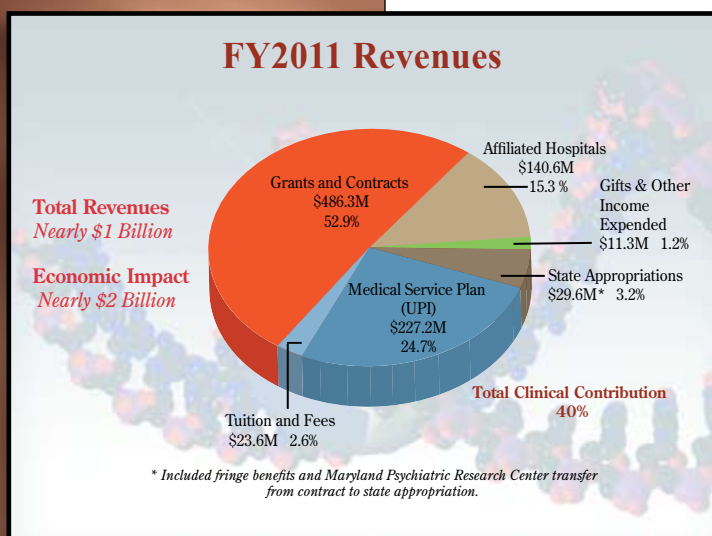
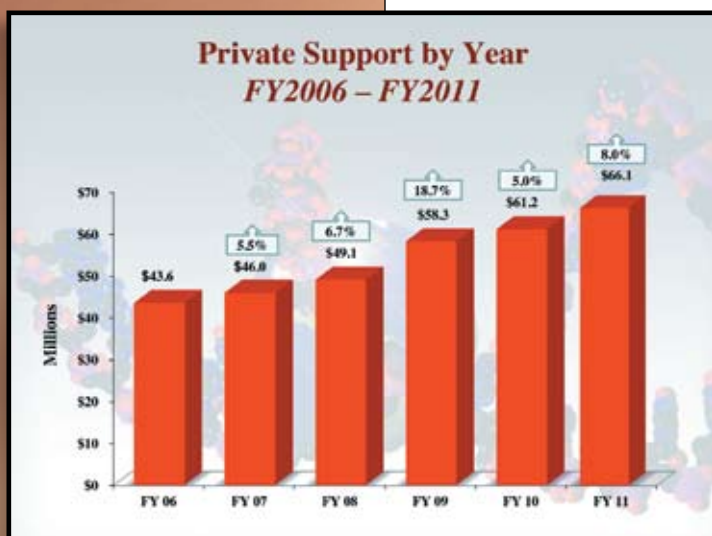




“Leading **Innovation**
Discovery,
Changing Lives Worldwide”

2011 STATE OF THE SCHOOL ADDRESS

Leading Innovation and Discovery: Changing Lives Worldwide was the theme for the 2011 State of the School Address, delivered by E. Albert Reece, MD, PhD, MBA, Vice President for Medical Affairs, University of Maryland and the John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine.



Speaking to a standing-room-only crowd in the MSTF auditorium, Dean Reece said the School of Medicine continues to thrive, despite economic uncertainty, state funding cuts, and proposed reductions in NIH funding. “Despite these challenges and uncertainties, our research enterprise has grown, patient care revenue is up, and we continue to educate and train outstanding physicians, basic scientists and allied health professionals,” said Dean Reece.

Even though NIH funding remained relatively flat, and the flow of stimulus money from the federal government has declined, research funding to the School of Medicine increased from \$479.1 million in FY10 to \$486.3 million in FY11. “The increase was not as robust as it was last year, but under the circumstances, our growth in research funding should be viewed in a positive light,” said Dean Reece. “It reflects the high caliber of excellence of our research faculty and staff.”

