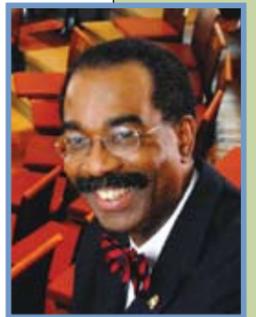




DEAN'S MESSAGE: What's On My Mind



The School of Medicine has long been committed to exporting its best practices in healthcare delivery and biomedical research to the rest of the world through collaborations with other medical centers and research institutions through our state-of-the-art telehealth and telemedicine technologies.

We have a large group of internationally-recognized clinicians and scientists who do groundbreaking research in basic, clinical and translational science, and we believe strongly in sharing their expertise with the rest of the world. Our faculty carry out epidemiologic, clinical and laboratory research, and work with local public health officials in many countries around the world (see tables).

Indeed, the school has a long history of significant contributions to global health, through research, healthcare delivery, outreach and public policy. Some of our initiatives are well-known, such as the Center for Vaccine Development's (CVD) work in creating and testing vaccines for some of the world's most vexing infectious diseases, such as malaria and avian flu. Likewise, the work of our Institute of Human Virology in treating and preventing AIDS is recognized the world over.

Other School of Medicine initiatives are lesser-known, however, such as the Department of Pediatrics' research into neonatal and infant infections in India, and our burgeoning research programs in protecting against bioterrorism and sequencing the genomes of major pathogens.

Although our contributions are significant, they can never be enough. For example, recent advances in medicine and technology have fueled unprecedented opportunities for improved health outcomes and extended life expectancy across the globe. Unfortunately, there has not been an equitable distribution in the allocation of these precious healthcare resources. Moreover, highly preventable diseases, such as whooping cough, measles and malaria, which are now extremely rare in developed countries, are still raging in developing countries, leaving paths of death and destruction in their wake. Even more troubling, many developing countries lack the necessary capacity to implement even the most basic of these life-saving medical interventions. When one factors in the global shortage of adequately trained healthcare workers, the situation is extremely dire.

Over one million Africans die of malaria each year, hundreds of thousands of whom are children. It continues to be the leading killer of the world's poorest children. Undaunted, our faculty work tirelessly to make an impact on this untenable situation and are making progress. For example, our researchers recently found that an anti-malaria medication that had previously lost its effectiveness as a first-line treatment for malaria has somehow regained its effectiveness (*New England Journal of Medicine*, 355:1959-1966, 2006). Chloroquine was removed from government health facilities in Malawi in 1993 after it proved ineffective at treating malaria in more than 50 percent of documented cases. However, our study showed that the malaria parasite has once again become susceptible to chloroquine, and the medication can potentially be used in combination with other therapies to treat the disease effectively in the future.

We also recently received a \$23.7 million grant from the National Institutes of Health for our Vaccine and Treatment Evaluation Unit (VTEU) to conduct clinical trials for promising vaccines and therapies for such diseases as malaria, dysentery, cholera and typhoid fever that affect primarily people in developing countries. The CVD's VTEU has been testing vaccines for the federal government for over 30 years in an effort to prevent a wide array of infectious diseases that affect children, adults and the elderly. These are but two examples of ground-breaking work School of Medicine faculty are doing to help alleviate suffering around the globe.

Developing countries also face some of today's most complex medical challenges, such as emerging infectious diseases like Ebola and avian flu. These diseases require novel research, technology and clinical approaches. We are leading the way in vaccine-based efforts to fight these diseases. For example, we conducted clinical trials to test the first cell culture-based pandemic influenza vaccine to see if it will provide immunity faster and more reliably than the vaccines that are currently produced in eggs. The study was also the first test in the US of a whole virus vaccine for avian flu, which could produce a stronger response by the immune system.

Additionally, chronic diseases such as diabetes and cancer represent an increasing burden in resource-poor environments, as they require long-term

management of patient information for optimal care outcomes. Yet the health care delivery systems and practitioners in the developing world face considerable challenges in implementing the necessary health management information systems.

Telemedicine provides critical access to medical care for remote populations, and is used to diagnose, review patient information, conduct research and manage chronic conditions. Our telemedicine capabilities in the Center for Health Disparities and Program in Trauma have demonstrated significant expertise in the use of advanced telecommunications technology for health care delivery and clinical consultation for remote application in reaching underserved populations in the US. This knowledge, applied in the context of global health, offers a significant contribution to the field and to the future health of our global community.

