



DEAN'S MESSAGE: What's On My Mind



What's on my mind this month is the progress we have made only a little over a year into our **Vision 2020** strategic plan.

Vision 2020 for UM Medicine was

developed to position ourselves for maximum and extraordinary success through accelerating the pace of discovery, collaboration, innovation and quality of patient-centered care. When I announced this strategic plan in June of 2013, I spoke about our goals for each of the School of Medicine's mission areas: education, research, clinical care and outreach. Many of you are aware of the programs that we have established to accomplish our **Vision 2020 for Research**, articulated through the multi-faceted initiative called **ACCEL-Med** (Accelerating Innovation and Discovery in Medicine). I am extraordinarily pleased with the commitment of our faculty, staff, students and trainees to realizing the goals of **ACCEL-Med**. However, in this issue of *SOMnews*, I would like to put the spotlight on our **Vision 2020 for Clinical Care**.

Together, the School of Medicine and University of Maryland Medical System (UMMS) form the premier healthcare system serving Maryland and the Mid-Atlantic Region. **Our faculty physicians and staff are known for their unwavering commitment to providing the highest quality patient care and service excellence.** Academic medical schools such as ours play a critical role in sustaining and improving the health and wellbeing of all people, but especially for the communities surrounding our institution.

Our **Vision 2020** goals for clinical care include

- Becoming unquestionably Maryland and the region's **premier clinical healthcare system**;
- Making service excellence and patient-friendly, patient-centered, high-quality, and safe care our top priorities; and
- Ensuring that all academic units have a balance of physician-educators and physician-scientists, and that both are equally valued.

To more fully articulate how we can accomplish these goals, I charged **William Regine, MD**, who is the Isadore & Fannie Schneider Foxman Chair in the Department of Radiation Oncology, as well as a professor in the department, with forming a committee of faculty physicians to assess the School of Medicine's areas of strengths and where improvements could be made, and to provide me with recommendations on how we might proceed. Over the course of many discussions, the **Clinical Resources Advisory Group (CRAG)** has made a thorough assessment of the clinical care services overseen by School of Medicine faculty, primarily at the University of Maryland Medical Center (UMMC). The CRAG has identified potential resources that could be used to help reinvigorate our current programs, and made specific recommendations on how the UM Medicine leadership could further strengthen our world-class care. Based on recommendations by the CRAG, we will implement strategies in the short, intermediate and long term.

In addition to the expert counsel I have received from Dr. Regine and his colleagues on the CRAG, I also want to highlight just a handful of our clinical programs that exemplify what we aim to accomplish through our **Vision 2020 for Clinical Care**.

- In June of this year, the cyclotron, which will deliver the most cutting-edge cancer therapy to patients,

was installed into the **Maryland Proton Treatment Center**. The placement of this equipment signals that we are one step closer to completing what will become a life-saving and life-changing cancer treatment center.

- For the **fourth year in a row**, the University of Maryland Division of Transplantation performed **more liver transplants** than any other transplant program in the State of Maryland.
- We have established magnet, or near-magnet, designated programs of excellence in several key areas, including cardiac valve replacement and pediatric heart transplantation at UMMC, and in sports medicine at the UM Rehabilitation and Orthopaedics Institute.
- This month the UMSOM Clinical Neurobehavioral Center will open in the Waterloo Crossing building in Columbia, Maryland. This Center will be dedicated to conducting the pinnacle of neurobehavioral research and work to develop medications and treatments for alcohol and drug addiction and prevention.

The acute care services in trauma, surgery, transplantation and cancer treatment delivered by our faculty at UMMC are among the best in the nation. Equally vital to the acute care services for which our faculty physicians are renowned are the services our clinicians provide to patients with chronic diseases. Diabetes, heart disease, pulmonary diseases and infectious diseases affect millions of Americans, especially those living in major metropolitan areas. **As an academic medical center located in Baltimore City, our clinicians and hospital staff face unique challenges in addressing the health needs of our patients.** Each day our clinicians must grapple with numerous barriers to success, including overcoming health disparities and inequalities, training a culturally sensitive workforce, and educating a diverse patient population about the importance of preventive health.

