

**THE POWER OF PARTNERSHIP**

UNIVERSITY OF MARYLAND  
MEDICAL SYSTEM AND SCHOOL OF MEDICINE

**LOCAL**  
**ACTION**  
**GLOBAL**  
**IMPACT**

< ANNUAL REPORT >

**2010**

# 2010

The past year provided many opportunities to showcase the positive impact that the strong and resilient partnership between the University of Maryland Medical System and the University of Maryland School of Medicine had at local and global levels. Together, we played an important role in addressing myriad challenges while improving the lives of Marylanders and our neighbors around the world.

LOCAL ACTION / GLOBAL IMPACT

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*Robert A. Chrencik*  
**Robert A. Chrencik, MBA, CPA**  
President and Chief Executive Officer  
University of Maryland Medical System

*E. Albert Reece*  
**E. Albert Reece, MD, PhD, MBA**  
Vice President for Medical Affairs, University of Maryland  
Dean, University of Maryland School of Medicine

In this annual report, you will see many examples of how we have worked together over the past year and how our partnership has strengthened our joint mission to provide the highest levels of health care, advance important biomedical research and train the next generation of health care professionals serving the state of Maryland and the nation. We look forward to reinforcing this partnership which is built on trust, respect and common goals so that we can continue to have a positive impact locally as well as globally.

**WE** faced many unique challenges in fiscal year 2010. Chief among them were the turbulent economic environment, uncertainty about the future of health care reform and devastating natural disasters. Yet the strong partnership between the University of Maryland Medical System (UMMS) and the University of Maryland School of Medicine (SOM) helped us to deal effectively with the challenges we faced. In addition, our partnership grew stronger due to our commitment to shared priorities and dedication to our common goals — delivering excellent health care to the citizens of Maryland and beyond, a commitment to discovery and finding innovative new treatments, and training the next generation of medical professionals to provide innovative quality care locally as well as globally.

In one of our proudest moments, the Medical System and the School of Medicine responded quickly, decisively and comprehensively in coming to the aid of the victims of the earthquake in Haiti. As a result of our partnership with Catholic Relief Services, we were able to launch a unique, coordinated relief program to help the people of Haiti.

**We sent teams of physicians, nurses and other staff who rotated between Port-au-Prince and Baltimore on a continuous basis for six months and donated 12 tons of medical supplies in a sustained response to this enormous tragedy. Our presence in Haiti continues today, and we are grateful for all of those who have given, and who continue to give, of their time and skills in this most noble of causes.**

Throughout this annual report, we reflect upon the accomplishments of the past year and how they serve to illustrate the positive local and global impact of our organizations and collective actions.

#### Who We Are

UMMS is a private, not-for-profit 12-hospital system with academic, community and specialty service missions throughout the state. UMMS has grown steadily over the last decade and now provides hospital care to more Marylanders than any other hospital system in the state. During fiscal year 2010, the Medical System entered into a management services agreement with Charles County-based Civista Health which increased our geographic reach into the Washington Metropolitan area.

**The University of Maryland School of Medicine, now well into its third century of service, continues to excel as a top-tier biomedical research institution and is training the next generation of physicians, scientists and allied health professionals to serve patients in Maryland and throughout the world.** The School of Medicine's outstanding faculty physicians comprise the medical staff of the University of Maryland Medical Center in Baltimore and also provide care at other UMMS hospitals. Together, the School and the Medical Center educate and train more than half of the state's practicing physicians. The School of Medicine is one of six professional schools on the campus of the University of Maryland, Baltimore, and is part of the University System of Maryland.

#### Top Recognition

**For the fourth year in a row, the Leapfrog Group has recognized the University of Maryland Medical Center and its School of Medicine faculty by naming the Medical Center as one of the nation's best hospitals for patient safety and quality of care.** Only 45 hospitals nationwide earned this important and prestigious recognition for 2009, and the Medical Center was the only hospital in Maryland to be on this year's list. We also join a highly select group of only three institutions which have received the award at least four times since its inception in 2006. The Leapfrog survey is the only national, public comparison which ranks hospitals based on key patient safety measures and was founded to initiate breakthrough improvements — or "leaps" — in health care safety, quality and affordability.

**We were also very pleased with the prominent ranking of the University of Maryland Medical Center and SOM clinical**

**faculty in nine specialty areas in the U.S. News and World Report's Best Hospital rankings this year. The Medical Center was listed among the nation's best hospitals in Cancer, Diabetes & Endocrinology, Otorhinolaryngology, Geriatrics, Heart & Heart Surgery, Kidney Disorders, Orthopaedics, Pulmonology and Urology — a recognition of the excellent patient care provided by the School of Medicine faculty physicians, Medical Center nurses and the entire staff.**

Last fall, Shore Health System joined the University of Maryland Medical Center in being awarded the prestigious Magnet recognition for excellence in nursing services from the American Nurses Credentialing Center's Magnet Recognition Program.<sup>®</sup> The University of Maryland Medical Center earned Magnet designation in July 2009. Shore Health is the only hospital system on the Delmarva Peninsula to attain Magnet recognition. Shore Home Care and Hospice also achieved Magnet status and is one of the very first hospice agencies in the United States to achieve this recognition.

**The School of Medicine's first-rate research enterprise continued to rank high among top-tier medical schools nationally in research funding.** The School ranks in the top 10 percent of the 76 public medical schools and the top 15 percent among all 133 medical schools in the United States. This ranking is based on the Association of American Medical College's ranking of research grants and contract expenditures. The School also realized a 13 percent increase over the prior year in research grants and contract funding totaling \$426 million.

#### Economic Impact

The Medical System is one of Maryland's largest private employers with 15,000

**The School of Medicine has proposed the construction of a 315,000 gross-square-foot, \$265 million research facility to enable researchers to create preventive, therapeutic and diagnostic measures to improve the health and quality of life for all Marylanders. It is anticipated that more than 1,200 permanent jobs and \$146 million in annual economic output will be generated as a result of Health Sciences Facility III.**



University of Maryland  
Medical System

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employees, 2,300 licensed beds and 115,000 annual patient admissions. In addition, the School of Medicine employs more than 5,000 physicians, researchers and support staff. The School's student body consists of 1,288 individuals from 79 colleges and universities who are fluent in 29 languages. **Together, the SOM and UMMS generate more than \$5 billion in economic activity annually.**

In December 2009, UMMS received an **upgraded bond rating** to "A" from Moody's Investors Service. This achievement is significant since many hospitals and health systems had their credit ratings downgraded in the last 12 months, and only a small number received upgrades. Two other major bond-rating agencies, Fitch Investors Service and Standard & Poor's, also affirmed the Medical System's "A" rating with a stable outlook. This strong bond rating serves to reduce our cost of capital and validates the continuing strength of our partnership.

### **Leveraging Relationships**

The Medical System created a new leadership position this year, Vice President, Supply Chain Management, to consolidate its supply chain activities across the hospital system. It is an important example of our commitment to operating as a true system and leveraging our size

to reduce costs. Through collaboration and consensus building with our physicians and other clinical stakeholders, we will be able to optimize our relationships with vendor partners, resulting in an anticipated multimillion-dollar reduction in our operating costs.

Across the enterprise, a renewed emphasis and commitment has been placed on our quality management process. This effort has been highly collaborative and has engaged all facets of the internal community in a multi-facility and multidisciplinary way. The new vision of quality that has emerged is the result of the input and dedication of physicians, nurses and administrative staff alike. We have set a high goal for ourselves and believe that it can be achieved by harnessing the talents of our entire team to create a comprehensive framework for excellence throughout the Medical System and the School of Medicine.

### **Capital Improvements**

In spite of ongoing economic challenges, we were able to begin and complete several important capital improvement projects this past year. Early this spring, construction began on Phase IV of the University of Maryland Medical Center's strategic facilities plan. **This new \$160**

*"The economic challenges of the past year highlighted the critical importance of the strong partnership between the University of Maryland Medical System and the School of Medicine. Working together, in spite of those challenges, we have achieved another successful year, providing excellent patient care, education and research — all focused on improving the lives of citizens in Maryland and around the world."* – Stephen A. Burch, Esq., Chair, UMMS Board of Directors



million Shock Trauma/Critical Care/Emergency Medicine building will enable the Medical Center to greatly increase its capacity to meet the growing tertiary care needs of the state and the region. Other key projects included the opening of the \$57 million expansion at Maryland General Hospital, and the opening of the new Robin Elizabeth Pascal Women's Center, part of a \$117 million expansion at Baltimore Washington Medical Center.

The \$11.7 million Queen Anne's County Emergency Care Center, which will address the medical needs of the Mid-Shore region and provide local residents with around-the-clock emergency care year-round, will be open in October 2010. Queen Anne's County is one of only two Maryland counties which do

not have a hospital. Along with the \$3 million expansion of the Dorchester General Hospital's Emergency Department, the new Queen Anne's County facility will help to ensure expanded emergency care for the Mid-Shore region.

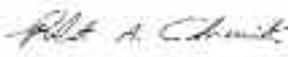
As part of its research strategic plan, the School of Medicine has proposed the construction of a 315,000-gross-square foot Health Sciences Facility (HSF III) dedicated to biomedical research. The \$265 million facility will support the retention and recruitment of nationally recognized scientists and academic leaders whose work will create preventive, therapeutic and diagnostic measures to improve the health and quality of life for all in Maryland and beyond. It is anticipated that more than 1,200

permanent jobs and \$146 million in annual economic output will be generated as a result of HSF III.

