



DEAN'S MESSAGE: What's On My Mind

What's on my mind this month is the changing academic medical and biomedical research workforce, and how the School of Medicine can position itself to be the institution of choice and an institution of change.

Over the last few months, and in my 2013 State of the School address, I discussed the challenges we are facing in academic medicine: the budget cuts to the NIH, the cuts to Medicare, and the slow economic recovery across the country. I also outlined how the School of Medicine plans to surmount the roadblocks in our path, as well as the launch of our Shared Vision 2020 initiative. We will use aspects of *strategic disruptive innovations* in education, research, clinical care, and finance and philanthropy in order to displace the barriers to our success. Although previous issues of *SOMnews* have addressed the difficulties we face as a community, this month I want to reflect on the specific obstacles that our medical, graduate and allied-health students must overcome to realize their goals of becoming the next generation of leaders in health care and biomedical research.

Last year, I gave a lecture in our new required research course for all medical students, *Foundations of Research and Critical Thinking*, on the importance of academically trained physicians. They are absolutely crucial to the healthcare enterprise, because they are highly skilled individuals, and they have experience conducting biomedical research. I include individuals in graduate programs and allied-health professionals because, together, our students will become the future scientists and clinicians who will dramatically improve human health and well-being.

Numerous articles have been written about the decline of healthcare professionals and doctoral candidates who conduct research in academic settings. One of the primary reasons for this decline is that NIH funding for research and training has remained flat since the early 2000s. Such funding fell precipitously when sequestration occurred last year and, despite Congress agreeing on a national budget, it will take some time to truly recover. Factoring in inflationary costs over the past decade, even during the flat budget period, the 2013 NIH budget of approximately \$29 billion was 23 percent below the 2003 level.

Additionally, the number of training grants supported by the NIH—K-, T- and F-awards intended for individuals early in their careers—has decreased. However, the years that many graduate students may wait before obtaining a tenure-track faculty position has increased up to 10 years, and the average age at which a physician-scientist may receive his or her first R01 has risen to age 43 years. This is a picture that can be daunting to a young and aspiring scientist or physician-scientist. We wish to change this trajectory for our students by equipping them early, so they can compete sooner and more effectively than their peers.

In the face of the challenges of a declining pool of academically trained biomedical and medical research investigators, the NIH has established two programs to encourage candidates with medical degrees to pursue research careers: the NIH-Lasker Clinical Research Scholars Program, and Opportunities for Collaborative Research at the NIH Clinical Center. The NIH-Lasker

program provides up to seven years of independent research support within an NIH laboratory, followed by an additional five years either at NIH or at another clinical research institution. The collaborative program with the NIH Clinical Center offers external physician-scientists the opportunity to partner with NIH clinical investigators.

Other training programs that provide support and mentoring for promising matriculates have already successfully encouraged the research careers of young investigators. For example, in 2012 the American Thoracic Society surveyed three decades of participants in its Parker B. Francis Scholarship program, which supports the career development of clinical and research scientists in pulmonary, critical

care and sleep medicine, and found that the majority of former fellows who spent time doing research had received over \$1.8 billion in direct research funding, were awarded 212 patents, and nearly half had been Principal Investigators (P.I.) on one or more R01 awards.

The question remains: How will the School of Medicine respond? As

many of you know, we held the inaugural Festival of Science at the end of November 2013, during which we highlighted our research for a distinguished external Scientific Advisory Council (SAC). After their visit, the Council members sent us laudatory comments about the robustness of our research enterprise, but also recommendations to help us further improve our research portfolio. One of the SAC's key recommendations was to leverage training of students and junior faculty to enhance our research enterprise. Already we are making headway.

The Foundations of Research and Critical Thinking course is underway and will provide medical students with the opportunity to conduct meaningful research that can dramatically impact patients they may care for at the Medical Center. Additionally, we will launch a program called the **"Research Continuum,"** which will engage medical, allied-health and graduate students—along with postdoctoral fellows, trainees and junior faculty—into research teams centered around specific themes, such as inflammation, vaccines, brain science, or cancer biology, working together to develop programs and projects under the direction of an established, well-funded senior faculty member.