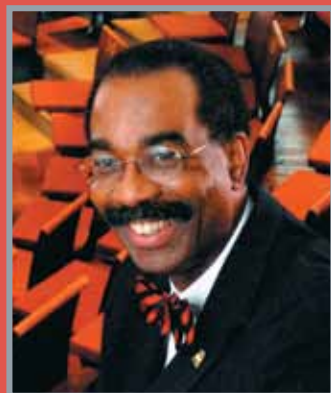
The series of articles presented in this month's *SOMnews* highlight the faculty-run ambulatory care services that have moved to—and will expand at—the UMMC Midtown Campus. Transitioning key health programs to the new location has transformed a former community hospital into a "University Hospital." This demonstrates the strategic and innovative thinking that **Vision 2020 for Clinical Care** is intended to inspire. Rather than use an old model, where primary care physicians refer patients with chronic conditions to multiple specialists, often located in different clinics, care at Midtown will be comprehensive and all-inclusive. For example, a patient with Type-2 diabetes can meet with her endocrinologist, podiatrist, nutritionist and eye doctor all in one place. Creating easier access to care is just one way in which our faculty physicians are transforming health services to meet the needs of Baltimore residents.

Delivering care requires us to adapt to the local culture, understand our citizens' perspectives, and relate to our patients. **Improving well-being cannot be accomplished by understanding the research alone. We must take this information and apply it to real-life settings, which is why our clinical care mission is so vital to our success.** The lives of patients are saved because discovery and medicine continue to advance at a tenacious pace, thanks to the tireless efforts and extraordinary contributions of our faculty physicians.

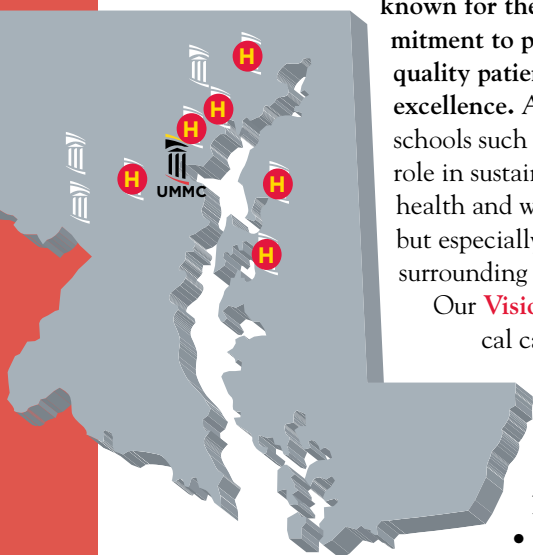
In the relentless pursuit of excellence, I am

Sincerely yours,

E. Albert Reece, MD, PhD, MBA
Vice President for Medical Affairs, University of Maryland
John Z. and Akiko K. Bowers Distinguished Professor and
Dean, University of Maryland School of Medicine



Locations of UMMS hospitals and clinical sites across Maryland



“THE LIVES OF PATIENTS ARE SAVED BECAUSE DISCOVERY AND MEDICINE CONTINUE TO ADVANCE AT A TENACIOUS PACE, THANKS TO THE TIRELESS EFFORTS AND EXTRAORDINARY CONTRIBUTIONS OF OUR FACULTY PHYSICIANS.”

Department of Medicine Expands :...



ULTIMATELY, THE MIDTOWN CAMPUS WILL BECOME THE PRIMARY AMBULATORY CARE DELIVERY SITE, WITH SIGNATURE PROGRAMS IN DIABETES AND ENDOCRINOLOGY, INFECTIOUS DISEASES, PULMONOLOGY, GERIATRICS, GASTROENTEROLOGY, OUTPATIENT PROCEDURES, ELECTIVE SURGERIES, PSYCHIATRY AND COMMUNITY HEALTH.