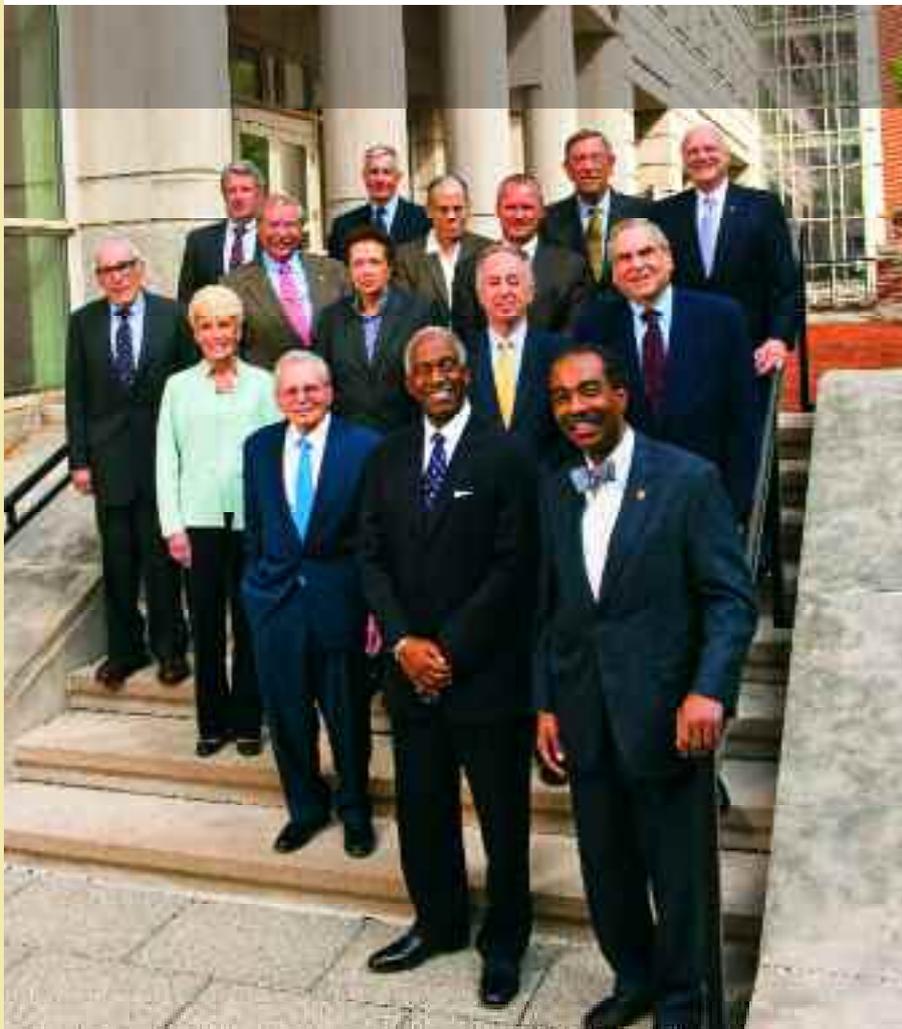
We hope you enjoy reading about the highlights of our progress of the past year in this annual report.



**E. Albert Reece, MD, PhD, MBA**  
Vice President for Medical Affairs, University of Maryland  
Dean, University of Maryland School of Medicine



**Robert A. Chrencik, MBA, CPA**  
President and Chief Executive Officer  
University of Maryland Medical System



*"Science and health care practices at the University of Maryland School of Medicine and Medical System have earned respect and appreciation from audiences around the world. Our physicians and scientists are huge contributors to an enhanced quality of life here and abroad. Today, we are appreciated as an important national resource. Tomorrow, you can expect the University of Maryland to be appreciated as a national treasure."* – Michael Cryor, Chair, SOM Board of Visitors

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School of Medicine  
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**20 / 10**

What has become apparent during the first decade of this century is the **interconnectivity that exists throughout the world. The 10 stories told over the following 20 pages serve to illustrate how, now more than ever before, the efforts made as individuals and as a community resonate beyond native boundaries.** From issues relating to the environment and natural disasters to health care initiatives that will help to keep the citizens of Maryland and the world healthy and safe today and in the future, the partnership forged by the University of Maryland Medical System and the University of Maryland School of Medicine brings a collective strength and expertise to medical education, research and clinical care that reaches throughout the state and world.



More than 200 members of the University of Maryland medical community volunteered to go to Haiti. Because of the complex nature of patient injuries, the teams included many Shock Trauma Center staff. Each team had at least one nurse from a non-trauma department.

**KAREN E. DOYLE, MBA, MS, RN**, vice president of the Shock Trauma Center, played a key role in the coordination of all staff and supplies that went to Haiti and served as the “go-to” person in Baltimore for teams on the ground in Haiti.

- › *University of Maryland medical teams served an average of 300 Haitian patients each day. St. François de Sales, a Haitian teaching hospital, lost an estimated 140 physicians, nurses and patients during the earthquake and its aftermath.*

# MISSION Partners in Healing IN HAITI

In the weeks and months following the January 12th earthquake in Haiti, members of the University of Maryland medical community proved themselves to be uniquely qualified to lend helping hands — and hearts — to the struggling citizens of Port-au-Prince. Working in conjunction with Catholic Relief Services and supported by the entire University of Maryland Medical Center and School of Medicine community back home, **the “pink scrubs” teams became an international brand. The UM Medical Team’s long-term commitment to Haiti will continue.**

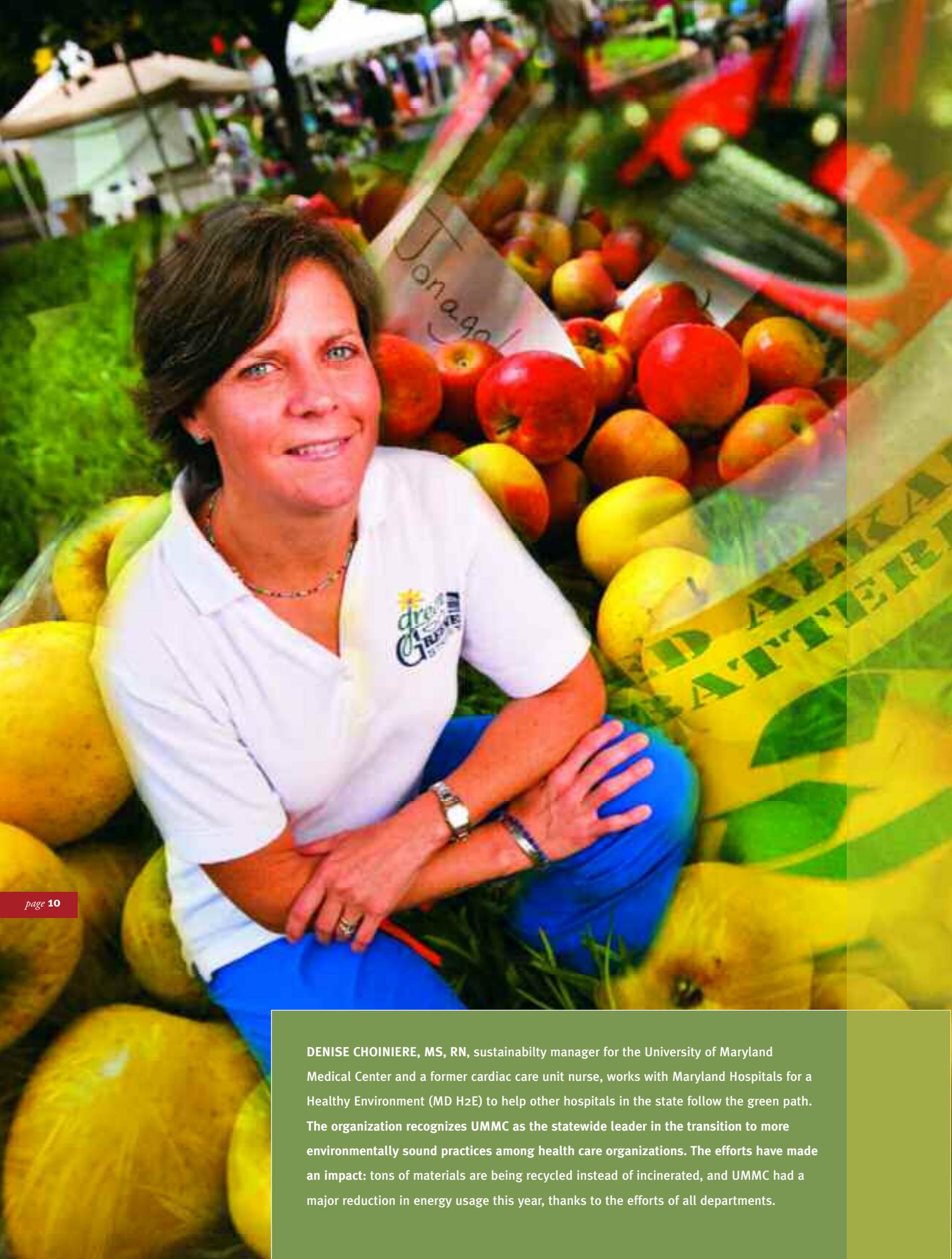
A “pink scrubs” team in Haiti, led by Thomas Scalea, MD, physician-in-chief of STC, third from left.

Joseph F. O’Neill, MD, MPH, visiting professor, Department of Medicine, and director, Global Health Initiatives, lent to the mission his extensive experience in working in the federal government and in global health.

Robert R. Redfield, MD, professor of medicine, and associate director, Institute of Human Virology, helps lead the institute’s global network of clinics, including the one in Port-au-Prince, where all 22 employees survived the quake.

Andrew N. Pollak, MD, associate professor, Department of Orthopaedics, helped lead the mission to Haiti.





DENISE CHOINIÈRE, MS, RN, sustainability manager for the University of Maryland Medical Center and a former cardiac care unit nurse, works with Maryland Hospitals for a Healthy Environment (MD H2E) to help other hospitals in the state follow the green path. The organization recognizes UMMC as the statewide leader in the transition to more environmentally sound practices among health care organizations. The efforts have made an impact: tons of materials are being recycled instead of incinerated, and UMMC had a major reduction in energy usage this year, thanks to the efforts of all departments.

# GREEN Leading the Way LIGHT

The entire University of Maryland medical community is engaged in finding new ways to “go green.” In one noteworthy example, the University of Maryland Medical Center was recognized by the U.S. Environmental Protection Agency’s Mid-Atlantic Regional Office with a Trailblazer Award, which is given each year to hospitals that demonstrate **leadership in advancing sustainability in their operations.**

› *UMMC donated 3,432 cubic feet of recycled medical supplies and equipment to El Salvador last year.*

The hospital also won two awards for environmental excellence from Practice Greenhealth, a national membership organization for health care facilities. All patient care areas throughout UMMC are involved in green initiatives, including full-scale waste separation and single-stream recycling, energy conservation and carpooling, resulting in hundreds of thousands of dollars in savings this year.

