

UMB SPOTLIGHT

WINTER 2019

CHRONIC PAIN: UMB Confronts the Challenge

ARE PLACEBOS THE SOLUTION?
TACKLING THE OPIOID
EPIDEMIC IN THE FUTURE

100 YEARS OF
EXCELLENCE AT UMB
GRADUATE SCHOOL

\$30M GRANT FOR BALTIMORE
NEIGHBORHOOD IMPROVEMENT
THROUGH PROMISE HEIGHTS

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We want to hear from you!

If you have questions or feedback on any of the articles featured in this issue of *Spotlight*, or other events around the University of Maryland, Baltimore, please reach out! You can share your thoughts with us via email at catalystcampaign@umaryland.edu

TEDx COMES TO UMB



On Nov. 9, 2018, 100 guests had the opportunity to listen to 10 experts speaking on the theme of “Improving the Human Condition” at the inaugural TEDx University of Maryland, Baltimore (UMB).

The theme was taken from UMB’s mission statement, and talk topics included the placebo effect’s role in overcoming the opioid epidemic; minors being manipulated and trafficked for sex; innovations in the way we think about gender; augmented and virtual reality in medicine; invisible influences in education; and more.

UMB President Jay A. Perman, MD, was among the speakers at the daylong event, which was organized by the University through TED (Technology, Entertainment, Design), a nonprofit organization devoted to “ideas worth spreading.”

“There are so many talented people doing important work here at UMB,” said John Palinski, MPA, a philanthropy officer at the University and a member of the TEDx UMB planning committee. “TEDx is a bit of education in just reminding people who we are by projecting to the world all the wonderful things that are happening here.”

The event was livestreamed on YouTube to a global audience, allowing its outreach and engagement to go far beyond the Baltimore community. To learn more about these and other innovations happening around UMB, contact us at catalystcampaign@umaryland.edu or visit catalyst.umaryland.edu/ and umaryland.edu/.

TEAMWORK MAKES A DIFFERENCE AT UMB

One of the tremendous assets of the University of Maryland, Baltimore (UMB) is its unique array of seven schools: six professional schools — dentistry, law, medicine, nursing, pharmacy, and social work — and an interdisciplinary Graduate School. When I talk about UMB, I invariably mention our authentic and shared commitment to interprofessional education, research, and practice, and how central this is to University life.

For students across all of our schools, interprofessional education and collaboration mean learning early on to appreciate the expertise, education, and scope of practice of each member of the team, as well as how to adopt the norms and behaviors that foster effective communication and full utilization of one another's expertise and knowledge.

When UMB launched its Center for Interprofessional Education in 2013, it was grounded in a vision of preparing all University students to provide high-quality, affordable health care and human services within a team-based model. Although interprofessional collaboration among health care disciplines is increasingly common, we at UMB are able to go one step beyond this and seamlessly incorporate law and social work students as members of the team, in keeping with the center's mission "to prepare health, law, and human services professionals to work collaboratively on interprofessional teams focused on improving the lives of people locally, nationally, and globally."

This past spring, during our 6th Annual Interprofessional Education Day, more than 300 students heard from a mother whose son had suffered a traumatic brain injury. They were seen in the President's Clinic, an interprofessional clinic in which students join UMB President Jay A. Perman, MD, in caring for patients. She shared that not only did her son benefit from the care he received, but so did she and her other four children.



Jane M. Kirschling (second from left), dean of the School of Nursing and director of interprofessional education at UMB, joins with students and other UMB leaders to celebrate IPE Day 2018.

PHOTO BY RICK LIPPENHOLZ

"I remember that day when I walked into that office," she said. "I was like in a dark tunnel. I didn't know what to do. I didn't know where to go. I didn't have any resources at all for how to help my son. ... I saw the nursing student, the doctors [MD and DNP], the social worker, the nutritionist, the physical therapist, the dental school student, and I was like, 'Oh my God. Thank you, God, for this,' because I was lost. ... And when I met all these wonderful people that day, I went home and just started crying [with my son]. And I told him, 'I think we are going to have hope.'" It was a moving and important reminder for our students of how interprofessional practice can both inform and transform the care we give to patients and their families.

The ability to learn with, from, and about health professionals, lawyers, and social workers builds our students' abilities to work effectively in teams, whether in the clinic, in community outreach settings, or in research endeavors. These opportunities truly enrich and forever shape their learning and guide their future practice. At UMB, whether we are students, teachers, researchers, and/or clinicians, we have unprecedented opportunities to make a difference through our work. To work alongside others who are different from ourselves but share our commitment and values, and to reach out to our neighbors in Baltimore City, in Maryland, or elsewhere in the world, and seek to improve their lives is an extraordinary privilege.

