A focus on enhancing parents’ well-being to better prepare them to care for their children

When parents seek mental health services for their children, they may be ill equipped to choose the most effective approach. Even after they have obtained professional help for a child, they may not realize how valuable it can be to receive care for themselves, both for their own well-being and to help them better address the child’s needs.

Spurred by personal experiences, Lynne Singer Redleaf and her husband, Andrew Redleaf, a 1978 graduate of Yale College, wanted to directly contribute to a program dedicated to these challenges.

Lynne recalls that as she raised a son who had emotional and behavioral challenges, finding support services near her home in New Haven, Connecticut, was so successful that the initiative, called the Child Development-Community Policing Program (CD-CP), was so successful that it caught the attention of a pioneering psychiatrist, Viola W. Bernard, M.D., who tirelessly advocated for practical solutions for child well-being and health. After her death, she left a bequest to the University of South Carolina’s medical school to further the Child Study Center, which she knew so well.

A gift from Andrew Redleaf and Lynne Singer Redleaf lets the Child Study Center focus new attention on the well-being of parents as they care for special needs children.

Turning innovative ideas into practical therapies and better access to needed care

The Yale Child Study Center (CSC) has a distinguished history of applying scholarship and research to the clinical needs of children in New Haven and Connecticut. Famously, 24 years ago, the center launched a program that encouraged New Haven child mental health professionals and police officers to intervene on behalf of children and families exposed to severe trauma.

The initiative, called the Child Development-Community Policing Program (CD-CP), was so successful that it caught the attention of a pioneering psychiatrist, Viola W. Bernard, M.D., who tirelessly advocated for practical solutions for child well-being and health. After her death, she left a bequest to the University of South Carolina’s medical school to further the Child Study Center, which she knew so well.

A gift from the Viola W. Bernard Foundation to the medical school’s Child Study Center will further Bernard’s vision of turning theory into effective mental health delivery. With the Center’s director Linda C. Mayes (center) are the Foundation’s trustee Cary Koplin (left) and its vice president and founder Joan Wolford, a niece of Bernard.

Addiction pioneer recognized with professorship

Leader of Connecticut-based vaccine maker endows chair for chief of internal medicine

As executive chair and head of global business development at Meriden, Conn.-based Protein Sciences, Dan Adams develops and manufactures vaccines. The School of Medicine’s Patrick G. O’Connor, M.D., M.P.H., chief of general internal medicine, works to improve treatment for addiction in primary care settings, where help may be most accessible.

The two men share a commitment to the mission statement of Protein Sciences, which reads in part: “To save lives and improve health by effectively responding to the changing world.”

This past spring, in recognition of that common vision, O’Connor was named the first Dan Adams and Amanda Adams Professor of General Medicine. Dan Adams, a former member of the School of Medicine’s Dean’s Council, created the professorship with a substantial endowment.

The endowment honors Amanda Adams, who is Dan Adams’ daughter, senior vice president and assistant general counsel at Cirasor, and a 1997 graduate of Yale College.

O’Connor’s research focuses on the interfaces among general internal medicine, primary care, and addiction. “His internationally renowned work has already made a tremendous difference in how drug and alcohol addictions are treated,” says Robert J. Alpern, M.D., dean and Ensign Professor of Medicine. “Office-based treatment with buprenorphine is now the most common form of therapy for opioid addiction. That rests solidly on Patrick’s research.”

O’Connor conducted the first randomized clinical trial of buprenorphine for the treatment of opioid dependence in primary care, published in the American Journal of Medicine in 1997. He has conducted numerous National Institutes of Health (NIH) clinical trials, including a randomized trial of naltrexone for the treatment of alcohol dependence using a primary care-based management model.

Four new leaders to helm medical school departments

Four departments at Yale School of Medicine have new leaders. They are Lucian V. Del Priore, M.D., Ph.D., of ophthalmology and visual science; Gary V. Desit, M.D., of internal medicine; Linda C. Mayes, M.D., of the Child Study Center; and David G. Schatz, Ph.D., of immunobiology.