The future of health care in the United States will require academically trained medical, allied-health and biomedical research professionals. Their commitment to discovery-based medicine, skills in analytic and critical thinking, and education within an innovative, inclusive environment will be essential to the advancing health and well-being for all citizens. Without this next generation of investigators, we risk losing ground in our pursuit of new treatments for diseases and chronic conditions. Therefore, as an academic medical institution, we must renew our commitment to setting the bar high in training the best medical and research professionals.

In the relentless pursuit of excellence, I am

Sincerely yours,

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



IN THE FACE OF THE CHALLENGES OF A DECLINING POOL OF ACADEMICALLY TRAINED BIOMEDICAL AND MEDICAL RESEARCH INVESTIGATORS, THE NIH HAS ESTABLISHED TWO PROGRAMS TO ENCOURAGE CANDIDATES WITH MEDICAL DEGREES TO PURSUE RESEARCH CAREERS: THE NIH-LASKER CLINICAL RESEARCH SCHOLARS PROGRAM, AND OPPORTUNITIES FOR COLLABORATIVE RESEARCH AT THE NIH CLINICAL CENTER.

Partnership with Eastern Shore AHEC

Addresses Cancer and Health Disparity Issues

Partners Hope Program, pairing major academic health care institution with rural health education center, could become national model.



Claudia R. Baquet, MD, MPH

ROBUST PARTNERSHIPS between rural community health education centers and academic health care institutions can make substantial strides toward addressing race-, income- and geographically-based health disparities in underserved communities by empowering both the community and leading University institutions, according to newly published research from the University of Maryland School of Medicine.

Claudia R. Baquet, MD, MPH, a Professor in the Department of Medicine, and her team examined 17 years of partnership between

the University of Maryland School of Medicine and a rural health education non-profit on Maryland's Eastern Shore, the Eastern Shore Area Health Education Center (ESAHEC). The research team found that rural communities were more willing to participate in clinical trials and biospecimen donations when long-term partnerships were established between University medical centers in cooperation with local community health educational centers. The paper was published in a recent issue of *Progress in Community Health Partnerships: Research, Education and Action*, a journal published by Johns Hopkins University Press.

"Maryland's Eastern Shore has a rich history of ethnic, racial and cultural diversity in their communities," says Dr. Baquet, who is also associate dean for policy and planning and director of the Center for Health Disparities at the School of Medicine. "The Eastern Shore also represents populations with unique health disparities that are amenable to targeted interventions."

What are those disparities? "Its residents have higher rates of cancer and chronic disease than those who live in urban areas," Dr. Baquet says. "Furthermore, the area lacks public transportation systems to take patients to and from health care. It also has a growing number of older residents who are Medicare-eligible yet are not aware of the services available to them."

The researchers envision that this partnership between the ESAHEC and the School of Medicine will become a model for other programs throughout the country, fostering community-engaged research, particularly among rural communities. The partnership is funded by grants from the National Cancer Institute's (NCI) Center to Reduce Cancer Health Disparities (CRCHD) and the NIH's National Institute on Minority Health and Health Disparities (NIMHD).

"Dr. Baquet's research is representative of the kind of study the NCI Center to Reduce Cancer Health Disparities has been promoting since the Center's inception over a decade ago," says Sanya A. Springfield, PhD, CRCHD's director. "It's gratifying to see Dr. Baquet's research reflect how a model of mutual respect and trust can lead to community empowerment, a refocus on healthy lifestyle behaviors, and increased willingness to participate in clinical trials

and biospecimen donation among our underserved communities. These are all essential components to building greater capacity, eliminating disparities, and advancing the science of cancer health disparities."