The University Farmers Market runs from May to November and features local farmers, bakers and others who produce healthy food using environmentally sustainable methods.



UMMC’s Operating Rooms, Emergency Department and Labor and Delivery Suites are recycling plastics such as blue wrap and saline bottles, resulting in two tons saved from incineration.





SEAN MENARD's kidneys had been failing since birth, due to a congenital abnormality. With one kidney removed when he was six months old, Sean's remaining kidney was not functioning properly and he would soon need dialysis. **The ten-year old was the youngest member of the four-way exchange.** He received the kidney of an anonymous female donor from Maryland, while his intended donor gave a kidney to a 64-year-old man from Florida. Once restricted to play periods of 10 minutes or less, Sean now looks forward to being healthy and active for the first time in his life.

- › *Without the help of living donors, Maryland patients typically spend three years or longer on kidney transplant waiting lists. They are part of the 82,000 people in the U.S. awaiting new kidneys.*

# KIDNEY

## Four Times Two Equals Eight

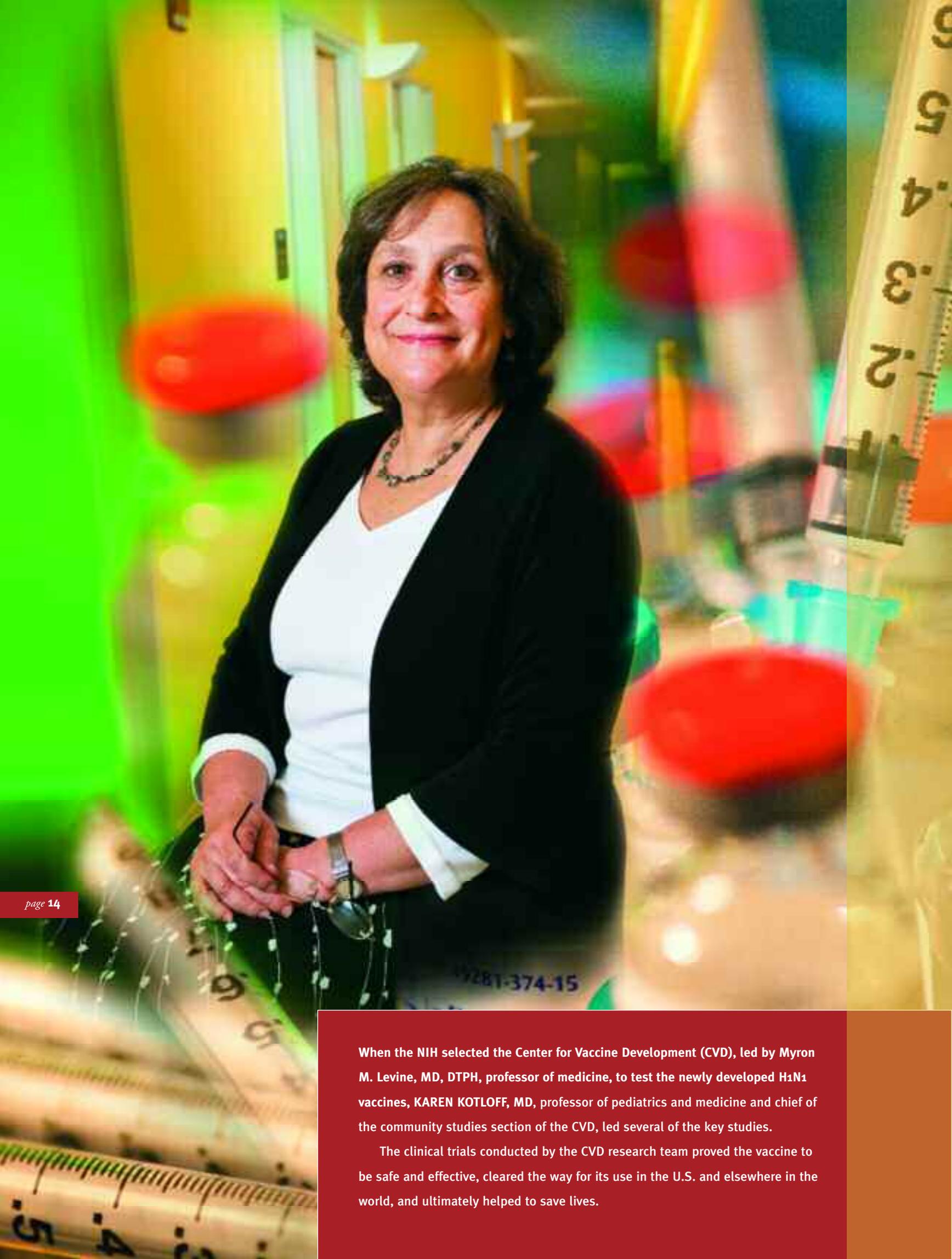
# EXCHANGE CHAIN

In the fall of 2009, an historic milestone was achieved at UMMC when a **single-incision laparoscopic technique** was used for the **first time to remove kidneys from living donors in a multiple-kidney exchange**. University of Maryland transplant surgeons completed the four-way kidney exchange **involving eight patients from four states** over a two-day period. About one third of patients who have a relative or friend willing to donate are not able to receive the kidney because of blood or tissue incompatibility. Kidney exchanges increase the pool of donors and allow incompatible pairs to be matched with other pairs in the same situation.

Matthew Cooper, MD, associate professor of surgery (left), worked with the Medical Center surgical team to coordinate and perform the multiple-kidney exchange.

University of Maryland surgeons have performed more than 60 single port (through the naval) kidney removals from living kidney donors since April 2009.





When the NIH selected the Center for Vaccine Development (CVD), led by Myron M. Levine, MD, DTPH, professor of medicine, to test the newly developed H1N1 vaccines, KAREN KOTLOFF, MD, professor of pediatrics and medicine and chief of the community studies section of the CVD, led several of the key studies.

The clinical trials conducted by the CVD research team proved the vaccine to be safe and effective, cleared the way for its use in the U.S. and elsewhere in the world, and ultimately helped to save lives.

# H1N1

## Preparing a Nation

# INFLUENZA

› *Each year approximately 35,000 people die from influenza.*

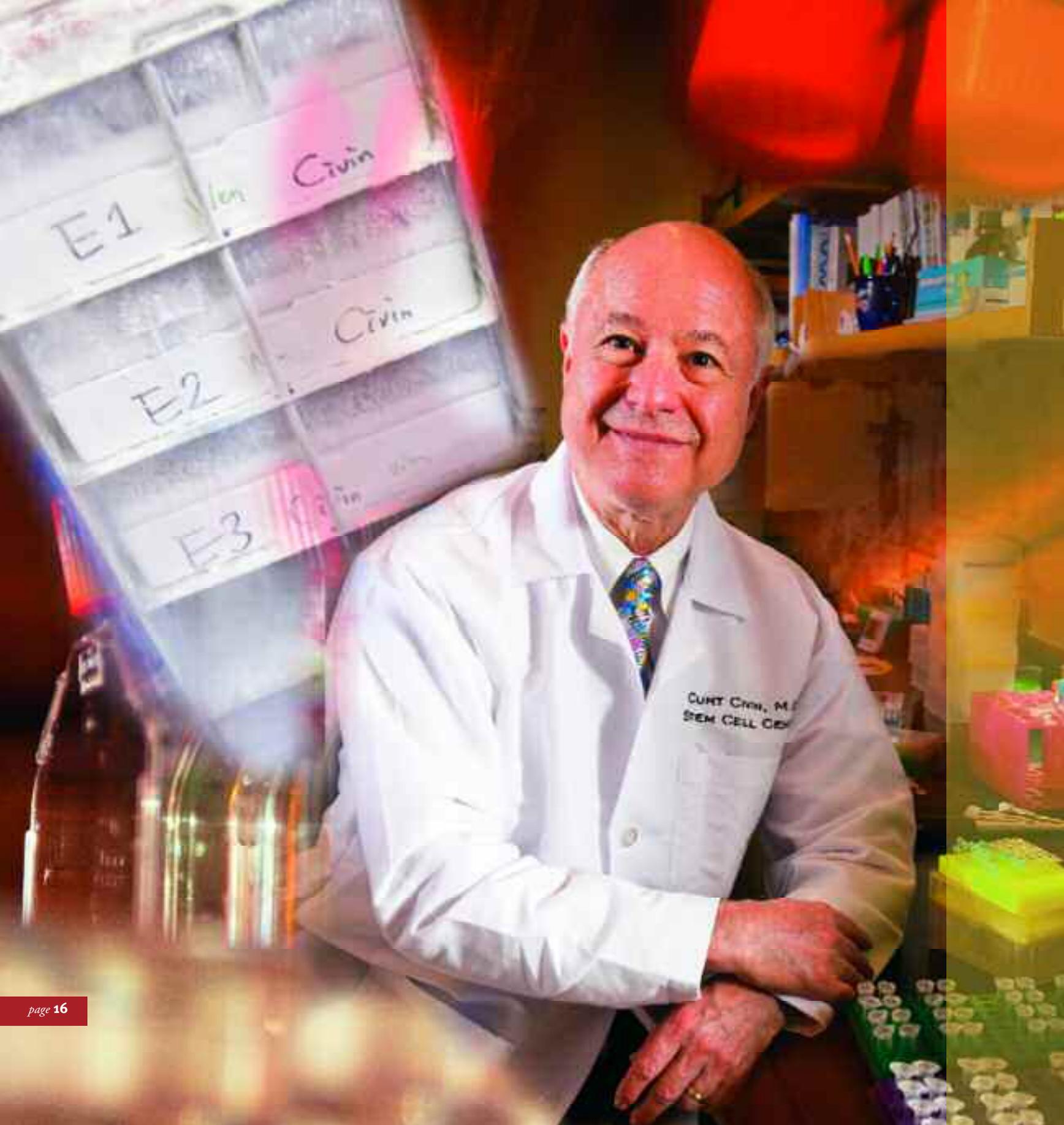
Well before the general public was aware of the potential implications of the 2009 H1N1 influenza virus, **the School of Medicine's Center for Vaccine Development (CVD) was preparing to lead one of the nation's first studies of a new vaccine developed to protect people against the virus.** The CVD is one of eight units across the country selected by the National Institutes of Health to evaluate vaccines rapidly when there is an emerging infection. It is the **only unit** in the Mid-Atlantic region, and its researchers have been working with the NIH in this capacity for more than 30 years.

