

MAGEE

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PASSION MAKES ALL THE DIFFERENCE

A Team Effort to Empower
Women On and Off the Field

ADVOCACY DURING PREGNANCY

Magee Doula Program
Strengthens Care,
Addresses Disparities,
and Supports Patients

THE SEED OF AN IDEA GROWS

How MWRI in Erie is
Sowing New Research,
Collaborations
Beyond Pittsburgh

The Heart of Community-Based Research

MWRI and Healthy Start Forge Innovative
Studies at the Speed of Trust



MAGEE

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THE HEART OF COMMUNITY-BASED RESEARCH

MWRI and Healthy Start
Forge Innovative Studies
at the Speed of Trust



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FUTURE
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Progress & Possibilities

To Our Magee Community,

As we head into Spring, we are looking forward to new possibilities. We are proud of the lessons and wisdom we have gleaned over the last few years, and have our sights set on progress made possible through collaboration.

Magee is a unique ecosystem where research and clinical care unite. While labs of investigators are making breakthroughs at Magee-Womens Research Institute, care teams are transforming patient experiences at UPMC Magee-Womens Hospital. Whether on the bench, at the bedside, or somewhere in between, we are advancing women's health and reproductive biology. Together, we are creating healthier futures and better outcomes for all of us — here in Pittsburgh, across the region, and around the globe.

Featured in this issue of *MAGEE* are many examples of this collaborative and creative work that makes an impact today, while building knowledge and innovating clinical care for the future.

Teams here are demonstrating the power of building trust through community partnerships. Dr. Janet Catov's collaborative research in heart health with local nonprofit Healthy Start is breaking traditional paradigms and piloting new systems for addressing health

disparities in target populations (p.24). At UPMC Magee, the doula program is improving pregnancy outcomes for Black women while supporting workforce development through recruitment, training, and employment of culturally concordant care team members (p.16). Meanwhile, the MyHealthyPregnancy app is supporting new parents in identifying and addressing risk factors during pregnancy (p.12).

The ripple effects of the important work happening here in Pittsburgh can be felt throughout the region. As exemplified in the origin tory of Magee-Womens Research Institute in Erie, Pa. (p.8), research can flourish and create opportunities for women to engage in scientific trials, thus expanding our knowledge base and capacity for impact.

Elevating the Magee message and sharing our work continues to be a priority. Our October 2022 Women Who Rock™ concert featuring *American Idol* winner Jordin Sparks was another success, allowing us to share our life changing research with the largest group of attendees yet. At the event, our own Dr. Lisa Rohan was honored with the Impact Award. While our 2022 Race to Beat Women's Cancers event was canceled due to safety concerns with lightning and inclement weather in the area, the energy and enthusiasm from our sponsors and participants still raised funds for research and

clinical care in women's cancers (p.22).

To see what else we have cooking up for this year, check out the Happenings section (p.30). From our annual events and outings like Pars for Postpartum (p.32), to new ventures such as our partnership with the Hard Rock Cafe, there is so much going on, and so many ways to get involved with and support Magee.

We hope that you will come along with us on the next steps of our journey to change the way the world treats women. Thank you for your ongoing support, your dedicated commitment, and your passion for making an impact on women's lives and creating a healthier future for all of us.

We could not do it without you.

Michael J. Annichine

CEO & President,
Magee-Womens Research Institute & Foundation



New Minds Expanded Discovery

The newest additions to MWRI are investigating various aspects of women's health, ranging from immuno-oncology to bladder and pelvic pain, ovarian cancer, maternal-fetal immunity, fertility preservation, and the microbiome. Their contributions will pave the way for greater understanding of such issues affecting women in Pittsburgh around the world.



**Sandra Cascio,
PhD**

When did you start working at MWRI? In 2022 as an assistant professor; In 2019 as a research assistant professor.

Area of Research/Current Project? Immuno-Oncology.

Who are the key collaborators on your project? Ronald Buckanovich, MD, PhD and Anda Vlad, MD, PhD.

Describe the nature of your work. What do you study, and how does your work relate to/impact women's health? My research area is focused on a type of immune cells, called myeloid cells, that normally defend our body against pathogens and mediate tissue repair.

During cancer progression, tumor cells secrete factors that lead the recruitment of myeloid cells into the tumors and educate them to acquire a pro-tumor activity. Thus, "good" myeloid cells are now switched in "bad" cells that fuel tumor growth, turn off the tumor-killing immune cells, and induce therapy resistance. A better understanding

of the intercellular communication between immune cells and nonimmune cells, such as tumor cells and stromal cells, will contribute to designing better anticancer therapies.

What is something you want people to know about your work and/or women's health? A common way to treat cancer is chemotherapy, which directly attacks cancer cells. In the last decade, immunotherapy, which harnesses our own immune system to fight against cancer, evolved from a promising therapy option to a robust clinical reality for cancer patients. I am currently working on novel immunotherapy approaches that, by targeting the network between tumor cells and tumor-associated myeloid cells, will help the immune system to destroy tumor cells. Using mouse models, we have found that the combination of immunotherapy with other novel therapeutic approaches drastically reduced tumor size and prolonged long-term survival of mice. We are confident to obtain similar results in cancer patients.



Jocelyn J. Fitzgerald,
MD

When did you start working at MWRI?
October 2021.

Area of Research/Current Project?

Chronic Bladder and Pelvic Pain.
Current project funded via the Pitt
CTSI Pain Challenge: A Bundled-care
approach to Chronic Pelvic Pain.

Who are the key collaborators on your project? Nicole Donnellan, MD
and Grace Lim, MD, MS.

Describe the nature of your work.

What do you study, and how does your work relate to/impact women’s health? I study the way that women’s gynecologic and bladder pain is approached, validated, and treated. I am primarily interested in the overlap between endometriosis and bladder pain. One in 10 women has endometriosis and it often takes seven to eight years and many physicians to get a diagnosis. In that time, many patients develop worsening chronic inflammation and visceral/sexual pain, and some of the most debilitating symptoms are the changes to their hollow pelvic organs (bladder and GI tract). There is currently

limited data on how to approach the complex multi-mechanistic nature of this pain and my current work seeks to use the tools we have accessible to us to approach this.

What is something you want people to know about your work and/or women’s health?

It is important to me that people know that 10% of women have a disabling disease of their pelvic organs for which we have limited options — the treatments include excisional surgery and hormonal disruptors, which often have other significant side effects. If 10% of men had a disease that caused debilitating sexual and pelvic pain, infertility, overactive/painful bladder like a chronic UTI, and irritable bowel syndrome, we would have a Congressional order to treat it like a national emergency. We need to continue to fight for funding and to raise public awareness to study female pain.