The relationship between the School of Medicine's Office of Policy and Planning and the ESAHEC, a nonprofit funded by the Health Resources Services Administration and the Maryland health department, is mutually beneficial. The goal of the ESAHEC is to use educational partnerships to help address shortages in primary care and specialty health professionals in the nine

rural counties that make up the Eastern Shore of Maryland. "This ongoing research partnership with the ESAHEC is special in its truly bi-directional nature, in which both partners participate fully in the research process and each benefit from the other's expertise," says Dr. Baquet.

Outreach that educates the community and community health professionals about health care and research is core to the issue of improving healthcare outcomes, increasing access and addressing health disparities, says Dr. Baquet. "We are hoping that our outreach will encourage greater community trust in academic researchers and greater participation in research, allowing academics to better understand and address the issues facing rural communities," Dr. Baquet says. "In turn, we hope that academic health center faculty will become more culturally competent, responsive to community needs and expertise and will learn to include community organizations as meaningful partners

in their research. This model has a higher potential for sustainability than the approach that we call 'helicopter research,' where academics conduct studies but do not share their results or return any benefit to the community."

"We do have a truly bidirectional partnership," says Jeanne Bromwell, co-author of the article and deputy director and continuing education coordinator at the ESAHEC. "Dr. Baquet respects our role in the community and we very much respect her knowledge and contacts through the School of Medicine. People here often look at academics as outsiders. With our contacts down here, we are able to bring Dr. Baquet's expertise to the community in a way that does not make them feel threatened. It is a phenomenal relationship."

The program continues to form bonds between the School of Medicine and its students and the residents and health professionals on the Eastern Shore, in keeping with the School's mission, says E. Albert Reece, MD, PhD, MBA, Vice President for Medical Affairs, University of Maryland, and the John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine. "The School of Medicine's mission reaches well beyond Baltimore, throughout the state of Maryland, the nation and, indeed, the world," says Dean Reece. "We hope that our incredibly valuable partnership with our colleagues on the Eastern Shore will serve as a model for other academic medical institutions across the country, creating a new future for the health of America's rural residents."



"Maryland's Eastern Shore has a rich history of ethnic, racial and cultural diversity in their communities [and] represents populations with unique health disparities that are amenable to targeted interventions."

Exoskeleton Walking System for Paralyzed Patients

The University of Maryland Rehabilitation & Orthopaedic Institute is now using a robotic exoskeleton that allows some individu-

als with spinal cord injuries the opportunity to stand and walk during therapy sessions.

The ReWalk system works like a high-tech body suit, providing motorized assistance to help paralyzed patients stand up and move their legs. Therapists work with patients on basic skills such as sitting and standing, before progressing to walking and more advanced techniques such as climbing up and down stairs. "We have seen some of our patients with spinal cord injuries make great progress with the ReWalk," said Peter Gorman, MD, Associate Professor in the Department of Neurology at the University of Maryland School of Medicine and Chief of the Division of Rehabilitation at the University of Maryland Rehabilitation & Orthopaedic Institute. "People who thought they would never get out of a wheelchair actually stand and walk while wearing the system."

Dr. Gorman added, "While the most obvious benefits are mobility in a standing position, patients also report additional physical benefits, including improved digestion and bowel function, which can be affected after sitting in a wheelchair for months and years."

The exoskeleton uses motorized legs to power movement in the knee and hip. On-

board computers and motion sensors adjust for movement. The system mimics natural walking, and patients can work up to functional walking speed. Forearm crutches are needed for balance.

Patients with lower-limb impairment have to be able to use their hands, arms, and shoulders, as well as have good cardiovascular health and skeletal strength in order to be able to use the system. The University of Maryland Rehabilitation & Orthopaedic Institute is the only provider in Maryland with the ReWalk system.

"The University of Maryland Rehabilitation & Orthopaedic Institute is a national leader in rehabilitation therapy, and this exoskeleton system shows our commitment to using innovative technologies to help our patients achieve their highest level of functioning," says Michael Jablonover, MD, Chief Executive Officer of the University of Maryland Rehabilitation & Orthopaedic Institute and Clinical Assistant Professor in the Department of Medicine at the University of Maryland School of Medicine.