Similarly, distance learning is a powerful tool for expanding the number of health professionals trained throughout the world. We are already a national leader in the field of distance learning. With its existing relationships

University of Maryland School of Medicine in Africa

Programs in:

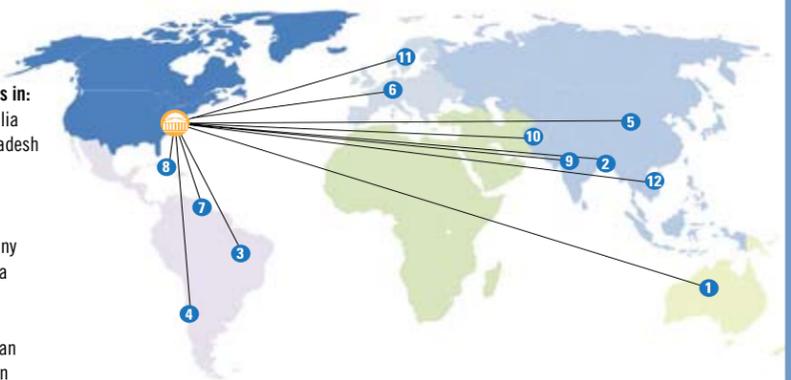
1. Egypt
2. Gambia
3. Kenya
4. Mozambique
5. Malawi
6. Mali
7. Rwanda
8. Tanzania
9. Uganda
10. Zambia



University of Maryland School of Medicine Elsewhere around the Globe

Programs in:

1. Australia
2. Bangladesh
3. Brazil
4. Chile
5. China
6. Germany
7. Guyana
8. Haiti
9. India
10. Pakistan
11. Sweden
12. Vietnam



in global health, the current distance learning infrastructure can respond to the shortage of trained health care workers in developing countries and improve capacity and skill-building through remote training programs. Both of these areas must be expanded upon if we are to participate more fully in the global healthcare arena.

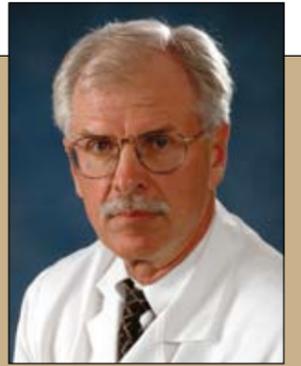
Through our focus on infectious disease, telemedicine and technology, international health and workforce development, geographic medicine and bioterrorism research, the School of Medicine is playing an increasingly critical role in fostering opportunities to strengthen and build new partnerships at home and abroad and to respond to the challenges of global health. Working collaboratively with others, we are having an impact and indeed making a difference worldwide.

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, School of Medicine

Recent advances in medicine and technology have fueled unprecedented opportunities for improved health outcomes and extended life expectancy across the globe.

Building a



Philip Mackowiak, MD, MBA

It was 15 years ago that Philip Mackowiak, MD, MBA, professor and vice chair, Department of Medicine, first had the idea to add a twist to the University of Maryland School of Medicine's annual clinicopathological conference (CPC). Rather than present a current complicated case, he thought it might be interesting to dissect the demise of a historical figure. "I ran across an article in the *Maryland Medical History Journal*, which detailed a description of Edgar Allen Poe's final illness," remembered Dr. Mackowiak. "I thought, 'Wouldn't it be intriguing to present Poe as described in this case history as just another CPC here at the University of Maryland and not tell anybody?'"

After Michael Benitez, MD, associate professor, Department of Medicine, presented the case, public reaction was immediate. "It hit the international press and was written up in all sorts of publications—*The New York Times*, *The London Times*, the journal *Science*," stated Dr. Mackowiak. "So we've been conducting CPCs this way ever since. Other institutions have had conferences intermittently where historians and clinicians get together and share ideas, but nobody does anything quite like this, and nobody has done it on a regular basis for as long as we've done it. It's a very unique conference."

This year's historical CPC will be held on May 16 at 1:30 p.m. in Davidge Hall. There are few prerequisites for who can be a subject of an historical CPC. "The basic format for the conference is to focus on a very famous historical figure who had and/or died of a mysterious illness that's never been diagnosed to the public's satisfaction," Dr. Mackowiak explained. "The other important feature is that there has to be enough information from historical records for a clinician to have a reasonable shot at making a diagnosis. Over these last fifteen years, I have organized conferences around Alexander the Great, Beethoven, Mozart, Herod, Claudius of 'I, *Claudius*' fame, Christopher Columbus and Joan of Arc. Each of the conferences is an event. So there's not just the discussion of the case itself, there's also relevant music performed in association with the conference, or other things like a mini play or a mock trial, in the case of Joan of Arc.