Are there any role models or influences related to your work that you would like to mention?

Pamela Moalli, MD, PhD, is always my role model for research!



Eldin Jašarević,
PhD

When did you start working at MWRI? July 2021.

Area of Research/Current Project?

Host-Microbial Interactions in
Reproduction and Development.

Who are the key collaborators on your project? Maisa Feghali, MD,
Christina Megli, MD, PhD and
Thomas Hooven, MD.

Describe the nature of your work.

What do you study, and how does your work relate to/impact women’s health? Why do some individuals succumb to disease and others do not? Why are disorders that manifest in adulthood crystallized in the earliest moments of life? These are two of the most complex and costly public health questions, and yet, our understanding

of the events that occur during these developmental periods that may contribute to individual differences in health trajectories is incomplete. To begin unraveling these modern-day problems, my research group seeks to better understand one of the most ancient biological phenomena: the crosstalk between ourselves and microbes. Our unifying framework conceptualizes the microbiome and the sum of all substrates produced by these communities as signals that are transmitted, received, and integrated into the biology of its host. Within the context of maternal-child health and early life development, we view the microbiome and its substrates as 1) signals transferred from parent to offspring, 2) signals encoded by parental experiences to enact downstream responses,

and 3) signals that deliver specific instructions to target cells or tissues that are converted into an effect on host phenotype. Approaching from this conceptual framework, we seek to tackle one of the most fascinating and challenging research questions in biology and the biomedical sciences: how the first nine months shape the rest of your life.

What is something you want people to know about your work and/or women's health? When we think of the cues that guide development, we primarily focus on developmentally-relevant signals that move between cells, tissues, and organs. There is another essential, but currently overlooked, set of signals that are propagated from the trillions of microorganisms that reside in and on our bodies. Our crosstalk with microbes begins well before birth,

and they represent an entire class of regulators with activities that remain uncharacterized. Disruption to this crosstalk between host and microbiota is associated with devastating conditions, including adverse pregnancy outcomes, early-life morbidity, immune dysfunction, and chronic disease. How these modifiable features of our biology contribute to both homeostatic processes and susceptibility to disease across the lifespan is largely unknown. We seek to identify novel immunomodulatory and metabolic signals of the microbiome that contribute to health and disease. We focus on three major areas: 1) defining microbial function and activity during key periods of prenatal and postnatal development, 2) interrogating the role of maternal-derived microbial metabolites as transcriptional and metabolic regulators of offspring

development, and 3) investigating the role of the prenatal environment in calibrating the response to the postnatal microbial world. Together, the focus of my research group centers around one unified long term vision: a forward and reverse translational approach that leverages clinical collaborations, translationally-relevant models, and state-of-the-art statistical and computational tools to develop prognostic and therapeutic interventions that target modifiable components of the microbiota to guide healthy development and prevent poor health outcomes in mothers and their children.

Are there any role models or influences related to your work that you would like to mention?

The communities we serve with our science.



Haider Mahdi,
MD, MPH

When did you start working at MWRI? January 2021.

Area of Research/Current Project? Strategies to overcome therapy resistance in ovarian and endometrial cancers.

Who are the key collaborators on your project? Anda Vlad, MD, PhD and Robert Edwards, MD.

Describe the nature of your work. What do you study, and how does your work relate to/impact women's health? My lab is focused on identifying novel strategies to modulate cancer

cells, immune cells, and their interaction within tumor microenvironments to overcome therapy resistance in ovarian and endometrial cancer both at preclinical and clinical translational levels.

What is something you want people to know about your work and/or women's health? The ultimate goal of my lab is to identify novel therapeutic options to enhance outcomes and improve survival of patients with ovarian cancer and endometrial cancer.



**Christina Megli,
MD, PhD**

When did you start working at MWRI? I became MWRI primary faculty in August of 2022.

Area of Research/Current Project? Maternal-Fetal Immunity.

Who are the key collaborators on your project? Carolyn Coyne, PhD and Sharon Hillier, PhD.

Describe the nature of your work. What do you study, and how does your work relate to/impact women's health? I study the activity and response of the immune cells of the placenta. I am interested in understanding how these cells function in normal and abnormal pregnancies. My work is focused primarily on the most abundant immune cells at the maternal fetal interface: the macrophage. These cells can mediate a

wide variety of functions but are poorly understood. My work focuses on how pregnancy changes the function of these cells and how they respond to infections.

What is something you want people to know about your work and/or women's health? Infection and inflammation are leading causes of maternal morbidity and mortality, but we still do not understand why some patients get extremely ill with select infections. We also do not understand how immune cells, which are present in normal and healthy tissue, are important for regulation of healthy pregnancy. My work takes clinical observations that I see as a specialist in maternal fetal medicine and reproductive infectious diseases to the bench to try to understand disease processes.



**Julie M. Rios,
MD**

When did you start working at MWRI? August 2021.

Area of Research/Current Project? Fertility preservation, ovarian aging, and infertility treatment optimization.

Who are the key collaborators on your project? Kyle Orwig, PhD, Miguel Brieño-Enríquez, MD, PhD and Judith Yanowitz, PhD.

Describe the nature of your work. What do you study, and how does your work relate to/impact women's health? I study optimization of fertility preservation techniques and infertility (assisted reproductive technology outcomes). In addition, I study ovarian aging and the impact on cardiovascular health. Infertility and fertility preservation treatments are often expensive and invasive, so optimizing outcomes from these procedures is important for women's health. My focus is also to understand factors that affect ovarian aging and

how they impact other areas of a women's overall health.

What is something you want people to know about your work and/or women's health? Although progress has been made to fund and complete more women's health research, work still remains to increase diversity in research, including clinical trials. Specifically, the participation of women and people of color in understanding how sex, race, ethnicity, and socioeconomic status play a role in long-term health and reproductive outcomes is important to developing preventative strategies to optimize health and reproduction. I am honored and enthusiastic to work at Magee-Womens Research Institute focusing on women's health and reproductive outcomes.

Are there any role models or influences related to your work that you would like to mention? Michel Thomas, MD, Kyle Orwig, PhD, Nanette Santoro, MD and Anne Steiner, MD, MPH.

THE SEED OF AN IDEA GROWS

How MWRI in Erie is Sowing New Research, Collaborations Beyond Pittsburgh



Michael Annichine, CEO & president, Magee-Womens Research Institute & Foundation; David Gibbons, senior vice president, UPMC Health Services Division and president, UPMC Hamot; and Charles “Boo” Hagerty, president of the Hamot Health Foundation, at the Clinical Translational Research Center open house.