Jane M. Kirschling, PhD, RN, FAAN
Dean and Professor
University of Maryland School of Nursing
Director, Interprofessional Education
University of Maryland, Baltimore

Erin Levitas Initiative Continues 'Her Dream'

New Program at Maryland Carey Law Aims to Prevent Sexual Assault Through Education

Erin Levitas was poised to join the University of Maryland Francis King Carey School of Law to pursue her dream of helping others. Specifically, Erin felt called to fight for the rights of survivors of sexual violence. Motivated by a personal experience, Erin began this journey as an undergraduate student at Wake Forest University, where she led a support group for survivors of sexual assault and planned to become a lawyer to provide justice and change policy.

Sadly, Erin passed away before she could carry out her vision. After her death, it was only natural for Erin's family to continue her work in assisting survivors. "She wanted to be remembered for the work she wanted to do. We want to continue her dream," said her grandfather, Leonard Attman, chairman of the Erin Levitas Foundation.

Her family decided that between her desire to attend Maryland Carey Law and the credibility, longevity, and motivated support the law school offered, it was the ideal institution to see Erin's vision through. With strong support from the school's leadership and the Erin Levitas Foundation, the Erin Levitas Initiative for Sexual Assault Prevention at Maryland Carey Law was created.

The initiative is designed to disrupt the norms that develop around gender and sex at a young age through the pillars of education and restorative justice. Clinical law students work with middle school students to educate them about healthy relationships and boundaries and to respond to incidents of low-level sexual harm, such as bullying with sexual undertones, rumor spreading, or inappropriate touching, using restorative practices. Restorative justice is a powerful agent in changing norms and creating relationships that help with prevention.

It is no secret that there is a need to educate young people about sexual violence. In the past year of the #MeToo movement, more awareness than ever was raised about sexual assault and harassment, and that awareness needs to turn into action. C. Quince Hopkins, JD '89, LLM, JSD, director of the Erin Levitas Initiative for Sexual Assault Prevention, says, "The visibility of the #MeToo movement has made

this the exact right time for this initiative to make a difference." Hopkins has worked in the field of gender-based violence for nearly 30 years since obtaining her law degree from Maryland Carey Law, focusing specifically on restorative justice and sexual harm for the past 15 years.

The Erin Levitas Initiative focuses intervention on middle school students to help the early development of healthy relationship norms that will have a lasting impact. Erin's mother, Wende Attman Levitas, hopes that through adequate education, prevention, and early intervention, attitudes and behaviors will change so that no one will endure the same trauma as her daughter. She feels grateful and empowered knowing that her daughter's legacy will live on in this way, because the work will "make the schools a better place, and that's what Erin wanted."

Early intervention helps to disrupt certain attitudes



Erin Levitas

PHOTO COURTESY OF THE ERIN LEVITAS FOUNDATION

and behaviors that are predictors of sexual assault, including sexual harassment, bullying, low levels of empathy, disconnection from the school, and poor social and emotional skills. Sexual harassment rates are particularly high in middle school, where 40 percent of boys and 56 percent of girls report having been sexually harassed, according to the American Association of University Women's 2011 survey, "Crossing the Line: Sexual Harassment at School." Common incidents at this age include non-consensual sharing of sexual pictures, starting sexual rumors, inappropriate grabbing/touching, unwelcome sexual comments, and bullying with sexual undertones.

The pre-pilot program will launch in spring 2019 in a Baltimore City public school with a demonstrated need. It will expand to other Baltimore schools in the fall, with the goal to expand statewide in coming years if funding allows. The vision is to create a program that will expand nationwide, ultimately serving as a model to be adopted by other law schools.

Hopkins understands that the clinical law experience is essential for law students, as it helps instill a commitment to public service and social justice. She believes in an education that "creates the whole lawyer," and that this experience will educate students so that no matter what practice they go into, they will always see the human side of their clients.

To accomplish this goal, the program needs outside philanthropic support. Fundraising endeavors are underway toward the \$3 million goal to endow the program, with \$500,000 committed to match contributions. Endowing the program would allow it to run in perpetuity, educating countless middle school students about sexual violence, supporting the dedicated professionals who maintain the clinic, and giving law students the real-world education they need to become accomplished lawyers who will use their degree as Erin would have, to make a difference.

“The visibility of the #MeToo movement has made this the exact right time for this initiative to make a difference.”

C. Quince Hopkins, JD '89, LL.M., JSD,
director of the Erin Levitas Initiative for Sexual Assault Prevention



(Left to right) Deborah Thompson Eisenberg, director of the Center for Dispute Resolution (C-DRUM) at the University of Maryland Francis King Carey School of Law; Marissa Jachman, executive director of the Erin Levitas Foundation; Wende Attman Levitas; Donald Tobin, dean, Maryland Carey Law; Leonard Attman, director of the Erin Levitas Foundation; C. Quince Hopkins, director of the Erin Levitas Initiative for Sexual Assault Prevention; and Barbara Sugarman Grochal, director of Schools Conflict Resolution Education Programs, C-DRUM.

