

Translations

for friends and colleagues of the *Department of Medicine*

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Department of Medicine Champions Length-of-Stay Initiative

Inpatient care at Jefferson, like at all academic medical centers — which treat patients while they train doctors — is complex, with dozens of key players, both at the patient’s bedside and behind the scenes. In September 2008, the Department of Medicine began a rigorous process for improving the management of patients’ length of stay (LOS). The goals are to

maintain first-rate quality of care, identify barriers hindering an efficient process, and create systems to support a streamlined approach.

“Decreasing LOS for our patients serves two important ends,” explains **Karen Javie, RN, MSN**, Vice President for Strategic Initiatives at the University. “First, shorter hospital stays are in our patients’ best interest. Research has shown the longer the stay, the greater the incidence of developing additional health risks and complications. Second, it reduces medical costs to the patient, insurer, physician, and hospital — all of which are critical in the current climate of escalating health care costs,” Ms. Javie says. “The Jefferson leadership recognized that it was time to make the necessary cultural shift.”

As leader of the initiative, **Arthur Feldman, MD, PhD**, the Magee Professor and Chair of Medicine, drew on expertise from the Chartis Group, a health care consulting firm and formed a multidisciplinary oversight committee to develop a plan to tackle this formidable task. He also convened five subcommittees: Physician Leadership, Information Technology, Evidence-Based Medicine, Resources, and Non-Teaching Hospitalists. These teams completed the initial work by December 2008, and Dr. Feldman delivered a Grand Rounds in January 2009, when he shared the outcomes and subcommittee recommendations.

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From the Chairman



As we near the decade’s end, the Department of Medicine continues to break new ground and celebrate numerous successes. Some of our achievements are behind-the-scenes, like the work of our intrepid researchers at the Center for Translational Medicine. Other milestones are making headlines, such as the 25th anniversary of the region’s first liver transplant.

Our lead story announces our recent Length-of-Stay Initiative, which is promoting the most effective, efficient care for our patients while improving administrative and communication processes and reducing costs. We also feature the research of Dr. Rabinowitz, in gene therapy, and Dr. Peppel, in vascular remodeling. For our clinical activities, we spotlight Endocrinology’s new protocols for our diabetic inpatients and Dr. Kane’s leadership for Residents as well as Pulmonary/Critical Care. We are enthusiastic about the new career pathways designed to train residents in new, customized ways.

Much of this work is possible thanks to our generous donors, such as Mr. Scarperi (featured on page 5). With their help we look forward to the next 10 years of providing excellent patient care, first-rate medical education, and significant research outcomes. Please also visit our website at www.jefferson.edu/medicine for more in-depth articles and updates.



Arthur M. Feldman, MD, PhD
Magee Professor of Medicine and
Chairman of the Department



“Huddles” are being used to streamline inpatient care and reduce patients’ length of hospital stay. Attendings, house staff, nurse managers, therapists, and case managers convene each morning to improve communications and efficiency.

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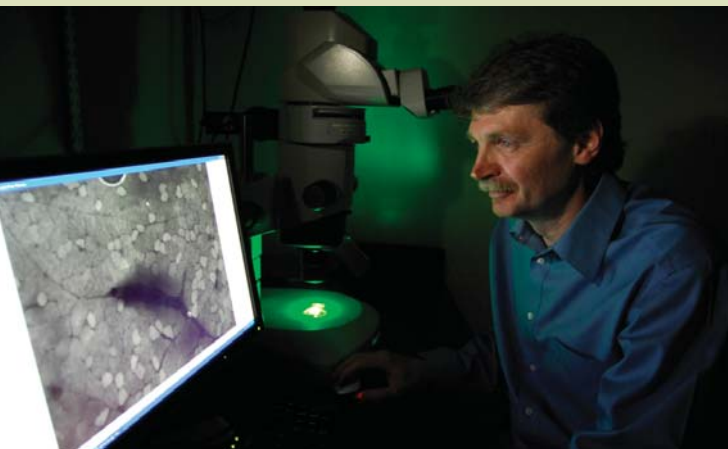
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Learning from How Blood Vessels Heal

Molecular biologist **Karsten Peppel, PhD**, Associate Professor, joined the Center for Translational Medicine in 2006. He came to the U.S. from Germany in 1984, to study at SUNY Albany and then trained at Duke University. His lab studies the role of inflammation in vascular remodeling.