EVEN BIG IDEAS START WITH THE SEED OF A CONCEPT.

For Charles “Boo” Hagerty, president of the Hamot Health Foundation (HHF), developing Magee-Womens Research Institute (MWRI) in Erie, Pa., began with a conversation and an ambitious challenge. Through discussions with MWRI leadership, Boo learned that Erie was an ideal place to extend research happening in Pittsburgh by extracting data from different demographics, including rural individuals and intergenerational families. But creating a satellite location there came with a hefty price tag: about \$25 million. “I said,

‘OK, let’s try,’” Boo says, responding to the estimate. “They were kind of shocked by that because usually that [figure] stops the conversation.”

Undeterred, Boo set out to raise the necessary funds, beginning with a single project: extending the Steve N. Caritis Magee Obstetric Maternal & Infant (MOMI) Database and Biobank to Erie. After the Hamot Board of Corporators, a group of 350 business leaders, funded the MOMI expansion, the momentum began to take shape.

In 2018, the Erie Community Foundation (ECF) unveiled a \$30 million framework that included a call for large-scale grant proposals for transformational projects, and HHF and MWRI decided to apply. They engaged local leaders such as David Gibbons, president of UPMC Hamot Hospital, and the chancellor of Penn State Behrend, Dr. Ralph Ford, to get on board as well.

While HHF and MWRI wanted to advance and expand clinical research, trials, and services, ECF sought to add jobs to the local economy, and Penn State Behrend wished to broaden their major offerings.

As Boo remembers, “Everyone had a different motivation, and all of them aligned. It came together.” The \$6 million awarded by ECF was the largest ever in its 84-year history and was a critical piece of the combined \$26 million capital stack raised by the collaboration. Those funds supported building three labs and hiring of over two dozen people.

A key part of the efforts now in motion at MWRI in Erie include seed grants, or small-scale funding to boost new research projects. Seed grants allow researchers to gain critical data that underpins future proposals to entities with larger funding capacities like the National Institute of Health (NIH). “The ultimate goal is to get enough seed grants going, get enough new projects going, and starting our own research here,” Boo says. “The hope is to attract researchers who want to live in and become part of the Erie area and pull in national grants that continue to lift the projects and provide new employment opportunities in the community.”

Dr. Halina Zyczynski, medical director of MWRI in Erie and Magee-Womens Specialty Services at UPMC Hamot, echoes Boo’s sentiments about the potential impact in the area. “Erie was a natural extension. We’ve spent a decade building a robust clinical subspecialty practice in women’s health here,” Dr. Zyczynski says. “Our clinician scientists are committed to delivering evidence-based care and equally passionate about creating that evidence through research. We know when women are healthy, families are healthy, and communities are healthy. It’s wonderful to know that MWRI investigator-led studies will now also represent the women of Erie.”

Since opening the Clinical Translational Research Center and labs, the MWRI Erie staff have secured over 500 informed consents for study participation and specimen donations to the MOMI Database and Biobank, demonstrating the enthusiasm in Erie for participating in research. Currently, there are 13 clinical and translational trials at MWRI in Erie — including four seed grant projects, with \$100,000 awarded to date. Many of them include collaborations with Penn State Behrend. “There could be a

breakthrough that happens and one of these labs here in Erie that changes the world,” Boo says. “We think of this as a global, profound impact that we could have with this brilliance. We are part of something huge now.”

Looking toward the future, Boo is excited to watch MWRI in Erie continue to flourish. “The full story hasn’t been told yet, but I’m excited about growth,” Boo says. “More partnerships and researchers getting together and talking about what’s possible.”

CURRENT SEED GRANT PROJECTS IN ERIE

Project	Primary Investigators
Using environmentally realistic PCB exposure levels to estimate the risk of breast cancer development in Erie County residents	Adam Simpson, PhD Ashley Russell, PhD Jeremiah Keyes, PhD Samuel Nutile, PhD <i>Co-Investigator:</i> Ronald Buckanovich, MD, PhD
Role of signal-induced oxidation of ERK in substrate selection important for cell migration	Jeremiah Keyes, PhD Carola Neumann, MD
Exploration of the Asymptomatic Bacteriuria Knowledge Gap through Online Crowdsourcing and Patient Stakeholder Perspectives	Megan Bradley, MD <i>Co-Investigators:</i> Melanie Hetzel-Riggin, PhD Christopher Shelton, PhD
Multifunctional Bio-based Polyurethane Smart Mesh for Treating Stress Urinary Incontinence	Samy Madbouly, PhD <i>Co-Investigators:</i> Amanda Artsen, MD Pamela Moalli, MD, PhD

PARTNERSHIP PROFILE

By Faith Jeffcoat



PASSION

Makes All the Difference

A Team Effort to Empower Women On and Off the Field

“IT IS ABOUT MAKING WOMEN BETTER, STRONGER, and healthier. It is about total wellness.” When you hear Teresa Conn, co-owner and coach of the Pittsburgh Passion, talk about her team’s mission, you quickly understand that she is leading more than a football team — she is part of a movement that is changing the face of professional football, for women in Pittsburgh and around the country.

Pittsburgh Passion is one of 13 pro women’s football teams in the United States along with teams in Arlington, Texas, Boston, Los Angeles, Washington DC, Dallas, Detroit, Houston, Denver, Minneapolis, Reno, Nev., St. Louis, and Tampa Bay, Fla. They play eight games each season with three playoff games, culminating in a championship game at Hall of Fame Stadium in Canton, Ohio. Pittsburgh Passion, Pittsburgh’s only professional women’s sports team, is a women’s sports movement pioneer.

“Pittsburgh Passion is the first and only women’s football franchise featured in *Sports Illustrated* and on ESPN’s *SportsCenter*. We have been trying to lead the way. We were even the first team to get in an NFL stadium,” says Teresa, reflecting on their team’s significant achievements.

The women of Pittsburgh Passion navigate a demanding schedule during the season. Unlike their male counterparts in professional teams who are paid to play, the women of Pittsburgh Passion must balance the demands of the sport while managing other aspects of their lives. Every week, there are two nights of training, two practices, and a Saturday football game. “They’ve got their full-time jobs, families, kids, and everything else. And they are trying to do everything a well-paid professional athlete would do, which is very time-consuming. And all the training; they are doing all of it,” Teresa notes.

Pittsburgh Passion is more than a team of players. The eclectic group also shows up for one another as friends working together toward a shared mission. “We’re Black, white, rich, poor, fresh out of high school at 18, or almost ready to retire. It is a blend of everything. We are all from different walks of life. We have people that come together that become best friends,” says Teresa. “You learn a lot about each other. You gain respect and keep coming together towards a common goal.”