The 144-bed University of Maryland Rehabilitation & Orthopaedic Institute is the largest inpatient rehabilitation hospital and provider of rehabilitation services in Maryland. Patients make the transition to rehabilitation after recovering from stroke, traumatic injury, orthopaedic surgery and other illnesses. The Institute is part of the University of Maryland Medical System, a 12-hospital system of academic, community and specialty hospitals. For more information on the University of Maryland Rehabilitation & Orthopaedic Institute, go to www.UMRehabOrtho.org.

BY SHARON BOSTON



SOM Awarded Accreditation with Commendation from ACCME

Designation extends SOM's ability to serve as accredited provider of continuing medical education for physicians for another six years

THE UNIVERSITY OF MARYLAND School of Medicine has been awarded Accreditation with Commendation by the Accreditation Council for Continuing Medical Education (ACCME) as a provider of continuing medical education (CME) for physicians. The review was based on the School of Medicine's self-study report, evidence of performance-in-practice, and an accreditation interview. The School of Medicine has received Accreditation with Commendation for a six-year term, through November 2019.

"We are honored to receive Accreditation with Commendation from the prestigious ACCME," said E. Albert Reece, MD, PhD, MBA, Vice President for Medical Affairs, University of Maryland, and the John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine. "This recognition demonstrates that ours is a learning organization and a change agent for the physicians we serve."

ACCME accreditation helps to assure the medical community and the public that the School of Medicine provides physicians with relevant, effective, practice-based continuing medical education that supports U.S. healthcare quality improvement.

The ACCME employs a rigorous, multilevel process for evaluating institutions' CME programs, according to the high accreditation standards adopted by all seven ACCME member organizations. These organizations of medicine in the U.S. are the American Board of Medical Specialties, the American Hospital Association, the American Medical Association, the Association



for Hospital Medical Education, the Association of American Medical Colleges, the Council of Medical Specialty Societies, and the Federation of State Medical Boards of the U.S., Inc.

"The School of Medicine CME program's success is a tribute to our creative and dedicated faculty, to our institutional partners (including the University of Maryland Medical System and Medical Center), and to support from the Dean and the School of Medicine's leadership," says Nancy Ryan Lowitt, MD, EdM, FACP, Associate Dean for Faculty Affairs and Professional Development, who has led the CME program, including the SOM Faculty Development Program, for 16 years. Dr. Lowitt is currently in her third and final two-year term as a member of the ACCME's Accreditation Review Committee, where she serves as a member nominated by the Association of American Medical Colleges.

"We are proud of our commitment to continuing medical education and hope that we can serve as a model for other academic medical institutions around the nation," added Richard F. Tischler Jr., PhD, FACEHP, Executive Director of CME and an Adjunct Assistant Professor in the Department of Surgery at the School of Medicine. Prior to joining the staff of the Office of Faculty Affairs and Professional Development full time in August 2012, Dr. Tischler served as an independent consultant to CME providers, including the School of Medicine, and was a past Director of Accreditation Services at the ACCME.



Nancy Ryan Lowitt, MD, EdM, FACP

► BY CAELIE HAINES

Diversity Dinner Supports Funding for Minority Student Scholarships

The University of Maryland School of Medicine held its seventh annual Celebrating Diversity reception and dinner on February 1, 2014 at the Marriott Inner Harbor at Camden Yards. The event was attended by more than 200 guests, who gathered to honor diversity at the School of Medicine, recognize those who have helped elevate the School's diversity profile, and to raise money for the Dean Emeritus Donald E. Wilson Endowed Scholarship fund and other UMSOM diversity scholarships that provide financial assistance to minority students.

"Tonight we are celebrating the successful strides that the School of Medicine has made concerning diversity throughout its history," said E. Albert Reece, MD, PhD, MBA, Vice President for Medical Affairs, University of Maryland, and the John Z and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine. "This institution recognizes and endorses the positive impact that takes place in a healthy and robust environment of diversity. We are committed to recruiting and retaining a talented, culturally diverse faculty, staff, trainees and students. The goal of our medical school is to advance knowledge and skills that will be of benefit to our city, our state, and, indeed, our nation."