At the height of the 2009 flu season, more than 2.3 million doses of the H1N1 vaccine had been ordered by health care providers throughout Maryland.

Ina Stephens, MD, assistant professor of pediatrics, led the pediatric trials.

Wilbur H. Chen, MD, assistant professor of medicine, was co-investigator of the newly developed influenza vaccine.





**CURT CIVIN, MD**, professor of pediatrics, associate dean for research and founding director of the Center for Stem Cell Biology and Regenerative Medicine, is dedicated to pursuing every promising avenue of stem cell science.

The Center uses multidisciplinary research partnerships among faculty and the construction of core facilities to support all types of stem cell research with the ultimate goal of making a significant impact on curing disease.

# STEM CELL Harnessing World Knowledge RESEARCH

The School of Medicine is at the forefront of efforts to gather and harness new knowledge resulting from stem cell research conducted throughout the world.

**Scientists from the School's Center for Stem Cell Biology and Regenerative Medicine are part of the newly formed International Intestinal Stem Cell Consortium, funded in part by the Vatican, to explore the therapeutic potential of intestinal stem cells.** At the national level, the National Heart, Lung and Blood Institute (NHLBI) selected the School of Medicine to coordinate the efforts of the NHLBI Progenitor Cell Biology Consortium, whose researchers will address the challenges of discovering potential new clinical therapies involving stem cells.

Brie Teaboldt, research technician, works in Dr. Civin's stem cell lab.

Michael L. Terrin, MD, CM, MPH, professor of epidemiology and public health, was selected to lead the new NHLBI Progenitor Cell Biology Consortium.

Alessio Fasano, MD, professor of pediatrics, medicine and physiology and director, Center for Mucosal Biology, is coordinating the International Intestinal Stem Cell Consortium.





As senior vice president and chief medical officer of UMMC, **JONATHAN GOTTLIEB, MD**, clinical professor of medicine in the School of Medicine, is responsible for patient safety and quality improvement, medical staff services, graduate medical education, clinical effectiveness, pharmacy services and health information management. He shares responsibility for perioperative services with **LISA ROWEN, DNSc, RN**, senior vice president and chief nursing officer.

# QUALITY Safe and Sound OF CARE

Among the accolades and awards received this past year, none were more important than those recognizing the emphasis the University of Maryland medical community places on patient care and safety. **For the fourth year in a row, the Leapfrog Group named the University of Maryland Medical Center one of the nation's best hospitals for patient safety and quality of care.** It was the **only** Maryland hospital to receive the award in 2009 and **one of only three hospitals nationwide** to be on Leapfrog's list every year since its inception. Shore Health System achieved **Magnet recognition for excellence** in nursing last year. It was the **first** health system on the Delmarva Peninsula and **only** the second affiliate of the University of Maryland Medical System to attain Magnet status. Shore Health's affiliate, Shore Home Care Hospice, was among the **first** hospice agencies to be recognized. UMMC achieved Magnet designation in 2009.

UMMC's Magnet award is displayed in the hospital lobby. Shown below are nurse leaders and staff who worked with Lisa Rowen, DNSc, RN, (center, right) chief nursing officer and senior vice president for patient care services, to achieve the Magnet designation.

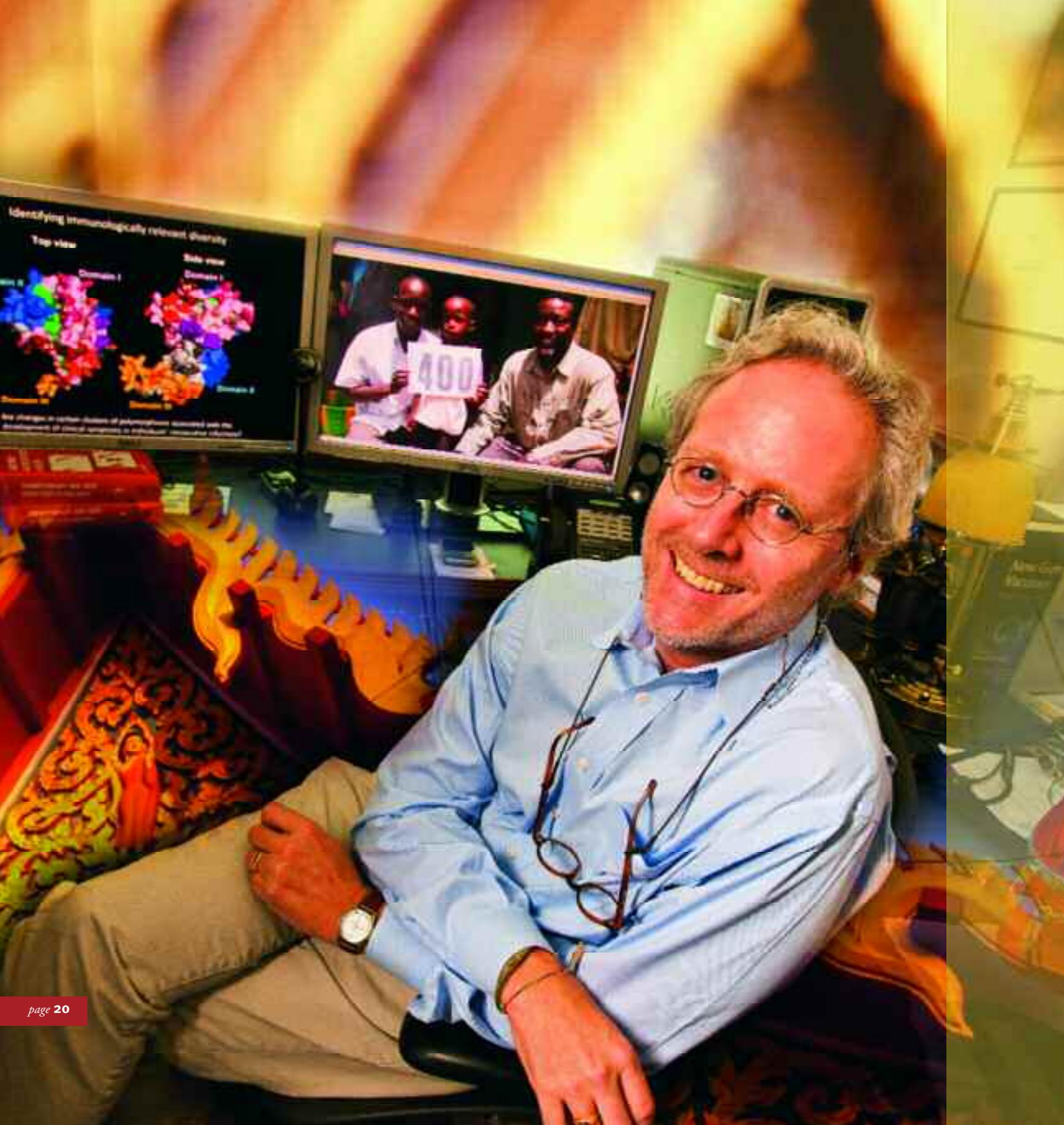


Cindy Rew, BSN, RN, received the regional 2009 Nursing Excellence Award in clinical care from *Nursing Spectrum* magazine.



The Omnicell® system ensures patient safety by requiring nursing personnel to scan the item barcode upon removing items from the unit-based cabinet. Akwasi Amoako-Atta is Omnicell® administrator.





**CHRISTOPHER PLOWE, MD, MPH**, Howard Hughes distinguished scientist, professor of medicine and chief, malaria section, led the trial in collaboration with the Malaria Research and Training Center at the University of Bamako in Mali, West Africa.

The same international team of U.S., Malian and European investigators has tested the vaccine in a much larger trial to evaluate its effectiveness against malaria. The scientists hope the vaccine can be combined with other vaccines to create a multi-component immunization that is highly protective.

- > *Approximately 300 million adults and children contract malaria worldwide each year.*

# MALARIA

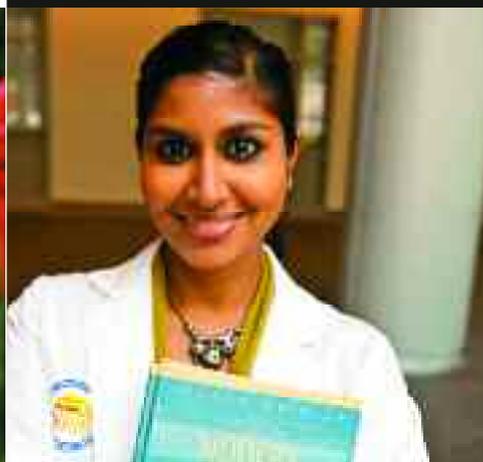
## Protecting the World's Children

# VACCINE

**A new vaccine** developed by an international team of researchers led by the School of Medicine's Center for Vaccine Development may be the next step in preventing the deadly malaria virus in young children. **Initial findings indicate that the vaccine shows promise to protect young children against the disease.** More than 1 million deaths are caused annually by malaria, most of them African children. Eradicating the disease is a priority for scientists and health officials worldwide. An effective and broadly protective vaccine is a key step toward that goal.

Kavita Ghandi, a School of Medicine MD/PhD student, works on the malaria vaccine studies.

According to the World Health Organization, a child dies of malaria every 30 seconds.





For BARTLEY GRIFFITH, MD, professor of surgery, the principal investigator for the Maryland arm of Pumps for Kids, Infants and Neonates (PumpKIN), the research is a crucial step toward saving the lives of young children.

The miniaturization necessary for heart pumps for children presents enormous technical challenges that require radical new designs but will make all the difference in the world for infants with serious cardiac problems, particularly babies who have not responded to surgical or other measures to correct their heart defects.

# TINY

## The Beat Goes On

# HEARTS

› *In the U.S., nearly 1,800 infants die each year as a result of congenital heart defects.*

Funding received from the National Heart, Lung and Blood Institute will allow researchers at the School of Medicine to begin the next phase in the development of new, lifesaving devices to help children born with congenital heart defects or those who develop heart failure. **The \$5.4 million, four-year grant called Pumps for Kids, Infants and Neonates (PumpKIN) is part of a broader \$23.6 million national research program that involves three other facilities. Devices in the PumpKIN program will provide circulatory support for newborns, older infants and children under 55 pounds.**

As head of pediatric cardiology, Geoffrey Rosenthal, MD, PhD, professor of pediatrics, and his team provide comprehensive care for children with congenital heart defects.