Lucian V. Del Priore became chair of the Department of Ophthalmology and Visual Science and chief of Ophthalmology at Yale New Haven Hospital (YNHH) on July 1. He was recruited from the Medical University of South Carolina, where he had led the ophthalmology department at the J. Michael Jenkins Chair and directed the Storm Eye Institute. Del Priore, the Robert R. Young Professor of Ophthalmology and Visual Science, specializes in retinal diseases, glaucoma, and vitreoretinal surgery. He helped facilitate the first clinical trial using stem cells to treat patients with Stargardt macular dystrophy and age-related macular degeneration.

In 1982, he received his M.D. with distinction in research from the University of Pennsylvania.

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Alison P. Galvani uses powerful mathematical models to both predict and change the trajectory of deadly infectious disease.

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Benefits of grants from the National Center for Advancing Translational Sciences include funding for junior investigators.
The ecology of disease

From the flu to Ebola, predicting and then stifling pathogens’ spread

Alison P. Galvani

Robert May. Following a postdoctoral fellowship at the University of California, Berkeley, she came to Yale as a junior faculty member. By that time her pioneering work in behavioral epidemiology—how human behavior leads to and affects disease transmission—was well underway. “I’m fascinated by the power of mathematics to contribute in very practical ways to the benefit of society,” she says.

Galvani’s team at Yale has conducted international investigations into the transmission of HIV, influenza, Ebola, and Zika, among other pathogens. “We are most interested in projects that have the potential to improve policy and save lives,” she says. Her work on influenza and rotavirus has led to concrete policy changes and made vaccination programs in Israel and the United Kingdom more cost effective.

Galvani established the Center for Infectious Disease Modelling and Analysis (CIDMA) within the School of Public Health in 2014; shortly before the Ebola epidemic hit western Africa. When it did, she offered her team’s help in understanding the disease’s dynamics to Liberia’s health ministry, which welcomed the aid. Galvani and her colleagues worked tirelessly to generate models to capture the level of virus in patients, the patients’ survival outcomes, and the social behavior of affected families, all of which formed the basis for effective ways to stem the epidemic. Their predictions of the impact of combined interventions—published in the journal Science—forecast trajectories of the epidemic in Liberia with remarkable accuracy.

Galvani’s team also developed a smartphone app to track the location of symptomatic patients. Previously, with only pencil and paper to do that job, the arrival of ambulances had been delayed by as much as several days. With resources in Liberia severely limited, CIDMA contributed more than 30 computers and phones to the Ebola response team so that the mobile application could function. Patients received hospital care far more rapidly, improving recovery rates and curtailing further transmission.

Galvani has received numerous honors including the Blavatnik Award for Young Scientists from the New York Academy of Sciences, the Bellman Prize, and a Guggenheim Fellowship. Throughout her career, as she has managed students and postdocs, and raised three children in a home that also includes a dog and a full chicken coop, Galvani has continued to apply the lessons of evolutionary biology that she first learned from Dawkins. “The same principles of ecology and species conservation apply, but in reverse,” she says. “In disease systems, we want to drive the parasite species extinct.”

Pediatrician recognized for clinical excellence in neonatology

Matthew J. Bizzarro, M.D., associate professor of pediatrics and medical director of Yale New Haven Children’s Hospital’s Neonatal Intensive Care Unit (NICU), is the 2016 recipient of the David J. Leffell Prize for Clinical Excellence. The prize is given to individuals who demonstrate the highest level of clinical expertise, commitment to teaching, and compassion for patients.

At a ceremony at the Sterling Hall of Medicine, Bizzarro said, “It was difficult to think I’ve been single out given the quality of the [neonatology] group. I would challenge anyone to find a better group of clinicians.”

After attending medical school at the University of Medicine and Dentistry of New Jersey, Bizzarro completed his residency at New York University Medical Center and joined Yale as a fellow in 2002. Bizzarro said at the ceremony that he felt drawn to pediatrics and critical care as a medical student but discovered his true passion in caring for sick newborns at Yale. “Watching babies you’ve spent months taking care of go home with their families is an overwhelming feeling,” he said.