Envisioning a New Way to Treat Chronic Diseases

DELIVERING HIGH-QUALITY, patient-centered care has always been a top priority for the School of Medicine's faculty physicians. The University of Maryland Medical Center (UMMC) in downtown Baltimore is a center for excellence in multiple areas of patient care, including cancer treatment, trauma, surgery and organ and tissue transplantation. Additionally, School of Medicine faculty provide a cadre of outpatient services for area residents with chronic conditions, such as diabetes, asthma and heart disease, as well as infectious diseases, most notably HIV/AIDS and its associated co-infections. However, as the School of Medicine and its patient populations have grown over the years, providing exceptional acute and ambulatory care at one site had started to become physically impossible.

Recognizing the importance of providing comprehensive care for people with chronic diseases, Stephen Davis, MBBS, the Dr. Theodore E. Woodward Chair and Professor in the Department of Medicine, identified an excellent opportunity to expand many of his department's existing ambulatory care programs by moving a number of these patient services to the UMMC Midtown Campus. Ultimately, the Midtown campus will become the primary ambulatory care delivery site, with signature programs in diabetes and endocrinology, infectious diseases, pulmonology, geriatrics, gastroenterology, outpatient procedures, elective surgeries, psychiatry and community health.

There are five strategic goals for Midtown:

- Provide exceptional service, compassionate care, quality and patient safety, and become a recognized leader in achieving optimal clinical outcomes.
- Expand ambulatory care continuum geographically across the Baltimore region.
- Expand patient access to care to reduce cost and increase value to customers.
- Enhance and develop new ambulatory clinical programs in key priority areas.
- Develop new innovative population health models for chronic diseases and high-risk populations in West Baltimore.

Dr. Davis' vision is to reinvigorate what was once a community hospital into a leading academic health center, providing large subspecialty and ambulatory care services anchored to the basic, translational and clinical research ongoing at the School of Medicine. Each of the signature programs at Midtown will be overseen by School of Medicine faculty across multiple departments, institutes, centers and programs, allowing for greater collaboration between disciplines. Having faculty in varied subspecialties in one location could help significantly advance the science and treatment of lifelong health conditions.

State-of-the-art management of chronic diseases requires many levels of care, from primary care and prevention of the disease, to secondary treatment of disease complications, to taking steps to ensure that the disease complications do not worsen (tertiary prevention). For example, Midtown will not only have heart doctors available to work with patients with coronary heart disease (primary care), but a multi- and interdisciplinary team of nutritionists, smoking cessation counselors, diabetes specialists, gerontologists and sleep experts (pharmacists, nurse educators and practitioners) to provide additional management, monitoring and consultation.

Midtown's one-stop health programs will greatly benefit patients. For people who have a chronic condition, such as Type-2 diabetes, going to the doctor for a routine check-up can be cumbersome. Managing diabetes not only requires rigorous checks of a person's blood glucose levels, but also his or her blood pressure, kidney function, eye sight, foot health, cardiac performance, cholesterol levels and endocrine system activity. Many people with diseases that affect multiple organs may not have the time, resources, or ability to meet with all the necessary specialists on a regular basis. Having their doctors located within one building would significantly improve people's ability to manage their health and quality of life.

According to Dr. Davis, "The best management of a chronic disease is when primary care physicians partner with subspecialists. Providing patients easy access to all the health professionals who can help them with every aspect of their disease will exponentially improve their overall well-being, and prevent costly hospital readmissions."

The new location will enable each signature program to expand its current research portfolios to include clinically oriented research at the population health level: genomics, epidemiology, and clinical trial space to expand current research opportunities that cannot be completed at UMMC. Plans also are in place to break ground on a new seven-story ambulatory care building that will include patient services, space for education of students, residents and fellows, as well as for epidemiological studies and clinical research.

