Each day, the School of Medicine community encourages and reminds me of its resilience in our resolution to improve the health and wellbeing of the citizens of Maryland and beyond. In the last several months, our beloved institution has confronted some sobering realities. Most recently, our health partner, the University of Maryland Medical System, has experienced intense public scrutiny and a dramatic overhaul of its leadership. In these times of institutional challenges, it is vital that we remain focused on our missions to offer an excellent education to our students, conduct exemplary scientific research, and provide exceptional patient care. We cannot allow ourselves to become discouraged or distracted from our goals.

Amid the issues surrounding us these days, remember that we are a top-tier, research-intensive medical school conducting innovative work to unravel the most complex human diseases and conditions. We are also a premier healthcare provider in the state, region, and nation that offers unparalleled patient care. Additionally, the care we offer goes beyond our patients and into our communities, which are fighting against some significantly stark health challenges. While Opioid Use Disorder (OUD) has become a state-wide and national epidemic, it is also a personal one. The UMMC’s Community Health Needs Assessment and Implementation Plan for FY2019-2021 cited alcohol/drug addiction as the top health concern for Baltimore. According to new data released by the Maryland Department of Health, 1,648 people died as a result of opioid overdoses through the third quarter of 2018, which are 146 more deaths than during the same time frame of the previous year. Therefore, efforts like the Naloxone training event that kicked off National Public Health Week for almost 200 people on campus are extremely important.

Apart from our external efforts and the lifesaving work that we are privileged to lead, we are also working together to rebuild the School of Medicine culture into a national model for a respectful, inclusive, and professional work environment. We are actively creating greater equity in opportunities, promotions, and compensation through the efforts of our new Culture Transformation Initiative (CTI). We have also launched a major revision of our curriculum to contemporize our education programs, while we continue to thoughtfully review our clinical practices to ensure that we are delivering the highest level and best possible patient-centered care. Objective measures reveal that we are making significant progress in all the aforementioned areas as well as others.

The School of Medicine has a rich, 212-year history of training the very best students, residents, and fellows who have significantly advanced the medical and biomedical research enterprises of yesterday, today, and tomorrow. We had a great year of record-breaking accomplishments in FY 2018. We have no doubt that, with the right attitude, that the School of Medicine will continue to elevate to even greater heights of achievement and aspiration this year. I am deeply and humbly honored to help lead and provide my unequivocal support for such an extraordinary and dedicated community.

In the relentless pursuit of excellence, I am

Sincerely yours,

E. Albert Reece, MD, PhD, MBA
Executive Vice President for Medical Affairs, UM Baltimore
John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine
Dean E. Albert Reece, MD, PhD, MBA, and Nancy Lowitt, MD, EdM, FACP, have announced that several steps are being taken to ensure equity in faculty promotions and compensation as part of the Culture Transformation Initiative (CTI).

First, a committee chaired by James Kaper, PhD and Mary-Claire Roghmann, MD, MS, has completed a full analysis of promotions data across basic science and clinical departments. Based on these findings, two equity-in-promotions initiatives are being implemented:

• **ANNUAL FACULTY PROMOTIONAL STATUS REPORT**
  This annual report, developed by the Office of Academic Administration, will include a list of faculty members with a calculation of the number of years to possible promotion. All department chairs will receive this report and be required to develop action plans as part of annual progress reports.

• **NEW GUIDELINES COMMITTEE**
  Dean Reece has formed a new Appointment, Promotion, and Tenure (APT) Committee, which will:
  - Supplement current assessments;
  - Contemporize interpretation of scholarly contributions; and
  - Develop education value units to assess education contributions.