The adult heart is about the size of a fist; a child's heart is about the size of a large walnut.





Fortunately for baby BRAYDEN JOSEPH, the new Pascal Women's Center at the Baltimore Washington Medical Center was open for business in the midst of the first of two back-to-back blizzards in February.

Mom, Katherine Romero (at right), dad and big sister traveled by car, fire truck, ambulance and Maryland State Trooper SUV and arrived at the hospital just in time for Brayden's birth. He weighed over nine pounds.

# CAPITAL

## Building Together Statewide

# IMPROVEMENTS

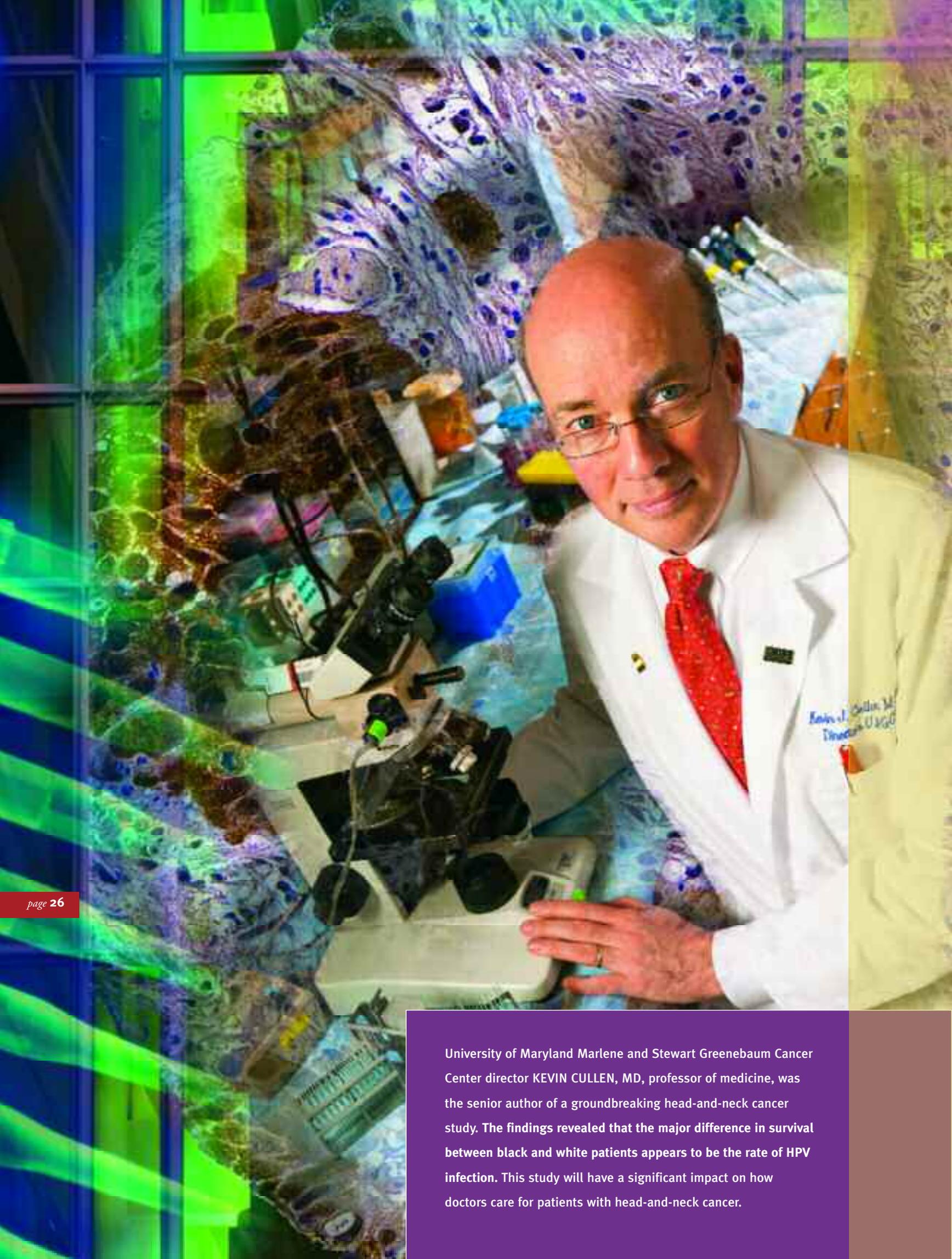
Capital improvements made throughout the University of Maryland medical community this past year brought a sense of energy and accomplishment while providing concrete evidence of enhancements to patient care.

**Key projects included the completion of Maryland General Hospital's \$57 million expansion, the construction of the new Emergency Department in Queen Anne's County, the \$3 million expansion of Dorchester General Hospital's Emergency Department, the groundbreaking for a new \$160 million, nine-level Shock Trauma/Critical Care tower at the University of Maryland Medical Center and the opening of a new obstetrics unit at the Baltimore Washington Medical Center.**

Comptroller Peter Franchot, Dean E. Albert Reece, Bob Chrencik, Steve Burch, Governor Martin O'Malley, Thomas Scalea, MD, Frank Kelly, Cal Ripkin, Jr., Jeffrey Rivest and Karen Doyle helped kickoff the groundbreaking of UMMC's Shock Trauma/Critical Care Tower at Lombard and Penn Streets.

This year Maryland General Hospital celebrated the completion of its \$57 million expansion with a ribbon-cutting ceremony that included Congressman Elijah Cummings and Mayor Stephanie Rawlings-Blake.





University of Maryland Marlene and Stewart Greenebaum Cancer Center director KEVIN CULLEN, MD, professor of medicine, was the senior author of a groundbreaking head-and-neck cancer study. The findings revealed that the major difference in survival between black and white patients appears to be the rate of HPV infection. This study will have a significant impact on how doctors care for patients with head-and-neck cancer.

› *More than 2,000 patients have been treated with cryotherapy ablation at 76 institutions nationwide.*

# CANCER

## Increasing Survival Rates

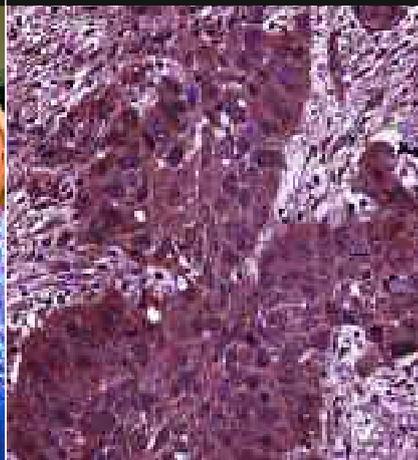
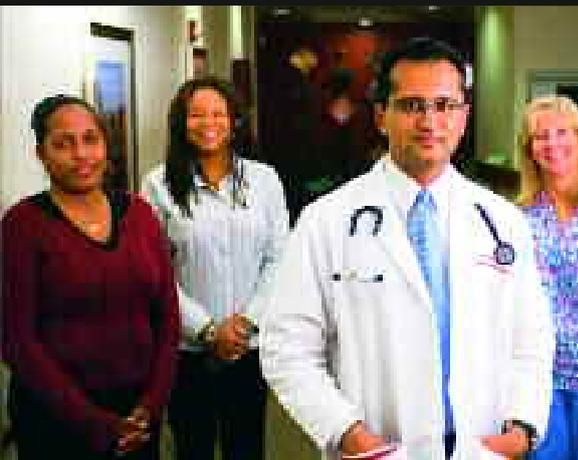
# RESEARCH

Recent findings from two studies led by researchers at the University of Maryland Marlene and Stewart Greenebaum Cancer Center (UMGCC) are giving new hope to individuals with esophageal and head-and-neck cancers. One study involved the treatment of localized esophageal cancer with a freezing technique known as **cryotherapy** and found that **the cancer was eliminated in 70 percent of the patients. The second study drew unexpected connections between head-and-neck cancer and the human papillomavirus (HPV).** Both will impact how patients with the diseases are tested and treated in the future.

Cancer specialist Naimish Pandya, MD, and UMGCC Stoler Pavilion staff.

The survival rate for HPV-positive patients was about 85 percent, compared to 35 percent for HPV-negative patients, regardless of race.

Bruce Greenwald, MD, professor of medicine, was the lead author of the cryotherapy study, which was conducted at the University of Maryland and nine other institutions.



A globe is shown with a colorful, abstract map overlay. The map features various colors including red, purple, orange, yellow, and green, which appear to represent different regions or data points. The globe is positioned in the center of the frame, and the background is a dark, textured surface.

# GLOBAL

IMPACT

# A TRADITION OF EXCELLENCE

SINCE 1807

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

The past year was extraordinary in many ways. Despite a challenging economy, the School of Medicine maintained momentum in achieving its goals in education, research, quality patient care and community engagement, improving the health and futures of the citizens of Maryland and the world.

# SOM Highlights

## RESEARCH

### **New Center for Shock, Trauma and Anesthesiology Research**

The University of Maryland Charles McC. Mathias Jr., National Study Center for Trauma and Emergency Medical Systems was incorporated into a new Organized Research Center: Shock, Trauma and Anesthesiology Research (STAR) Center.

As the only center of its kind in the United States dedicated exclusively to the study of injury and its complications and prevention, the multidisciplinary research and educational center focuses on trauma, critical care and organ support, resuscitation, injury prevention, perioperative clinical outcomes and patient safety.

The STAR center is led by **ALAN I. FADEN, MD**, a scientist and physician with extensive expertise in the treatment of brain trauma and other central nervous system injuries. Dr. Faden is the David S. Brown professor of anesthesiology in the School of Medicine with secondary appointments in the departments of anatomy and neurobiology, neurology and neurosurgery, and membership in the Program in Trauma.

His current research centers on delayed or secondary injury after brain or spinal cord trauma, with a recent focus directed to common pathways that link acute injury processes such as trauma or stroke and chronic neurodegenerative disorders like Alzheimer's disease.