The Leffell Prize was created in 2008 with a gift from David J. Leffell, M.D., the David P. Smith Professor of Dermatology and professor of surgery, and his wife, Cindy, in honor of Leffell’s 50th Yale College reunion. It includes a monetary award and a framed citation to be displayed in the Sterling Hall of Medicine. Pathologist named director of tumor profiling lab

Janina A. Longtime, M.D., has been appointed to the position of associate vice president for pathology and laboratory medicine and director of molecular and genomic diagnostics at Yale School of Medicine and director of the Tumor Profiling Laboratory at Smilow Cancer Hospital.

Throughout her 30-year career, Longtime has developed deep expertise in molecular pathology. In her new role, she plans to integrate patient management and individualized cancer care with tumor profiling services. Longtime will work with the departments of pathology and laboratory medicine, in addition to the Center for Genome Analysis at West Campus, to foster integration across molecular diagnostic services within the medical school.

Longtime came to Yale this past spring from Icahn School of Medicine at Mount Sinai in New York where she was tenured professor and vice chair of molecular pathology and genetics. Before joining Yale Mount Sinai in 2011, Longtime held multiple appointments at Brigham and Women’s Hospital and Dana-Farber Cancer Institute and was associate professor of pathology at Harvard Medical School.

She studied molecular biology at Wellesley College and earned her M.D. in 1981 from the University of Massachusetts Medical School. Longtime completed her residency in anatomic pathology and a clinical fellowship in hematopathology at Brigham and Women’s Hospital. In addition, she completed two research fellowships in molecular biology at Children’s Hospital Boston and Brigham and Women’s Hospital.
New center boosts big-data research

From training to hardware to hands-on help with data, the Yale Center for Research Computing gives investigators an added edge

As big data becomes integral to many academic disciplines, researchers universally have found the need to upgrade both the technologies they use and the skill sets of research professionals who must organize and analyze the data. It was this need that motivated the creation of the Yale Center for Research Computing (YCRC) in 2015, says Kiran Keshav, E.M.S., the center’s executive director, and senior director of research computing and technology. The YCRC provides Yale researchers a resource for complex computing support. Located on Yale’s Science Hill, the center provides the cyber-infrastructure researchers need to do their work and guidance on how to maintain the infrastructure. It also provides education and training, such as programming. Before the center’s creation, Keshav says, support for computational research was decentralized. “One of the first things I wanted to do was to collocate all the staff. All the people who were effectively doing research computing support for faculty needed to be together,” he says. “Now it’s the start of a community. We’re building a one-stop shop for technology-related support for research.” The YCRC has supported researchers in numerous ways. Alan Anticevic, Ph.D., assistant professor of psychiatry and psychology, uses computational methods combined with imaging techniques to better understand the mechanisms underlying such psychiatric illnesses as schizophrenia and addiction. Where today clinicians diagnose these illnesses using qualitative measures such as behavior, Anticevic predicts that one day they will be able to diagnose with far more precision by measuring associated brain mechanisms. He has used the high-performance computing resources at the YCRC to investigate these dysfunctional brain circuits. The YCRC has also helped to acquire new supercomputing technology for Yale researchers. Robert Bjornson, Ph.D., senior research scientist in Yale’s Department of Computer Science and a member of the YCRC staff, recently assisted the Yale Center for Genome Analysis in securing a grant from the National Institutes of Health to replace an old high-performance computing cluster. The newly purchased cluster went online this spring, bringing an additional two petabytes of storage and a great deal more computing power for genome analysis. The new cluster was named Ruddle, after the late Francis H. (“Frank”) Ruddle, a School of Medicine scientist who famously pioneered genetic engineering. These clusters are used by people such as Mark B. Gerstein, Ph.D., the Albert L. Williams Professor of Biomedical Informatics, who is working to identify the function of particular regions of the human genome. As sequencing the human genome becomes increasingly accessible, researchers are using the technology to better understand disease. Structural changes along the genome are prevalent in genomic diseases such as cancer. “People in genomics were using big data before it was cool,” says Gerstein, who also is professor of molecular biophysics and biochemistry and of computer science. As a genomic researcher, Gerstein needs to handle very large datasets and organize the data in a way that will provide meaningful insights in minutes. He says that research computing support should be separate from a general information technology department, and is glad to work with the YCRC.