Camille T.C. Hammond, MD, MPH, Class of 2001, and her husband Jason Hammond, MD, were the honorary chairs of the dinner. Speakers included Michael Cryor, Chairman of the Board of Visitors; Danielle Baruch, a fourth-year medical student; and keynote speaker Oxiris Barbot, MD, Commissioner of Health for Baltimore City.

"Diversity is a constellation of inputs and outputs that make it easier for individuals and systems to reach their fullest potential," said Dr. Barbot in her speech. "At the individual level, the inputs include formidable experiences, and the outputs include our interpretation and expression of those experiences as a way to structure our lives." If someone experiences negative input, that can have a direct effect on their output. "The most important question I ask students is 'What matters to you?' Everything else I can teach you, but I can't teach you the things that matter. That is why it is so important for us to create these learning and teaching opportunities, because it never ends. We always are able to learn more and more and improve and tighten those webs of inputs and outputs."

Diversity is not to be feared, said Mr. Cryor. "It is wonderful to see the extraordinary commitment you have made over the years and to celebrate the commitment you will continue to make to the world of minority medicine," he told the audience. "The School of Medicine is constantly seeking opportunities to enhance diversity. Diversity is our friend. Many people think of diversity in ways that undermine the significance of what it means. We are all enriched by the volume of difference here that adds up to a very wonderful product. We do not compromise on quality here."



Ms. Baruch is a perfect example of that. In a heartfelt speech, she thanked the donors who had made it possible for her to attend medical school. "It not only motivated me to excel in school, but it also reinforced my commitment to service, which I have been able to sustain during my years here at Maryland," she said. Baruch also stressed the importance of diversity in helping patients relate better to their physicians. "We are able to connect and celebrate what we have in common. Our patients play a major role in how we care for them. The dialogue we have, the treatments we recommend, and the relationships we build are all influenced by this."

For his role in expanding diversity in the graduate studies program, Dudley Strickland, PhD, Assistant Dean for Graduate and Postdoctoral Studies and Director of the Center for Vascular & Inflammatory Diseases, was presented with the second annual Dean's Faculty Award for Diversity and Inclusion. He was nominated by Sharron Graves, MS, Director of Strategic Recruitment, Outreach and Retention in the Graduate Program in Life Sciences (GPILS), and Margaret McCarthy, PhD, Chair of the Department of Pharmacology, who praised Dr. Strickland for expanding diversity by not only taking a chance on students other programs considered high-risk but staying personally involved in their education to assure their success.

"Our task is to train the next generation of scientists, which is a really awesome task when you think about it," said Dr. Strickland. "Dr. Martin Luther King said that 'education must enable one to sift and weigh evidence, to discern the true from the false, the real from the unreal, and the facts from the fiction.' That is exactly what we are trying to do here in our graduate program."

Numerous current and prospective School of Medicine students were able to attend the diversity event thanks to the generosity of the event's presenting sponsor, the Medical Alumni Association of the University of Maryland, Inc. The Whiting-Turner Contracting Company was a Gold Sponsor. Banks Construction and Mahogany, Inc. were Silver Sponsors. Table sponsors were Mr. and Mrs. Michael Cryor; the Departments of Emergency Medicine, Neurology, Neurosurgery, OB-GYN and Reproductive Sciences, Orthopaedics and Surgery; the Office of Policy and Planning; the Program in Trauma; the University of Maryland Marlene and Stewart Greenebaum Cancer Center; and the University of Maryland Medical Center.



In November we launched the **Center for Innovative Biomedical Resources (CIBR)** to coincide with the first Festival of Science. CIBR is the administrative home for the UMSOM biomedical core resources. CIBR serves as a center of excellence for state-of-the-art technologies, high-tech instrumentation, and expertise that supports biomedical research, clinical practice and health care in the state of Maryland and the region.