### **Federal Stimulus Funds Help Build State-of-the Art Facilities**

Over the past two years, the School of Medicine has received **145 awards totaling \$60 million through the American Recovery and Reinvestment Act (ARRA)**, part of \$10 billion in funding made available by the federal government. The stimulus funds will enable the School of Medicine to create new jobs, especially for trainees and young investigators, rebuild its biomedical research infrastructure and initiate large new research challenge and grand opportunity projects that have the potential to change scientific paradigms. Examples of the awards include four challenge grants for research in areas which address specific scientific and health research challenges in biomedical and behavioral research. Five grand opportunity grants will support



projects that address large, specific biomedical and bio-behavioral research endeavors. Awards were also received for faculty recruitment, shared instrumentation, high-end equipment and construction.

Through the ARRA, the National Institutes of Health (NIH) awarded \$12.3 million in grants to the School of Medicine for the renovation of research laboratories at the University of Maryland Marlene and Stewart Greenebaum Cancer Center and to build core facilities — centralized areas of technology and expertise — that will provide key support services to cancer researchers.

The STAR Center is led by ALAN I. FADEN, MD.



These new core laboratories will provide shared services to cancer researchers and other scientists at the School of Medicine and other professional schools at the University of Maryland, Baltimore. The newly renovated space will be used by individual molecular and structural biology researchers and will also house core labs for confocal microscopy, proteomics, flow cytometry, tissue-culturing and tissue-related services such as histology and immunohistochemistry, as well as the Genomics Core Facility, which provides cutting-edge genomic support for researchers.

### Magnet Magnification

The NIH has awarded the School of Medicine a \$7.9 million grant to acquire a cutting-edge, superconducting 950 MHz Nuclear Magnetic Resonance (NMR) magnet to allow researchers a close-up look at molecules and accelerate the development of new agents to treat disease. The eight-ton, two-story magnet, made by Bruker BioSpin, produces a supercharged magnetic field that enables scientists to investigate the three-dimensional structure of biological molecules and study their interaction using the highest degree of resolution. The School of Medicine will be the only academic institution in the U.S. and one of only two



sites in the nation to have such a device. The grant was made possible by the American Recovery and Reinvestment Act.

The magnet will become part of the NMR core facility, directed by DAVID J. WEBER, PHD, professor, Department of Biochemistry and Molecular Biology. The bid to acquire the device was a partnership between the School of Medicine, the University of Maryland, Baltimore County and the University of Maryland, College Park. It will be available for use by faculty from those campuses as well as from institutions throughout the Mid-Atlantic.

### Vaccines Fighting Worldwide Disease

- The Center for Vaccine Development (CVD) is conducting an historic study at seven sites in Africa and Asia. Funded by the Bill and Melinda Gates Foundation, the Global Enterics Multi-Center Study (GEMS) is

possibly the largest communicable disease case-control study of acute diarrhea in children from birth to 59 months. The prospective study, targeting countries with moderate to high infant mortality rates, involves a research consortium among the world's major players in the diagnosis and treatment of diarrheal diseases. Its goal is to develop the most definitive and comprehensive information on the origin of severe diarrhea in children in the world's least-developed countries.

- CVD researchers found extreme genetic differences in the most dangerous malaria parasite, explaining why it has been so challenging to develop a broadly protective vaccine for the disease. While several experimental malaria vaccines are under development, such as the one being developed by researchers at the CVD, no





## Understanding Brain Science

Research scientists throughout the School of Medicine are recognized globally for their work unraveling the mysteries of the brain. Faculty are working at both the basic science and clinical levels to better understand conditions such as neurodegenerative diseases, movement disorders, substance abuse, mental illness and more.

The research of **GEOFFREY SCHOENBAUM, MD, PhD**, professor of anatomy & neurobiology, focuses on the mechanisms in the brain that control learning and how those mechanisms play a crucial role in addiction. For example, Dr. Schoenbaum studies on the most basic, cellular level why addicts do not seem to learn from the adverse consequences and declining rewards that come with ongoing substance abuse.

**WALTER ROYAL, MD**, associate professor of neurology and anatomy & neurobiology, is exploring the role environmental factors play in multiple sclerosis. A deficiency in vitamin D, for example, has been associated with an increased risk of developing multiple sclerosis. Dr. Royal studies this relationship and how regulation of vitamin D levels or replication of the vitamin's effect could improve clinical outcomes in MS patients. Dr. Royal also studies the neurologic disorders that are associated with HIV



Drs. Royal, Shulman, Schoenbaum and Simard

infection, in collaboration with researchers from the Institute of Human Virology.

Blast injury to the brain is studied by **J. MARC SIMARD, MD, PhD**, professor of neurosurgery, pathology and physiology. Dr. Simard has developed a rodent model of blast injury to the brain that is uniquely capable of modeling the delayed cognitive and psychological deficits that are often encountered in patients who survive blast injuries, such as post-traumatic stress disorder (PTSD). Dr. Simard examines the relationship between mild head injury and delayed loss in the ability for rapid adaptive learning. The rodent model he developed has opened pathways for new research into blast injury.

As co-director of the University of Maryland Parkinson's Disease and Movement Disorders Center, **LISA SHULMAN, MD**, studies ways how to reduce disability and improve quality of life in chronic neurologic disorders such as Parkinson's disease. Dr. Shulman,

professor of neurology, is researching how different types of exercise affect gait, balance, and mobility in Parkinson's disease. Her findings will help develop an optimal exercise program for Parkinson's patients. Dr. Shulman also is developing a new tool to measure a patient's ability in managing their own chronic disorders. Studies in the Movement Disorders Center have shown that self-efficacy in managing Parkinson's disease is a crucial component to slowing the progress of the disease and keeping patients physically healthy.

## NEW LEADERSHIP

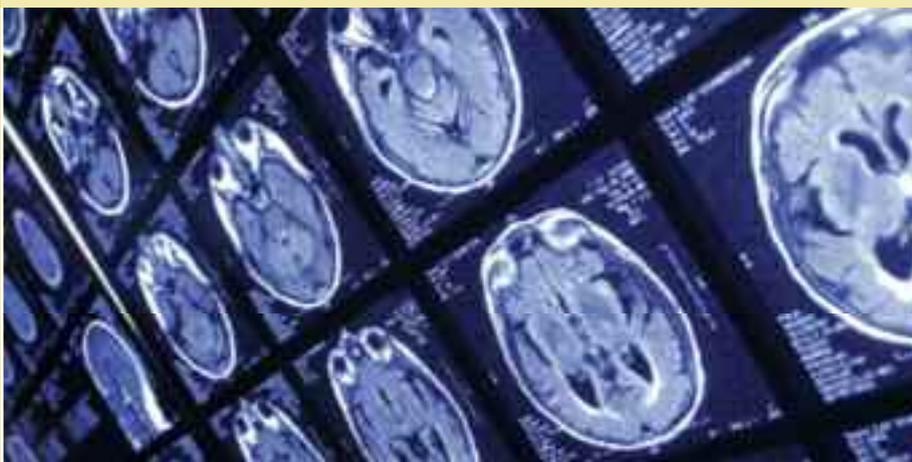
### New Chair of Medicine

Internationally recognized endocrinologist and research scientist **STEPHEN N. DAVIS, MBBS**, joined the School of Medicine as professor and the Dr. Theodore E. Woodward Chair of the Department of Medicine. In addition, he serves as chief of medicine and physician-in-chief at the University of Maryland Medical Center.

As chairman of the largest department, Dr. Davis leads more than 300 full-time physicians and scientists and 400 adjunct faculty. The department trains 145 residents and 77 fellows each year.

Dr. Davis has devoted his career to research and patient care, focusing on treating adults with diabetes and metabolic disorders, as well as studying the

Stephen N. Davis, MBBS, professor and the Dr. Theodore E. Woodward Chair of the Department of Medicine and chief of medicine and physician-in-chief at the University of Maryland Medical Center.



biological basis of certain diabetes-related complications. He has authored more than 120 peer-reviewed articles and 50 textbook chapters and review articles. He earned his medical degree from London University and is a fellow of the American College of Endocrinologists and the Royal College of Physicians.

### New Associate Dean for Interdisciplinary Research

**STEPHEN B. LIGGETT, MD**, was appointed associate dean for Interdisciplinary Research. Dr. Liggett is a professor of medicine and physiology and director of the Cardiopulmonary Genomics Program. In his role as associate dean, he fosters scientific collaboration between faculty members throughout the School of Medicine in order to develop a broad range of interdisciplinary basic science and translational research, which will broaden institutional basic research and lead to clinical applications for basic science discoveries.

As the composition of academic medical faculty and their talents have changed over the last few decades, computer science, bioinformatics, engineering, molecular biology and genomics have begun to play stronger roles in basic and clinical research. Dr. Liggett's experience in basic and translational research, as well as his expertise and accomplishments in genomics, helps to bridge the gaps separating the different disciplines



while promoting collaborations and translating research findings to clinical purposes.

### EDUCATION

#### Student Outreach: At Home and Abroad

The Area Health Education Center (AHEC) Program was developed by Congress in 1972 to enhance access to quality health care, particularly primary and preventive care, by improving the supply, distribution, quality and diversity of health care professionals through community — academic educational partnerships. The School of Medicine requires all fourth-year medical students to complete an eight-week AHEC rotation in one of four Maryland locations: Western Maryland, Eastern Shore, Baltimore City or

St. Mary's County. Students may also combine one of these locations with work in an epidemiology and preventive medicine program, service at various Indian Health Services sites around the country or an overseas rotation in international health.

#### Students Conduct Research Abroad

During the past year, School of Medicine students could be found working alongside faculty members in developing countries. Organized by the Office of Student Research, headed by **JORDAN WARNICK, PHD**, professor of pharmacology & experimental therapeutics, students had an opportunity to apply for internships between the first and second year of medical school, and for sponsorships during fourth-year rotations. Some students were assigned to research projects, while others worked on a clinically related project. The Office of Student Research makes contact with various funding agencies for sponsorship, such as the Arnold P. Gold Foundation and the Doris Duke Foundation. **CHRISTOPHER PLOWE MD, MPH**, professor of medicine, epidemiology & public health and microbiology & immunology, has a Doris Duke Distinguished Scientist Award with a component for training. This year, four SOM students benefited from the award through internships in Africa.

