Technology Update

The Office of Information Services is upgrading the School of Medicine’s data network to handle ten times more traffic and support the growing bandwidth requirements of the school’s research initiatives and programs.

The upgrade—a new router and firewall combination—will speed the exchange of large data collections among collaborating researchers and alleviate the data congestion that sometimes makes it seem as though your computer is slowing down. Right now, during periods of peak traffic, Websites may not appear instantly and data transfers might slow to a crawl or stop.

Since 2005 the network has operated at a capacity of one Gigabyte per second (Gbps). This was more than enough capacity when email and Web activity were the primary forms of data traffic, but that has changed as research activity has increased, along with the demand to capture, store, and move large amounts of data. “Imagine a big funnel, with thousands of computers pushing data through a small stem,” said James McNamee, PhD, associate dean for Information Services and CIO. “With this upgrade, we are dramatically increasing the size of that stem—the primary access point for the Internet.” This upgrade will allow data to move at a rate of 10 Gbps per second to and from the commercial internet, Internet2, and National LambdaRail. Within the SOM network, even higher capacities will be possible.

The Institute of Genome Sciences is among the research groups that will benefit from the improved data transfer capacity, as it is in the process of gathering data from scientists around the country to sequence genomes.

McNamee said network utilization is doubling every year. “We expect the number of projects requiring greater bandwidth to grow rapidly during the next three to five years. With this upgrade, we’ll be able to keep pace with the explosive growth of research data,” he said. The upgrade, expected to be in effect at the beginning of 2011, will make it easier to expand network capacity in the future and is taking place in concert with a similar upgrade at the campus level.

Dean’s Message: What’s On My Mind

What’s on my mind this month is the power of listening to achieve success. In order to work together to bring out the best in all of us, we need to be sure to engender a culture of collaboration in which we truly listen to each other and involve each other in the process of sharing information, ideas, and feedback. I encourage a culture among our leadership to listen to the input from their faculty and staff. I, too, enjoy listening to the oral and electronic voices and input made by faculty, staff, students, and others. Below are a few thoughts on how we can listen to achieve success.

• Listening is a two-way street. Listening well—to our supervisors and to our staff—reaps tremendous benefits. How many times have you met with someone and come away from the meeting feeling that while the person might have listened to what you said, they really didn’t hear you? When we sit down and have a back-and-forth dialogue, we establish rapport that leads to common understanding of our mutual goals and objectives, and enables us to achieve them together. It is incumbent upon leadership to cultivate an environment in which employees are encouraged and welcomed to engage in dialogue with their supervisors.

• No one person has a monopoly on good ideas. I certainly have no illusion that I have all the good ideas. In fact, some of the best ideas the School of Medicine has acted upon have come from faculty and staff. The challenge is getting the good ideas out into the light of day. Every person in this School of Medicine has value to this organization, and the value of each person’s thoughts and ideas should never be underestimated. I welcome feedback and ongoing, open dialogue with faculty, staff and students. I can be reached at deancmed@som.umaryland.edu. Please do not hesitate to contact me with your good ideas.

• Communicate and participate. It is easy to get “bogged down” in the details of our daily lives, and to focus on what’s going wrong, rather than with what’s going right. We all have valuable roles in this institution. In these difficult economic times it is more important than ever to participate in finding new solutions to old problems and new ways of doing things. It is imperative that we all communicate with colleagues and give input, ideas and suggestions to supervisors, chairs, and deans. Collective voices will be heard and, to the extent possible, responded to. Let’s be sure that among our many New Year’s resolutions this year is one that reflects our desire to listen well, communicate and participate to achieve success.

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
**Few Women Choose Vaccine**

*Study Shows Few Eligible Young Women Choose to Take HPV Vaccine to Prevent Cervical Cancer*

In a study of more than 9,600 adolescent and young adult women in the Baltimore area, researchers at the School of Medicine have found that fewer than 30 percent of those eligible to receive the human papillomavirus (HPV) vaccine to prevent cervical cancer actually chose to get it. And only about a third of those who began receiving the vaccine completed the three doses recommended for maximum protection.