Over the last two years, Pittsburgh Passion and Magee-Womens Research Institute & Foundation (MWRIF) have partnered to help change the way the world treats women. “We are both fighting for women,” Teresa says, in reflecting on the MWRIF partnership. “Whether on the emotional, social, or physical end, it is about getting stronger and trying to bring out the best in each other. And that is just what Magee is about. Finding a solution and staying strong. Let’s

surround ourselves with the right people who want to help you be your best, and those parallels between us are a natural fit”

The partnership was made possible in part through Caroline Fitzgerald, owner of GOALS, the first-ever marketing and sponsorship agency solely focused on women’s sports. Caroline opened her business to help under-resourced professional women’s sports teams and organizations gain more resources through corporate partnerships. “Our goal is to close the gender sponsorship gap in women’s sports and to help create a more equitable sports world,” Caroline says.

Football today is male-dominated — not because women are disinterested, but due to barriers that prevent them from making the strides to play. Moreover, the female-dominated football teams championing the sport are faced with significant inequalities. Women’s sports get only 4% of total sports media coverage. They get only 1% of global sports sponsorship dollars. And the pay gaps across the sports industry are significant

Caroline knew she wanted to use her platform to help close the gap — starting with Pittsburgh Passion. “We look for partners, not sponsors. Sponsors help pay for things; partners help build things,” Caroline says. When considering partnerships, MWRIF was at the forefront. As part of the initial partnership, Pittsburgh Passion and MWRIF co-branded a video interview series, *The Women Behind the Helmet*, to highlight the players and bring exposure to the team.

Even with the Pittsburgh Passion’s great strides, there is still much to accomplish. “It’s a joy and a responsibility to do what you can and move things forward,” Teresa says. “So, I see us continuing to put our best foot forward in every way that we can to represent women’s sports well and represent our city well.”

“Whether on the emotional, social, or physical end, it is about getting stronger and trying to bring out the best in each other. And that is just what Magee is about. Finding a solution and staying strong.”

— TERESA CONN

Want to join MWRIF and the Pittsburgh Passion for the Mother’s Day game on May 6? Check out the team schedule, sponsorship opportunities, and more at PittsburghPassion.com.

Ready to join the Passion? Open tryouts are held throughout the season. Email pittsburghpassion@gmail.com for more information.

RESEARCH IN ACTION

By Gina Edwards

Beyond Baby Books

MyHealthyPregnancy App Guides What to Expect When You're Expecting

THE PREGNANCY JOURNEY COMES with its fair share of questions.

Is bleeding normal? Why are my moods changing? Are vaccines safe to receive while pregnant?

Searching such health questions on the internet rarely leads to quality answers, as anyone who has gone down a WebMD rabbit hole knows. But what other options do pregnant people seeking quick answers have in between appointments?

Enter, MyHealthyPregnancy (MHP): an educational app addressing risk factors contributing to preterm birth, or births prior to 37 weeks of gestation. By digitally communicating doctor-approved information on-demand to pregnant patients, developers of the MHP app aim to address disparities — as preterm birth is experienced by women of color, particularly Black women, at disproportionately high rates.

“We really wanted to prioritize creating something that will be cognizant of the needs of people who have been

historically denied access to resources and access to high-quality health care,” explains Dr. Tamar Krishnamurti, an investigator at Magee-Womens Research Institute (MWRI) and assistant professor of medicine and clinical and translational science at the University of Pittsburgh. “We also wanted to make sure that at no point our tool perpetuated inequities in health or health care delivery.”

To accomplish these goals, a collaborative team across MWRI, the University of Pittsburgh, and Carnegie Mellon University (CMU) focused their work on beginning with in-depth learning from community members’ lived experiences. Along with Dr. Krishnamurti, the founding members of the group included Dr. Alexander Davis, a former CMU faculty member in engineering and public policy, and Dr. Hyagriv Simhan, a practicing maternal-fetal medicine physician, and an experienced clinical and translational perinatal researcher.

