DEAN’S MESSAGE

This time last year, we were mourning the loss of a regular start to a regular academic year. COVID-19 had been with us over the spring and summer, and we were coming to terms with the need to adjust to an unconventional fall. For many of us, this included remote learning, teaching and telework, and it was difficult to imagine how that would look and whether or not we would be able to continue achieving the same level of success. Now, a year later, I can say with more confidence than ever that the University of Maryland School of Medicine is capable of anything. As we begin our second academic year during a pandemic, we can all confidently say that we have done this before. Our new normal includes vaccines, masks, and the need to remain flexible as the COVID-19 landscape continues to change and prompt us to revisit our policies, precautions, and plans.

Last year was the first time we did not hold our annual Festival of Science since we began this special tradition in 2013. As of now, we are planning to hold this event in-person in Leadership Hall on Tuesday, December 7, 2021 with the theme of “Transplantation Science and Discovery.” Of course, this could be one of the plans we may need to revisit. However, all we can do at any given time is proceed to the best of our abilities with the information we have. We are continuously revisiting our policies and precautions as time passes and we gain access to more data and research. One of those policies includes face masks and the new guidance regarding wearing KN95 masks while on campus. We now know that KN95 masks provide better protection than cloth masks and reduce the spread of the virus. When we learn about critical new information like this, it is our responsibility to use it and set the example for our family, friends, and others in our communities.

Another way we can help to set good examples is by getting our flu shots and, when we are eligible and they are available, our COVID-19 booster shots. Getting vaccinated against the flu has been a longtime standard around the world. We are fortunate in the United States to have the access we do to vaccines like this. Our practice of receiving the flu vaccine should not be any different from that of receiving the COVID-19 vaccine and boosters. Engaging with patients who are very sick with COVID-19 has proven to be very stressful, but vaccines (both for us as providers, students, and trainees, as well as for patients) can help to reduce some of that stress. Especially as we return to learning and working on campus more often, we need to use all the precautions available to us to help ensure we stay healthy and keep others as healthy as we can.

There are many different activities and aspects of life that we remain eager to return to. The quickest way for us to do that continues to be through the precautions and safety measures we take. We each have a responsibility to take care of ourselves, both for the sake of our own wellbeing and the collective wellness of those around us. Prioritize your health and get the rest and nutrients you need. I hope that everyone is off to a great and healthy start this year, and I look forward to seeing more of you on campus.

In the relentless pursuit of excellence, I am Sincerely Yours,

E. Albert Reece, MD, PhD, MBA Executive Vice President for Medical Affairs, UM Baltimore Health System

John Z. and Akiko K. Bowers Distinguished Professor and Dean, University of Maryland School of Medicine

What’s on My Mind…

...is the need to remain flexible with COVID-19’s shifting nature and our resulting responses so we can stay safe and healthy.

Three Leading UMSOM Faculty Members are Honored Recipients of the 2021 Health Care Heroes Awards

Zeljko Vujaskovic, MD, PhD, Professor of Radiation Oncology and Director of the Division of Translational Radiation Sciences; Matthew B. Frieman, PhD, Associate Professor of Microbiology and Immunology; and H. Neal Reynolds, MD, Associate Professor of Medicine and Medical Director for the Maryland Critical Care Network; are among 28 individuals recognized by The Maryland Daily Record as 2021 Health Care Heroes Awards recipients.

Continued on page 8
Do Genetics Control Who Our Friends Are? It Seems So with Mice.

UMSOM study suggests pre-determined social preference may have implications for interactions ranging from relationship compatibility to understanding diseases associated with social avoidance.

Have you ever met someone you instantly liked, or at other times, someone who you knew immediately that you did not want to be friends with, although you did not know why? A recent study from the University of Maryland School of Medicine (UMSOM) suggests that there may be a biological basis behind this instantaneous compatibility reaction. A team of researchers showed that variations of an enzyme found in a part of the brain that regulates mood and motivation seems to control which mice want to socially interact with other mice — with the genetically similar mice preferring each other.