Second, Dean Reece has charged Louisa Peartree, MBA, Senior Associate Dean and Chief Operating Officer, with conducting a comprehensive UMSOM faculty salary equity study by gender and to identify and address salary inequities.
Impact monitored and reported via:
- Website
- Electronic dashboard
- CTI Section of SOMnews

Culture Transformation Initiative

Activities

Equity in opportunity, promotions, and compensation

Professionalism in behavior, language and deportment; accountability and consequences

UMSOM policies aligned with UMB and UMMC regarding safety, wellbeing, and consensual relationships

Transparency and accountability with public reports through CTI metrics

“We must ensure that our promotions guidelines value the new and innovative ways that our faculty engage in educational scholarship.” - Nancy Ryan Lowitt, MD, EdM, FACP

MEMBERS OF THE APT GUIDELINES COMMITTEE

CHAIR
1 Mary-Claire Roghmann, MD, MS
Professor of Epidemiology & Public Health
Associate Dean for Trans-Disciplinary Research and Physician-Scientist Training

VICE-CHAIR
2 Bennie Jeng, MD
Professor and Chair
Department of Ophthalmology & Visual Sciences

3 Brian Browne, MD
Professor and Chair
Department of Emergency Medicine

4 Derik Davis, MD
Associate Professor of Diagnostic Radiology and Nuclear Medicine

5 Erin Giudice, MD
Associate Professor of Pediatrics
Director, Pediatric Residency Program

6 James Kaper, PhD
James & Carolyn Frenkil Distinguished Dean’s Professor and Chair, Department of Microbiology & Immunology
Vice Dean for Academic Affairs

7 Nancy Lowitt, MD, EdM, FACP
Assistant Professor of Medicine
Associate Dean for Faculty Affairs & Professional Development
Director, Program in Culture Transformation
Chief Conflict of Interest Officer

8 Donna Parker, MD, FACP
Associate Professor of Medicine
Senior Associate Dean for Undergraduate Medical Education

9 Jill RachBeisel, MD
Associate Professor and Interim Chair
Vice Chair for Clinical Services
Department of Psychiatry

10 Kinjal Sethuraman, MD, MPH
Assistant Professor of Emergency Medicine

11 Sheri Slezak, MD
Professor of Surgery
Division Head, Plastic Surgery
Vice Chair for Faculty Affairs
Department of Surgery

12 Rodney Taylor, MD, MPH
Associate Professor and Interim Chair
Department of Otorhinolaryngology - Head & Neck Surgery

13 Rose Viscardi, MD
Professor of Pediatrics
Director, Joint Departmental Faculty Academic Career Development Program

14 Susan Wolfsthal, MD
The Celeste Lauve Woodward, MD
Professor in Humanitarian and Ethical Medical Practice
Associate Chair
Program Director, Internal Medicine
Department of Medicine
In testifying before the Judiciary Committee of the United States Senate for an April 2018 hearing on the opioid crisis, Brian J. Browne, MD, Professor and Chair of the Department of Emergency Medicine, noted, “The citizens of Baltimore have struggled with opioid abuse and its ramifications for decades, but the depth and severity of the current opioid crisis has shocked me and my fellow physicians.”

For Baltimore’s medical community, the impact of the current opioid epidemic is most keenly felt in the emergency department (ED), a hospital’s traditional “front door” where patients with drug use disorders are now presenting in rapidly increasing numbers. However, over the last three years, UMSOM Emergency Medicine physicians have devised a set of innovative ED protocols designed to turn the tide of opioid addiction — and save lives.

Since Baltimore’s founding some 290 years ago, the city has confronted a number of major epidemics — smallpox, yellow fever, cholera, influenza — many of which were eased through the heroic efforts of early physicians from the University of Maryland School of Medicine (UM SOM). Today, Baltimore is in the grip of a new epidemic, one that in some ways is more deadly than those of old, as it continues to claim greater numbers of victims each year.
practicing at Midtown, I quickly discovered that so many of our ED patients had comorbid substance abuse problems. We also saw a rapid increase in the number of non-fatal overdoses,” he says.

While UMMC Midtown’s ED shares the same protocols and programs for patients with opioid use disorder as those at UMMC, Dr. Dezman is pursuing additional initiatives to broaden the spectrum of care. Through a 2018 study he initiated to test ED patients using urine-dip analysis, Dr. Dezman discovered that 83 percent tested positive for the synthetic opioid fentanyl, with a nearly half of in that group testing as opiate-negative (not using organic opioids like heroin). Dr. Dezman had fentanyl added to the ED’s standard drug screen as of January 2019 to help detect this previously-hidden group of patients using fentanyl.