Can you explain vascular remodeling?

The term describes how the blood vessel structure changes after injury. If you tear a



Karsten Peppel, PhD, examines a blood vessel through a macro-view fluorescence microscope in researching the role of inflammation in vascular remodeling.

muscle, or a blood clot forms in an artery, blood flow is cut off. Small vessels that connect major arteries (called collaterals) open up and undergo structural changes to expand and strengthen and form new vessels that provide more blood to the injured tissue. In diseases such as peripheral arterial disease —

common in type-2 diabetes — the collaterals do not open up adequately, there are not enough new blood vessels, and problems like necrosis and gangrene can set in. We investigate these and other instances of dysfunctional vascular remodeling.

What is the role of inflammation?

Acute inflammation protects organisms from injury and infection, but chronic inflammation drives vascular dysfunction and seems to be a common thread that runs through many chronic diseases, including Alzheimer's, type-2 diabetes, atherosclerosis, and cardiac disease. Chronic vascular inflammation can lead to the formation of clots that can cause heart attacks.

What mediates the inflammation?

We are studying Tumor Necrosis Factor (TNF), which has two receptors (TNFR1 and TNFR2). We are investigating how these receptors contribute to vascular remodeling following injury. We already knew that signals from the TNFR1 could

be toxic to endothelial cells (which line the blood vessels, keep blood flowing, and prevent clotting). We were surprised that TNFR1 also supports the growth of smooth muscle cells, which underlie the endothelium and can strengthen the vessels after injury. TNFR2 can even aid endothelial cells after injury.

You also conduct research on vein grafts.

In a coronary artery venous bypass graft, which uses a leg vein to bypass the blocked artery, these veins have 40–50% failure rate after two years. There are few options for patients with blocked vein grafts. Nature simply has not designed veins to handle the same kind of stress that arteries can handle. So the vein develops more smooth muscle cells, to have a firmer structure. If this process stops at the right time, the vein remains open and can handle arterial blood flow. But if the vein wall becomes too thick, it eventually blocks the blood flow. This is where our discovery of the opposing effects of TNF receptors in vascular remodeling became so significant.

How will your research help patients?

One goal is to help clinicians assess a patient's risk for vascular disease. Typically when we look for common risk factors, we look for LDL (low-density lipoprotein) levels and total lipid levels. Examining the patient's inflammatory markers gives us more information. High levels of inflammatory markers suggest a greater risk for vascular disease.

We are looking at factors that may keep patients from forming new vessels efficiently and how we can boost the required mechanisms to do this. A logical next step is to explore the possibility to selectively activate the TNFR2, and at the same time prevent signaling emanating from the TNFR1. This would shift the balance of chronic inflammatory signaling and could promote a faster recovery after injury. ■

Targeting Viruses That Work Against Heart Failure

Cardiovascular disease accounts for nearly 40 percent of all deaths that occur in the U.S. each year, and the cost to our economy is a staggering \$394 billion. **Joseph E. Rabinowitz, PhD**, Assistant Professor at the Center, devotes his research to the study and creation of vectors (such as viruses) that are essential to the delivery of a progressive treatment called gene therapy.

Dr. Rabinowitz and Center Director **Walter Koch, PhD**, have the ambitious task of removing disease-causing genes and inserting therapeutic ones in their place. Dr. Koch has focused on how to use gene transfer to treat

cardiovascular disease, and he has successfully used the technique to halt heart failure in mice. The Center focuses on replicating this research in other animals, so that it may ultimately be approved for clinical research in humans. "One of the keys to breaking the clinical barrier with gene transfer," explains Dr. Rabinowitz, "is finding a safe and effective mechanism for gene delivery to the heart." His work is to create that vector.