The continued growth in research funding helped the School of Medicine to maintain high rankings by the Association for American Medical Colleges (AAMC). Among all 134 medical schools, the School of Medicine remained in the top tier, ranking 17th in direct grants and contract expenditures. The School of Medicine is ranked 7th among all 76 public medical schools, and remains among the fastest growing research enterprises in the country.

Total clinical revenues increased nearly seven percent to a record high of \$227.2 million and total patient volume increased 3.5 percent.

The school’s total revenue, which includes grants, tuition, state funding, faculty practice, income and philanthropic gifts, was nearly \$1 billion. Fifty-three percent of total revenue came from grants and contracts, while clinical revenue accounted for 40 percent. The performance of our practice plan was impressive. Total clinical revenues increased nearly seven percent to a record high of \$227.2 million and total patient volume increased 3.5 percent. Dean Reece gave credit to the School of Medicine’s outstanding clinical faculty, which treated well over one million patients last year. “This exceptional growth is made possible by the strong partnership between the School of Medicine and the University of Maryland Medical System (UMMS). Together, the School of Medicine and UMMS generate an economic impact of nearly \$6 billion for the state of Maryland,” said Dean Reece.

Despite the challenging economic landscape, philanthropic funding for the school remained strong, thanks to generous private gifts and endowments, which increased eight percent to \$66.1 million in FY11. These gifts included more than \$15 million in gifts from private donors, and gifts to fund endowed professorships in anesthesiology, trauma, and neurology.

Highlights from the last year are many, and include:

- The Institute of Human Virology (IHV) received \$23.4 million from a consortium of funding sources to support the next phase of research into a promising HIV/AIDS preventive vaccine candidate.
- The Maryland General Assembly approved \$4 million in matching funds for the preliminary design of Health Sciences Facility III (HSF III).
- The University of Maryland School of Medicine is one of only two universities working with IBM to test the advanced analytics of the company’s “Watson” computer for potential health care applications.
- Thanks to the outstanding clinical faculty, The University of Maryland Medical Center has been designated by the Leapfrog Group, as a Top Hospital of the Decade for patient safety and quality of care.
- School of Medicine graduates went on to nationally acclaimed residency programs throughout the country, including Yale, Stanford, Duke, and the University of Maryland Medical Center (UMMC).

These accomplishments kept the School of Medicine in the public eye and generated a tremendous amount of media coverage. **More than 20,000 news stories were placed in print publications, on the web and in the broadcast media around the world.**

“For more than 200 years, and especially in the past year, our faculty, staff and students have worked diligently to enhance and expand clinical care, medical and allied health education, biomedical research, and community outreach,” said Dean Reece. “I am delighted and humbled by the sheer magnitude of our collective achievements.”

► BY KAREN ROBINSON

Mobile Phone Technology Helps Patients Manage Diabetes

An interactive computer software program appears to be effective in helping patients manage their Type 2 diabetes using their mobile phones, according to a new study from the Department of Epidemiology & Public Health. The research was published in the September issue of the journal *Diabetes Care*. The study, one of the first to scientifically examine mobile health technology, found that a key measure of blood sugar control—the amount of hemoglobin A1c in a person's blood—was lowered by an average of 1.9 percent over a period of one year in patients using the mobile health software. The findings support the further exploration of mobile health approaches to manage many chronic conditions, including diabetes.

“These results are very encouraging,” said principal investigator Charlene C. Quinn, PhD, RN, assistant professor, Department of Epidemiology & Public Health. “The 1.9 percent decrease in A1c that we saw in this research is significant.

Previous randomized clinical trials have suggested that just a 1 percent decrease in A1c will prevent complications of diabetes, including heart disease, stroke, blindness and kidney failure.”

The study indicates that using mobile phones, the Internet and other mobile communications technology to keep patients healthy may have broad applications to help patients and their physicians manage many health conditions.