Dr. Dezman and his team also are exploring alternative medications to treat opioid-tolerant patients who are experiencing pain. “Unfortunately, as patients use a substance more frequently, their body eventually becomes tolerant to the substance,” he notes. “This becomes a challenge when patients who use opioids suffer an acute injury or require surgery — because the patient already has been using opioids, the usual pain medications like morphine have very little effect.”

Through the continued and collective efforts of physicians like Drs. Wilkerson and Dezman, UMSOM’s Department of Emergency Medicine continues to set the highest standards for care in the treatment of opioid use disorder. As proof, the BCHD announced in December 2018 that UMMC and UMMC Midtown are the only two of the city’s 11 acute-care hospitals to achieve the highest “Level 1” designation for clinical support of patients with opioid abuse disorder. Through BCHD’s initiative, Levels of Care for Baltimore City Hospitals Responding to the Opioid Epidemic, a level 1 hospital is responding to the epidemic as comprehensively as possible.

For both Drs. Dezman and Wilkerson, the designation was welcome news. “It is an opportunity for Midtown to shine because we do so much for our patient population,” says Dr. Dezman.

Dr. Wilkerson agrees. “When I think about the opioid epidemic and the war that’s being waged against it, I see three battlefronts. The first is educating providers and patients about opioids and the dangers of their addictive properties. The second is treatment, in helping a patient who is willing to take this next step to safely access a treatment facility.”

“EMERGENCY PHYSICIANS ARE... UNIQUELY POSITIONED TO INTERVENE TO HELP PATIENTS WITH OPIOID USE DISORDERS AT A CRITICAL MOMENT IN THE ADDICTION CYCLE.” — David Kan, President, California Society of Addiction Medicine

R. Gentry Wilkerson, MD, FACEP, FAAEM, Assistant Professor of Emergency Medicine, says that his clinical focus on opioid use disorder began in 2016, when he was asked by the editor of the journal Emergency Medicine Clinics of North America to write the article, “The Opioid Epidemic in the United States,” which was published that same year to great reader interest. “As a result, I became somewhat of a content expert on the growing epidemic,” says Dr. Wilkerson. “The ball started rolling from there.”

Two important legislative steps helped to engage his growing involvement. In 2015, the Baltimore City Health Department (BCHD) launched its “Don’t Die” campaign that focused on increasing the availability of naloxone (a medication used to block the effects of opioids, especially in overdose) while educating individuals on how to administer that medication. Then in 2017, the Maryland General Assembly passed the HOPE (Heroin and Opioid Prevention Effort) Act, which emphasizes the importance of naloxone prescribing, enhances access to outpatient substance abuse treatment, and creates protocols for the discharge of high-risk patients.

Partnering with Eric Weintraub, MD, Associate Professor of Psychiatry, and Christopher Welsh, MD, Associate Professor of Psychiatry, Dr. Wilkerson helped to develop the Take-Home Naloxone program in 2017 for the ED at the University of Maryland Medical Center (UMMC) and provided training to faculty, residents, staff, and students. At the same time, the trio created and implemented the “Initiation of Buprenorphine/Naloxone (Suboxone) Treatment in the Emergency Department” guideline, in order to “identify subjects in the Emergency Department who would possibly benefit from initiation of treatment with buprenorphine/naloxone (used to treat opioid use disorder), initiate treatment with a dose of the medication, and arrange follow-up care in a long-term program by the next day.” And to spur further initiatives, UMMC launched its Opioid Taskforce in early 2017, which was led initially by Janine L. Good, MD, Associate Professor of Neurology. Dr. Wilkerson currently serves as its co-chair, along with Dr. Welsh.

These programs augment protocols already in place in UMMC’s ED: through the Screening, Brief Intervention, and Referral to Treatment (SBIRT) program, where nurses flag patients with potential opioid use disorder during triage and refer them to peer recovery coaches on hand in the ED. These coaches offer those patients information and the opportunity for entering an outpatient treatment program within 24 hours. For patients who come to an ED in overdose but are unwilling to enter treatment, the Overdose Survivor Outreach Program makes peers (persons with a history of substance abuse but now in recovery) available to link patients to treatment services, to provide naloxone training, and to serve as a point of contact for those who decide to enter treatment.