The UMSOM researchers, led by Michy Kelly, PhD, Associate Professor of Anatomy and Neurobiology, say their findings may indicate that similar factors could contribute to the social choices people make. Understanding what factors drive these social preferences may help us to better recognize what goes awry in diseases associated with social withdrawal, such as schizophrenia or autism, so that better therapies can be developed.

The study was published on July 28 in Molecular Psychiatry, a Nature publication.

“We imagine that this is only the first among many biomarkers of compatibility in the brain that may control social preferences,” said Dr. Kelly. “Imagine the possibilities of truly understanding the factors behind human compatibility. You could better match relationships to reduce heartache and divorce rates, or better match patients and doctors to advance the quality of healthcare, as studies have shown compatibility can improve health outcomes.”

A succession of unlikely events and circumstances over the years eventually culminated in this research project, according to Dr. Kelly.

While she was working at a pharmaceutical company, a group of bone researchers asked Dr. Kelly to characterize the behavior of one of their mutant mice that was missing the PDE11 protein. She observed that these mice without PDE11 withdrew socially, so she knew that PDE11 had to be in the brain. She remembered a study that used a mouse model of schizophrenia in which the researchers damaged the brain’s hippocampus leading to antisocial behavior. She then looked at this part of the brain in healthy mice and found where the PDE11 protein was hiding. Later, as a faculty member at University of South Carolina, she continued studying the social behavior of mutant mice in terms of their social reactions to scent. In the lab, researchers took wooden beads rubbed all over with pungent, airborne pheromones from one group of mice, and placed them in an enclosure with a second group. A mouse presented with one bead from a familiar friend and another from a new stranger mouse would typically spend more time investigating the bead with the stranger’s scent on it. When researchers looked at the PDE11 mutant’s preferences, they favored the stranger’s scent one hour or one week after meeting their friend, but one day after meeting — considered recent long-term memory for a mouse — their social memory seemed fuzzy, and they did not differentiate between a friend and a stranger. To the researchers this meant, the mice’s short and long-term social memory worked fine, but there was a problem coding the information into recent long-term memory — the time between short and long-term memory. Given more time, they would eventually recover that memory.

A student working in the laboratory offhandedly remarked that he noticed children with autism prefer to interact with others that have autism. So, Dr. Kelly decided they should test to see if the PDE11 mutants and normal mice had a preference with whom they interacted. The researchers found that PDE11 mutants preferred being around other PDE11 mutants over the normal mice, while normal mice also preferred their own genetic type. This discovery held true even when researchers tested other laboratory mouse strains. When they tested another genetic variant of PDE11 with a single change in the DNA code, mice with that genetic variation preferred other mice with the same variant over any others.

“So, what is it that the mice are sensing that determines their friend preferences?” said Dr. Kelly. “We eliminated smell and body movements as contributing factors, but we still have some other ideas to test.”

“What this team has done is to establish a paradigm by which researchers can identify the social underpinnings of friendship in animal models,” said UMSOM Dean E. Albert Reece, MD, PhD, MBA. “This very important finding is just the start, but hopefully will lead to exciting new avenues of biological or social treatments for diseases like schizophrenia or age-related cognitive decline in which severe social avoidance and isolation can reduce a person’s quality of life.”

This study was supported by start-up funds from the University of Maryland School of Medicine, a grant from the National Institute of Mental Health (RO1MH101130), and a grant from the National Institute of Aging (RO1AG061200).
A SAFE HAVEN FOR HEALING

University of Maryland Children’s Hospital Opens First Trauma-Informed Children & Adolescent Psychiatric Unit In Maryland

Children and teens experiencing acute mental health crises have a safe and healing space to recover in the newly-opened Children & Adolescent Psychiatric Unit at the University of Maryland Children’s Hospital (UMCH). The 16-bed, state-of-the-art unit is the first in the state designed both architecturally and clinically to deliver “trauma-informed” care for children spanning 5 to 17 years old.