Medicine programs currently located at the Midtown campus include the following:

- Sleep Clinic and Sleep Lab
- Gastroenterology and Hepatology services
- Center for Diabetes and Endocrinology
- Infectious Disease Clinic
- The Jacques Initiative
- Rheumatology
- Pulmonary/Critical Care
- Internal Medicine Hospitalists

Dr. Davis' vision for Midtown strongly echoes Dean Reece's Vision 2020 for Clinical Care, with a goal of making the University of Maryland the unquestionable leader in patient-centered care by thinking boldly and strategically about how such care is delivered. Bringing together physician-scientists across specialties and building multidisciplinary teams, all located within the same physical space at Midtown, has great potential for significantly reducing the public health burden of chronic disease.

New Location for Patients with

Although cases of cholera, diarrheal diseases or malaria are uncommon in the United States today, infectious diseases, such as HIV/AIDS, still remain a significant public health burden. According to the Centers for Disease Control and Prevention, Maryland has the third highest number of diagnosed HIV cases in the nation, and the Baltimore-Washington region is among the top 10 metro areas in terms of people living with the disease. Despite advances in education, prevention and antiretroviral therapies, many Baltimore residents living with HIV still do not benefit from the disease management options currently available.

The Division of Clinical Care and Research within the School of Medicine's Institute of Human Virology (IHV), in partnership with the Division of Infectious Diseases in the Department of Medicine, has worked tirelessly for nearly two decades to combat these realities by providing highest-quality inpatient and outpatient care (see timeline). Faculty physicians and staff are deeply committed to being at the forefront of research, treatment and management of infectious diseases that are serious threats to public health, including HIV/AIDS, antimicrobial-resistant pathogens, bioterror agents and other emerging infectious diseases.

The transition of a number of signature ambulatory care programs to the University of Maryland Medical Center (UMMC) Midtown Campus afforded

MOVE TO MIDTOWN PROVIDES

"Breathing Room" for Pulmonary & Critical Care Medicine

Chronic diseases that affect the airways, lungs and lining of the airways and lungs, such as chronic obstructive pulmonary disease (COPD), asthma and acute respiratory disease syndrome (ARDS), can significantly limit a person's quality of life and lead to tremendous health care costs. For example, according to the Agency for Healthcare Research and Quality, COPD was the ninth leading cause for U.S. adult hospital readmissions in 2010, and the third leading cause of death in 2011. Asthma, one of the most common chronic lung diseases, affects about 1 in 11 children and 1 in 12 adults in America.

Reducing the incidence and severity of pulmonary diseases has the potential to dramatically improve health and decrease these patients' need for hospitalization. For decades, providing high-quality acute and ambulatory care for patients with pulmonary diseases has been the mission of School of Medicine faculty who work in the University of Maryland Medical Center (UMMC) Division of Pulmonary and Critical Care Medicine, part of the Department of Medicine. With the Division's move to the UMMC Midtown Campus this year, faculty physicians and staff hope to make an even greater impact on their patients' lives through comprehensive inpatient and outpatient programs ranging from maintenance of lung health through treatment of advanced lung disease.

Led by physician-scientist Jeffrey Hasday, MD, professor, Department of Medicine and Head of the Division of Pulmonary and Critical Care Medicine, the division has already begun to move some of its patient services to Midtown. Beginning in July, the Pulmonary and Critical Care faculty and fellows began staffing the new 18-bed intensive care unit (ICU) at Midtown that will treat patients in conjunction with the existing 29-bed Medical ICU (MICU) at UMMC downtown and the 10-bed MICU at the Baltimore Veterans Administration Medical Center. With the addition of new technologies, the development of disease-specific protocol, and overnight telemetric coverage by the UMMS electronic ICU, the Midtown ICU will increase capacity of UMMC to care for high acuity patients.