In the meantime, at the UMMC Midtown Campus, Zachary Dezman, MD, MS, MS, Assistant Professor of Emergency Medicine, serves as that facility’s Chair of the Opioid Taskforce. “When I began...
For the past three decades, Margaret McCarthy, PhD, James & Carolyn Frenkil Distinguished Dean’s Professor and Chair of the Department of Pharmacology, has been exploring gender differences in the brain. This research could ultimately help her and her fellow researchers better understand sex differences in behavioral development and neurological diseases.

How Male Sex Steroids Play a Key Role in Understanding Behavioral Development*

In Dr. McCarthy’s recent study, published in Neuron, she and colleagues discovered a mechanism for how androgens — male sex steroids — sculpt the brain’s development.

“We already knew that the brains of males and females are different, and that testosterone produced during the second trimester in humans and late gestation in rodents contributes to the differences, but we did not know how testosterone has these effects,” says Jonathan Van Ryzin, PhD, a postdoctoral fellow, who was the lead author on this research conducted in Dr. McCarthy’s lab.

*To read the full article, visit www.cell.com/neuron/current
A key contributor to the variances in play behavior between males and females is a sex-based difference in the number of newborn cells in the part of the brain called the amygdala, which controls emotions and social behaviors. The research showed that males have fewer of these newborn cells, because they are actively eliminated by immune cells.

In females, the newborn cells differentiated into a type of glial cell, the most abundant type of cell in the central nervous system. In males however, testosterone increased signaling at receptors in the brain, which bind endocannabinoids, causing immune cells to be activated. The endocannabinoids prompted the immune cells to effectively eliminate the newborn cells in males. Females rats in the study were unaffected, suggesting that the activation of the immune cells by the increased endocannabinoids in males was necessary for cell elimination. In this respect, this research shows that cannabis use, which stimulates endocannabinoids in the brain and nervous system, could impact brain development of the fetus and this impact could differ between male and female fetuses.

This study provides a mechanism for sex-based differences in social behaviors and suggests that differences in androgen and endocannabinoid signaling may contribute to individual differences in brain development and thus behavioral differences among people.

This research was funded by the National Institutes of Health (NIH), Natural Sciences and Engineering Council of Canada, Canadian Institutes of Health Research, Alberta Innovates, and the BranchOut Neurological Foundation.

Allergen Exposure and Its Impact on Sexual Behavior Development**

In collaboration with researchers from Ohio State University, Dr. McCarthy’s lab has also examined how allergic reactions trigger changes in brain behavior development in unborn males and females. It is the first study to assess the response of a type of immune cell called a mast cell, linked to allergic responses, to determine if these cells play a role in sexual behavior development.

“Many mental health and neurological disorders show a sex bias in prevalence. This latest research shows that inflammatory events, like allergic reactions, early in life may influence males and females differently due to underlying sex differences in the neuro immune system,” said Dr. McCarthy. These findings, which were published in Scientific Reports, illustrate that immune cells are involved in the process of brain sexual differentiation, and that prenatal allergic inflammation can impact this crucial process in both sexes. This finding is another discovery that will ultimately help researchers understand behavioral development differences between males and females.

Researchers tested the sexual differentiation in rats that were exposed to an allergic reaction while still in utero. They induced an allergic reaction to egg whites in pregnant rats, and results of the study showed the allergic reaction impacted behavior changes in the offspring. Male rats showed less male sexual behavior as adults and adult females behaved more like male rates.

The research tracked mast cells, which are known for their role in allergic responses. Researchers sought to determine if exposure to an allergic response of the pregnant female in utero would alter the sexual differentiation of the offspring and result in sociosexual behavior in later life.

“This research shows that early life allergic events may contribute to natural variations in both male and female sexual behavior, potentially via underlying effects on brain-resident mast cells,” said Dr. McCarthy.

Sexual differentiation takes place in the early-life process and it is directed by sex chromosomes, hormones, and early life experiences. This research reveals that immune cells residing in the brain such as microglia and mast cells are more numerous in the male than female rat brains, and these cells play a critical role in brain development.

This research was funded by the NIH and The Ohio State University Startup Funds to KML.