Trauma-informed care is a framework for treating patients who have endured abuse, neglect, violence, school issues and other traumatic events — which not all, but many young patients have experienced.

“The new unit is designed to provide crisis stabilization, respite and recovery for our most vulnerable patients — children and adolescents — and to instill hope that life will get better,” said Sarah Edwards, DO, Assistant Professor of Psychiatry and Director of Child and Adolescent Psychiatry at UMMC.

The need for mental health care among youth has become an urgent national issue. According to the CDC, children’s mental health-related ED visits significantly increased in 2020, the first year of the pandemic, compared to 2019. In a screening of over 1.5 million people by Mental Health America uncovered alarming statistics about youth suicide ideation during the pandemic.

These rates were highest among youth, according to the report, which found that in September 2020, over half of 11-17-year-olds reported having thoughts of suicide or self-harm more than half or nearly every day of the previous two weeks. From January to September 2020, 77,470 youth reported experiencing frequent suicidal ideation, including 27,980 LGBTQ+ youth.

No matter the patient’s condition, every intervention at the new unit is designed to not re-traumatize the child. Whether participating in a group therapy session, resting in their rooms, or tucked into a “chill alcove” gazing at a nature wall mural designed by local artist Annie Howe, patients are in an environment where they can manage intense emotions and unsafe urges, while learning adaptive behaviors and coping skills.

Designed to Heal
Patients in crisis will be able to receive psychiatric care for a range of conditions including:

- Trauma disorder (PTSD, acute stress disorder, adjustment disorder)
- Psychotic spectrum disorders (schizophrenia, substance-induced psychotic disorder)
- Mood disorders (depression and bipolar disorder)
- Anxiety disorders (phobias, panic disorder, social anxiety disorder, separation anxiety disorder)
- Co-morbid neurodevelopmental disorders (high-functioning autism spectrum disorder, mild intellectual disability)
- Attention Deficit Hyperactive Disorder

Architectural elements in the new unit feature soothing colors and nature themes, curved walls and lighting to mirror a child’s circadian rhythm to promote restful sleep at night and optimal energy during the day for therapy and other activities. Wherever possible, patients are given the choices and control so often robbed from them in trauma-filled lives.

For example, by adjusting a switch on the wall patients can choose from different sounds to play in their room, such as running water, nature sounds, or music.

Architecture and design for the new unit were provided by Baltimore firm Inquiry.

The new unit is staffed to provide multidisciplinary expertise in every facet of treatment and recovery. To maximize staff and patient interaction, the unit is designed with “on stage” and “off stage” areas, so that patient care is the focus in treatment areas, while other work like documentation, phone calls and team conversations happen “off stage.”

“The new Children and Adolescent Psychiatry Unit at University of Maryland Children’s Hospital is an essential component of the continuum of care we offer to youth experiencing mental distress. “They are not alone in their struggle; we are here to help them recover and thrive, whether they need crisis stabilization at our new inpatient unit, or ongoing counseling at our outpatient psychiatry clinics,” stated Jill RachBeisel, MD, Professor and Chair, UMSOM’s Department of Psychiatry and Chief of Psychiatry at UMCH.

Steven J. Czinn, MD, the Drs. Rouben and Violet Jiji Endowed Professor and Chair of Pediatrics and Director of UMCCH stated, “The thought and design that have gone into creating the inpatient psychiatric unit exemplifies our commitment to the whole health of children — mental, emotional and physical.”

University of Maryland Children's Hospital Opens First Trauma-Informed Children & Adolescent Psychiatric Unit In Maryland

Jill RachBeisel, MD
Sarah Edwards, DO
Steven Czinn, MD

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Increasing COVID-19 Rates in Underserved Through Grass Roots

$7.8 Million Federal Grant Will Fund Outreach Program

In an effort to increase COVID-19 vaccination rates among children and families, and ultimately help bring the pandemic under control, the Department of Family & Community Medicine (DFCM) and the Department of Psychiatry at the University of Maryland School of Medicine (UMSOM) are partnering with key community and faith-based groups in Baltimore City to reach the most vulnerable and underserved communities. This partnership will also extend across Maryland, Delaware, Virginia, and West Virginia.