It's been an absolute blast."

Ideas come not just from Dr. Mackowiak but from the conference's fans. "I receive emails and letters all the time, from all over the world, suggesting people who should be considered for the conference," said Dr. Mackowiak.

He prefers the identity of each year's

chosen CPC patient to remain a surprise until the day of the conference, but that's not always easy. "We send out the case summary through the medical alumni office a month ahead of time, so that people have a chance to see the case," he explained. "In some instances, the case summary makes it obvious who the historical figure is. Columbus, for example, as part of his social history, I mentioned he was an explorer and that he did a great deal of his exploring in the Caribbean. So where the identity of the patient is not stated, it's also not hidden from the audience."

This year's subject is an Egyptian pharaoh. "This particular pharaoh is mysterious for two major reasons. First of all, he commissioned images of himself that are bizarre. Second, he was the first monotheist; that is, he suppressed all of the gods in

... there has to be enough information from historical records for a clinician to have a reasonable shot at making a diagnosis.

the Egyptian divine pantheon except for one. Because of that his successors viewed him as a heretic and tried to obliterate all evidence that he ever existed. It's only in recent times that he's been rediscovered, so we're going to have a spectacular conference built around him."

Dr. Mackowiak hopes that "CSI Beethoven," a Baltimore Symphony Orchestra (BSO) event in which he recently participated, is just as spectacular. The two-night presentation illustrated possible medical explanations for Beethoven's myriad medical problems, including his deafness, in conjunction with performances of many of his most famous works. "Nothing like this has ever been done with a symphony, much less a major American symphony," said Dr. Mackowiak. "The similarities between what the BSO's [conductor] Marin Alsop did in this one conference and what I have been doing for 15 years are striking. It was interesting that neither of us knew what the other was up to until now. But now that we do, I hope she will come to our May 16 conference, first to enjoy herself, and second, to potentially get ideas for other CSIs."

Dr. Mackowiak has some ideas for Alsop. "Mozart was one of the subjects of our historical CPC, so he would be an obvious subject," he explained. "But there are plenty of other composers who had serious medical problems who have not yet been properly diagnosed."

The American College of Physicians has published Dr. Mackowiak's book, *Post Mortem*, which details the historical CPCs over the last 15 years. It is available in bookstores or at Amazon.com.

UMB Celebrates Women's History Month with Lynne Brick

Baltimore fitness expert and entrepreneur Lynne Brick, RN, BSN, offered words of motivation and inspiration to women during her keynote speech at UMB's annual Women's History Month event. The celebration focused on "Women in Business" and was held at the School of Nursing Auditorium on March 27.



Lynne Brick

"You are the CEO of your life. You are the chief energizing officer," said Mrs. Brick, the president and founder of Lynne Brick's/Brick Bodies. One of the nation's fitness and wellness leaders, she is a "home-grown gal" who worked in the R Adams Cowley Shock Trauma Center as a nurse for seven years before launching a successful string of health clubs, five co-ed and two women-only, with her husband Victor Brick. A mother, dancer, athlete, performer, author, philanthropist and former member of the School of Nursing's Board of Visitors, Mrs. Brick was named Maryland's Entrepreneur of the Year by Ernst and Young LLP in 2004. Listed among Maryland's Top 100 Women three times by *The Daily Record*, she has presented lectures, workshops, master classes and fitness instructor trainings in more than 25 countries, has been featured in more than a dozen exercise videos and has appeared frequently on radio and television.

"I've always had this competitive edge about me," Mrs. Brick explained. "I've always had a love of movement, dance and expression." Her passion for business and fitness was evident as she demonstrated one-armed military style push-ups and coached the audience through a set of shoulder rolls—an exercise to re-energize the mind, body and spirit, while increasing oxygen to the brain by 30 percent. As a businesswoman, Mrs. Brick recognizes the role women play in the economy and in business: She pointed out that women make 80 percent of all consumer decisions and 80 percent of all family health care decisions. "We've come a long way," she told attendees.

In sharing her story, Mrs. Brick hopes to inspire other women to create their own success stories. Whether it's fitness or business, she says it's important for women to have a long-term vision for their lives and surround themselves with a "dream team" of supporters who can help them accomplish their goals.

The event concluded with a craft bazaar featuring handcrafted gifts, jewelry and other accessories created by women who work on the UMB campus.