Why use viruses?

Viruses — once they have been genetically altered to deliver normal DNA — are vectors currently used in gene therapy.

Dr. Rabinowitz and his lab are researching the use of the adeno-associated virus (AAV), which causes very little immune response in humans. AAV is first modified with the desired therapeutic gene, and then it infects the targeted cells with the genetic material that will help the cell counteract the disease.

Which viruses to use?

Using basic research, Dr. Rabinowitz identifies and creates specific viruses for these incredibly precise purposes. His team injected mice in their tail veins with a version of AAV containing the gene for firefly luciferase (which causes fireflies to glow). They then

New Protocols for Hospital Patients with Diabetes Mean Better Outcomes

Glycemic control is a delicate balancing act for people managing their diabetes at home, and the same is true for physicians treating diabetic patients in the Intensive Care Unit (ICU). Particularly with insulin-dependent diabetes, the goal of keeping blood sugar levels in a healthy range is a complicated matter. Too little insulin can result in hyperglycemia or high blood sugar levels; too much insulin can result in hypoglycemia, or low blood sugar levels. Hypoglycemic incidents can be fatal, especially in critically ill patients.

This year, the American Association of Clinical Endocrinologists (AACE) and the American Diabetes Association (ADA) have revised the glucose targets for ICU patients, in an effort to reduce hypoglycemic incidents and morbidity. Jefferson's Division of Endocrinology is well positioned to implement the changes thanks to the Jefferson Insulin Infusion Protocol (JIIP), first developed in 2005.

The JIIP protocol has recently translated into dramatically improved patient outcomes. Jefferson has among the lowest incidence of hypoglycemia — less than 1 percent, whereas most health care centers are in the range of 5 to 20 percent.

Jefferson's endocrinology team is led by **Serge Jabbour, MD**, Associate Professor of Medicine, and **Kevin Furlong, DO**, Clinical Assistant Professor. In 2005, they realized the need for a standardized approach to glycemic control of

ICU patients and began to develop the JIIP in collaboration with the Departments of Pharmacy and Nursing; JeffIT; the ICU team; and **Paul Marik, MD**, former Director of the Division of Pulmonary and Critical Care.

Advances in technology have improved the team's ability to manage glycemic levels. Dr. Jabbour explains, "JeffIT created an electronic system that allows us to enter a patient's sugars and obtain what change in insulin drip rate is needed." Since the 2009 recommendations and the new technology, the team has shown great results — less than 1 percent incidence of hypoglycemia.

"Before JIIP," says Dr. Jabbour, "patients would be started on an insulin drip, and the nurse or resident would have to do titration and make a decision about what was appropriate. Now we have one unified protocol for every floor of the hospital."

What was previously considered a correctional dose of insulin is also now scaled to the individual patient's needs based on his or her body mass index (BMI). "JIIP has also become more customized," explains Dr. Furlong, "because a patient with type-1 diabetes who weighs 90 pounds responds more dramatically to 2 units of insulin drips than a patient with type-2 diabetes who weighs 250 pounds."

While the JIIP has helped tremendously with diabetes care in the ICU, glycemic control still



Endocrinology's Serge Jabbour, MD (left), and Kevin Furlong, DO (middle), study data from the electronic patient records system, which has been customized to standardize care of inpatients with diabetes.

is not easy. "What would be ideal," says Dr. Jabbour, "would be a continuous glycemic monitor, much like the oxygen monitors that we use now, which merely clip onto a finger like a clothespin." He explains that the current finger-stick method to monitor blood sugars is too invasive and infrequent to do real-time monitoring. He hopes that real-time monitoring will be the next step for the JIIP. **Jeffrey Joseph, MD**, Director of the Jefferson Artificial Pancreas Center, is developing real-time glucose sensors. To date, clinical trials have been encouraging. ■



Targeting Viruses

Continued from previous page

took special "bioluminescence" images of the animals 1, 2, 4, 8 and 12 weeks after the injection and measured the photons each animal emitted. The imaging revealed various levels of expression for the various vectors.