The Community-based Workforce for COVID-19 Vaccine Outreach Program at UMSOM will support families with children aged 12-15 years old, including those with special behavioral health needs, by addressing barriers to vaccines. It will also provide culturally relevant information, practical support, and one-on-one conversations with trusted community partners about vaccine concerns. The multi-state program is funded by a $7.8 million award from the U.S. Health Resources and Services Administration (HRSA). It builds upon community work already underway by UMSOM that is funded by the Maryland Community Health Resources Commission (MCHRC), which aims to reach individuals in vulnerable communities at the grassroots level across the state.

“It is critical to understand that the objections and concerns about getting vaccinated are real and valid in these communities in order to address them,” said Niharika Khanna, MBBS, MD, DGO, Professor of Family & Community Medicine and co-principal investigator (PI) for the program. “We must acknowledge them and tailor our conversations accordingly.”

Language and cultural barriers are being addressed by cultural ambassadors and community leadership engagement. Multiple methods of communication are planned, including face to face, virtual, print, live, radio, television, social media, billboards, and other methods. UMSOM’s partners are going into communities that are difficult to reach using a public health messaging truck. Others are reaching the homeless population with street-based outreach and are engaging post-penitentiary populations through behavioral health providers.

“The regions of the four states that have high rates of vaccine hesitancy are in a variety of settings, including rural and urban communities,” said co-PI Gloria M. Reeves, MD, Associate Professor of Psychiatry. “Our outreach plans were developed to address specific geographic challenges such as poor internet access, utilize community strengths like coordination with local schools and faith-based organizations, and provide testimonials from community representatives on how they approached vaccine decision making.”

The program incorporates key community partners already trusted in these communities, such as several Area Health Education Centers (AHEC), including the University of Maryland, Baltimore Community Engagement Center (CEC). Other
Vaccination Communities Efforts

Community partners central to this program include the AME Zion Church, the National Association for the Advancement of Colored People (NAACP) Baltimore Branch, Community Behavioral Health, National Federation of Families, and Family Voices. UMSOM’s partnerships with these community leaders will help to identify those with vaccine hesitancy in a wider swath of the population across four states. These partnerships will be used to develop a family, community, and faith-based approach toward ‘enhanced outreach’ in these communities.

Based on information collected from community leaders and members of each population, the program will be tailored to meet the specific religious, ethnic, and socioeconomic needs of each community.

“Through this HRSA-funded collaboration with UMB and other partners, we will be able to help our communities to overcome vaccine hesitancy by initiating conversations about the very real and certain consequences of COVID-19, including hospitalization, long-term disability, and death,” said Rev. Kobi Little of the Baltimore NAACP.

“The vaccines are our best shot at staying safe,” Little said. “By engaging in frank and honest conversations with friends, family, and neighbors at the grassroots level, we hope to activate communities to lead efforts to protect our people and get everyone vaccinated.”

The goal in Baltimore is to address social barriers to COVID-19 vaccines and develop strategies and infrastructure to address vaccine hesitancy in Baltimore City zip codes that have neighborhoods where roughly 70 percent of the population has not been vaccinated. The program will also tap into synergies with the NAACP, AME Zion Church, and the Central AHEC to address the need in Baltimore for community outreach and engagement. The DFCM is partnering with the SEED school in Baltimore to provide vaccination, education, and outreach to parents, students, and school staff. The central AHEC will provide navigation and “post-vaccine care packages.”

“This community-based approach is built on our close connections within these communities and is supported by data generated by our own faculty, setting the path toward fighting the COVID-19 pandemic in the broadest way possible,” said UMSOM Dean E. Albert Reece, MD, PhD, MBA.