Enabling Patients to Breathe on Their Own Again

The Rapid Weaning Program at the Midtown Campus, led by Avelino Verceles, MD, Assistant Professor, Department of Medicine, is designed to facilitate patient liberation from a ventilator, while initiating comprehensive rehabilitation in difficult-

to-wean patients who have survived an extensive intensive care unit admission.

Candidates for the program include patients from medical, surgical, trauma or neurologic intensive care units at UMMC who have had prior unsuccessful weaning attempts and have become debilitated as a result of prolonged bed rest. The Rapid Weaning Program uses an evidence-based ventilator weaning protocol, early mobility, and comprehensive rehabilitation to help patients who have been on prolonged mechanical ventilation to breathe on their own and regain control of their everyday functions.

"The longer a patient is on a ventilator, the greater risk he or she has of developing pneumonia or other respiratory infections," says Dr. Hasday. "Patients in the ICU also are not very active, which, in the long term, could lead to cognitive and other physical impairments. Therefore, it is important for critical care patients to receive rehabilitation during their stay in



the ICU to prevent debilitation while they are in the hospital and to continue aggressive rehabilitation after discharge."

Commitment to Excellent Outpatient Care

In addition to the inpatient program, several outpatient programs that are important for treating and preventing pulmonary disease have been developed at Midtown. These include a pulmonary rehabilitation program headed by Montserrat Diaz, MD; a comprehensive smokers health assessment and cessation clinic directed by Janaki Deepak, MBBS; and expansion of the UMMC interventional pulmonology program, led by Ashutosh Sachdeva, MBBS, all three of whom are Assistant Professors in the Department of Medicine. *[continued on back page]*

Expanding Care for Diabetes Patients

Diabetes and its related health complications—eye, cardiac and kidney diseases, to name a few—are major public health problems. In 2014, the Centers for Disease Control and Prevention (CDC) estimated that 29.1 million people had diabetes, and that roughly 8.1 million people remain unaware that they have the disease. In Maryland, an estimated 500,000 people have diabetes, including 117,000 who have not yet been diagnosed, and another 1 million who have pre-diabetes. With an ever-growing patient population, health centers and hospitals must take up a greater role in successfully managing diabetes.

The University of Maryland (UM) Center for Diabetes and Endocrinology, overseen by faculty at the UM School of Medicine, has risen to meet this challenge. In addition to treating diabetes, UM endocrinologists care for adults and children with often complex endocrine disorders, such as pituitary and adrenal diseases, lipid disorders, thyroid problems, obesity and metabolic syndrome, and metabolic bone and mineral disorders. Using a multidisciplinary approach, subspecialty clinics focus on medical problems ranging from pituitary tumors and thyroid nodules to osteoporosis.

Until recently, the team was spread across the UM Medical Center (UMMC) campus. Recognizing the need to bring the programs together, the UM adult and pediatric diabetes and endocrine programs moved their patient services to the 2nd floor of the UMMC Midtown Campus in March of this year.

Not only does the newly renovated site provide more space for the program to grow, but having the physicians and staff in one location makes routine visits easier on the patient, providing a "one-stop shop" for people with diabetes and endocrine disorders. In addition to a team of endocrinologists, certified diabetes educators, nutritionists, and support staff working together to come up with individual treatment plans for patients, faculty also work very closely with podiatrists, ophthalmologists, psychiatrists, and other specialists who care for diabetes and other endocrine-centered health issues.

The expanded center remains part of the University of Maryland Center for Diabetes and Endocrinology Network, which offers the highest level of comprehensive care, education and complications prevention. The center also conducts leading-edge research, providing opportunities for patients to receive the most advanced care.

"Our goal is a better outcome for the patient," says Kristi Silver, MD, Associate Professor, Department of Medicine and the Center for Diabetes and Endocrinology's interim director. "When you have the team working together, you can make a lot of positive breakthroughs in the patient's quality of life and diabetes control."