Renovation of nearly 30,000 square feet of space was accomplished with \$7.3 million in funding from an NIH grant, made possible through the American Recovery and Reinvestment Act. Newly renovated space allowed physical consolidation of many core facilities into common space, creating a dynamic environment that will enhance and stimulate high impact research through a trans-disciplinary approach.

Historically, our biomedical resource laboratories have existed and functioned as independent facilities. One goal of CIBR is for it to function as an administrative home for the UMSOM core resource laboratories. As such, CIBR can support the biomedical resource laboratories through consolidation of administrative tasks such as ordering, billing, tracking and marketing, providing a “big picture” vision for how core labs can work in conjunction with each other. This might allow sharing of equipment and personnel or developing new, collaborative services between facilities. This support will serve to promote cost-effectiveness and increase overall efficiencies of core operations. Ultimately, these changes will ensure that faculty have improved access to state-of-the-art technologies that will accelerate and advance their research, making research grants more competitive.

We anticipate many enhancements will be forthcoming, one of the first ones being a new and improved web-based portal to all of the biomedical resource laboratories. This new website should be launched within the first quarter of 2014. Look for this and many more enhancements to come soon.



► BY CAELIE HAINES

Students Attend Annual Legislative Day in Annapolis

E. Albert Reece, MD, PhD, MBA, Vice President for Medical Affairs, University of Maryland, and the John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine; Jay Perman, MD, University of Maryland, Baltimore President; and more than 40 medical students and faculty members traveled to Annapolis on January 23, 2014 to speak with members of the Maryland General Assembly about issues of importance to the University of Maryland School of Medicine.

Senate President Mike Miller, House Speaker Michael Busch, and Senator Thomas “Mac” Middleton, chair of the Finance Committee, all came to speak with the students over breakfast. “This is a special privilege,” said Dr. Perman. “Having these legislators take the time to meet with you is a gift, and you should take advantage of it.”



“It is important for you, as students, and for faculty as well, to get the opportunity to not only visit our legislative leaders, but to share with them how we, as an institution,

work,” added Dean Reece. “Many are aware in a broad way of what we do, but they very much appreciate hearing specifically how our system works, how medicine works, and about

some of the challenges that we have had to overcome.”

In face-to-face meetings with lawmakers from their home counties, students conveyed the importance of loan assistance and scholarship support. The average medical school debt for our graduates is almost \$170,000, which is above the national average. Loan repayment programs in Maryland would not only assist students with this debt, but also keep these new doctors in the state when they begin to practice medicine. “I am really thankful to be here, because no one has made me feel before that I could be an asset to my state and especially my county, so it was really great to hear Senator Middleton say how crucial it was for students like us to stay in Maryland,” said second-year student Rupal Jain.

Speaker Busch also spoke of the importance of keeping the state’s talent in Maryland. “They talk about how tough it is to get into medical school—it should be tough!” he said. “We want the best and the brightest to be here. You students sitting here are the top percent of talent in medicine today, and we hope you stay here in Maryland. Our goal is to have the best medical delivery system in the nation. I believe we’re already there, but we can always get better.” he admitted. “We want the students at the University of Maryland School of Medicine to get the best training they possibly can, so they can be on the cutting-edge in the delivery of medicine in Maryland.”

somnews

UNIVERSITY OF MARYLAND SCHOOL OF MEDICINE MARCH 2014 VOL.15 No.7

SOMnews is produced by the University of Maryland School of Medicine, Office of Public Affairs
 ▲ E. Albert Reece, MD, PhD, MBA, Vice President for Medical Affairs, University of Maryland, and Dean, University of Maryland School of Medicine ▲ Chris Hardwick, Executive Editor ▲ Caelie Haines, Managing Editor
 ▲ Tom Jemski and Mark Teske, Head Shot Photos ▲ 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 Caelie Haines, Public Affairs Manager, at chaines@som.umaryland.edu.
 ▲ Printed using environmentally-responsible low VOC inks.