AIDSRelief Project Treats 100,000th Patient

The Institute of Human Virology's (IHV) AIDSRelief project celebrated the 100,000th person on antiretroviral treatment during a ceremony held on March 7 at Catholic Relief Services' headquarters in Baltimore. IHV and Catholic Relief Services have been partners in the AIDSRelief consortium since the project's inception in 2004. The project provides care to more than 250,000 people.

Funded by the President's Emergency Plan for AIDS Relief (PEPFAR), the project is active in Guyana, Haiti, Kenya, Nigeria, Rwanda, Tanzania, Uganda and Zambia. IHV clinical staff provide the lion's share of technical expertise in training local physicians and nurses in HIV/AIDS care and treatment and in improving clinical sites.

Speaking to a standing-room only crowd, Robert C. Gallo, MD, professor, Department of Medicine, and director, Institute of Human Virology, praised IHV's more than 100 clinical staff working in Baltimore and at sites across Africa and in the Caribbean, singling out Robert R. Redfield, MD, AIDSRelief principal investigator and IHV associate director, and AIDSRelief senior project director Anthony Amoroso, MD. He noted that the IHV Scientific Advisory Board had recently described IHV's PEPFAR contributions as "historic," and looked ahead to another celebration that would be held to mark "the end of HIV." (Drs. Redfield and Amoroso are also professor and assistant professor in the Department of Medicine, respectively.)

Dr. Redfield spoke about PEPFAR alleviating disparities in HIV/AIDS care and treatment between the developed world and developing countries, especially in Africa. "In the United States," he said, "people living with HIV/AIDS can take medication and live a normal lifespan. In Africa there is limited access to these medications, and people with HIV/AIDS are often dead within five years unless they're treated."

AIDSRelief is projected to continue at least through 2013, with anticipated funding to IHV in excess of \$120 million. Other AIDSRelief consortium partners are the Catholic Medical Mission Board, Interchurch Medical Assistance and Futures Group.



(L-R) Robert C. Gallo, MD, Catholic Relief Services President Ken Hackett, Auxiliary Bishop of Baltimore Denis J. Madden, Robert R. Redfield, MD, and Anthony Amoroso, MD, gather for a photo.

SOM Hits the Jackpot with Advanced Screening of "21"

Here's a winning combination: a special advance screening of the new Hollywood feature film "21" and a successful fundraiser for the Department of Diagnostic Radiology & Nuclear Medicine.

A family connection scored this big win for the School of Medicine—"21" is the film adaptation of a *New York Times* best-selling book written by Ben Mezrich, son of Reuben Mezrich, MD, PhD, professor and chair, Department of Diagnostic Radiology & Nuclear Medicine. The book, *21: Bringing Down the House* (originally titled *Bringing Down the*

House: The Inside Story of Six M.I.T. Students Who Took Vegas for Millions), tells the true story of a group of college students who used math, ingenuity and a little guile to break the odds of blackjack. A chance meeting with several members of the now infamous MIT Blackjack Team at a Harvard party served as the catalyst for Mr. Mezrich as he struggled for an idea for a novel.



Penny Olivi, senior administrator, Department of Diagnostic Radiology & Nuclear Medicine, and her son Dan enjoy the blackjack table at the VIP reception.

"When I heard that Ben's book was going to be made into a movie, I knew I wanted to have a screening in Baltimore," said Dr. Mezrich. "We're so delighted that we could share in this wonderful movie and raise money for important research initiatives in the Department of Diagnostic Radiology & Nuclear Medicine." Mr. Mezrich won big with the book

and a movie deal, and shared his success on the night of March 27 through a benefit reception and screening for his father's cancer research programs.

"The event raised \$25,000," said Mary Cain, director of Special Events and Board Relations in the Office of Development. "Ninety people attended the VIP reception and another 140 joined them for the advanced screening. We are fortunate that Columbia Pictures agreed to the screening as a fundraiser."

According to Dr. Mezrich, proceeds from the event will support cutting-edge radiology research and enhance state-of-the-art technologies such as CT (computed tomography) and MRI (magnetic resonance imaging) as well as the diagnosis and treatment of many cancers, resulting in more effective surgeries with easier recovery periods. "A lot of it is image-guided therapy," he said. "Instead of making a big hole in a person, we can image the cancer and go in with a small needle, operating on the magnetic resonance table and being as minimally-invasive as possible."