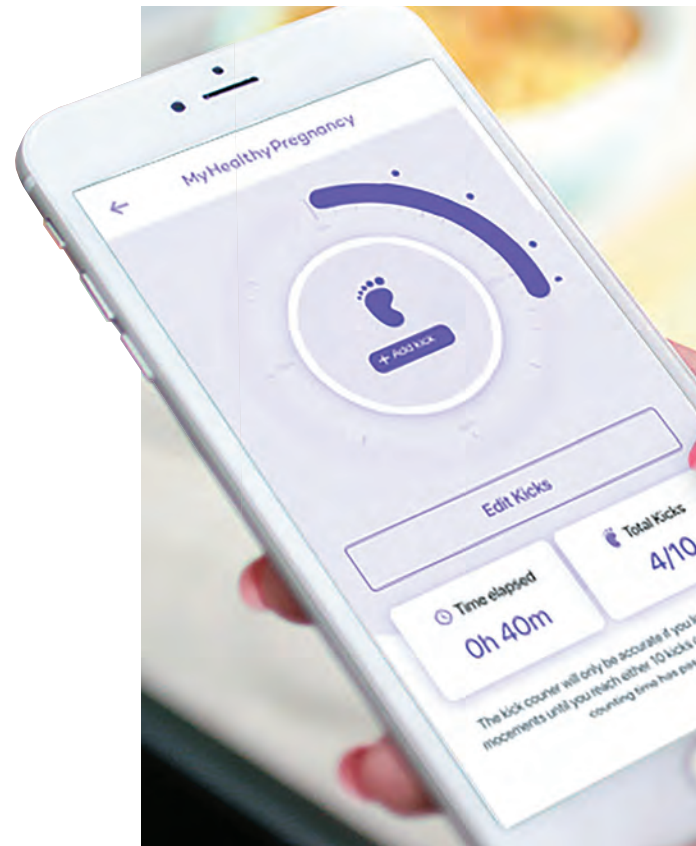
Formative Research in the Community

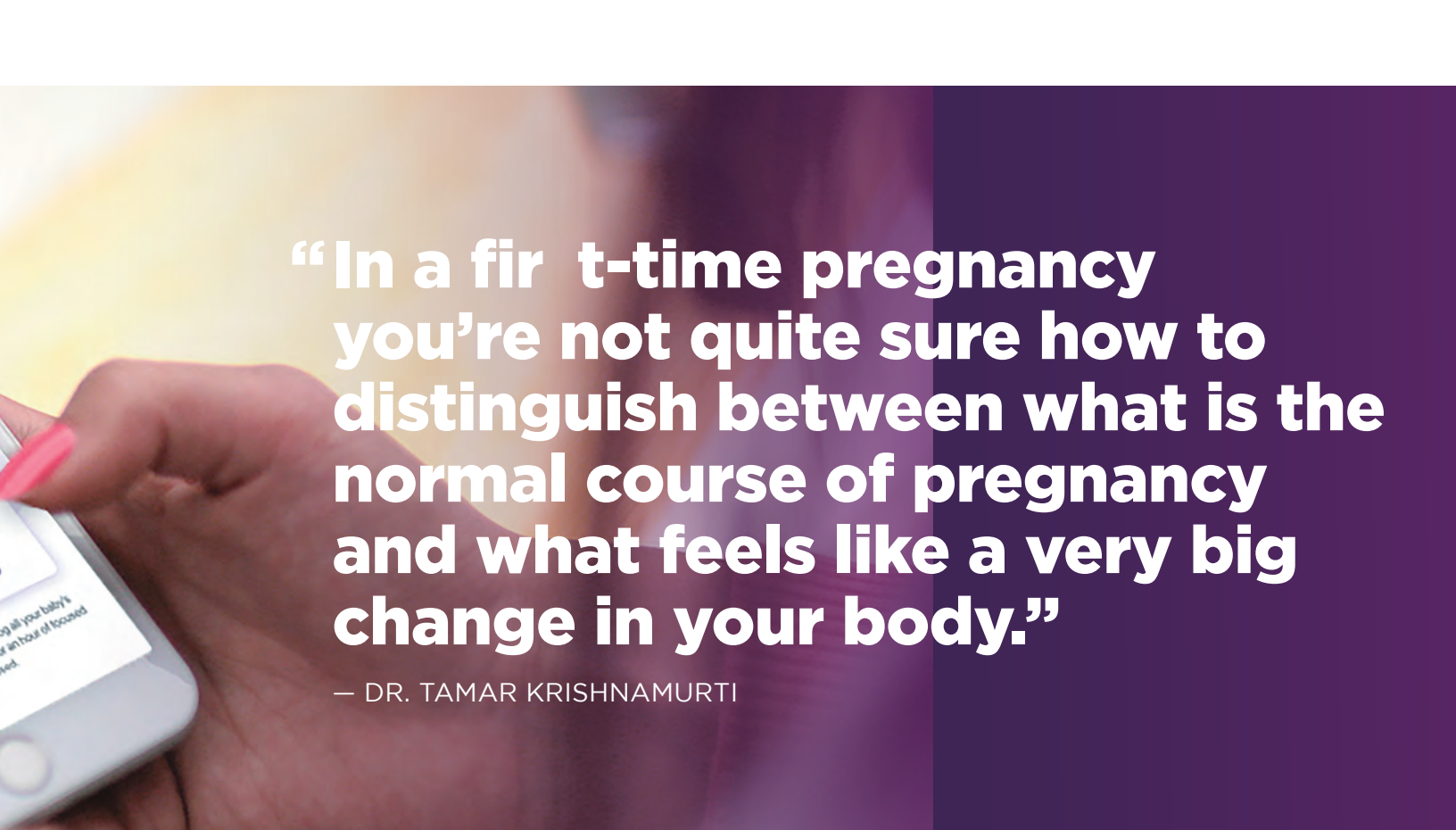
Hazelwood is a 1.5-square-mile neighborhood located 2.3 miles from UPMC Magee-Womens Hospital. In 2017, the MHP team partnered with the Hazelwood community organization, Center of Life, to interview and gather perspectives from local individuals.

“We did a lot of our formative research talking with pregnant people in the Hazelwood community — understanding what their needs were, their barriers to accessing care, and their own mental models of pregnancy risk,” Dr. Krishnamurti says.

The research team asked respondents open-ended questions about what is perceived as routine or risky in pregnancy, from things like spotting or bleeding to increases in anxiety. The data gathered from this stage laid the foundation for how MHP would deliver communication to patients.

“When we were conceiving MyHealthyPregnancy, we initially





“In a first-time pregnancy you’re not quite sure how to distinguish between what is the normal course of pregnancy and what feels like a very big change in your body.”

— DR. TAMAR KRISHNAMURTI

planned to create a suite of written communications just to try and bridge gaps in patients’ knowledge about risks that were related to preterm birth,” says Dr. Krishnamurti. “But as we were thinking through that process and bringing our different areas of expertise together, we realized that smartphones were ubiquitous, especially among people of reproductive age, and offered a more dynamic way to tailor information.”

Dr. Davis used his expertise in machine learning and applied statistics to develop and build the tool using predictive models for certain pregnancy risks. In other words, MHP features sets of preprogrammed questions to help patients and their providers understand if they are on a particular risk trajectory.

“The ability to make digital communications dynamic was really appealing as we got into thinking about the best ways to create communications,” Dr. Krishnamurti says. “We decided that we would take the work that we were doing and implement

it into a smartphone app that could combine our expertise in medicine, machine learning, and behavioral science and build something that could better identify and communicate to people about pregnancy-related risks.”

MyHealthyPregnancy in Practice

To develop and commercialize the MHP app, the founding team members formed Naima Health, a company that “develops health tools using behavioral decision science and machine learning to engage patients in their clinical care.”

In early 2020, the MHP app launched and became integrated into clinical care processes.

Once a patient confirms their pregnancy at a UPMC facility, they receive a text message inviting them to use MHP as a supportive tool for their pregnancy journey. A physician portal also allows providers to navigate through their patient’s electronic health chart and see select information shared through the app.

Since its rollout, providers have prescribed the MHP app to more than 15,000 people.

“As a patient, you enter information into the app throughout your pregnancy — things like your symptoms or your mood or challenges that you may be facing in your life. The app will then provide tailored feedback on that pregnancy and connection to the vetted resources both inside and outside the health care system,” says Dr. Krishnamurti.

The goal is twofold: identify pregnancy risk factors earlier than routine care can and offer reassurance to people when things are going perfectly fine. MHP supports both veteran and first-time pregnancies but is particularly helpful to those whom the pregnancy journey is new for.

“In a first-time pregnancy you’re not quite sure how to distinguish between what is the normal course of pregnancy and what feels like a very big change in your body,” Dr. Krishnamurti says. “One of

“We wanted it to be a support tool and not an additional source of worry.”

— DR. TAMAR KRISHNAMURTI

the things that we heard frequently during our formative qualitative work and in building this tool is that — as a pregnant person — you can sometimes get totally overwhelmed with the amount of information.”