“Mobile health has the potential to help patients better self-manage any chronic disease, not just diabetes,” Dr. Quinn explained. “This is one of the first large, reported, randomized clinical studies examining the mobile health industry, which is rapidly growing. The U.S. Food & Drug Administration just last month released draft guidance on how it intends to regulate the field. Our results can help define the science behind this new strategy for disease management.”

People with Type 2 diabetes either do not produce enough insulin to convert sugar into energy or their cells ignore the insulin. A key measure of blood sugar control is the amount of hemoglobin A1c in a person's blood. A1c is a molecule in red blood cells that binds itself to blood sugar. The higher the level of sugar in the blood, the higher the level of A1c.

“The software examined in the research provided real-time feedback on patients' blood sugar levels, displayed medication regimens and served as a “virtual coach.”

An A1c test provides a snapshot of a patient's average daily blood glucose levels over the previous two to three months. The American Diabetes Association recommends that a person's A1c be less than 7 percent. Most Americans with Type 2 diabetes have an average level of more than 9 percent, which greatly increases their risk for complications.

“We tell patients that they can meet these goals if they eat a healthy diet, exercise daily and take their medication as directed, but we don't really give them the tools to do that,” said Dr. Quinn.

The yearlong study enrolled 163 patients with the help of 39 primary care doctors in Baltimore County, Baltimore City, Montgomery County and Anne Arundel County. Patients were divided into four groups based on the research assignment of their physician. Three patient groups received mobile phones loaded with the diabetes management software and the fourth group served as a control group. All patients in the study received a free blood glucose meter and testing supplies.

The software examined in the research provided real-time feedback on patients' blood sugar levels, displayed medication regimens and served as a “virtual coach.” A patient's blood sugar test results were sent wirelessly from a blood glucose monitor to the mobile phone. If the level was too low or too high, the software on the phone prompted the person to take steps to correct it. The system also analyzed blood sugar levels and other patient information and sent computer-generated logbooks and suggested treatment plans to the patients' primary care doctor.



Charlene C. Quinn, PhD, RN

Med Student Information Technology Focus Group Leads to Improvements

► BY CATHERINE BEVERAGE



THE MEDICAL STUDENT Information Technology focus group has been formed to discuss technology issues and find ways to improve technology resources. The focus group's first meeting resulted in a plan to migrate student email service from the campus server to the School of Medicine (SOM) server. This change was brought about primarily to address HIPAA concerns. Hosting email on the SOM network means students, faculty and staff can communicate among themselves without their messages leaving the safety of the SOM network. SOM email services gives students access to Global Address Lists and school distribution lists, making it easier for them to find email addresses for School of Medicine faculty and staff. SOM email is feature-rich, offering personalization of contacts, calendars and integration with Microsoft Office tools. Plus, it is easily accessible via web and mobile devices. The migration of more than 1,200 student email accounts was completed this past August.

Another requested improvement was to simplify the method for resetting expired passwords. A new web application allows users to change or reset their passwords without having to contact a SOM Help Desk representative. Faculty, staff and students may enroll themselves at <https://password.som.umaryland.edu>. Once enrolled, students can manage their passwords by visiting the same site. Broader Wi-Fi coverage is another change to come out of the meeting. Wireless access points have been added in Howard Hall, Bressler lobby, HSF1, HSFII and MSTF auditorium. The lecture halls and study areas have secure wireless access and students can authenticate with the same login ID and password they use for their email accounts. In these days of click-and-go media integration, increased Internet access means increased productivity and easier access to IT resources.

The next focus group meeting, hosted by Jim McNamee, PhD, associate dean of Information Services and CIO, will convene during the fall semester. The goal of these focus groups is to involve medical students in technology discussions to develop technology strategies that will benefit students. Dr. McNamee will invite back focus group members from the first meeting as well as solicit new members from this year's freshman class.

For more information, contact Dr. McNamee at x6-2881 or jmcmamee@som.umaryland.edu.