PHOTO BY TRACEY BROWN

Engaging Patients, Empowering Communities

— School of Pharmacy Program Takes Patients Off the Sidelines to Transform Research

Research studies are incredibly complex, so it is no surprise that many patients do not understand or trust such complicated investigations. Clinical studies can span multiple years, involve the collection of thousands of pages of data, and require collaborations with local, national, or international stakeholders. While it is not uncommon for researchers to partner with clinicians, policymakers, or payers on a study, C. Daniel Mullins, PhD, professor and chair of the Department of Pharmaceutical Health Services Research at the University of Maryland School of Pharmacy, noticed one stakeholder was always missing from the table — the patient.

To encourage researchers to pursue studies focused on health questions and outcomes most important to patients, Mullins led a team of researchers from the University of Maryland, Baltimore (UMB) in establishing the Patient-Centered Involvement in Evaluating the Effectiveness of Treatments (PATIENTS) Program. Launched in 2013, the PATIENTS Program aims to empower patients, especially those from underserved and minority populations, to propose questions about their health care concerns and actively participate in studies to answer those questions — not just as subjects, but as co-developers of the study.

The PATIENTS Program involves patients and caregivers in every aspect of the research process. Its 12 full-time employees — up from two when the program began — conduct outreach events to help community members understand the value of participating in research, and work with researchers to ensure that their research priorities align with the values of patients and communities.

Initially funded by a five-year, \$5 million grant from the Agency for Healthcare Research and Quality, the PATIENTS Program has raised \$40 million in new grants and contracts for investigators interested in pursuing patient-centered research. Continued philanthropic support allows the program to host and participate in more than 50 outreach events each year, including its flagship PATIENTS Day

health fair, and work with communities to implement actionable results from studies it supports.

For their work with the program, Mullins and Robin Newhouse, PhD, RN, MS, NEA-BC, FAAN, former faculty member at the University of Maryland School of Nursing, were honored as UMB's Researchers of the Year in 2014. One year later, the program was named a UMB Champion of Excellence.

“The PATIENTS Program challenges the status quo by embracing the fact that patients should have a voice in research,” Mullins says. “Patients don’t want to know if their medication works better than a placebo. They want to know if it’s the best drug available for them. Allowing patient voices to frame research questions that are meaningful is the best way to motivate patients and community clinicians to implement evidence-based medicine in health care delivery.”



Nearly 200 community members, health care providers, and researchers came together at the University of Maryland BioPark on July 20, 2018, to celebrate PATIENTS Day. The interactive health fair offered attendees an opportunity to learn from and teach one another how to create and sustain healthy lifestyles and communities in West Baltimore and nationwide.

PHOTO BY MANDY WOLFE

NEW WAYS TO MANAGE PAIN: THE PLACEBO EFFECT AND VIRTUAL REALITY

As a new physician, Luana Colloca, MD, PhD, MS, found her interactions with patients deeply meaningful to the patients and to herself. The power of her interactions led her to further wonder why a treatment can become a powerful tool to improve an outcome. Deciding to pursue a PhD in neuroscience, Colloca studied patients with Parkinson's disease and found that those who received a placebo, a pharmacologically inert substance, after repetitive doses of apomorphine, an anti-Parkinson's medication, showed a change in the level of neural activity in their brains.

Since this initial exploration of the act of treatment and the placebo effect, Colloca, associate professor at the University of Maryland School of Nursing, Department of Pain and Translational System Science, and the University of Maryland School of Medicine (UMSOM), Department of Anesthesiology, has pursued an aggressive research agenda. This includes investigating the perception and experience of pain and how it can be modulated by expectation,

such as verbal suggestions, contextual and treatment cues, prior therapeutic experiences, observation of benefits in others, and interpersonal interactions.

Colloca says the science is exciting, and her goal is to translate the science of the basic mechanisms of pain into new approaches for its treatment. "Expectations of receiving what may be a placebo or any other treatment can trigger a strong response in brain activity that releases an individual's naturally occurring endogenous opioids," she says. This, in turn, has led to research exploring the effectiveness of interspersing dosages of placebos with those of active opioids to minimize exposure to the active opioids while still managing pain, thereby lessening the possibility of addiction. Another area of her research is examining the psychosocial components of pain management — for example, comparing levels of pain reduction when pain medications are delivered in person with communication versus through a computer-controlled infusion system.

Among the patients who are not daily opioid users but receive them for elective surgery or trauma, 6 percent become opioid users, so

determining creative and non-opioid-based solutions to pain management is a high priority. One avenue of Colloca's research on alternative methods for pain modulation involves colleagues at the Maryland Blended Reality Center (MBRC), an entity funded under the University of Maryland Strategic Partnership: *MPowering the State*.