They next dissected the animal tissue to identify which vectors went most readily to which organs. Given that AAV9 and AAV6 were readily observed in the heart, these two

Joseph Rabinowitz, PhD, inserts an ultra high speed centrifuge rotor into an ultra centrifuge, where viruses are harvested for use in gene therapy.

vectors were identified as most effective for gene therapy related to cardiovascular disease.

"Ideally, this would lead to doctors injecting cells in a diseased area — such as the heart or lungs — with the vector that is most effective for that organ," says Dr. Rabinowitz. "This therapeutic gene, once unloaded, supports the cell in producing a functional protein that counteracts the disease." The hope is that one day, this research will translate into gene therapy to combat the high rate of heart disease worldwide. ■

State-of-the-Art Liver Transplant Care Celebrates 25 Years

In May the Liver Transplantation Program at Jefferson celebrated the 25th anniversary of the Delaware Valley's first liver transplant. **Michael Donahue**, Jefferson's first liver transplant patient, was in attendance at the event. "It's a blessing. I've been able to get married, have children, have a career — live a normal life," said Mr. Donahue in a KYW interview. "It's truly been a gift of life." Since that operation in 1984, Jefferson physicians have performed more than 500 transplants.

Victor J. Navarro, MD, Medical Director of the Hepatology and Liver Transplantation Program, notes that a successful transplantation is the result of coordinated efforts from an entire team. "Our four transplant surgeons play a critical role," says Dr. Navarro, "but caring for patients with liver disease takes the coordinated work of a team of other physicians, nurses, and care coordinators throughout the patients' lives."

Five coordinators and a social worker support the Hepatology/Liver Transplant program. "Before transplant, the Hepatology team works with gastroenterologists and other referring doctors to evaluate the patient's liver disease through procedures such as endoscopies and biopsies," Dr. Navarro explains. In cases involving liver cancer, physicians

from Interventional Radiology and Medical Oncology also consult. Using a liver tumor management system that Jefferson developed, the team aims to treat the tumor and control growth so that the patient is strong enough for transplant. "**Dr. Edith Mitchell**, the team's medical oncologist, has helped provide innovative chemotherapies, making the program a beacon for other institutions," says Dr. Navarro. "Patients from around the tri-state area with liver cancers are coming to us for evaluation for transplant."

After transplant, the division of GI and Hepatology provides a great deal of patient care to manage any complications, look for signs of infection or rejection, educate the patient on home care, and follow up at regular intervals for years to come.

Keeping Jefferson on the leading edge of liver patient care also requires excellent research and education. To this end, Jefferson is one of only 22 institutions in the country to provide a

one-year liver transplant hepatology fellowship that is approved by the Accreditation Counsel for Graduate Medical Education.

In research, the division is currently conducting two NIH-funded studies. The first is exploring a botanical called silymarin (extracted from milk thistle) that is thought to benefit non-alcohol induced steatohepatitis and hepatitis C, both of which involve inflammation of the liver. This is a five-year clinical trial, now in its third year.

The other NIH-funded study is in drug-induced liver injury, meaning liver injury caused by bad reactions to commonly prescribed drugs. Patients with drug-induced liver injury are enrolled and their reaction to a medication, herbal, or dietary supplement is carefully studied.

With its strengths in liver-patient care, top-notch hepatology and transplant education, and nationally funded research, the Jefferson Hepatology/Liver Transplant program is positioned to continue its role as a regional leader in this critical area of care. ■

Celebrating the 25th anniversary of the Delaware Valley's first liver transplant, Michael Donahue, the transplant recipient, remains healthy and active today. Left to right: Robert Barchi, MD, PhD, TJU President; Cataldo Doria, MD, PhD, Director, Division of Transplantation; Mr. Donahue; R. Anthony Carabasi, MD; Tom Lewis, Hospital President and CEO; Victor Navarro, MD, Medical Director of Liver Transplantation; and Charles J. Yeo, MD, Chair of Surgery.