“Configuring the hardware, knowing what to get, doing everything correctly in relation to federal grants and contracts—all that takes quite a bit of effort on the part of everyone. The YCRC are the point people to help get those things working,” says Gerstein. Genomics may be an obvious beneficiary of the resources at the YCRC, but research in fields such as biomedical engineering also depends on the center’s computation resources. Jay D. Humphrey, Ph.D., the John C. Malone Professor of Biomedical Engineering, is interested in understanding how blood flows through the complex vasculatures of patients with abdominal aneurysms. Using patient-specific images of aneurysms, Paolo Di Achille, a doctoral candidate in Humphrey’s lab, creates computer models that can predict where a blood clot will form within an aneurysm. This work could help clinicians decide whether or not to intervene when a patient has an aneurysm and there is risk that a blood clot will form.

Humphrey’s team uses the supercomputers available through the YCRC, such as the clusters “Omega” and “Grace.” They also use clusters in such places as Texas and San Diego through a National Science Foundation-funded consortium called Extreme Science and Engineering Discovery Environment. Di Achille first learned how to use supercomputers through a YCRC-run workshop. “Having [the supercomputers] here and having some practice on them allows me to quickly adapt the workflow to clusters somewhere else,” he says. Humphrey’s research on blood clots and abdominal aneurysms is “computationally expensive”—meaning it requires large amounts of computing power. He notes the value of having a center on campus dedicated to research computing support. “It’s more than just maintaining hard-ware or having the right software available,” he says. “It’s really about understanding what’s needed to do state-of-the-art computation and enabling the people who use the facility to be able to do it in an efficient way.”

Medical students should also be prepared to deal with the era of big data, according to the co-chair of the center’s faculty advisory committee, Harlan M. Krumholz, M.D., M.S., the Harold H. Hines Jr. Professor of Medicine and professor of investigative medicine and of public health. “With medicine, this [data] is the next big thing. We think discoveries are going to be accelerated by our better use of digital data.”

Krumholz says the old approach of memorizing risk factors to categorize patients may be on its way out. “I think we’re going to move toward taking all the information about you and be able to see how it affects your risk and response to disease and treatment—being able to personalize our approach in ways doctors could never memorize.”

The center isn’t just for the people who want to be more computer savvy in research, Krumholz says. “This center should be an organizing force. I think we will have been successful if this kind of training becomes an integral part to every different part of the university.”

Keshav and his colleagues hope to expand the YCRC’s training opportunities and continue hosting events. For now, the center continues to provide support to the growing need for technological support in research.

Blood vessels form through a complex series of interactions among cells called “crosstalk.” Researchers led by Hyung J. Chun, M.D., associate professor of medicine, have identified a crucial player in the process: a tiny RNA molecule known as miR-139-5p. The researchers studied mice that lacked either the gene apelin (Apln) or its receptor (Aplnr), and found the retinal vasculature of these mice to be severely underdeveloped. They also found in the blood vessels of these mice a related gene that directs a distinct set of cellular signaling, known as Cxcr4, was aberrantly increased. The crosstalk between these molecules was mediated by miR-139-5p, which controls expression of Cxcr4 and is essential for normal vascular development. The finding demonstrates a novel mechanism by which interdependence between signaling pathways is established in the developing blood vessels. The findings, published April 12 in Nature Communications, have implications for conditions including heart disease, cancer, and blinding diseases of the retina.

Why flu is deadly among the elderly

There’s good reason behind doctors’ recommendation that older adults receive the flu vaccine annually. Each year, 90 percent of deaths worldwide related to influenza A virus (IAV) strike men and women aged 65 and older. The trouble, according to a widely accepted theory, is that IAV evades the body’s inflammatory immune response, not the virus, leads to death. Akiko Iwasaki, Ph.D., Waldemar Von Euler Professor of Microbiology and Immunology and an investigator of the Howard Hughes Medical Institute, and colleagues found that immune cells from older adults’ immune systems, thus making them more susceptible to catching pneumonia and the like. A study published in April in the journal Science suggests that the body’s inflammatory immune response, not the virus, leads to death.