Colloca is exploring the use of virtual reality in altering pain tolerance along with MBRC co-directors Amitabh Varshney, PhD, dean of the College of Computer, Mathematical and Natural Sciences and professor of computer science at the University of Maryland, College Park (UMCP); and Sarah Murthi, MD, associate professor of surgery at UMSOM and a trauma surgeon at the R Adams Cowley Shock Trauma Center; as well as Craig Kier, MM, director of the Maryland Opera Studio at UMCP. Research subjects are administered calibrated pain while immersed in virtual reality related to the ocean or opera, or they're simply shown a video. Experiencing the virtual reality ocean appears to increase pain tolerance, and virtual reality ultimately could prove useful in reducing opioid exposure for trauma-related and chronic pain.

Luana Colloca
PHOTO BY TRACEY BROWN





Chronic Pain: UMB Confronts the Challenge

Chronic pain is an increasingly prevalent problem for individuals, families, and society at large, with escalating costs and potentially devastating effects on quality of life. According to the most recent data available from the U.S. Institute of Medicine, an estimated 100 million people in the United States suffer from chronic pain — more than heart disease, diabetes, and cancer combined. Historically, chronic pain has been under-reported and underdiagnosed, resulting in a gap in the research, assessment, and treatment of pain and leaving millions of patients lost on the journey toward relief.

Susan G. Dorsey, PhD, RN, FAAN, professor and chair of the Department of Pain and Translational Symptom Science at the University of Maryland School of Nursing (UMSON), observed that research gap firsthand during her master's coursework. "I've seen so many patients who suffer from intractable pain," she says, "and knowing you don't have anything in your arsenal can make you feel hopeless."

Since the mid-1990s, Dorsey and her colleagues at the University of Maryland, Baltimore (UMB) have been studying the origins of, and treatments for, chronic pain. On the heels of those successful collaborations, the University of Maryland Center to Advance Chronic Pain Research (CACPR) was founded in 2014 to formally link the interdisciplinary pain research already taking place at UMB. Dorsey is co-director of CACPR alongside Joel D. Greenspan, PhD, professor and chair of the Department of Neural and Pain Sciences at the University of Maryland School of Dentistry (UMSOD).

As a Universitywide entity, CACPR benefits from expertise at UMB's six professional schools — dentistry, law, medicine, nursing, pharmacy, and social work — and the interdisciplinary Graduate School. Because of that, “I’m starting projects with collaborators in other departments and schools at UMB,” says Greenspan, noting “a clinical trial of acupuncture treatment for spinal cord injury pain, and a novel approach to treating particularly difficult pain conditions using focused ultrasound” as examples of cross-campus collaboration.

The faculty, staff, and students who comprise CACPR all share the belief that a broad perspective is needed to tackle a complex problem such as chronic pain. By joining together, they bring to CACPR a wide array of expert knowledge in a diverse range of subjects, including those as varied

as electrophysiology, clinical pain phenotyping, and health care law and policy. This results in effective interdisciplinary research teams and successful clinician-scientist collaborations.

“I think collaboration is the key to good science,” said CACPR executive committee member Richard Traub, PhD, professor and vice chair of the Department of Neural and Pain Sciences at UMSOD. “Methodology has advanced to the point that no one can be an expert in all the methods available to address the questions of today; collaboration is necessary.

“I have been fortunate to develop collaborations with colleagues within and outside my department. The collaborative environment we have around UMB is very excellent.”

Ongoing and emerging research includes the areas of chronic orofacial pain, migraines, and burning mouth syndrome; chemotherapy-induced neuropathic pain; spinal cord and brain injury-induced pain; biomarkers

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Co-directors Susan G. Dorsey of the School of Nursing and Joel D. Greenspan of the School of Dentistry lead CACPR, which draws on expertise from all the UMB schools to study chronic pain and find treatments to alleviate it.

of the transition from acute to chronic pain in trauma patients with lower-extremity fracture; hormonal influences on pain; genetic and personal factors contributing to clinical pain susceptibility and resilience; non-pharmacological approaches to the treatment of chronic pain; and therapeutics for co-morbid clinical pain conditions, among others.

An important area of study underway at CACPR is the relationship between chronic pain and the opioid epidemic. CACPR member Asaf Keller, PhD, professor in the Department of Anatomy and Neurobiology at the University of Maryland School of Medicine, is researching this connection.

“We know that pain and addiction are intimately linked,” he says. “Patients with chronic pain are at risk of developing drug addiction, and individuals with substance abuse disorders are more likely to develop chronic pain and other co-morbid conditions. We’re trying to better understand this connection.”

Keller’s vision for the future is to “develop therapies that are neither pharmacological nor invasive to regulate pain perception and the intensity of pain that one experiences.”

Together, researchers, practitioners, and students are working across disciplines at UMB to find solutions for those who battle chronic pain daily. As Dorsey’s colleague at UMB, Cynthia Renn, PhD, RN, associate professor in the Department of Pain and Translational Symptom Science, notes, “The dream is that we discover some new therapeutic strategy to prevent or better manage chronic pain from all etiologies.”