45th Annual Martin E. Rehfuss Lecture

Department Chair **Arthur Feldman, MD, PhD** (far left), welcomed **Christine Seidman, MD**, Professor of Medicine and Genetics at Harvard Medical School, as the 45th Annual Martin E. Rehfuss Lecturer on April 30, 2009. The title of Dr. Seidman's lecture was "Hypertrophic Cardiomyopathy (HCM): A Conversation between Myocytes and Fibroblasts." Dr. Seidman researches the causes of HCM, a disease in which the heart muscle becomes thickened, a condition

that can lead to sudden cardiac death. Her work, done in partnership with her husband Jonathan Seidman, PhD, helps to improve diagnosis, provide prognoses, and aid sudden death risk stratification. The annual Rehfuss lecture honors the late Dr. Rehfuss, a Jefferson Medical College faculty member who gained an international reputation for his research on the digestive system. Dr. Rehfuss served as an emeritus professor until his death in 1964. ■

A Health Care Industry Veteran Is Inspired to Support Jefferson Research

Peter Scarperi of Newtown, Pa., has made a generous pledge to support cardiology research in the Department's Center for Translational Medicine. His interest grows out of decades of experience working for some of the world's most prominent health care corporations.

Mr. Scarperi says that the foundation for his personal and professional values is what he calls "the three Js": the Jesuits (he attended St. Peter's College, the Jesuit College of New Jersey) and the pharmaceutical giant, Johnson & Johnson, where he spent the first 20 years of his career.

As Chief Financial Officer of McNeil, a Johnson & Johnson subsidiary, Mr. Scarperi was part of the team that managed the 1982 Tylenol tampering crisis. A complete product recall of 31 million bottles was ordered when the company learned that some capsules had been injected with cyanide, resulting in seven deaths. Thanks to decisive action, including the first tamper-resistant packaging, the company regained the public's trust and Tylenol returned to its market share within one year as the leading over-the-counter painkiller.

"Our response all came down to the credo handed down from founder Robert Wood Johnson," says Mr. Scarperi, "that our first and most important responsibility was to our customers. I learned firsthand the value of translating such strong values into action." Mr. Scarperi also held executive positions at the international advertising firm Ogilvy & Mather and Nelson Communications. He

credits his experience at Johnson & Johnson with guiding him throughout his career, and notes that these same principles also inform his decisions today as a philanthropist.

Mr. Scarperi began his relationship with Jefferson in 2008, when he was looking for a cardiologist. Through colleagues, he learned of the excellent reputation of **Howard Weitz, MD**, Chief of Cardiology and Director of the Jefferson Heart Institute. "I was blown away by how terrific he was," Mr. Scarperi recalls, "and I was also inspired by all that the Department of Medicine was doing."

When Mr. Scarperi expressed interest in supporting research, the Department arranged a meeting with **Thomas L. Force, MD**, the James C. Wilson Professor of Medicine and Clinical Director of the Department's Center for Translational Medicine. Mr. Scarperi invited his daughter, **Sheryl Bunca** — who worked for Merck & Co. — to accompany him, and discovered that Dr. Force and his daughter were already acquainted. Pleased by the coincidence, and even more impressed with the work of the center, Mr. Scarperi pledged to support Dr. Force's research.

Mr. Scarperi is particularly interested in supporting research in areas that have affected his family, including heart disease, cancer, and birth defects. "As in the best health care, I strongly believe that relationships are extremely important, and I look forward to a long and close relationship with Jefferson.



Peter Scarperi holds a physician's cane given to him by Jefferson in gratitude for his support for cardiology research. Now a distinguished award, a physician's cane historically was hollowed and perforated at the top. It contained a preparation that allegedly would protect the physician from contagion.