“We know that vaccines are our best defense against this deadly virus, and they are even more important as we are seeing a rise in cases with new variants.”

UMSOM is one of 14 recipients of funding from HRSA for the $125 million community-based program announced in June by the Biden-Harris Administration. It is the largest of two awards granted in Maryland.

Rev. Kobi Little
The annual Student Clinician Ceremony at the University of Maryland School of Medicine (UMSOM) was held this summer in Leadership Hall on July 2, 2021, to formally welcome the third-year medical students to their clinical rotations. In their rotations, students begin seeing patients alongside doctors and residents as they gain experience in primary care and medical specialties.

The ceremony was especially significant since the class of 2023 was interrupted by the pandemic during their first year as medical students. This meant that much of their medical school experience thus far has been through remote instruction.

Undoubtedly, transitioning to the remote-learning environment was very challenging for students. “We have not been together as a class since the beginning of the pandemic,” said medical student Lucy Murnane. “Medical school is really hard to begin with and much harder when you are isolated from the support system that is your peers and the faculty and staff.”

“Through the sudden change, the unknown, and the challenges that virtual learning inevitably brings, you did not miss a beat,” said UMSOM Dean E. Albert Reece, MD, PhD, MBA. “You are now equipped to confront the real-life challenges that your medical professions will undoubtedly bring.”

The students also heard words of encouragement from Donique A. Cross, MD, Clinical Instructor Fellow in the Department of Family and Community Medicine. “You all have demonstrated that you have the resilience and the adaptability to succeed in medicine,” said Dr. Cross. “In the midst of a global pandemic, you retrained your minds and your routines to learn and study in a way that I’m sure felt unnatural to many of you.”

With pandemic restrictions coming to an end, students are looking forward to face-to-face interaction with patients in the hospital setting as they transition to direct patient care. “It is a very big deal for us,” said third-year medical student Uwa Okojie. “That is why I wanted to be a physician, and why I pursued medicine.”

The Student Clinician Ceremony aims to address some of the anxiety felt by students entering this transitional period by providing insight and discussing fears and expectations. It marks the beginning of an important new chapter in their medical education.

During the ceremony, students receive professionalism pins to wear on their white coats as a constant reminder of their duty to their patients and their profession in agreeing to follow the Physician Charter.

Overcoming Pandemic Challenges, UMSOM Class of 2023 Celebrates Annual Student Clinician Ceremony

Ceremony Marks Next Phase of Medical Training

Third-year UMSOM students receive medical lapel pin for white coat jackets during annual Student Clinician Ceremony.
The white coat is recognized as a traditional symbol of the medical clinician and scientist — one that represents the knowledge, skill, and integrity of the medical professionals who wear it, along with the highest standards of professional work, whether in the classroom, laboratory, or clinic. First-year medical students are recognized as officially entering the profession of medicine and claim their new status as junior colleagues. Since 1997, the White Coat Ceremony has been an annual tradition at the School of Medicine.

“Today, we are welcoming you to this noble profession.” With this stirring greeting, Kerri A. Thom, MD, MS, Professor of Epidemiology & Public Health and Medicine and Associate Dean for Student Affairs, acknowledged the 143 members of UMSOM’s Class of 2025 at the opening of the school’s 25th Annual White Coat Ceremony on Friday, August 6. The event was sponsored by the Whiting-Turner Contracting Company and UMSOM’s Medical Family Annual Fund.

This year’s celebration, staged on campus at the school’s Leadership Hall, limited in-person attendance to students and faculty, with family and friends watching the ceremony via a YouTube livestream. Following remarks from several speakers, including UMSOM Dean E. Albert Reece, MD, PhD, MBA, and Paul A. Tarantino, MD ’87, President of the Medical Alumni Association, Class of 2025 students stepped up onto the stage to don their white coats for the first time with the help of faculty members, and afterwards recited the Code of Honor.

In his remarks, Dean Reece reflected on the importance of the ceremony.