Dr. Krishnamurti explains that when well-intentioned patients try to stay informed by googling risks and what could be going wrong, the information search can worsen their anxiety. That is why the team wanted to build the app as a reliable source of information that also would not leave patients uncertain.

“We don’t ask about or push information back to anybody about a risk unless it is actionable information. That was philosophically really important to us,” she says. “We wanted it to be a support tool and not an additional source of worry.”

Early Results: Closing Care Gaps, COVID Guidance, Spanish Version

With nearly three years of the app being used by the public, the team already has early data, wins, and updates under their belt.

Of those prescribed MHP, a little over half are using it. There is a higher use of MHP among those with a risky medical history or who are experiencing risks, as well as those with social determinants of health challenges. Over time, those with smooth pregnancies tend to use the tool less frequently.

“That [data] tells us we’re reaching the people that have the greatest need and that patients who are experiencing fewer risks are appropriately realizing that they need less support and using it less over time,” Dr. Krishnamurti says.

Launching and testing the tool also allowed the team to help close gaps in care, particularly with patients facing mental health emergencies.

“If someone shares something like thoughts of self-harm into the tool, then we can send that information directly to a nursing team who then can do an outreach to the patient,” Dr. Krishnamurti says.

Since MHP launched right before the COVID-19 pandemic, the team incorporated COVID symptom triaging and appropriate avenues for care at a time when there was little information about COVID and pregnancy. Additionally, the tool has helped identify gaps in patient-provider communications, especially for particular risk factors like preeclampsia.

“We found that patients who are at risk for developing preeclampsia won’t always be aware of their doctor’s recommendations to take low-dose aspirin, which can actually decrease preeclampsia risk,” she explains. “So, we’ve been able to use that information that we’ve collected from the app to give feedback to the health care system about how to improve their care processes.”

Thanks to CDC funding, the team also created a Spanish-language version of MHP with information tailored for emerging Latino communities.

Evolving MHP Toward the Future

As thousands use the app, the MHP team continues to gather data to better understand patients’ symptoms and experiences around pregnancy risks like hypertension or depression.

“UPMC has been an amazing system to start out in,” Dr. Krishnamurti says. “It’s an integrated finance and delivery system, so there are many different bodies of the organization working together. To be able to build a tool into that kind of system has been challenging but has also allowed us to evaluate it rigorously.”

Dr. Krishnamurti credits piloting the app at UPMC for the ability to test and optimize MHP, which has set the stage for its future. “We’ve been fairly scrappy in building and launching something with a small team and limited resources,” Dr. Krishnamurti says. “But we’ve also been thinking about ‘How do we scale?’ and ‘How do we grow?’ and ‘How do we continue to reach patient populations that would be best served by this?’”

Even as the group looks to expand its work, they are committed to maintaining partnerships with physicians and new parents so that the app can evolve and grow along with the people being served.

For Dr. Krishnamurti, the ultimate goal is simple: to support patients. “If we’re able to use tools like MyHealthyPregnancy to more effectively direct resources to those patients that need them, I think that that’s the dream outcome.”

Women's Health Symposium in Naples

Each year, the Women's Health Symposium held in Naples, Fla. celebrates advances in women's health research and clinical care.

What began in 2017 as a gathering of about 75 attendees has grown to more than 300 people who visit the Ritz-Carlton to hear about women's health research from Magee-Womens Research Institute (MWRI) scientists and physicians. "The scientists are so down-to-earth," says Jennifer Bingham, a longtime Magee supporter and Women's Health Symposium attendee. "They don't act snooty ... they're really friendly."

This yearly event would not be possible without the ongoing support from attendees like Jennifer and the Gulf Shore community. Unfortunately, due to the damaging effects of Hurricane Ian on The Ritz-Carlton, MWRI

decided to cancel the 2023 Women's Health Symposium. As the region recovers, MWRI connected with local organizations such as the Collier Community Foundation to provide support for those affected by the disaster.

Though the 2023 event has been postponed, the mission to further women's health alongside partners in Florida continues. MWRI will be back in 2024 — bigger and better than ever. Join us on February 16, 2024 at The Ritz-Carlton as we showcase world-renowned scientists, share women's health advances, and spend time with this special community again.

To receive updates about the Women's Health Symposium, sign up for MWRI news and publications at [MageeWomens.org](https://www.MageeWomens.org) or follow along on social media @MageeWomens.

ADVOC



ACY

During Pregnancy

The Magee Doula Program Strengthens Care, Addresses Disparities, and Supports Patients

THE EXPERIENCE OF GIVING BIRTH is monumental. A collaborative team of medical professionals and support people must work together to ensure the birthing parent is cared for along their journey.

Especially for new parents from underserved communities, having a dedicated support person who educates, encourages, and advocates for them throughout the process can make all the difference in ensuring a smooth pregnancy and birth. Enter, doulas.

Doulas are trained, nonmedical staff who provide advanced physical and emotional specialty care to pregnant patients. These birth coaches play an integral role in the care experience by providing ongoing information and advocacy, closing knowledge gaps, and assisting patients with overcoming barriers.

Leaders at UPMC Magee-Womens Hospital see doulas as one way to address known disparities in maternal health: Black women in Pittsburgh are more likely to die during pregnancy than Black women in 97% of similar U.S. cities, according to a 2019 report on Pittsburgh's Inequality on Gender and Race.

Establishing the UPMC Magee Doula Program

The Birth Circle Doulas of Magee, a patient support program initially housed

within the Family Medicine Health Center at Squirrel Hill, formed the backbone of the program that would eventually take shape at UPMC Magee. "I'm grateful for the Department of Family Medicine who had the vision and foresight to have doulas available to at-risk individuals within the community setting and did a fantastic job of establishing that program and the connections to the UPMC Health Plan," says Dr. Hyagriv Simhan, professor, Department of Obstetrics, Gynecology and Reproductive Sciences, executive vice chair of Obstetrical Services, University of Pittsburgh School of Medicine, and director of clinical innovation for the Women's Health Service Line, UPMC.

In fact, the 10 doulas who were working at the Squirrel Hill center integrated with the Women's Health Service Line clinical care team at UPMC Magee as part of the effort to scale up the program. Since its launch in November 2020, the team has grown to 32 doulas, who provide their services free of charge.

The UPMC Magee doula program recruits candidates from the same communities as its patient population and frames the role as an exciting and valuable way to step into health care or into the workforce. Some patients supported by doulas end up deciding to become one themselves. "Several [members] of our doula team have been with the program from before we took it on, so we have a

lot of longevity on the team, but the few that have left have gone on to be nurses, or attend medical school,” says Beth Quinn, senior director, Women’s Health Operations at UPMC Magee.