"I'm happy to play a small part in supporting advances that we can make today, in order to benefit the patients of tomorrow." ■

How to Give

Built on a foundation of compassion and first-rate care, Jefferson is committed to discovery, innovation, and learning. One of only 125 academic medical centers in the U.S., we strive to go beyond providing exceptional care as we work to break the boundaries of our patients' illnesses.

Learn how you can support this important work with a gift to Jefferson. Please contact Margaret Fala, Director of Development for Medicine, at 215-955-7556 or by e-mail at Margaret.fala@jefferson.edu.



Jog to Jeff for John

Lisa Marie DiRusso (left) ran 15 miles to Jefferson to deliver \$1,100 in donations in memory of her stepfather, who had been a liver transplant recipient. Calling her run the "Jog to Jeff for John," Ms. DiRusso decided to support research by Victor J. Navarro, MD, Medical Director of the Hepatology and Liver Transplantation Program (see article, page 4). She is shown here with Jefferson Development Director Margaret Fala. ■

A Physician Leader and Educator Wears Two Hats

The Department of Medicine is fortunate to benefit from the service of **Gregory Kane, MD** in multiple roles. Since 2006 he has directed the Residency Program and served as Vice Chair for Education. In 2008 he also assumed the position of Interim Director of the Division of Critical Care, Pulmonary, Allergic & Immunologic Diseases.

“Divisions tend to go through life cycles,” says Dr. Kane, “and Pulmonary has undergone significant transitions. I was honored when Dr. Feldman asked me to step in during this period and ensure that Pulmonary continued to live up to our highest standards, department-wide, for our core missions of education and patient care.” He also continues to see patients himself.

A Growing Division and a New Joint Initiative

Since Dr. Kane took the helm in Pulmonary, **Michael Scharf, MD**, Clinical Associate

pulmonary arteries — the arteries that supply blood to the lungs,” says Dr. Kane. “This forces the heart to work harder to pump blood through the lungs, and can lead to right heart failure.”

The new program serves patients who need specialized care for both heart and lung conditions, including access to high quality echocardiography, and offers joint consultation by Department Chair and cardiologist **Arthur Feldman, MD, PhD**; **Howard Weitz, MD**; and **David Wiener, MD**, of the Jefferson Heart Institute; and Dr. Awsare.

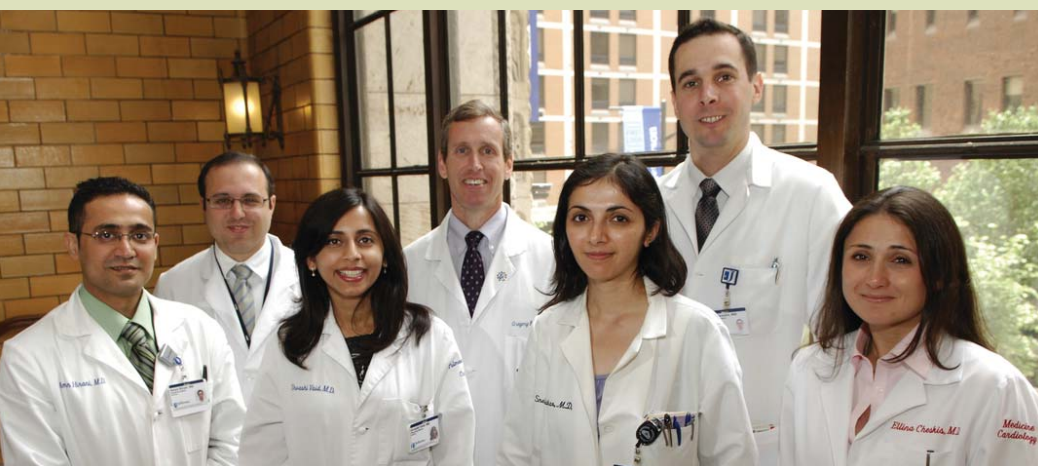
“We also took part in implementing the new, department-wide Medical Information System of electronic records,” Dr. Kane says. “This significant and exciting development enables physicians and residents to capture standard orders, as well as options for specific medications and consistent care hospital-wide, while eliminating errors that were more common with paper communication.”