The authors then created mice with immune systems that mimicked this weakened response. “Although the virus was not sufficient to kill mice, the immune response, driven by neutrophils [white blood cells], led to excessive inflammation and lung damage,” says the lead author Padmini S. Pillai, a doctoral student in Iwasaki’s lab. The study could point to new anti-inflammation flu treatments that target and calm this overactive immune response.
As a physician-scientist, Desir has contributed significantly to understanding mechanisms that regulate body weight and insulin sensitivity. He has delineated the mechanism by which reninalse, a growth factor he discovered, promotes cancer cell survival. A champion of diversity and social justice, Desir is a co-founder of the Association of Yale Alumni in Medicine, and as vice-chair, Schatz is Waldemar Von Zedtwitz Professor of Immunobiology and a professor of molecular biophysics and biochemistry, and has been a Howard Hughes Medical Institute Investigator since 1991. He has made fundamental contributions to the field’s understanding of the mechanisms that assemble and diversify the antigen receptor genes that encode antibodies and T cell receptors. Schatz may be best known for the discovery of RAG1 and RAG2, subsequent biochemical insights into RAG function and evolutionary origins, and important insights into the regulation of somatic hypermutation. He received B.S. and M.S. degrees in molecular biophysics and biochemistry from Yale. As a Rhodes Scholar, Schatz studied at Oxford University for two years, earning a B.A. degree in philosophy and politics in 1982. He subsequently entered the graduate program in the biology department at the Massachusetts Institute of Technology, performing his thesis research with Nobel Laureate David Baltimore, Ph.D., at the Whitehead Institute for Biomedical Research and receiving his Ph.D. degree in 1990. In assuming his new role as chair, Schatz succeeds Richard A. Flavell, M.D., Ph.D., Sterling Professor of Immunobiology, who became founding chair of the department in 1998.

OUT & ABOUT

May 19  A Class of 1961 celebrated 75 percent participation in its Graduating Class Gift campaign benefiting financial aid. Leadership included class co-presidents (left to right) Mona Guo, M.D. ’16; Richard Kayne, M.D. ’76, the Association of Yale Alumni in Medicine president; and Joel Winer, M.D. ’16, M.H.S. ’16.

June 3–4  Alumni and friends participated in Reunion Weekend events. 1. Medical student Robert Rock led an art observation educational session at Yale University Art Gallery. 2. Attendees Heather Yun, M.D. ’01 and her son, Theo Yun; listened to Tiffany Moadel, M.D., director of medical student simulation at the Yale Center for Medical Simulation (in white coat), as Kathleen Figaro, M.D. ’96, looked on. 3. At a panel, Joel Winer, M.D. ’16, M.H.S. ’16, and Rebecca Vitale, M.D. ’15, M.H.S. ’16, answered questions with Robert M. Rohrbaugh, M.D. ’82, professor of psychiatry and director of the Office of International Medical Student Education. 4. Members of the Class of 1981.

May 23  At Commencement, Anthony S. Fauci, M.D., director of the National Institute of Allergy and Infectious Diseases at the National Institutes of Health, addressed the graduating class. 1. Michael Chang showed his pleasure for the ceremony. 2. From left, Vikram Jairam, Raj Chovatiya, Chang-Yeon Kim, Matthew Mikhail, and Benjamin Lerner. 3. From left, Veronica Shi, Xiaoyue Mona Guo, Vinay Rathi and Connie Cheng wait. 4. Bethlehem Molennon and Lise Nadine Tchoua walk together from main campus to the medical school’s graduation ceremony.

March 19  A Donate Life America charity event styled after the popular “Dancing with the Stars” television show. 1. Margaret J., “Peggy” Bla, M.D., professor of medicine in nephrology, danced with her husband, Frank J., M.D., M.P.H., professor emeritus of medicine in infectious diseases, while engaging in friendly competition against colleagues. 2. Gary V. Desir, M.D., chair of internal medicine and professor of medicine and his wife, Deborah Desir, M.D., a rheumatologist in the New Haven community.