The research, which was led by J. Kathleen Tracy, PhD, assistant professor, Department of Epidemiology & Public Health, was presented November 9, 2010, at a cancer prevention research conference in Philadelphia sponsored by the American Association for Cancer Research.

“Despite strong evidence that the HPV vaccine is highly effective, our study showed that relatively few women choose to take it, and the majority of them don’t complete the recommended series of doses,” Dr. Tracy said. “This means that large numbers of these young women are unprotected or under-protected from strains of HPV that lead to cervical cancer.”

HPV is the most common sexually transmitted disease among adolescent girls in the United States, with 29.5 percent of sexually active 14 to 19-year-olds infected at any given time. Persistent infection with certain strains of HPV has been shown to cause cervical cancer. Vaccines that target the most common strains of HPV have been licensed in the United States since 2006. Doctors recommend the vaccine for girls and young women from ages 12 to 26 years old, although girls as young as 9 years old can take it.

Dean E. Albert Reece, MD, PhD, MBA, said, “HPV vaccines have the potential to greatly reduce and possibly even eliminate cervical cancer in those most at risk of developing it. However, these vaccines are only effective if young women choose to be vaccinated and receive the recommended dosage.”

Dr. Tracy’s research raises significant public health concerns about whether this at-risk population is being adequately protected.” Dr. Reece, a gynecologist, also notes that vaccination against HPV doesn’t eliminate the need for annual cervical cancer screening.

The study was based on clinical data from the University of Maryland Medical Center’s outpatient gynecology clinics, where 9,638 adolescent and young adult women, ages 9 to 26, who were potentially eligible for the vaccine were seen from August 2006 until August 2010. Of these, 2,641 young women, or 27.3 percent, started the vaccination process—39.1 percent completed one dose, 30.1 percent completed two doses and 30.78 percent completed all three doses. Two-thirds of those who began taking the vaccine were African American.

Young women, ages 18 to 26, were the least likely to complete more than a single dose of the vaccine. African-American women were less likely than white women to complete all three doses, according to the research. “We don’t know why the young women in our study opted not to take the vaccine or failed to complete the three-dose regimen,” said Dr. Tracy, who is a health psychologist. “But our research clearly points out the need to develop strategies to encourage eligible women to take the vaccine as directed for maximum protection. Parents may have to take a more active role in making sure their daughters receive all the necessary doses.”

Dr. Tracy notes that she and her University of Maryland colleagues are planning to conduct a small clinical trial to determine if sending text-message reminders to patients might increase the number of people who complete the vaccination process. “We need to develop evidence-based interventions to foster increased participation in vaccine programs and eliminate barriers for young women, in particular, minority women,” she said.

**World’s First Robotic Assisted, Minimally-Invasive Aortic Valve Bypass**

*Robot helps make smaller incision possible in high risk patients*

CARDIAC SURGEONS at the University of Maryland are the first in the world to use a surgical robot to help perform minimally invasive aortic valve bypass surgery. The robot gives surgeons a very precise tool to complete the complex bypass procedure.

James S. Gammie, MD, associate professor, Department of Surgery, and director of the University of Maryland Heart Valve Disease, led the team that performed the aortic valve bypass.

The robot extends the surgeon’s reach deep into the chest to access the aorta through a three-inch opening, smaller than would have been possible without the robot. During the procedure, surgeons place a tube that contains a replacement aortic valve between the tip of the heart and the body’s main blood vessel (the aorta) in the back of the chest. When it is put in place, the tube relieves the blockage by bypassing the narrowed aortic valve. Surgeons do not need to stop the heart during the procedure, so a heart-lung machine is not necessary.

“Young women, ages 18 to 26, were the least likely to complete more than a single dose of the vaccine. African-American women were less likely than white women to complete all three doses.”