However, additional funding is needed for future studies and to procure the latest technologies for UMB laboratories. Endowed professorships and postdoctoral fellowships provide opportunities for the leaders in the field to dive into their work unhindered, and scholarships allow students to receive hands-on educational experiences.

By supporting CACPR, you can be part of the solution to chronic pain.

To learn more,
visit www.umaryland.edu/cacpr.

BRINGING NEW DISCOVERIES TO MARKET

Innovation and the commercialization of new discoveries and technologies at the University of Maryland, Baltimore (UMB) have soared since the creation of UMB Ventures in Fiscal Year 2012. In FY18, for example, licensing revenue tripled in a single year.

Also in FY18, 43 technologies invented by UMB researchers were licensed to private companies, including eight new startup companies.

UMB technologies are making significant strides in achieving regulatory approvals and raising funds, and there have been several commercialization successes, including:

- **Harpoon Medical**, which developed a surgical device for beating-heart mitral valve repair, was acquired by Edwards Lifesciences for \$250 million. Shortly before the acquisition, Harpoon announced that its pioneering device to repair heart valves had been found to be safe and effective in clinical trials.
- **Living Pharma**, a personalized CAR T-cell therapy to treat cancer, was acquired by Lentigen Technology, Inc., a Maryland-based subsidiary of Miltenyi Biotec GmbH.
- **Analytical Informatics**, a health information technology startup, was acquired by global health leader Royal Philips of the Netherlands to expand its health informatics portfolio.
- **Remedy Pharmaceuticals** sold its Phase III-ready novel drug CIRARA to BioGen for \$120 million. CIRARA is a therapeutic candidate to treat a deadly form of stroke with a mortality rate of up to 80 percent.
- **PaxVax** began sales of the cholera vaccine Vaxchora, the only one approved for use by the U.S. Food and Drug Administration.

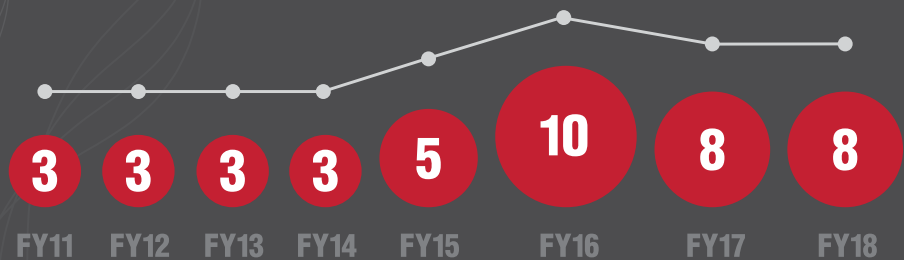
Innovation by UMB’s researchers pushes new vaccines, drug targets, robotics, therapeutics, devices, software tools, and cutting-edge techniques to market, helping to advance health care and improve the human condition.

ENTREPRENEURIAL GROWTH

NEARLY
200%
INCREASE IN

STARTUPS

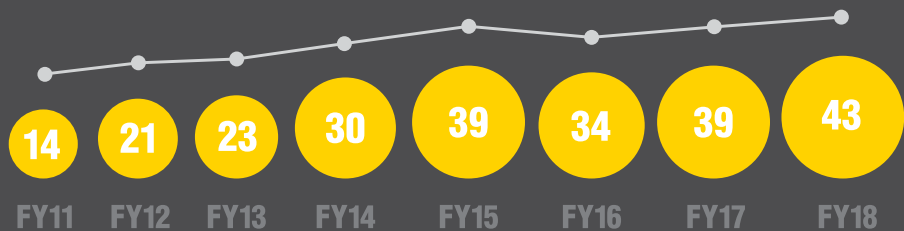
43 TOTAL
STARTUPS



200%
INCREASE IN

LICENSES

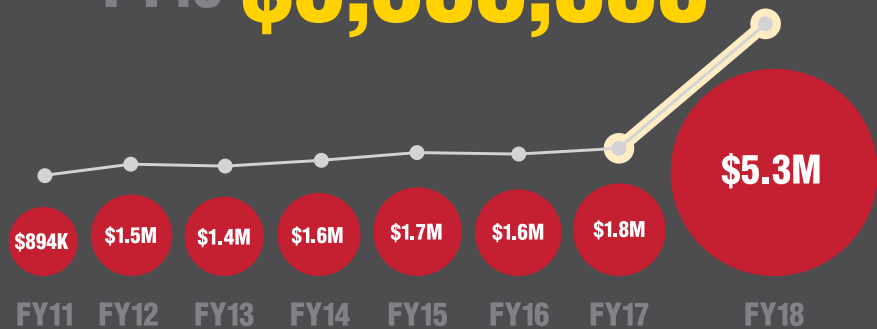
243 TOTAL
LICENSES



400%
INCREASE IN

**TOTAL
REVENUE**

FY18 **\$5,300,000**



Mega-Grant: \$30 Million to Promise Heights

The Upton/Druid Heights neighborhood, just north of the University of Maryland, Baltimore (UMB), used to have one of the city's highest infant mortality rates — 15 deaths for every 1,000 live births. Most of these deaths were caused by babies being born too soon or too small, or by unsafe sleeping: a child laid on her stomach instead of her back, a crowded crib, or maybe no crib at all. This isn't uncommon in challenged neighborhoods, and Upton/Druid Heights qualifies as that. Median household income in the neighborhood is \$17,000 a year; six in 10 children live below the poverty line; and life expectancy is 69 years, 10 below the Maryland average.