Infectious Diseases

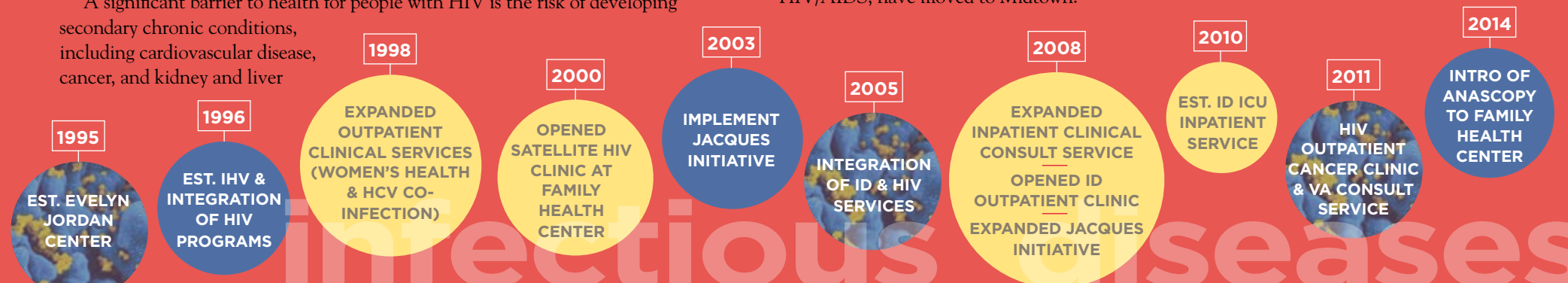
the Division of Infectious Diseases a key opportunity to expand its effort to effectively engage Maryland citizens living with HIV and other infectious diseases into appropriate care.

"Decreasing the number of people with HIV infections, such as those living in the neighborhoods around the School of Medicine, requires people to receive a timely diagnosis, remain in care, and adhere to antiretroviral therapy," says Division Head Robert Redfield, MD, Chief of Infectious Diseases and Director of the HIV program at UMMC, Associate Director of the IHV, and a professor in the Department of Medicine. "Only by reducing the community viral load can we drive this epidemic to zero."

A significant barrier to health for people with HIV is the risk of developing secondary chronic conditions, including cardiovascular disease, cancer, and kidney and liver

disease. Another major complication is co-infection with other infectious microbes, most notably hepatitis C virus (HCV). Approximately 25% of all people living with HIV also have HCV infection, and between 50–90% of HIV-infected intravenous drug users have HCV co-infections. However, improved long-acting antibiotics and oral antibiotics make ambulatory management of bacterial infectious diseases and other complications of HIV infection feasible in the outpatient setting. In addition, new developments in HCV therapy, including Food and Drug Administration approval of several new HCV drugs, hold promise to ultimately cure the disease.

Recognizing the possibility that they would need to handle more patient cases, while maintaining the impeccable standards for highest-quality, holistic care, the Division of Infectious Diseases put plans in place to expand its clinical services once established at the Midtown campus. Already, the Infectious Disease Clinic and the IHV's JACQUES Initiative, which is dedicated to primary care and case management services for people with HIV/AIDS, have moved to Midtown.



Student Summer Research Forum



On July 25, more than 90 summer research students and their mentors gathered in the SMC Campus Center to participate in the University of Maryland School of Medicine (SOM) Student Summer Research Forum. The event was hosted by the SOM Office of Student Research (OSR) and included a full day of poster and oral presentations from undergraduate, pre-professional, and medical students who had completed research in biomedical science summer research programs.

More than 60 posters and 30 oral presentations were given throughout the day. Lunch featured a talk from the keynote speaker, Dr. Sunjay Kaushal, Associate Professor, Department of Surgery, and Director of Pediatric Cardiac Surgery at the University

of Maryland Medical Center (UMMC), who encouraged students to continue pursuits in medical and clinical science research.

The summer research students were hosted in labs affiliated with various summer research programs across campus. Their research projects included a wide range of topics in fields including, but not limited to: pharmaceutical sciences, radiation oncology, genomic medicine, and microbiology and immunology.