CORRECTION

The September 2011 issue of *SOMnews* included an article entitled “Drs. Henry, Fiskum and Njoku Most Recent Endowed Professors.” In a corresponding photograph, Joanne Schmith was incorrectly identified as Dr. Tom Scalea's mother, Anne, for whom the Anne Scalea Professorship in Trauma is named.

SOMnews truly regrets the error.

► BY KAREN WARMKESSEL

Renewal of National Cancer Institute Designation

Only a select group of cancer centers throughout the U.S. achieve this prestigious recognition

UNIVERSITY OF MARYLAND
MARLENE AND STEWART
GREENEBAUM CANCER CENTER

NCI·CC

A Cancer Center Designated by the National Cancer Institute

The University of Maryland Marlene and Stewart Greenebaum Cancer Center has won renewal of its National Cancer Institute (NCI) designation for five years, along with \$7.6 million in new federal funding for cancer research.

The NCI bestows this special designation on the nation's top cancer centers in recognition of their scientific excellence and outstanding patient care. The Greenebaum Cancer Center was first named an NCI-designated center in 2008. The NCI renewed the designation following an exhaustive review process, which included a 1,100-page grant proposal and site visit earlier this year by a team of two dozen NCI-appointed scientists.

"We're enormously pleased that the National Cancer Institute has renewed our designation and agreed to provide \$7.6 million in additional funding through mid-2016 that will help us significantly expand our clinical and basic science research programs," said Kevin J. Cullen, MD, professor, Department of Medicine. "Achieving this designation for a second time not only reflects the hard work of our scientists, physicians and staff, but also underscores our cancer center's reputation as a national leader in cancer research."

Since the cancer center first received NCI designation, its total research funding has increased 55 percent, to a current level of \$74.2 million. The staff has expanded as well, employing 215 scientists and physicians, all of whom are on the faculty of the University of Maryland School of Medicine and three University of Maryland professional schools in Baltimore as well as two other campuses in Catonsville and College Park.

"The cancer center has experienced significant growth under Dr. Cullen's leadership and brings together experts from across the University System of Maryland in the fight against cancer. We're very pleased the NCI has once again given the center its stamp of approval as a premier cancer center," said Jay A. Perman, MD, president of the University of Maryland in Baltimore.

The center places a strong emphasis on participation of underrepresented minorities in clinical research. About 36 percent of minority patients treated at the cancer center participate in a clinical trial, compared to a national average of about 1 percent. "African-Americans have a much higher death rate from cancer than white patients with the same disease, and we need to look at the underlying reasons. Their participation in clinical trials provides us with valuable information to better understand cancer in this community and to develop effective treatments," Dr. Cullen stated.

Key areas of research include cancer health disparities; cancer vaccines and tumor immunology; resistance of certain cancers to chemotherapy; HIV-related cancers; development of new cancer drugs and treatments; and the genetics of cancer—the role that certain genes play in how the disease develops.



Kevin J. Cullen, MD

► BY KAREN WARMKESSEL

Possible Drug Targets for Common Type of Non-Hodgkin's Lymphoma

Researchers at the School of Medicine have discovered a novel interaction between two proteins involved in regulating cell growth that could provide possible new drug targets for treating diffuse large B-cell lymphoma, the most common type of non-Hodgkin's lymphoma.

In a study published online in *Nature Communications*, the scientists report that they have found a complex molecular

and functional relationship between ERK (extracellular signal-regulated kinase), a protein that helps to regulate cell proliferation and survival, and CHK2

(checkpoint kinase 2), a protein that is involved in the cellular DNA damage response. They also demonstrated, for the first time, elevated levels of both proteins in diffuse large B-cell lymphoma cells, compared to non-cancerous cells.