This is where Promise Heights, operated by the University of Maryland School of Social Work (UMSSW), comes in. Partnering with the Baltimore City Health Department and the Family League of Baltimore in an initiative called B'more for Healthy Babies, Promise Heights promotes policies and services that support mothers, babies, and families.

This focused mission and the hard work behind it have paid off: Upton/Druid Heights is celebrating nearly five years with zero sleep-related deaths. The neighborhood's overall infant mortality rate has dropped to 10 deaths per 1,000 live births, lower than the citywide average, and the neighborhood's preterm birth and low birth-weight rates have dropped by 24 percent and 18 percent, respectively. Breastfeeding has climbed from 41 percent to 51 percent.

However, saving babies is just one part of the Promise Heights story. The initiative reaches children from cradle to career, with wraparound services that allow them to grow, thrive, and succeed. These efforts were recognized in September 2018 by the U.S. Department of Education (USDE) as it awarded Promise Heights a five-year, \$30 million grant to continue its work in Upton/Druid Heights.

Through Parent University, Promise Heights teaches new mothers and fathers about early brain development, health and nutrition, safety and discipline, stress management, attachment, parenting, and the importance of talking to their



Parent University offers information and education.



B'more for Healthy Babies supports families in the city.



babies. Judy Centers coordinate services for children, birth to age 5, so they can enter school ready to learn. Community schools offer integrated services focused on academic enrichment, health, social and emotional development, and family and community engagement. The Breathmobile is deployed as a traveling pediatric asthma and allergy clinic providing ongoing care to children. (This is important, because asthma is the leading cause of school absenteeism.) And the Family Prosperity Program lifts families out of crisis and moves them toward financial stability and self-sufficiency.

None of this work is done by Promise Heights alone. More than 30 public, private, and community partners help plan and carry out the programming, which is supported by funding from dozens of foundations and individuals. UMB's schools of medicine, nursing, dentistry, and pharmacy also contribute their leadership, expertise, and effort. Instrumental to Promise Heights' success is the fact that the schools work with community residents to plan, develop, and implement the strategies intended to improve neighborhood outcomes.

The new USDE grant is one of 24 Promise Neighborhoods implementation awards given nationwide since 2011. It's the only one in Maryland and the only one hosted by a school of social work. "This funding provides access to educational and enrichment opportunities that underfunded and under-resourced schools like the ones in Upton/Druid Heights so desperately need," says Promise Heights Executive Director Bronwyn Mayden, MSW '77. "When we talk about the achievement gap for children of color, we should be more focused on the lack of equity that exists for schools in high-poverty neighborhoods."

The USDE award builds on the \$500,000 planning grant Promise Heights received in 2013, which enabled the organization to complete a comprehensive needs assessment of Upton/Druid Heights that informed the program design for UMSSW's successful implementation application.

The \$30 million award allows Promise Heights to fund the expansion work that's critical to sustained success:

- Transforming five neighborhood schools into full-service community schools serving more than 1,400 students and their families.
- Increasing the number of residents Promise Heights hires to staff its programs.
- Expanding work with early childhood education providers to ensure that children make progress toward literacy, numeracy, and social skills that strengthen kindergarten readiness.
- Providing early childhood mental health consultants to support families and educate teachers.
- Expanding tutoring services at each of Upton/Druid Heights' three elementary schools.
- Hiring college and career coordinators at Upton/Druid Heights' middle and high schools.
- Increasing after-school slots at all five neighborhood schools for programs that support reading and math achievement.
- Expanding mentoring services to cover students in grades K-12.
- Adding more student services coordinators, AmeriCorps members, and UMSSW interns at each neighborhood school.

The Promise Neighborhoods award validates a new way of doing business in Baltimore: an innovative public-private partnership that blends diverse funding streams around a core set of outcomes and objectives. At the heart of Promise Neighborhoods is a cradle-to-college approach, career continuum of services, and a belief that by breaking down the silos that have traditionally separated us, we can truly transform schools and communities. Promise Heights demonstrates how to do engagement the right way; how to get input and buy-in from the community and how to collaborate with residents on programming; and how to grow resources, attract partners, and sustain meaningful activity, even when sustaining is difficult.

This \$30 million grant will help close the equity gap for one neighborhood, in one city. It's a promising start.

NOTE: A version of this article originally appeared in *The President's Message* newsletter sent to UMB faculty, staff, and students. It is adapted here with permission.