April 19  A lecture sponsored by the Association of Yale Alumni in Medicine. 1. Fred Aslan, M.D. ’02, M.B.A., founder and chief executive officer of Avarium Medical, described various ways that M.D. or Ph.D. degrees can contribute to careers in business. 2. Medical student Jonathan Park listened from the audience.

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// Chairs  (from page 6)  Rochester School of Medicine and Dentistry and then earned a Ph.D. in physics at Cornell University. Del Priore completed an internal medicine internship at the Greater Baltimore Medical Center in 1984, followed by a residency in ophthalmology and fellowships in vitreoretinal surgery and glaucoma at the Wilmer Eye Institute at Johns Hopkins University School of Medicine. He succeeds interim chair Ron Adelman, M.D., professor of ophthalmology and visual science, and director of the Retina and Macula Center.

Gary V. Desir has been named chair of the Department of Internal Medicine after serving as interim chair since 2013. He is the Paul B. Beeson Professor of Medicine in the section of nephrology, and also is the nephrology at the Department of Internal Medicine in the section of nephrology. He earned his M.D. at Yale’s School of Forestry and Environmental Studies. Desir immigrated from Haiti to the United States after high school. He earned his M.D. from Yale School of Medicine and completed his training in internal medicine and nephrology at VNMHI before joining the medical school’s faculty, where he has served as chief of nephrology and chief of medicine at the VA Connecticut Healthcare System.

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Humans have up to 25,000 protein-coding genes. DNA methylation, which occurs when methyl groups are added to DNA, plays a crucial role in which genes get turned on and off. Methyl groups alter a chromosome, but not the DNA sequence itself. For decades, scientists thought a methyl group could bind only to cytosine—one of DNA’s four bases.

Andrew Xiao, M.D., associate professor of genetics, and his team recently discovered that methylation occurs on another DNA base: adenine. Xiao investigated how this methyl bond interacts with a specific transposon, which is an ancient virus that invaded our genome long ago and now serves to control gene expression, especially on X chromosomes.

“We know transposons are helpful because they can freely jump to different parts of the chromosome, thus allowing our DNA to modify to different environmental factors,” Xiao said. “Since these transposons are also found in cancer cells, perhaps this type of DNA methylation could be a target for cancer, Xiao said.

How a gene thwarts cancer defenses

A Yale-led study describes how a known cancer gene, egfr, silences genes that typically suppress tumors.

The finding, published in Cell Reports, may lead to the development of more effective, individualized treatment for patients with lung cancer and other cancer types.

Mutations in the egfr gene are linked to multiple cancer types, including cancers of the lung, brain, and breast. Yet scientists did not know precisely how egfr represses genes that prevent cancers. The Yale team conducted multiple experiments and found that egfr silences tumor suppressor genes in lung cancer and glioblastoma, a type of brain cancer.

“Egfr can target multiple unrelated tumor suppressor genes in different cancer types using a common mechanism,” said senior author Narendra Wajapeeyee, assistant professor of pathology and a member of Yale Cancer Center. “Egfr silences these genes by negatively regulating a protein called TET, which is required to suppress tumors, he noted.

The finding informs the future direction of research and treatment of patients who don’t respond to current therapy or develop resistance to drugs that inhibit egfr, he said. “It will also help determine how effective cancer therapies will be against different egfr mutations.”

Benefits of the five-year award include junior faculty poised to conduct clinical and translational investigations

The School of Medicine has received $35.6 million from the National Center for Advancing Translational Sciences to renew its five-year Clinical and Translational Science Award (CTSA) to accelerate research discoveries that can have a positive impact on health.

This is the second renewal for Yale, which was among the first 12 institutions nationally to receive CTSA funding when the National Institutes of Health (NIH) started the program in 2006. The award supports the Yale Center for Clinical Investigation (YCCI), established in 2005 as part of the medical school’s strategic plan to develop an infrastructure to support research and educate the next generation of investigators.

“We’ve made incredible strides under the CTSA in establishing a robust infrastructure and resources for investigators,” says Robert J. Alpers, M.D., dean and Ensign Professor of Medicine. “I am delighted that CTSA support will allow us to continue to expand our research enterprise to support the acceleration of treatments from the bench to the bedside.”