Ronald B. Gartenhaus, MD, associate professor, Department of Medicine, and the senior author, states researchers found that CHK2 appears to regulate the activity of ERK, although the exact mechanism is not clear. "The two proteins physically interact, which was not known before, and we may be able to use this interaction for therapeutic advantage. We found that treating human B-cell lymphoma cells with both an ERK inhibitor and a CHK2 inhibitor killed substantially more cancer cells than treating the cells with either drug alone. Based on our findings, we believe that a combination therapy targeting both ERK and CHK2 could offer a potential new approach to treating diffuse large B-cell lymphoma," he said. Dr. Gartenhaus also is co-leader of the Program in Molecular and Structural Biology at the University of Maryland Marlene and Stewart Greenebaum Cancer Center.

The drugs used to inhibit ERK and CHK2 caused the cancer cells to die through a process called apoptosis, or programmed cell death. Human cells

normally self-destruct in a controlled manner, but cancer cells lose this ability and consequently grow uncontrollably.

Lymphoma is a cancer that originates in the lymphocytes (a type of white blood cell) of the immune system. Diffuse large B-cell lymphoma is a fast-growing, aggressive form of non-Hodgkin's lymphoma. It accounts for about 30 to 35 percent of all non-Hodgkin's lymphomas, and about 25,000

new cases are diagnosed each year. Non-Hodgkin's lymphomas usually are treated with several types of chemotherapy—cyclophosphamide, doxorubicin, vincristine and prednisone (CHOP)—and a biological therapy, such as the monoclonal antibody rituximab (Rituxan). Radiation therapy may be used on occasion, and bone marrow or stem cell transplantation may also be a treatment option.

Dr. Gartenhaus says researchers hope the study findings will help to develop new therapies that will be effective and well-tolerated by patients. "We believe it is important

to identify drugs that can improve the efficacy and reduce the toxicity of standard anti-lymphoma therapy," he said.

The new research showed that using compounds to inhibit ERK and CHK2 did not cause any significant damage to normal cells or tissue examined in the lab, according to Bojie Dai, PhD, apost-doctoral fellow at the School of Medicine and the lead author. "We hope that new therapies directed at these two proteins would have modest side effects because they would target only the lymphoma cells," Dr. Dai said.

Dr. Gartenhaus says that researchers don't know yet whether the interaction between ERK and CHK2 occurs in other types of lymphoma. The study was funded by a grant from the National Institutes of Health and a Merit Review Award from the U.S. Department of Veterans Affairs.



Ronald B. Gartenhaus, MD

WE BELIEVE IT IS IMPORTANT TO IDENTIFY DRUGS THAT CAN IMPROVE THE EFFICACY AND REDUCE THE TOXICITY OF STANDARD ANTI-LYMPHOMA THERAPY.

Mark Your Calendars!

Founders Week Schedule of Events

October 25–28, 2011

Date	Time	Event
Tuesday, Oct. 25	6:00 pm	Black-Tie Gala <i>Hilton Baltimore</i>
Wednesday, Oct. 26	3:00 pm	Entrepreneur of the Year Award Presentation and Reception Scott Strome, MD, professor and chair, Department of Otorhinolaryngology-Head and Neck Surgery <i>BioPark Building II</i>
Thursday, Oct. 27	12:00 pm	Student Cookout <i>SMC Campus Center & School of Nursing Courtyards</i>
	4:00 pm	Researcher of the Year Lecture Gary Fiskum, PhD, Matjasko Professor for Research in Anesthesiology and vice chair, Department of Anesthesiology <i>Davidge Hall</i>
Friday, Oct. 28	11:30 am & 12:20 pm	Staff Luncheon <i>Westminster Hall</i>

For more information, visit <http://founders.umaryland.edu>.

PHOTO OF THE MONTH



Spider Webs in the Field, Cromwell Valley Park, Baltimore County
Photo by: **Harry Bosk**, director of Communications, University of Maryland Center for Integrative Medicine

Call for Photos!

Send in photos of your favorite fall activity for the next Call for Photos. To participate, submit your photograph(s) to photos@som.umaryland.edu by November 1, 2011.

somnews

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