FOLLOWING IN HER FOOTSTEPS

Bastian Memorial Scholar Grateful to Travel Same Nurse-to-Doctor Path



John M. See and his wife, Suzanne, who is a registered nurse in the U.S. Air Force C-STARS program at the R Adams Cowley Shock Trauma Center

PHOTO COURTESY OF JOHN M. SEE

“I can’t tell you what it means to me to receive this scholarship — especially from someone like Dr. Grace Bastian. I was taken aback that we both were military nurses, we both served in foreign wars and were interested in anesthesiology, and then went to medical school. I love the fact that I am following in her footsteps.”

John M. See
University of Maryland School
of Medicine Class of 2020
Grace A. Bastian, MD,
Memorial Scholar

Grace Arlene Bastian, MD, was known among her peers as the “Lady Doc” of the Class of 1953, the only woman in her graduating class at the University of Maryland School of Medicine. It wasn’t the first trail she blazed.

Bastian’s medical career began in 1944 as a U.S. Army anesthesia nurse, caring for wounded soldiers in hospitals in Atlantic City, N.J., and Long Island, N.Y., and she later rose to the rank of captain. After World War II, Bastian enrolled in pre-med classes at Johns Hopkins University, even though the school was not co-educational at the time. By using her veteran status to obtain entry, Bastian broke through that barrier and graduated in 1949 — not only as the sole woman in her class, but also as the top student.

From the late 1950s until the 1970s, Bastian was chief of anesthesiology at the former Haverford (Pa.) Community Hospital, an institution she helped found. She was a pioneer in her field, developing the use of disposable instruments to reduce the risk of infection and designing intricate breathing tubes for babies.

UMB'S GRADUATE SCHOOL: 100 YEARS OF EXCELLENCE

After her death in 2002, the Grace A. Bastian, MD, Memorial Scholarship was established by her family to honor her distinguished career and to assist students who are continuing along the path that Bastian so boldly forged.

"I cannot begin to describe my elation and pride in knowing that I am being supported by a fellow Army RN, a fellow captain, and such a prestigious, effective, trailblazing physician," says John M. See, current recipient of the scholarship. "I am humbled that I will never have to face the obstacles she faced during her time as an officer, medical student, and physician. And yet, she turned those obstacles into intense victories."

Combined with financial assistance from the GI Bill, See says he is fortunate that the Bastian scholarship will enable him to attend medical school without financial burdens.

"The fact that I will not be in debt allows me and my family to take hold of opportunities that we would not otherwise have been able to pursue," See says. "I am extremely grateful."



Just over 100 years ago, the first degree from the University of Maryland Graduate School was awarded. Since its founding in 1918, the Graduate School has evolved to offer many students high-quality education and training in

biomedical, health, and human services. The Graduate School is an essential partner in the University of Maryland, Baltimore's (UMB) hub of graduate and professional schools, offering Master of Science (MS) and Doctor of Philosophy (PhD) degree programs and post-baccalaureate certificate programs in conjunction with UMB's schools of dentistry, law, medicine, nursing, pharmacy, and social work.

Recently, there has been dynamic growth in the number of certificates and master's degrees offered, including the physician assistant program in partnership with Anne Arundel (Md.) Community College. These new programs examine interprofessional topics of interest to current graduate students and working professionals. Many of the certificates can be stacked and applied to an MS degree, offering innovative ways of completing a degree for the modern student.

Graduate students at UMB are a diverse group who collaborate in research with faculty members and other students to address some of society's most pressing issues. As part of the centennial celebration, Graduate School students performed more than 100 hours of community service during the academic year, exemplifying the University's commitment to improve the human condition and serve the public good.

The Graduate School continues to evolve to meet the needs of its students. In 2017, it launched the Graduate Research Innovation District (the Grid). Housed in the UM BioPark, this vibrant education and co-working space offers students, entrepreneurs, faculty, and staff a place to connect to take on health and social challenges. In May 2018, the Grid held the Grid Pitch, an opportunity for six student teams to pitch their innovative ideas for new businesses. Each team received mentoring and funding for professional development.

Gifts to the Graduate School will support the continued growth of bright and motivated students pursuing higher education, research, and entrepreneurship. This includes programs and initiatives such as the Grid, the Physician Assistant Scholarship Fund, global initiatives, and student research and scholarship.

Catalyst Campaign Surpasses \$453 Million

In recent months a number of significant gifts, including three seven-figure gifts and a number in the six-figure range, have propelled the University of Maryland, Baltimore's (UMB) most ambitious fundraising endeavor. The Catalyst Campaign surpassed \$453 million in gifts and pledges at the close of 2018 — 60 percent of the campaign's \$750 million objective.