**This research was funded by the NIH and The Ohio State University Startup Funds to KML.
Inaugural David R. Gens, MD, Shock Trauma Endowed Scholarship

Scholarship Recognizes Student’s Achievements in Surgery and Medical Education

“They said I was beyond repair,” recalls Emily Grimsley, a fourth-year medical student at the University of Maryland School of Medicine (UMSOM). That’s the devastating prognosis Emily’s parents received regarding her heart defect discovered soon after her birth. “Luckily, a second surgeon gave my parents hope,” she says. “I was just nine months old when a surgeon sliced into my tiny body and ‘worked his magic’ to repair my heart.”

While the only reminders of her heart defect were her scar and yearly checkups with the cardiologist, it was those visits that sparked her interest in medicine. “As a child, I was fascinated by the doctor’s machine that could visualize my beating heart,” she says.

Fast forward to her medical school experience, and Grimsley’s determination has paid off. In December 2018, Grimsley received the David R. Gens, MD, Shock Trauma Endowed Scholarship in recognition of her academic achievements and exemplary mentorship skills. The scholarship, the first of its kind, is named in the honor of David R. Gens, MD, Attending Surgeon in the Program in Trauma and Director of Medical Student Education at the R Adams Cowley Shock Trauma Center. Dr. Gens is also a Professor of Surgery in the Department of Surgery. The endowed scholarship honors Dr. Gens’ dedication to medical education and his remarkable career spanning nearly 40 years at the world-renowned Shock Trauma Center.

“Dr. Gens was one of my first mentors in medical school and has helped me every step of the way from anatomy lab to residency applications,” says Grimsley.

“Receiving a scholarship in the name of my greatest medical school mentor is a tremendous honor.” — Emily Grimsley

Dr. Gens has helped to transform the field of trauma and critical care medicine while changing the lives of countless patients. Widely recognized by faculty, patients, students, and leaders alike, he has worked tirelessly to advance the Program in Trauma’s tripartite mission of patient care, research, and training the next generation of trauma and critical care experts. His education efforts have spanned all areas of trauma and critical care medicine, from gross anatomy to trauma evaluation and management in all phases of care.

“I was totally blindsided by everyone,” says Dr. Gens. “This endowed scholarship was awarded to me as a total surprise. Friends and people that I had trained came from all over the country. Thank you everyone for such a wonderful gift.”

Grimsley, who is set to graduate this spring and has matched into a General Surgery residency at the University of South Florida, says she hopes to stay involved in medical student education throughout residency and her surgical career. “It may sound clichéd, but I can only hope that I will one day be able to ‘work my magic’ to change the life of another person, just as my surgeon forever changed mine,” she says.
During the first full week of April each year, hundreds of organizations and thousands of individuals across the country come together to celebrate National Public Health Week (NPHW). Established by the American Public Health Association (APHA) nearly 20 years ago, NPHW raises awareness about health prevention and important health issues that are critical to improving our nation’s health.

“The first week of April creates a unique opportunity to recommit to our core values as a medical institution and reflect on the contributions of public health,” says Diane Marie St. George, PhD, Associate Professor of Epidemiology and Public Health. Dr. St. George is also the Director of UMSOM’s Master of Public Health (MPH) Program.

MPH Program faculty, students, and staff kicked off the week with events on and off campus. Among these activities included a visit at the Maryland Food Bank, where the Program packed over 500 food boxes for residents in assisted living facilities. The MPH Program also was involved with the 7th annual Public Health Research at Maryland (PHR@Md) conference. Made possible with funding from the University of Maryland Strategic Partnership: MPowering the State and co-sponsored by UMSOM’s Department of Epidemiology and Public Health, along with the University of Maryland, College Park, School of Public Health, the conference showcased panel discussions and leading research that underscored the theme of “health and well-being for all.”

“What is the key to public health? It is coming down off the stage, from behind the podium, and figuring out how to help people change behaviors that will lead to healthier communities,” declared U.S. Surgeon General Vice Admiral Jerome M. Adams, MD, MPH, during his keynote address at the PHR@Md conference.

“Healthy communities” was one of the daily themes for this year’s NPHW observance, as well as rural health, global health, violence prevention, technology and public health, and climate change.

Surgeon General Adams released an advisory last fall regarding e-cigarettes, which have been found to emit higher levels of toxic heavy metals into the environment. In Baltimore City, 23 percent of adults are current smokers, compared to a state average of 15 percent.