Alleviating Fear and Supporting Exceptional Patient Experiences

For Dawndra Jones, chief nursing officer and vice president of Patient Care Services at UPMC Magee, the integration of doulas into the care teams help ensure that patient’s expectations are met, and their experience is positive. “Everyone comes typically to deliver their baby with expectations of what it’s going to be like. This was an opportunity for us to put someone closely with our patients during the whole birthing process to really try to make sure that we can meet those expectations,” she says. “We’ve been really excited about adding this to our health care team to really ensure that patients not only have that quality of care but that exceptional experience.”

The doulas’ abilities to bridge knowledge and language gaps is critical for cultural concordance — a key piece of success for the doula-patient relationship and the program. “Having somebody close to you that you can talk to that you feel comfortable sharing things with will hopefully also alleviate some of those fears so that we can make this the most enjoyable, joyous occasion and milestone in people’s lives,” Jones says.

Apart from bringing shared knowledge and experiences with the patients they serve, doulas also undergo specialized training in tandem with DONA International, a recognized leader in doula training and certification. UPMC Magee doulas in training learn methods for patient support and advocacy in areas like breastfeeding and lactation services, as well as functional clinical skills like documenting notes in an electronic health record.

Trainees get exposed to community resources for behavioral health and trauma, as well as places like the Pregnancy Recovery Center. They also benefit from real-time Q&A sessions with doctors on high-risk conditions like gestational diabetes. Trainees attend several live births with a mentoring doula during their orientation period, until they are comfortable doing so on their own. “I also love the doula training because I think it also represents the art of labor and delivery,” Jones says. “It’s not those textbook science things. It’s really about alleviating fear and creating comfort for individuals so that they can take in this wonderful experience.”

Early Doula Program Outcomes

In various measures and outcomes, the doula program is already performing well. Among the data examined are value-specific measures like attendance at prenatal visits and engagement in the care process. The UPMC Magee team also monitors tangible health outcomes, such as cesarean section or cesarean delivery frequency, breastfeeding rates, and connectedness to ongoing postpartum care.

“We have seen in all three of those areas that our women who have received doula care have better rates of those things than a comparable group of women who have not gotten doula care,” Dr. Simhan says.

Quinn adds that outside of these measures, doulas have also positively impacted the care teams’ approach. “Doulas are really the eyes and ears to the patients that we have not had before,” she says.

She also says that the care team has benefited from a doula’s unique perspective, as it helps those from traditional health care backgrounds look at and approach patients more holistically and try to understand and

work with them in a different way. “I think [doulas have] taught our team to listen in a different way than we had ever before,” she says. “Everybody has a story and a reason, and it might not match what we know and what we believe, but we have to take that in, put our implicit bias aside, and move forward for the care of the patient.”

Building the Future of Doula Care

As the program celebrates its second birthday, program leaders are assessing how far they have come, while planning for what is next. Ultimately, the program would also like to roll out into other UPMC sites, providers, and hospitals, expanding this model of care across the entire UPMC system.

“We’d like to grow it out in terms of the number of doulas and patients served, but also the strategies in which we allocate the doula resources,” Dr. Simhan says. “To be able to do targeted, focused outreach to patients who would most benefit from doula services, we’d like to be able to level the playing field a bit and make the resource available and that takes resources to do.”

In the coming year, Dr. Simhan is planning a series of presentations and publications in both nursing and medical literature that highlight the program’s success. With an eye on the future, the doula program leaders are focused on scalability so that more patient populations can benefit — especially those who have been systematically failed by traditional models. “Our program is a core part of improving engagement in the quality of prenatal care to improve pregnancy outcomes in the patient experience for all patients, particularly those who unfortunately have not had that as the expectation in health care,” he says.

Doula Q&A:

Perspectives from Two Members of the Birth Circle Doulas of Magee



Memourie Cunningham

What inspired you to become a doula? “I had my daughter almost two years ago. My doula is now my supervisor, Sachi Imai. She honestly inspired me to want to do this kind of birth work. In a time when I was very alone, and I needed extra

support and encouragement, she was there. I’m just forever grateful for her and I wanted to be able to pass that along to other mothers and hopefully be that light that she was to me.”

What are some ways that you support patients as a doula? “At the end of the day, we want to make sure

our patients are healthy. And we want to make sure that we’re following the things that they want because it’s their birth, it’s not ours. We’re there for an extra boost of encouragement and love — that’s what I love most about my job. Even if it’s something as simple as getting them some cold water or cold rags when they’re overheating

and in intense labor, it’s those things, and sometimes just listening. Well, that’s always what it is: listening to what our patients need or what their concerns are, then trying to make them feel more at ease and comfortable with this new huge transition that’s about to happen.”



Tameka Vasser

How do doulas support patients ahead of the birthing process? “It all starts with education, and as we know, typically the Black community or women of color, in general, do not have access to a lot of the things that the white population have, with education being a big one. Then after being educated, being empowered.

Because you can know something is wrong and your intuition feels that it is not right, but not being empowered enough to speak up. I always tell my patients, ‘This is your baby, your body, your birth.’”

What is something you teach patients when it comes to self-advocacy? “I spend a lot of time with my clients teaching them how to advocate for themselves. Because, for example, we don’t send in a doula until they’re dilated about three to four centimeters. So before then, you have to be advocating for yourself.

One thing that we use is this acronym called BRAIN.

B: What are the **benefit** of this procedure?

R: What are the **risks** of this procedure?

A: Is there any **alternative** or do I have any other options?

I: What does my **intuition** say? Do I agree with my doctor? Do I disagree?

N: What if I just say **no**? Or could we delay it?”

What is one of your favorite parts about being a doula? “I love birth work so much, but I have to say that one of my favorite parts is honestly helping a mom be

successful at breastfeeding. Lots of women, even pretty much all my clients, when we go over, ‘Are you planning to breastfeed or formula feed’ they almost always say ‘I am going to try breastfeeding. I am going to try.’ It’s rarely, ‘I’m going to breastfeed.’ They don’t really have that confidence that they can do it. So, when I’m there with them through that birth and then we get that baby latched on to the breast and they can feel the sensation of their milk coming out and baby feeding and they’re just so proud of themselves — that is definitely one of my favorite parts of my job.”

LEGACIES

By Gina Edwards



Morris

A Beloved and Esteemed
Physician, a Role Model of
Humility Committed to
Care for All

“MORRIS, NO MATTER WHO HE CAME IN CONTACT WITH, was just Morris,” says Verena Turner, wife of the late Dr. Morris Turner. Dr. Turner was a beloved and esteemed, yet modest, obstetrician who served thousands of patients throughout his career in Pittsburgh and surrounding regions.