“For example,” says Dr. Kane, “a resident aspiring to an office-based practice can choose electives that are outpatient-based. If the resident is interested in basic science, the program works to identify a laboratory mentor and a laboratory experience.” Those interested in clinical research might do an elective at the *Annals of Internal Medicine* to become familiar with the editorial process of a major medical publication. Residents seeking a career in clinical research can take part in the K30 program, led by Pharmacology Chair **Scott Waldman, MD, PhD**, which focuses on the critical skills needed to translate basic discoveries into clinical treatments, and offers a Clinical Research Curriculum Award.

“The redesign of education in Internal Medicine is no longer one-size-fits-all,” says Dr. Kane. “We wanted to support our residents by recognizing that they’re going into careers that are quite varied.”

About 24 residents are on a clinical education and leadership track, led by **Gretchen Deimer, MD**, that offers individualized experiences in teaching. **Ellina Cheskis, MD**, finished her residency after only two years in the research pathway and then went into the lab to do research. Resident **Sneha Thakkar, MD**, spends half of her time on clinical rotations and the other half on medical informatics, which uses technology — such as electronic prescribing of pharmaceuticals — to improve care, safety, and efficiency in the hospital. Other pathways help residents to become a hospitalist or a public health specialist. The efforts of the residents will be recorded in a new portfolio system being developed by **Jessica Salt, MD**, to highlight the career accomplishments of Jefferson’s residents.

This education approach has received national attention. In November 2008 Dr. Kane and **Donna Williams, MD**, presented a workshop on these career pathways at a national meeting of program directors as part of Academic Internal Medicine Week. “The workshop was well received,” Dr. Kane says. “We look forward to continuing to expand our offerings for each incoming group of talented residents.” ■



Under the direction of **Gregory Kane, MD**, the Residency Program offers individualized career pathway experiences. Left to right: **Aryn Hirani, MD**; **Rodrigo Cavallazzi, MD**; **Urvashi Vaid, MD**; **Dr. Kane**; **Sneha Thakkar, MD**; **Rory Bowers, MD**; and **Ellina Cheskis, MD**.

Professor, and **Elisabeth Carr, MD**, Assistant Professor, have joined the staff. They join **Bharat K. Awsare, MD**; **Sandra Weibel, MD**; **Michael Baram, MD**; **Salvatore Mangione, MD**; and **Ritu Grewal, MD**.

The Division has recently begun a new program in pulmonary hypertension in conjunction with the Jefferson Heart Institute (JHI). “This serious condition, which involves both the heart and lungs, constricts the

Residency Program Developments

The Residency program has also seen some significant changes under Dr. Kane’s leadership. “We are beginning to implement new ways of individualizing the residents’ training to fit their unique career interests,” says Dr. Kane. A set of nine pathways has been developed, so that after the first year of residency, which offers core training, residents can choose from a series of electives that are customized to their particular career focus.

Length-of-Stay

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The Critical Cooperation of Physicians

From the outset, Dr. Feldman highlighted the critical role and accountability of the attending physicians in general, and the Division Directors specifically. To prepare to implement the recommendations, he worked with his nine Division Directors to identify a “physicians’ champion” within the four key in-service teams, to shepherd the process on a day-to-day basis.

Key Recommendations and Implications

In February of this year, Dr. Feldman convened a biweekly LOS multidisciplinary working group to implement the recommendations. Of the many recommendations and procedural changes, the following were identified as key:

1. Huddle Rounds

Each of the four multidisciplinary service teams meets by 8:30 a.m., with the primary goal of writing discharge orders by 10:00 a.m. for patients scheduled to go home that day. The huddle also reviews the team’s other patients and is proactive regarding newly admitted patients as well as those scheduled for discharge the following day. Vice President for Clinical Resource Management **Patrice Miller, BSN, MSN, MBA**, and her chief manager, **Mary O’Brien**, have been particularly committed to making this process work.