CTSA hubs are expected to streamline the research process to get studies up and running more quickly; collaborate with one another; and, with community providers, patients, and industry, to use tools and resources to increase their ability to conduct, launch, and sustain projects. The hub aims to develop effective ways of improving the recruitment and retention of clinical trial participants.

Eduardo Macias, the center’s clinical operations director, says the center is well-positioned to be a leader in clinical research and educational programming. “Yale is one of a handful of medical institutions that host an integrated CTSA model, which allows us to be very nimble and quickly launch new infrastructure,” he said.

Translational Research from 10 to 20, the maximum number allowed. The K-12 Mentored Clinical Scholars Program is also expanding from seven partially funded scholars to nine.

During the next five years, YCCI will also pursue new partnerships to develop and market therapeutics that address unmet clinical needs. In addition, with a goal of making funded research especially robust, YCCI will encourage investigators to tap into Yale New Haven Health’s database of more than 4 million electronic health records, which reflect a large and diverse patient population. Support from CTSA continues to help transform Yale into a “learning health system” that generates innovative strategies for disease prevention, diagnostics, and therapeutics.

A ‘far-reaching’ federal grant is renewed

The School of Medicine has received $53.6 million from the National Center for Advancing Translational Sciences to renew its five-year Clinical and Translational Science Award (CTSA) to accelerate research discoveries that can have a positive impact on health.

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Two on medical school faculty named to U.K.'s Royal Society

Two Yale scientists have been named to the Royal Society, the United Kingdom's national academy of science. Mark A. Lemmon, Ph.D., and the David A. Sackler Professor of Pharmacology and co-director of the Yale Cancer Biology Institute, has been elected a Fellow. Pasko Rakic, M.D., Ph.D., the دورys McConnell Duberg Professor of Neuroscience and professor of neurology, is one of only 10 newly chosen Foreign Members.

The Society recognizes Lemmon's research in basic biochemistry and biophysics questions, which has yielded significant insights within the fields of cell signaling and cancer research. For much of his career, Lemmon has studied the signaling mechanisms of cell surface receptor tyrosine kinases (RTKs) that, when mutated, cause cancers and other diseases. His findings are helping to guide clinical decisions on which treatment best suits each individual patient. They bring biochemistry and structural biology into personalized medicine by explaining the variety of ways in which different mutations activate the cancer-related proteins in which they are found.

In the early 1990s, Lemmon pursued M.S. and Ph.D. degrees in molecular biophysics and biocomputing at Yale with Donald Engelman. He completed his postdoctoral studies at New York University Medical Center, taking charge of her case.

The Centers for Disease Control and Prevention, have a combined market value of over $200 billion. Biopharmaceutical companies that pursue new approaches to obtain 3D structures of these proteins. According to Sigworth, ion channels have a special significance to multiple areas of inquiry. They are best known, he notes, for their role in the electrical activity of nerve cells, but diabetes medications, novaccine and anti-epileptic drugs, as well as snake and spider toxins, all act on ion channels. Such disorders as cystic fibrosis, cardiac arrhythmias, and certain forms of hypertension and kidney disease all arise from ion channel defects.

Steven M. Girvin, Ph.D., deputy provost for science and technology, says Sigworth's work advancing new methods in electron microscopy is an example of “the depth and breadth of scientific inquiry going on at Yale.” Sigworth will be formally inducted at next year’s NAS annual meeting. The NAS is a private, non-profit institution established under a congressional charter signed by President Abraham Lincoln in 1863. Its charge is providing independent, objective advice to the nation on matters that are related to science and technology.

O'Connor has been a consultant to the White House Office of National Drug Control Policy and co-hosted a White House symposium on addiction last year. He will speak there again this fall. He has been president of the Association for Medical Education and Research in Substance Abuse, and is a founding director and past president of the American Board of Addiction Medicine.

The medical school's section of general internal medicine has grown dramatically through O'Connor’s recruitment of talented physician-scientists and clinician-educators, and its research portfolio has grown tenfold.