Dominique Earland, a STAR PREP (Science Training for Advancing Biomedical Research Post-Baccalaureate Research Education Program) Research Scholar at the UMSOM, and her colleagues led a smoking and tobacco prevention workshop for seventh grade University of Maryland, Baltimore (UMB) Continuing Umbrella of Research Experiences (CURE) Scholars. The UMB CURE Scholars program is a ground-breaking pipeline program that prepares local sixth- to twelfth-grade students for competitive science, technology, engineering, and mathematics (STEM) opportunities. The scholars learned about the harms of e-cigarettes, discussed adverse outcomes related to smoking and cancer, and used Photovoice, a process in which video and photo images are used to share their environment and experiences with others to capture images of littered cigarette butts in their communities. The photos were attached to their advocacy statements which were sent to their city councilmen.

“E-cigarette use among young adults has grown exponentially in recent years. Activities like these not only raise awareness about the dangers of e-cigarettes, but it also helps young people understand how they too can express agency concerning public health issues that affect their communities,” says Earland.
Dr. J. Marc Simard Receives Endowed Professorship

Investiture ceremonies have a way of building connections between the School's past and present, while serving as a bond between faculty, alumni, donors, and patients. Such was the case on April 1, when an emotional testimony of a grateful patient's family marked an investiture ceremony for J. Marc Simard, MD, PhD, Professor of Neurosurgery, Pathology and Physiology. Dr. Simard is one of the 82 distinguished University of Maryland School of Medicine (UMSOM) faculty who have now received endowed professorships.

The Professorship in Neurotrauma was made possible by a gift from Bizhan Aarabi, MD, Professor of Neurosurgery and Director of Neurotrauma at the R Adams Cowley Shock Trauma Center (STC). Dr. Aarabi, who has been on the UMSOM faculty for 19 years, said he wanted to make a financial contribution to the STC. After conversations with Thomas Scalea, MD, The Honorable Francis X. Kelly Distinguished Professor in Trauma Surgery, Director of the UMSOM's Program in Trauma, and Physician-in-Chief at the R Adams Cowley Shock Trauma Center, he decided to help fund an endowed chair as the most impactful long-term investment for the Center.

“I could not be happier to make this investment for the UMSOM, the Shock Trauma Center, and for the faculty member who is most deserving of it: Marc Simard,” Dr. Aarabi said.

The ceremony was hosted by UMSOM Dean E. Albert Reece, MD, PhD, MBA, Drs. Scalea, and Thomas A. Kent, the Robert A. Welch Professor, Texas A&M Health Science Center, Houston Campus, and Adjunct Professor, Department of Chemistry, Rice University.

Dr. Scalea and Dr. Kent spoke about Dr. Simard as a “quintessential scientist,” who is made major contributions to the study of stroke, hemorrhagic forms of encephalopathy, traumatic brain injury, and spinal cord injury, noting his more than 6,000 citations and 21 U.S. and international patents.

A highlight of the evening was moving testimony by John Drago, MD, a former member of the UMSOM faculty, and his son, Stephen Drago. Dr. Drago described how Stephen was involved in a near-fatal automobile accident and taken to Shock Trauma with only a 15 percent chance of survival. At STC, Stephen was immediately enrolled in a clinical trial for traumatic brain injury based on a seminal discovery made by Dr. Simard in his laboratory. “This treatment proved miraculous and truly saved Stephen’s life,” Dr. Drago said.

After a long process of recovery, Stephen reported that he is now about to graduate from East Carolina University with a degree in Nursing and is looking forward to attending a graduate nursing program in the fall.

Dr. Simard thanked his many colleagues, friends, and family in attendance, remarking that his discovery began with experiments 20 years ago. He noted that clinical trials in traumatic brain injury are now underway with Biogen. “In the 26 years I have been on the UMSOM faculty, it is amazing to see how the reputation of the School and its faculty have grown,” he said. “I am most grateful that I am at a place that values research and has enabled me to pursue both clinical care and scientific investigation.”

Dr. Aarabi and Dr. Simard, Dr. Eisenberg, Dean Reece

SAVE the DATE
2019 State of the School Address
Wednesday, October 30