The robot helps make smaller incision possible in high risk patients. Aortic stenosis is a common, life-threatening condition. More than 70,000 people in the United States undergo aortic valve procedures each year. One approach is to replace the defective valve. Another is to bypass it entirely. Some patients who have had aortic valve bypass continue to do well more than 25 years after their surgery. Dr. Gammie has performed over 60 valve bypasses since 2003. Using the surgical robot for part of the operation is a further innovation. Dr. Gammie says one key advantage of a bypass over a valve replacement is the reduced risk of stroke. The defective valve is not touched or manipulated as it is in valve replacement, reducing the chance that dislodged particles will reach the brain and cause a stroke.

“As we are able to adapt the use of the surgical robot to more cardiac operations, we will be able to provide more patients with a minimally invasive procedure that requires a shorter recovery time,” said Johannes Bonatti, MD, professor, Department of Surgery, and director of coronary surgery and advanced coronary interventions at the University of Maryland Medical Center. Dr. Bonatti is one of the world leaders in using the surgical robot to perform heart surgery. He was a pioneer in performing double and triple vessel coronary bypass operations with the robot, which means that the operations are performed in a minimally invasive way without a large incision.

In addition to Dr. Bonatti, surgeons Eric J. Leht, MD, PhD, and Martaza Dawood, MD, and anesthesiologist Ileana Gheorghiu, MD, were part of the team with Dr. Gammie during this first robot-assisted aortic valve procedure. Dr. Leht and Dawood are instructors in the Department of Surgery and Dr. Gheorghiu is an assistant professor in the Department of Anesthesiology.

Dr. Gammie is a co-founder of Correx, Inc., headquartered in Waltham, Massachusetts, which has developed devices currently in the regulatory approval process that are expected to simplify and modify the most difficult aspects of aortic valve bypass procedures. These devices are unrelated to the use of the surgical robot.
The University of Maryland Medical Center (UMMC) has been designated by the Leapfrog Group as a Top Hospital of the Decade for patient safety and quality of care. The award recognizes the medical center’s dedication to improving patient safety and quality of care, and it is one of only two hospitals in the nation recognized for this achievement. The UMMC was selected based on its performance in a wide range of areas that are critical to patient safety, including medication errors and infections, and standards of care outcomes, use of best practices, and patient safety initiatives, and measures of efficiency. The award is given by Leapfrog, an independent advocacy group working with a broad range of partners, including hospitals and insurers. One of Leapfrog’s key criteria is whether a hospital uses computerized physician order entry, which means that medications, lab tests and imaging studies are ordered by physicians electronically, to reduce errors. The University of Maryland Medical Center completed full implementation of computerized order entry, known as CPOE, three years ago. An added measure for 2010 was how effectively a hospital used CPOE to prevent medication errors.

“We met, and in some cases exceeded, all of Leapfrog’s performance standards for CPOE and a variety of complex procedures, including aortic valve replacement, interventional cardiology procedures, bariatric surgery and high-risk deliveries,” said Jonathan Gottlieb, MD, clinical professor, Department of Medicine, and UMMCs chief medical officer. Another important factor that Leapfrog evaluates is whether hospital intensive care units are staffed by physicians who have specialized training in intensive or critical care, known as intensivists. “All ten of our Intensive Care Units, including the surgical, medical, neurological, cardiac surgery, multi-trauma and pediatric ICUs, are staffed by doctors who are specially trained in intensive and critical care,” said Dr. Gottlieb. The University of Maryland Medical Center also scored well on many of the safety practices selected by Leapfrog, such as nurse staffing, quality and leadership, hand hygiene, medication reconciliation, communication of critical information to patients and having leadership structure and systems in place to provide patient safety.

“Leapfrog has a great amount of credibility because it is founded on evidence-based practices and on actual clinical processes and patient care data, rather than relying substantially on opinions and reputations. It is for that reason that we are especially proud of this national recognition,” said Jonathan Gottlieb, MD. “This recognition also validates the high level of support and partnership we have with the University of Maryland, Baltimore, especially our collaboration with the University of Maryland schools of Medicine, Nursing, Pharmacy, Social Work and Dentistry. Members of their faculty participate in many research-driven, quality-of-care projects within our hospital, helping us to elevate quality and patient safety to higher levels.”