Reaching this point would not have been possible without the support of many alumni and friends of the University who find value in supporting an institution with a history of excellence. UMB Foundation, Inc., trustee Steve Dubin, JD, noted that he and his wife Mim “choose to support UMB's Catalyst Campaign because we see firsthand how the University creates meaningful impact. Through world-class scholarship, discovery, clinical activity, and community engagement, we are pleased to know that our charitable investment is utilized to improve life for many here in our community and well beyond. It is fulfilling to know that we are partnering with an institution that can make such important work and service a reality.”

The campaign seeks major philanthropic support to further the University's work on five Big Ideas that challenge everyday Americans: conquering chronic pain, eliminating addiction, managing critical diseases, embracing entrepreneurship, and strengthening communities. Specific priorities under these Big Ideas include student scholarships, faculty excellence, interdisciplinary research, community engagement, school-specific initiatives, and sustaining funds.

“With our unique mix of professional schools — all of them focused on improving the human condition — UMB tackles the greatest challenges of health and well-being in a cross-disciplinary way,” says UMB President Jay A. Perman, MD. “Because we have such a broad range of expertise here, we're really well-positioned to effect meaningful change, locally and globally. But making and sustaining this change requires private philanthropic support. So I invite all of UMB's alumni and friends to join in the Catalyst Campaign and help us serve the people and communities that rely every day on our leadership and our work.”

The Catalyst Campaign officially launched in October 2017 with \$314 million committed. It is led by co-chairs Brian J. Gibbons, JD '87, and Ellen H. Yankellow, PharmD '96.

For information on the campaign and/or to make a gift commitment, contact:

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THE BIG IDEAS



CONQUERING
CHRONIC PAIN



ELIMINATING
ADDICTION



MANAGING
CRITICAL
DISEASES



EMBRACING
ENTREPRENEURSHIP



STRENGTHENING
COMMUNITIES

Community Engagement at UMB



UMB students, faculty, and staff contribute more than 2 million hours of service annually to citizens throughout Maryland, providing programming that improves health and wellness, advances justice, promotes economic development, and strengthens families and communities. You can support UMB's commitment to improving the human condition by contributing to one of our many community engagement initiatives across the University's six professional schools and interdisciplinary Graduate School.

TO DISCUSS IN MORE DETAIL, PLEASE CONTACT:

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Philanthropy Officer
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70 or 70/70	5.6%	5.0%
75 or 75/75	6.2%	5.5%
80 or 80/80	7.3%	6.2%
85 or 85/85	8.3%	7.3%
90 or 90/90	9.5%	9.1%

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For a confidential illustration or more information, please contact:

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THE INSTITUTE OF HUMAN VIROLOGY:

A World-Class Agent of Change

Home to globally recognized and world-renowned experts in human virology, the University of Maryland School of Medicine's Institute of Human Virology (IHV) has pioneered groundbreaking discoveries in Baltimore for more than 20 years. Here are ways IHV has changed the world for the better:

- IHV is the first center in the United States to combine the disciplines of basic science, epidemiology, and clinical research in a concerted effort to speed the discovery of diagnostics and therapeutics for a wide variety of chronic and deadly viral and immune disorders.
- IHV was co-founded by Robert Gallo, MD, who discovered the first human retrovirus in 1980 known as human T-cell leukemia virus-1 (HTLV-1), the cause of a human leukemia and a paralytic nervous system disease, and, most notably in 1984, co-discovered that human immunodeficiency virus (HIV) was the cause of AIDS and developed the HIV blood test.
- Gallo's HIV/AIDS research has continued through the years at IHV, including with IHV colleagues George Lewis, PhD, and Anthony DeVico, PhD, with a promising HIV/AIDS vaccine designed to neutralize many different strains of HIV.

- Always conscious of its global impact, IHV also is aggressively pursuing research efforts on prevention and biological treatments that are potentially less toxic, less costly, and more easily accessible to the world.
- IHV serves about 6,000 patients in Baltimore and Washington, D.C., and has cared for more than 1.5 million patients in seven African and two Caribbean nations.
- IHV is home to the JACQUES Initiative, a community-based support system that educates and improves access to care for individuals with HIV and hepatitis C virus.
- IHV also has made groundbreaking progress in the fields of cancer viruses, cancer immunotherapy and research, hepatitis C, human papillomavirus, herpes viruses, and the opioid epidemic.
- Since its inception, IHV has generated more than \$1 billion in revenue from grant awards and philanthropy.

IHV helps to make the world a better place. You can be a catalyst of change by making a philanthropic investment in this work. Your gift will have an immediate impact on research, patient care, and prevention programs to combat chronic, and sometimes deadly, viral and immune diseases.

ABOUT THE FOUNDATION

Founded in 2000, the University of Maryland Baltimore Foundation, Inc. (UMBF) serves as the primary repository for private gifts to the University and its schools of dentistry, law, medicine, nursing, pharmacy, social work, and the Graduate School. Working with its UMB campus partners, the foundation works to inspire and steward philanthropy all across the University.

The foundation is governed by a volunteer Board of Trustees, who serve as advocates for and ambassadors to UMBF.

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