“Today marks a milestone in what will be a momentous lifelong journey for you,” he said. “The white coat ceremony is a rite of passage — one that symbolizes the beginning of your transition into this noble and privileged profession of medicine. However, it is much more than a mere ritual — for to those to whom great honor and privilege is given, your service, your compassion, and your high ethical standards are expected in return.”

Medical student Audrey Zauher understands the responsibility she will have when putting on her white coat.

“This is a really important ceremony, but there is also a lot of weight that comes with the coat. There is the expectation and privilege,” said Zauher. “I know there will be moments when I see people on the worst day of their lives. That is a very sacred place and not shown to many people, so I think there is an honor in being exposed to the underbelly of a person. We have their trust by just the white coat alone.”

For first-year medical student Vincent Brown, the traditional ceremony is his first step towards his dream of practicing medicine in an underserved community.

“There is a large population of disadvantaged people here,” said Brown. “Hopefully in the future, I will be able to build my practice around an underserved population, so I believe training here will give me the experience with that patient population.”
2021 Health Care Heroes Awards  Continued from page 1

Dr. Vujaskovic received a Lifetime Achievement award in recognition of his innovative contributions to radiation oncology and hyperthermic therapy. Dr. Frieman was recognized in the COVID-19 Heroes Award Category, which recognizes individuals who have led the fight against COVID-19. Dr. Reynolds was recognized in the Physician of the Year Category for his innovative work with robots and telemedicine to treat COVID-19 patients.

Dr. Vujaskovic’s Lifetime Achievement Award

In 2021, Dr. Vujaskovic established the Division of Translational Radiation Sciences with a mission to accelerate the discovery and clinical implementation of new therapeutic strategies in clinical radiotherapy. Recently, he assumed leadership of the Maryland Proton Alliance, where he plans to explore synergies between proton beam therapy and hyperthermia, among other research initiatives.

“Receiving a Lifetime Achievement award from The Daily Record is a tremendous honor,” said Dr. Vujaskovic. “I am grateful to the amazing colleagues, students, and support staff who have helped shape our research in radiation and thermal oncology therapies and the unwavering support of the leadership at the UMSOM, even during the most challenging of years.”

Dr. Frieman’s COVID-19 Heroes Award

Dr. Frieman’s overall goal is to create therapeutic interventions by developing a detailed understanding of how highly pathogenic viruses interact with the host. His successful development of mouse models has enabled the therapeutic development of vaccines, antibodies, small molecules, novel and repurposed drugs, and other therapeutics to combat these virulent viruses.

“I am honored to receive the Health Care Heroes award,” said Dr. Frieman. “We have faced so many unprecedented hardships since the onset of the pandemic. I feel privileged that my lab’s work has helped so many people.”

Dr. Reynolds’s Physician of the Year Award

Dr. Reynolds has contributed extensively to telehealth and a tele-ICU program utilizing robotic technology. To continue treating patients while maintaining personal safety during the pandemic, Dr. Reynolds created a robotic telehealth program that can be controlled from his home over twenty miles away from the hospital. His work with the telehealth robot, known as “Fast Freddy,” allowed him to communicate with patients and on-site health care workers.

“It is a great honor to be recognized as a Daily Record Health Care Hero,” said Dr. Reynolds. “Health care workers across the globe have endured and overcome so much this past year due to the pandemic; they have risked their lives and devoted countless hours to help combat the virus. I am humbled to be recognized for my contribution.”

Help Support Student Activities and Resources!

Will you help fund the endless possibilities that stem from a good medical education? Your contributions support the House Advisory System, the White Coat Ceremony, essential wellness programming, mentorship activities, the Renaissance Curriculum, and more! No student graduate without somehow being impacted by private giving. When you donate today, you enhance the quality of education for which UMSOM is nationally recognized. You may also mail your donation directly to the UMSOM Office of Development with a check made out to UMBF, Inc./2604 and sent to:

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Thank you for your gift!