In a show of support to the educational and training mission of gPILS, in partnership with the Graduate Program in Life Sciences (gPILS), in the Graduate Program in Life Sciences (gPILS) Core Course, with an iPad. This program will begin with the incoming fall class of 2011. The iPad Pilot project is intended to allow gPILS’ commitment to student learning through the use of all appropriate electronic technology. Current gPILS students access their course readings, lecture outlines, PowerPoint files and supplemental lecture materials from a Blackboard site. The class will be taught on an iPad. Students are able to access video and audio recordings via gPILS’ iTunes University Website. These practices, paired with gPILS’ desire to promote greater use of e-resources, discussion boards, e-books and a wealth of relevant “apps,” facilitated the decision to expand into mobile devices. As an instructor involved in the gPILS Core Curriculum and in various other gPILS courses, I see this pilot program as a necessary and, in fact, exciting step in the right direction,” commented Bradley Alger, PhD, professor, Department of Physiology and Program in Neuroscience. “I look forward to reworking my current lectures to take full advantage of the capabilities of this device to make our courses more interactive, more stimulating and richer in content.”

“As a long-time educator and the director of the gPILS Core Course, I am really excited about this pilot program,” said Robert Kosi, PhD, professor, Department of Physiology. “The dedicated group of faculty who teach in the core course are eager to utilize the capabilities of the iPad in order to teach our students more effectively and to develop new ways to enhance their ability to learn the information they need to become successful biomedical scientists. This is a great step forward for our program.”

Viewed by gPILS as a complete academic tool kit, the iPad is the perfect size to view the myriad journal publications required of gPILS student researchers. It also is compact and light enough that students will be able to carry their iPads with them at all times. In addition to enriching the learning experience in class and providing a means for students to present in small, break-out groups by connecting the iPad to overhead projectors, this device will encourage more scholarly discourse between students via Blackboard and other Web 2.0 resources. In a show of support to the educational and training mission of gPILS, the School of Medicine plans to outfit the largest gPILS lecture and seminar hall, HSF II auditorium, with high-speed WiFi within the next few months.
SOMnews

Project Feast

Students from the School of Medicine held their 21st annual "Project Feast," a Thanksgiving dinner for homeless and disadvantaged persons on November 25. It is a Thanksgiving tradition sponsored by the School of Medicine Student Council, the University of Maryland Medical Alumni Association and the University Student Government Association. More than 100 students from across UMB’s campus as well as various faculty, staff and friends gathered at Booker T. Washington Middle School in West Baltimore to host the midday meal and provide free clothing and non-perishable food items. Faculty advisor Sheri Sleazak, MD, professor, Department of Surgery, said students were given a six-page detailed instruction on how to cook the 50 turkeys for the feast. Donations included warm winter clothing, shoes, blankets and non-perishables. For the first time, free vision screening and blood pressure tests were offered by the medical students to community residents.

Again this year, the event attracted volunteers from the community. Among the community volunteers were the music director of the Baltimore Symphony, orchestra, Marin Alsop, and her son, Auden, and families from the Kingdom Church International.

University President Jay Perman, MD, said, “I am very proud of the 20 years of service by the University of Maryland community who serve the Project Feast Thanksgiving meal to our West Baltimore neighbors and the School of Medicine students who collect donations and organize the event. This is another opportunity for all of our schools to collaborate and make an important difference in our community.”

Student organizer Yon Park, Class of 2013, said, “I don’t think there’s any better way to spend Thanksgiving. We go to school here but I don’t think most of us are familiar with the community around us. It is also a great way to meet other UMB students and faculty.” Classmate and fellow Project Feast organizer Youngeun Cho echoed Yon’s sentiments, “My volunteer experience last year was really great. The amount of help and enthusiasm from fellow students this year has been amazing. A lot of people volunteered their time and we had a great Thanksgiving Day.”

Call for Photos!

Send in your favorite St. Patrick’s Day activity for the next Call for Photos. To participate, submit your photograph(s) to photos@som.umaryland.edu by February 1, 2011, for the March issue of SOMnews.