STEPHEN B. LIGGETT, MD, associate dean for Interdisciplinary Research, conducts research in his lab.

Several medical students completed their AHEC rotations at Indian Health Services in Arizona, Montana and Alaska, while others ventured farther afield to Mali, India and China.



## COMMUNITY ENGAGEMENT

### Mini-Med Schools Throughout the State Serve 4,000 Marylanders

Offered as a public service by the School of Medicine, Mini-Med School is a series of tuition-free classes designed to help Maryland residents improve their health and well-being. Lectures are presented by faculty physicians in university classrooms, and the weekly sessions are designed to be informal, fun and informative while focusing on health care issues that are important to our communities. The sessions also help to

raise public awareness of biomedical research and the importance of enrolling in clinical trials. Mini-Med School is held in Baltimore, on the Eastern Shore, in western and southern Maryland and at Baltimore-area high schools. This year marked the ninth anniversary of the program.

In its third year, Mini-Med School for Kids is an off-shoot of the original program. More than 50 children between the ages of 5 and 16 participated this year at the Salvation Army's Franklin Square Boys & Girls Club summer camp in West Baltimore.

### Project Medical Education for Legislators

Members of the Maryland legislature and congressional and other governmental staff experienced life as medical students as part of Project Medical Education (PME), an initiative of the Association of American Medical Colleges to educate lawmakers and other policymakers about the importance of medical education, its complex funding mechanisms and the essential role of government in providing financial support.

Wearing white coats, 32 "medical students" toured labs, classrooms and patient care areas, seeing firsthand the costly technology required to educate medical students and treat patients in the 21st century. They heard research presentations from faculty and took part in discussions on health disparities, student debt and the importance of state funding for new facilities to help keep the School of Medicine competitive. The experience ended with the opportunity to talk with current medical students, not only about their futures but the future of medicine as well.



Mini-Med School is presented by faculty physicians in medical school classrooms and the five weekly sessions are designed to be informal, fun and informative while focusing on health care issues that are important to our communities.

Dean Reece with Maryland legislators and congressional staff who experienced life as a medical student through the PME initiative.



The background is a vibrant, abstract composition of overlapping geometric shapes. Large areas of bright red and yellow are separated by sharp, black, angular lines. The overall effect is dynamic and modern, with a strong sense of movement and contrast.

**LOCAL**

**ACTION**

# WHERE MARYLAND COMES FIRST

## UNIVERSITY OF MARYLAND MEDICAL SYSTEM

The University of Maryland Medical System and its 12 member hospitals are building an extraordinary model of health care delivery for the citizens of Maryland and beyond by integrating excellent patient care, innovative research and quality professional education into all of its hospitals and programs.

# Member Hospital Highlights

## **Baltimore Washington Medical Center**

Baltimore Washington Medical Center (BWMC) is a 311-bed hospital that has been serving the Baltimore-Washington community since 1965. With more than 2,600 employees and 650 physicians, BWMC is a comprehensive health care provider with services and centers of excellence that include the Aiello Breast Center, Tate Cancer Center, Maryland Vascular Center, Joint Replacement Center and Spine Center.

The hospital's newest center, The Robin Elizabeth Pascal Women's Center, officially opened its doors in October 2009, part of a \$117 million expansion that doubled the size of the medical center. The opening of the state-of-the-art Pascal Women's Center marks the return of obstetrics to the hospital after a more than 40-year hiatus. The OB service features four spacious labor, delivery and recovery rooms and two dedicated operating rooms for Cesarean births. Eighteen private post-partum patient rooms and a level II well-baby nursery are also available, along with perinatal care for high-risk pregnancies through an on-site satellite office of the



The Robin Elizabeth Pascal Women's Center

University of Maryland's Center for Advanced Fetal Care.

The Maryland Health Care Commission and the University of Maryland School of Medicine's Institutional Review Board approved BWMC as a participant in C-PORT-E, a nationwide study to determine if it is safe to perform non-primary angioplasty

in hospitals that do not perform open heart surgery. This approval makes it possible for BWMC to perform elective angioplasty for patients who may need the lifesaving procedure. This is of particular importance due to the high incidence of cardiovascular disease in the BWMC service area.

The state-of-the-art Pascal Women's Center marks the return of obstetrics to BWMC.

BWMC was approved by the Maryland Health Care Commission to perform elective angioplasty for patients who may need the life-saving procedure. There is a high incidence of cardiovascular disease in the BWMC service area.



### Chester River Health System

Chester River Health System (CRHS) offers state-of-the-art health care to the residents of Kent and Queen Anne's counties, as well as portions of Caroline and Cecil counties. **CRHS includes Chester River Hospital Center, Chester River Home Care & Hospice, Chester River Manor Nursing & Rehabilitation Center, Chester River Health Lab Services and Chester River Health Foundation.**

Celebrating its 75th anniversary, Chester River Hospital Center opened its doors as Kent and Queen Anne's Hospital, Inc. in 1935 as the first hospital to serve Kent County. Now a 53-bed acute care hospital, it provides inpatient services, 24-hour emergency care, surgical services, outpatient diagnostic services, rehabilitation services, maternity/birthing suites and oncology services.

The year also marked the arrival of **JAMES E. ROSS, FACHE**, as the new president and CEO of Chester River Health System. Prior to joining CRHS, Ross served as CEO of the Kernan Orthopaedics and Rehabilitation Hospital since 1994. Earlier in his career, he served as chief executive officer of University Specialty Hospital and worked at the University of Maryland R Adams Cowley Shock Trauma Center.

### Civista Health System

In October 2009, the Boards of Directors of Civista Health in La Plata, MD and the University of Maryland Medical System approved an agreement that placed management of the Charles County health system under the direction of UMMS.

Both organizations view the new relationship as an opportunity to strengthen the capabilities of Civista Health, the largest component of which is the 130-bed Civista Medical Center. Critically important management services such as information technology, supply chain management, group purchasing, strategic planning and clinical services development can be delivered more efficiently and effectively through a larger system. The partnership will also assist Civista Health in its plans to expand the medical services it offers, in both primary care and medical specialties, to meet growing patient demands and expectations.

**Civista Health expects that the affiliation with the University of Maryland School of Medicine and the University of Maryland Medical Center, which together train more than half of Maryland's physicians, will be of great importance** as it seeks to recruit more physicians, both primary care and specialists, to practice locally.

### Kernan Orthopaedics and Rehabilitation Hospital

**Kernan Hospital is the largest provider of inpatient rehabilitation care in Maryland** and has been serving the state and region for more than 100 years. Kernan provides specialized rehabilitation services in each of its four 32-bed units, all staffed by a multidisciplinary team. The hospital has provided inpatient services to more than 20,000 patients during the past 10 years.

**The Rehabilitation Research Center at Kernan is a collaborative effort to bring state-of-the-art research to clinical rehabilitation care.** With support from the Kernan Endowment Board and Kernan Hospital, the University of Maryland School of Medicine and the Baltimore Department of Veterans Affairs Medical Center, its main emphasis is on the use of exercise and robotic rehabilitation techniques to improve the health, fitness and function of people with neurologic disabilities.

Many clinical trials are underway at Kernan, including the Cardiovascular Fitness for Robotically Assisted Treadmill Training in Persons With Chronic Incomplete Spinal



Injury. The goal is to see whether progressive exercise with Lokomat® the world's first driven-gait orthosis, is feasible in people with motor-incomplete spinal cord injury.

Health fairs are one of the many ways CRHS reaches out to the community.



James E. Ross, FACHE, CRHS president and CEO



Kernan Hospital has provided inpatient services to more than 20,000 patients during the past 10 years.



## UNIVERSITY OF MARYLAND MEDICAL SYSTEM

The study is looking at whether three months of training will improve cardiovascular fitness and gait functionality when compared to other physical therapy modalities. Since individuals with spinal cord injuries are at an increased risk of developing premature cardiovascular disease, the study of robotic-assisted interventions in spinal cord injury such as the Lokomat may have important health benefits in both cardiovascular fitness as well as functional mobility.

### Maryland General Hospital

Since 1881, Maryland General Hospital has served the health care needs of the Baltimore community. As an urban community teaching hospital, its physicians and 1,100 employees provide a full spectrum of inpatient and outpatient health care services to more than 100,000 individuals annually, with education, prevention and treatment in more than 30 specialty areas. The Community Health Education Center provides a wide range of free screening programs, including blood pressure, cholesterol, pregnancy and diabetes testing, at the hospital as well as through community health fairs and events with local businesses, churches and shopping malls.

In February 2010, Maryland General celebrated the completion of a \$57 million Core Facilities Expansion Project, which broke ground in 2008. The project included

the addition of a new 77,000-square-foot facility that connects to the existing hospital structure as well as to 15,534 square feet of renovated space within the hospital. The new facility is home to eight operating suites with four specialty surgery rooms, an 18-bed intensive care unit, dedicated endoscopy and cystoscopy suites, a post anesthesia care unit/preoperative suite, a new pharmacy and expanded laboratory as well as future expansion space.

Surgical services are at the center of the new building, with 30,000 square feet

devoted to the new operating suites — including six that are fully integrated with the Stryker iSuite System, the most advanced operating room technology available today. Each room features state-of-the-art equipment such as the latest LED surgical lighting, touch screen control panels, and monitors and cameras to enable procedures to be viewed from outside of the surgical suites and provide educational opportunities for the medical staff.



Sylvia Smith Johnson, President and CEO of MGH, stands in one of the new operating suites completed this year.





### **Mt. Washington Pediatric Hospital**

Mt. Washington Pediatric Hospital (MWPH) is a 102-bed comprehensive sub-acute facility dedicated to providing the highest quality care to infants and children who are chronically or seriously ill. Jointly owned with the Johns Hopkins Health System, it provides transitional and support care related to premature birth, serious and chronic illness and traumatic injury. Each year, the hospital serves more than 750 inpatients and approximately 6,500 children on an outpatient basis.

During the past year, MWPH established the Center for Pediatric Weight Management and Healthy Living. The goal of the Center is to offer family-centered weight management programs for children who have issues and conditions related to being overweight and/or obese. The programs focus on solutions to these issues as well as the attainment of an overall healthier lifestyle for children and adolescents.