“At the conclusion of huddle rounds, all team members know specifically what they need to do to facilitate timely patient discharge and are free to engage in Teaching rounds, which must also be completed by 10:00 a.m.,” explains Dr. Feldman.

The changes also improve communications with each patient. Doctors making rounds now must routinely tell new patients on their first day in the hospital what their expected LOS is. “This helps patients to understand the ‘big picture’ and to organize any family support needed for transport home from the hospital as well as follow-up care,” says Ms. Javie.

2. Leveraging Technology

JeffIT’s role has improved the access and usability of patient charts. **Jeffrey Riggio, MD**, worked with **Mary McNichol** in Information Systems to include a working LOS in the patient’s electronic file. This in turn generates a report with a suggested LOS that the team uses as a working target.

3. Residents’ Daily Report

The house staff assigned to the teams also keeps a daily log of any issues that might contribute to an increased LOS and strives

to coordinate this data into a single report. Ms. Javie notes that former chief residents **David Aziz, Tamara Fiscaro, and Stephanie Moleski** were instrumental in guiding and implementing this aspect of the initiative. “This information provides a roadmap for the hospital to prioritize systems and to identify policies that need to change to support appropriate LOS,” says Ms. Javie.



The oversight committee for the LOS initiative: (front row, from left) Sharon Millinghausen, RN, MSN, Vice President, Medicine/Cardiac/Critical Care and Specialty Services; Mary Ann McGinley, PhD, RN, Senior Vice President and Chief Nursing Officer; Arthur Feldman, MD, PhD, Medicine Chair; Jeffrey Riggio, MD, Information Systems and Patient Safety; Tamara Fiscaro, MD, former Chief Resident; (back row, from left) Mary McNichol, Information Systems; Michelle Russo, Rehabilitation Medicine; Robin Becker, RPh, MS, Pharmacy; Karen Javie, RN, MSN, Vice President for Strategic Initiatives; Michael Rufo, Strategic Initiatives; Mary O'Brien, Clinical Resource Management; and Reetika Kumar, MD, Internal Medicine.

4. Geographic Placement

“Jefferson’s patient placement protocol needed updating and an emphasis on management,” says Ms. Javie. **Joe Anton**, Director of Patient Logistics, continues to work closely with bed placement to assure that patients for various services are admitted to the appropriate areas. “This is a more consistent way to manage the process,” Ms. Javie notes. “It promotes teamwork while increasing efficiency by minimizing the need for rounds to travel to multiple units.”

Additional Challenges

In July 2009, the Academic Council on Graduate Medical Education (ACGME) reduced the number of patients that residents and interns are allowed to manage — from 16 to 14. ACGME also decreased the number of attending physicians that any single resident would interact with during each day. “To comply with the ACGME, we had to create a new Hospitalist-run service, consisting of our in-hospital specialist physicians and nurse

practitioners instead of residents,” explains Ms. Javie. The next major focus is the creation of clinical pathways and order sets for our top three Opportunity Medicare Severity Diagnosis Related Groups (MS-DRGs). “This patient classification system identifies resources needed as part of the prospective payment system required by Medicare,” she says. The other insurers have followed Medicare’s lead.

Perspectives to Date

The feedback from every division has been extremely positive so far. Physicians and other team members claim that the huddles and new schedule decrease the number of phone calls required and make overall communication much easier. **Howard Weitz, MD**, Director of the Division of Cardiology and the Jefferson Heart Institute, was impressed: “This was the first time in my 30-plus years at Jefferson that I’ve seen rounds completed by 10 a.m.,” he says. “This new, consistent approach is advantageous to all members of the team.”

“The systemic planning and feedback of this initiative draw upon the talents of all players,” Dr. Feldman says. “It not only maximizes efficiency, but also trains physicians in best practices and ultimately empowers us to offer our patients the very best in coordinated care.” ■