The screening attendees viewed the movie at the Charles Theatre on the eve of the "21's" nationwide opening. They also had the opportunity to hear the inside scoop from the author himself, who travelled to Baltimore from Boston for the event. Mr. Mezrich told the group that he thinks his father still wants him to go medical school. "That's why he introduced me to the dean," he joked.

Before the screening, the 90 VIP guests were able to talk with Mr. Mezrich at a reception held at the Metro Gallery. Many of them received autographed copies of *21: Bringing Down the House*, while others tried their hands at the blackjack tables, playing with complimentary chips.

Second-year medical student Kate Daley, who volunteered at the screening, had luck on her side, winning a drawing for a movie poster autographed by the film's stars, including Kevin Spacey, Laurence Fishburne, Kate Bosworth and Jim Sturgess. 



Author Ben Mezrich addresses the guests of the Baltimore advanced screening of "21."

Hippodrome Show Will Benefit the Maryland Center for Multiple Sclerosis

Actress, comedienne, author and singer Rain Pryor is a dynamic and award-winning performer, known for roles on both stage and screen. She is also passionate about another role, as an educator and advocate for advances in fighting multiple sclerosis (MS), an illness that her father, comedian

Richard Pryor, battled for nearly two decades. Now a Baltimore resident, Ms. Pryor will show her commitment to finding a cure for multiple sclerosis by presenting her one-woman show, "Pryor Experience," at the Hippodrome theatre on June 6, 2008.

The jazz cabaret performance will benefit the Maryland Center for Multiple Sclerosis, a decades-long leader in patient care and innovative research, which is part of the University of Maryland School of Medicine and the University of Maryland Medical Center.

She added, "I am very excited to work with the Maryland Center for MS, having seen first hand the expertise and dedication of their team of doctors, nurses and researchers. They are committed to state-of-the-art, compassionate care for their patients and to innovative research to find better therapies to cure and prevent MS."

"Rain Pryor is a passionate advocate for people with multiple sclerosis, and we are thrilled that she is bringing her talent, enthusiasm and energy to help our center," said Walter Royal, III, MD, associate professor, Department of Neurology, and director of the Maryland Center for Multiple Sclerosis. "She exhibits a real commitment to make a difference for people living with MS. During her visits with our patients, clinical staff and researchers, she has impressed us with her detailed knowledge of multiple sclerosis and her insightful questions about the disease and the progress of current research."

Richard Pryor was diagnosed with MS in 1986 and died in December 2005. That same year, Ms. Pryor became a national ambassador for the National MS Society. In honor of her dad, she travels around the country speaking and performing to educate people about the disease, treatments and research.

Multiple sclerosis is a neurological disease that affects 400,000 Americans. It usually strikes young adults. Twice as many women as men have the disease. In MS, the person's own immune cells attack the outer membrane covering, or myelin sheath, of nerves of the brain, spinal cord and optic nerves. This causes a wide range of symptoms including tingling, numbness, loss of strength, dizziness, fatigue and visual disturbances, such as double vision. The severity of MS varies greatly among individuals. While there is no cure, there are

medications that can effectively suppress disease activity and can help patients manage symptoms.

The Maryland Center for Multiple Sclerosis offers patients the highest level of care through a multi-disciplinary team of specialists including physicians, nurses, therapists and social workers. Patients receive a comprehensive evaluation and have access to the latest treatment options, including opportunities to participate in clinical trials of new therapies. MS Center physicians include neurologists and neuro-ophthalmologists who specialize in treating MS patients. The MS center also offers physical, occupational and speech therapy, and assessment of swallowing problems through facilities at Kernan Hospital.

The Maryland Center for MS also has a comprehensive, nationally recognized research program that tests new drugs and drug combinations and explores other areas of research, including Vitamin D and multiple sclerosis, the use of bone marrow-derived stem cells, novel rehabilitation approaches and the role of B cells and potassium channel function in MS.

In the 1990s, University of Maryland MS researchers were national leaders in testing two drugs, Betaseron and Copaxone, which are now widely prescribed in order to reduce the number of relapses and slow the progression of disability for people with MS. Currently, the center is involved in 16 clinical trials of medications for the treatment of multiple sclerosis.

Rain Pryor has been a performer her whole life and has had numerous parts in movies and television. In 2004, she created a one-woman show based on her life called "Fried Chicken and Latkes," an award-winning production that explores issues of race and class from her perspective as a woman with an African American father and a Jewish mother.

Tickets to Rain Pryor's Hippodrome performance are available at www.ticketmaster.com or 1-800-551-SEAT. 