Medically supervised weight management programs include the Weigh-Smart® Program created in 2005 to treat obesity in children from 8 to 17 years of age, and the newly created Weigh Smart Jr. Program, focusing on children ages 2 to 7 years old, with medical, nutritional and educational components involving the entire family. The program's goal is to help children acquire healthy eating and exercise habits that last a lifetime.

### **Shore Health System**

Shore Health System (SHS) was formed in 1996 through the affiliation of two hospitals that have served their communities for more than a century — the Memorial Hospital at Easton and Dorchester General Hospital. Today, SHS is a regional, not-for-profit network of inpatient and outpatient services with facilities in Talbot, Dorchester, Caroline and Queen Anne's counties. With more than 1,900 employees, a medical staff of more than 200 attending, consulting and associate staff members and 500 volunteers, SHS meets the health care needs of the more than 100,000 people who live in the Mid-Shore region.

In October 2009, SHS achieved Magnet recognition for excellence in nursing services from the American Nurses Credentialing Center's (ANCC) Magnet Recognition Program®. The ANCC is the world's largest and most prestigious nurse credentialing organization and is a subsidiary of the

American Nurses Association. This achievement followed six years of intensive preparation and documentation to demonstrate that SHS provides the best nursing care, the highest quality patient care and the most supportive and innovative working environment for nursing professionals.

Of the more than 350 U.S. hospitals that have achieved Magnet recognition, a small percentage are multi-hospital health systems like SHS. Shore Health System is the first health system on the Delmarva Peninsula to attain Magnet recognition and only the second affiliate of the University of Maryland Medical System to achieve Magnet status. Few home health care agencies around the country have received the Magnet honor, and Shore Home Care Hospice is among the first hospice agencies to be recognized.



Dorchester General Hospital offers water views.

Imani Ingram is happy to be a part of the MWPH Center for Pediatric Weight Management and Healthy Living.



Shore Health System nurses and their colleagues celebrate their Magnet designation.



Chris Parker, MSN, RN, CNO and SVP of Patient Care Services and Janet Hash, RN, chair of the Nursing Shared Leadership Global Council at SHS, respond to the news of Magnet designation.



**University of Maryland Medical Center**

The University of Maryland Medical Center (UMMC) is the academic flagship of the University of Maryland Medical System. With 731 licensed beds and the most intensive care beds of any hospital in the state, UMMC provides the full range of health care for people throughout Maryland and the Mid-Atlantic region.

Patient admissions to UMMC have been growing steadily in recent years, with more than 38,000 during FY 2010. The Medical Center has 6,800 employees and more than 1,000 attending physicians who are faculty of the University of Maryland School of Medicine.

In the last fiscal year, **JONATHAN E. GOTTLIEB, MD**, clinical professor of medicine in the School of Medicine, a national leader in patient care safety and quality, joined the Medical Center as senior vice president and Chief Medical Officer. He is responsible for a wide array of strategic and operational areas, including patient safety and quality improvement, medical staff services, graduate medical education, clinical effectiveness, pharmacy services and health information management. Dr. Gottlieb had previously served as chief medical officer at Barnes-Jewish Hospital in St. Louis and at Jefferson University Hospital in Philadelphia.

This past spring, UMMC began construction of a \$160 million, nine-floor



Rendering of a new 140,000-square-foot Shock Trauma/Critical Care tower under construction at the corner of Penn and Lombard streets.

trauma/critical care building that will significantly expand its renowned Shock Trauma Center. The new facility will also boost the capacity of the hospital's adult and pediatric emergency departments and provide additional beds for intensive care patients.

The 140,000-square-foot building at the corner of Penn and Lombard streets will house 10 state-of-the-art operating rooms and 64 new and replacement critical care beds. It will be connected to the existing R Adams Cowley Shock Trauma Center and

the Harry & Jeanette Weinberg Building. It will also have a second roof-top landing pad for patients transported by helicopter.

The project will generate about 300 construction jobs and have a significant impact on the local economy. When the tower opens in 2013, about 250 new UMMC jobs will be created by the expansion. The Medical Center has launched a \$35 million capital campaign to raise money to help fund the new building.

**University Specialty Hospital**

As part of the UMMS continuum of care, University Specialty Hospital (USH) serves as the post-acute provider of care, specializing in treating a unique group of patients who are starting their lives over after serious injury or chronic illness.

Through its three distinct service lines — pulmonary, chronic medicine/rehabilitation, and brain injury/coma emergence — USH treated more than 440 patients this past year from the University of Maryland Medical Center including its R Adams Cowley Shock Trauma Center.

The hospital offers a wide range of special treatments and programs provided by teams of physicians, nurses and rehabilitation therapists, including physical, occupational, recreational and speech language specialists, to meet the needs of patients who are seriously ill.

Since 2006, the hospital has worked closely with Maryland's Department of

Maryland ExpressCare has coordinated the transfer of an all-time high of more than 9,000 patients to the Medical Center this year — a 14 percent increase over fiscal year 2009, says Marcia Stalter, senior director of ExpressCare.

UMMC is experiencing strong growth — total admissions increased by 5.2 percent this year and Shock Trauma admissions increased by almost 6 percent.



Health and Mental Hygiene (DHMH) to place adults with traumatic brain injury in a supported community environment. Baltimore's Federal Hill neighborhood serves as a centralized location for many of the community reintegration efforts coordinated by USH, including the development of money management skills, the use of public

transportation and familiarization with pedestrian safety practices. **This fiscal year, 82 percent of discharged brain injury patients were able to re-establish residence within the community.** Of these, several received special housing waivers from DHMH, which provided the financial resources necessary to live independently.

As part of the expansion, the University of Maryland ExpressCare program will be added to the emergency care services available through UCH and will serve Harford County. The focus will be on Specialty Care Transports to the University of Maryland Medical Center or any other acute-care hospital as requested by UCH medical staff.

### Upper Chesapeake Health System

Upper Chesapeake Health (UCH) was founded in 1984 and is comprised of Harford Memorial Hospital, Upper Chesapeake Medical Center and the Upper Chesapeake Health Foundation. It is the leading health system and largest non-governmental employer in Harford County, serving residents of northern Baltimore County and western Cecil County, in addition to Harford County. Its team of 3,000 employees, 800 volunteers and more than 600 medical staff cares for 136,000 patients annually, including 22,000 patient admissions.

Since its strategic affiliation with UMMS in July 2009, planning is underway for new and expanded clinical services, programs and facilities, including cardiovascular services, orthopaedics, oncology, neurosciences, women's and children's services and the inclusion of onsite genetic counseling in the Breast Care Program. A concentrated effort is also being placed on recruiting physician specialists to the northeast region of Maryland.



University Specialty Hospital

UCH is the leading health system and largest non-governmental employer in Harford County, serving residents of northern Baltimore County, western Cecil County and Harford County.



**OUR INCOME**

Tuition and Fees	\$ 22,650,000
State Appropriation	30,463,000
Federal Grants and Contracts	317,936,000
Other Grants and Contracts	161,143,000
Gifts, Endowments and Other Expenses	14,000,000
Medical Service Plan	212,700,000
Reimbursements from Affiliated Hospitals	122,476,000
<b>TOTAL</b>	<b>\$ 881,368,000</b>

**OUR EXPENSES**

Instruction/Training	\$ 84,611,000
Research	420,429,000
Clinical Service	342,547,000
General and Administrative	33,781,000
<b>TOTAL</b>	<b>\$ 881,368,000</b>

**SCHOOL OF MEDICINE Statistics**

**FACULTY 2,678**

- 1,229 Full-time
- 253 Part-time
- 1,196 Adjunct

**STAFF 2,576**

- Full-time Administrative, Research & Clinical Staff

**STUDENTS 1,288**

- 631 Medical (MD)
- 32 MD/PhD
- 318 Graduate (MS/PhD)
- 12 Genetic Counseling (MS);
- 78 Medical & Research Technology (BS, MS)
- 180 Physical Therapy (DPT, PhD)
- 37 Public Health (MPH)

**POST-DOCTORAL FELLOWS 490**

- 213 Clinical
- 277 Research

**RESIDENTS 569**

- Trained by SOM Faculty

**TOTAL 7,601**

UNIVERSITY OF MARYLAND **MEDICAL SYSTEM**

**OUR INCOME**

From services to inpatients	\$ 1,569,925,000
From services to outpatients	755,789,000
<b>These services produced total gross revenue of</b>	<b>\$ 2,325,714,000</b>
Less amounts we had to deduct for contractual allowances to third party payors	(201,907,000)
Less the cost of charity care for persons without the ability to pay for their care and for uncollectible accounts	(173,435,000)
Therefore, our net revenue from patient care services was	1,950,372,000
In addition, our other revenue from operations, including state support, was	64,639,000
<b>Thus, our total revenue from operations was</b>	<b>\$ 2,015,011,000</b>

**OUR EXPENSES**

For salaries, wages and fringe benefits to our employees	\$ 988,399,000
For medical supplies, pharmaceuticals and purchased services	820,727,000
For depreciation on our buildings and equipment	117,520,000
For interest costs on our outstanding bonds	46,485,000
<b>All of these operating expenses totaled</b>	<b>\$ 1,973,131,000</b>

**OUR NET RESULTS**

Net income from operations	41,880,000
Plus non-operating revenue net of expenses	24,461,000
Plus change in market value of financial investments	11,461,000
<b>Net income</b>	<b>\$ 77,761,000</b>

**OPERATING EARNINGS BEFORE INTEREST, DEPRECIATION AND AMORTIZATION AVAILABLE FOR REINVESTMENT IN OUR FACILITIES AND PROGRAMS** **\$ 205,885,000**

*\*Fiscal Year 2010 figures are unaudited and do not include Upper Chesapeake Health and Civista Health.*

# NUMBERS

## LEADERSHIP

### UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE

#### DEAN :

**E. Albert Reece, MD, PhD, MBA**  
*Vice President for Medical Affairs,  
University of Maryland and  
Dean, School of Medicine*

#### VICE DEANS :

**Bruce Jarrell, MD, MACP**  
*Executive Vice Dean*

**Frank Calia, MD, MACP**  
*Vice Dean, Clinical Affairs*

#### SENIOR ASSOCIATE DEAN :

**Gregory Handlir, MBA**  
*Senior Associate Dean, Finance and  
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