Undergraduate students participated in programs such as UM Scholars, which hosts students from the University of Maryland, College Park, and the Nathan Schnaper Summer Internship in Cancer Research, which is directed by SOM professor Bret Hassel, PhD, Associate Professor, Department of Microbiology & Immunology.

Medical students, who are encouraged to conduct summer research following their first year of study, received research support from competitive programs such as the Proposed Research Initiated by Students and Mentors (PRISM) program, designed to introduce and inspire first-year medical students to pursue biomedical science research careers. Additionally, the Health Professions-Student Training in Aging Research (HP-STAR) program sponsored pre-professional students from the Schools of Pharmacy, Dentistry, and Nursing and gave them an opportunity to conduct summer research in labs at SOM, UMMC, and the Baltimore Veterans Affairs Medical Center (VAMC).

The event was organized and coordinated by both Qi Cao, BM, PhD, Assistant Professor, Department of Diagnostic Radiology & Nuclear Medicine and Research Coordinator for OSR, and Gregory Carey, PhD, Assistant Professor, Department of Microbiology & Immunology and the Director of Student Summer Research and Community Outreach. Graduate student volunteers from the Graduate Program in Life Sciences (GPILS) manned the registration desk for participants and guests, and served as moderators for the poster and oral presentation sessions through the day.

All of the students who presented research in the poster or oral presentation sessions received a personalized certificate of participation during the closing ceremony and as congratulations for a summer of hard work and a job well done.

“The Smokers’ Clinic is an exciting new venture that is an innovative comprehensive program to provide tobacco smokers with a one-stop shop to be appropriately evaluated for smoking-related diseases and to provide help with smoking cessation,” says Dr. Hasday. “Programs like these will help minimize or eliminate some preventable lung diseases.”

Better Sleep, Better Health

The impact of a good night’s sleep on a person’s health cannot be overstated. For example, insomnia is one of the most common patient symptoms and has a major effect on quality of life. Sleep apnea is associated with several chronic health problems, including high blood pressure and heart failure, and can impair thinking and memory.

The Midtown campus now houses the sleep clinic and sleep laboratory, two major components of the University of Maryland Sleep Medicine Program directed by Steven Scharf, MD, PhD, Professor, Department of Medicine. This is one of only two multidisciplinary sleep programs in the region.

“With support from Midtown, the program has expanded its capacity and breadth of services and includes all complex sleep disorders, including insomnia and sleep disorders associated with psychiatric disease,” says Dr. Hasday. “Dr. Scharf is using innovative web-based tools and portable monitoring devices to provide inpatient and home-based screening that will identify patients who will most benefit from the program’s diagnostic and therapeutic services. The sleep group is also engaged in clinical research aimed at improving detection and treatment of sleep disorders.”

Looking Ahead

Once the new ambulatory care building is completed, the division will be able to consolidate and grow all of its patient services, including those mentioned above, as well as its asthma and COPD clinics, lung nodule clinic, and interstitial lung diseases and lung transplant programs. As with the other ambulatory services relocating to Midtown, the move will allow division faculty to collaborate with colleagues from across disciplines to provide an even greater level of care to patients with chronic disease.

“Currently, there is significant intersection between programs in the cancer center and infectious diseases program for ICU patients, and we have a natural collaboration with the Division of Infectious Diseases group moving to Midtown, because HIV patients may require diagnostic bronchoscopy,” says Dr. Hasday. “Partnerships with faculty in the Center for Diabetes and Endocrinology also may form because glucose tolerance tends to be a problem for some ICU patients. Furthermore, exciting new clinical research has identified important links between sleep apnea and diabetes and other metabolic diseases.”

Ultimately, the move will provide better services to patients with a range of pulmonary and critical care health needs, giving School of Medicine faculty the opportunity to work in multidisciplinary teams with their colleagues and expand the high-quality clinical care and clinical and translational research for which the University of Maryland is known.

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