH

Jemma Benson, MD
YNHH

Benjamin Brink, MD
YNHH

Madeleine Coleman, MD
VACHS

Arit Emem Esu, MD
Waterbury

Christine Hsueh, MD
YNHH

Warda Maqsood, MD
Waterbury

William McDonald, MD
YNHH

Aidan Milner, MD
YNHH

Jakob Park, MD
NHPCC

Kate Penziner, MD
YNHH

Sumitha Raman, MD
YNHH

Avinainder Singh, MBBS
YNHH

Jenny Xiang, MD
VACHS

Department VITAL STATS

#10 NIH Funding in Internal Medicine
(per the Blue Ridge Institute for Medical Research)

$6M+ increase from FY21 to FY22

1M+ Clinical RVUs

$208M+ in Sponsored Funding
(10/1/21 - 9/30/22)

$350M+ Total Operating Budget

129 faculty perform patient care at VACHS

522 Ladder Track Faculty

155 Research Faculty

39 Instructors

18 Lecturers

213 Hospital Residents

334 Postdoctoral Associates / Fellows

96 Postgraduate Associates / Fellows

436 Staff

570 Other

424 Voluntary

106 Adjunct

30 Emeritus

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