Walter Royal, MD (far left), and Health Program Director for the Maryland Center for MS Kathleen Costello (far right) with Rain Pryor during a recent SOM tour.

"Watching my father struggle with this debilitating disease had a profound effect on me," explained Ms. Pryor. "I learned all I could about multiple sclerosis and made a commitment to do all I could to help MS patients and their families."

Watching my father struggle with this debilitating disease had a profound effect on me.

It's a Match!

Historic Davidge Hall was the site of Match Day festivities on March 20, when the School of Medicine's Class of 2008 discovered the next step in their medical careers.

Held at the same time in medical schools around the country, Match Day is the event where graduating medical students find out the residency program into which they have been accepted. This year's Match was the largest in history, according to the National Resident Matching Program (NRMP), which conducts the Match nationwide.

The Match uses a computer algorithm that aligns the

preferences of applicants with the preferences of residency programs in order to fill the thousands of training positions available at teaching hospitals across the United States.

Dave Carlberg, and his fiancée Julie, who is a current UVA student, celebrate the news that he'll be joining her in Virginia, but at the UVA Medical Center.

Nation-wide, 28,737 applicants vied for one of 22,240 first-year residency positions. Of those applicants, a record-high 15,242 were US medical school seniors, 94.2 percent



Friends and fellow medical students, Jill Haltigan (left) and Zaineb Makhzoumi (center) celebrate as they each learn where they've matched.

of whom successfully matched to a residency program. The number of first-year residency positions available through the Match was also the highest in history, as 395 additional positions were added this year.

At Davidge Hall, the envelopes were handed out by tuxedo-clad Assistant Deans of Student Affairs Michael Plaut, PhD, and Joseph Martinez, MD, with help from Gina Madrinan-Perez, MD, assistant professor, Department of Psychiatry. "My own Match Day was 10 years ago to the day," remembered Dr. Martinez, an alumnus of the School of Medicine, as he opened up the ceremony. "But I still remember everything about it, and I'm sure you all will as well."

One by one each student was called to the front to accept a Match envelope. "I matched in OB/GYN," revealed Laura Silverstein, who will remain at the University of Maryland Medical Center. "It was such a relief to finally get my envelope! Maryland was one of my top choices, and I'm really excited to stay here."

This year University of Maryland School of Medicine students matched to 102 different programs within 62 hospitals across 20 states. Twenty-six percent are planning to go into the primary care field of internal medicine—more than any class in recent history. Three other primary care fields, pediatrics, family medicine and OB/GYN, will receive six percent, eight percent and two-and-a-half percent, respectively. For family medicine that equals a five percent increase from 2007. Eleven percent of the students matched into general surgery, while 10 percent went into emergency medicine, five percent into anesthesiology, five percent into psychiatry,

four percent into radiology, two percent into neurology and two percent into dermatology.

Heading to UVA Medical Center is Dave Carlberg, who will study emergency medicine during his residency. His fiancée Julie is a current astronomy student at UVA, so his relief was palpable. "It was a great feeling to get matched there," he admitted with a smile.

Clarence Lam, who found out he'll be staying in Baltimore, at the Greater Baltimore Medical Center, wasn't nervous before things started. "But seeing everyone come in, and then having to wait for hours until I got my envelope, that's what made me nervous," he declared with a laugh.

Upon getting their envelopes, each student was also given a copy of *The Future of Medicine: Megatrends in Healthcare That Will Improve Your Quality of Life* by Stephen Schimpff, MD, clinical professor, Department of Medicine. After an hour full of cries of delight and



Talita Jordan was more than a little excited about matching at Children's National Medical Center in DC, where she'll specialize in pediatrics.

sighs of relief, all but one envelope had been handed out. As a reward for his patience, Parijat Didolkar, the final student to receive his envelope, was given the bag into which each student had tossed a small monetary donation as they were handed their Match letters—money that is traditionally used for an after-Match celebration. 

SOMnews

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE MAY 2008 VOL.9 NO.9

SOMnews is produced by the University of Maryland School of Medicine, Office of Public Affairs
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and Dean, School of Medicine ▶ Jennifer Litchman, Executive Editor ▶ Heather Graham,
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▶ Brushwood Graphics Design Group, Design ▶ Submitting information to SOMnews: Please
email your submission six weeks prior to the month you wish to see your submission included
to Heather Graham, Public Affairs Manager, at hgraham@som.umaryland.edu.
▶ Printed using environmentally-responsible low VOC inks.