Verena and Dr. Turner’s story began back in Georgia during the summer of 1966, where they first met in the lunchroom of their government workplace.

She did not know then that their chance meeting would turn into 46 years of marriage, or that her future husband would become such a beloved doctor to so many. Today, Dr. Turner’s storied legacy of heartfelt commitment to his patients is permanently memorialized with a portrait and plaque installed at UPMC Magee-Womens Hospital. “He never changed, from the day we met,” Verena says. “Anyone would tell you that he was just down-to-earth.”

Dr. Turner’s Life and Career

The legacy installation at UPMC Magee describes a man who is larger than life. “Brilliant clinician and outstanding surgeon. Articulate and thoughtful leader. Distinguished colleague, teacher, and mentor,” the plaque installed in February 2016 reads. “Tireless healer who was devoted to the medically underserved of Western Pennsylvania. Dynamic past president of the medical staff.”

When Dr. Turner’s portrait, painted by Douglas Webster, graced the Birth Center for the first time, hundreds gathered to witness the unveiling and remember and celebrate his legacy, including many relatives and fellow church members.

To Verena, who spoke along with her sons at the event, that moment was the honor of a lifetime. “It’s just something I never dreamed would happen. With him being the first African American to be memorialized, it’s just awesome,” she says,

adding, "If Morris were here, he would say 'That's not for me.' He was just a humble person."

Dr. Turner was born in rural Georgia to a family of sharecroppers. He attended Barney Colored Elementary School, a one-room schoolhouse, prior to receiving a full scholarship at age 16 to study biology and chemistry at Morehouse College in Atlanta. He then graduated from the University of Pittsburgh School of Medicine in 1973.

While completing his residency in obstetrics and gynecology at UPMC Magee, he met Dr. Robert Kisner. Together, they formed outreach programs to the city's Black community. Eventually, the programs became the first Black specialty group practice in the East Liberty neighborhood of Pittsburgh, opened by Dr. Kisner along with Dr. Turner and Dr. Robert Thompson.

"Underserved communities were very important to him. He could have set up practice anywhere, but he chose to be in practice with Dr. Kisner in the East Liberty area," Verena says. "That office serviced people from around Pittsburgh, West Virginia, Ohio, even had people coming in from Baltimore. Anywhere that service was needed, he was ready to go."

Dr. Turner's Impact on the Community

Unlike many other surgeons of his stature, Dr. Turner enjoyed hanging out with friends who had everyday professions: janitors and parking attendants — his fishing buddies, a Verena puts it. "The one thing he would tell me as he traveled through the hospitals, as a resident, 'The best friends, the best people you can get to know, are the janitors and the food service workers,'" Verena says. "That's just who he was."

The stories about Dr. Turner's dedication to his patients are many and telling — perhaps most famous is the 1994 blizzard when he walked for more than an hour to UPMC Magee to deliver a baby. "That's something I wouldn't have ever agreed to. I did not know," Verena explains. She says that today, anywhere she goes — to church, the beauty shop, or even on the street — people come up and tell her how much Dr. Turner meant to them.

"Everyone has something to say about Dr. Turner," she says. "To know that other people felt so strongly, the way he cared for his patients, just knowing him. People are just glad they've had a chance to meet him, that he passed through their lives. It makes me feel good, and it makes me feel sad. I am just grateful to God that he had touched so many people."

Dr. Turner's children have been involved with furthering their father's impact on underserved communities through Journey to Medicine, a Gateway Medical Society program for preadolescents that is "building the pipeline for future physicians."



An attendee of Dr. Turner's portrait unveiling snaps a photo of the display at UPMC Magee.

Remembering Dr. Turner's Legacy

During Black History Month each February, Dr. Turner's story and legacy is woven into the Morris Turner Memorial Lecture sponsored by the Department of Obstetrics, Gynecology and Reproductive Sciences at UPMC Magee.

Dr. Turner himself did not write down many talks or lectures, though. Despite the inquiries Verena receives about her husband's speeches, she explains, "We don't have anything written. Morris was the kind of person who would write a couple of words on the palm of his hand, on his arm, and stand up and speak for 45 to 50 minutes on it."

The Magee auditorium hosting Dr. Turner's namesake lecture is named after two doctors who were instrumental in his career: Dr. Terry Hayashi and Dr. Donald Hutchinson. "Those doctors, he emulated. Those were two of his favorite people," Verena says. "He loved them dearly." In fact, Dr. Hayashi was one of the examiners when Dr. Turner took his boards.

When Verena comes back to UPMC Magee, she stops on the second floor to "just sit there and marvel" at the portrait. "I've been to Magee about four or five times since the portrait was placed. It gives me comfort when I go there," Verena says. "Though it's comforting, I also get emotional. It's just so special, I cannot even describe the way I feel about it."

One week before Dr. Turner passed of a heart attack at age 65, he and Verena visited and took pictures at his old elementary school, which has become a historic landmark, with photos to remember the students who attended there and celebrate the success they have found in life. Inside is a photo of Dr. Turner and the honorary installation at UPMC Magee. Reflecting on these many moments and memories of her husband's life, Verena says, "I was married to one great man."

RACING FOR A REASON

Team Leaders from the 2nd Annual Race to Beat Women's Cancers Reflect on Their Experience

Since 2021, the Race to Beat Women's Cancers 5K Run/Walk held at North Park has raised funds to support research in women's cancers and patient care at Magee-Womens Research Institute, UPMC Magee-Womens Hospital, and UPMC Hillman Cancer Center. The event was co-hosted by A Glimmer of Hope Foundation. Although inclement weather canceled the 2022 RBWC, we still raised funds to support this important work in women's health.

Team leaders for the Race fostered community among participants near and far, hit new fundraising records, and inspired hope for the future.

Kristin Hughes **HUGHES HALFWAY THRU CREW**

On the morning of the 2022 Race to Beat Women's Cancers (RBWC), the thunder rolled, the lightning flashed, and the rain came down. But amidst the storm, a sea of blue T-shirts united: Hughes Halfway Thru Crew. The energetic bunch converged in support of Kristin Hughes and the milestone marker she had just hit in her journey with cancer: halfway through chemotherapy treatment.


When Kristin received her cancer diagnosis in mid-

May of 2022, her life changed. She recognized how privileged she was to have access to excellent health care and social support through her community.

"When I heard 'you have cancer,' it was devastating. Life is suddenly interrupted. The glass that was once half full suddenly looks half empty. You are trapped in two opposing time zones. In one, the fear makes time stop. In the other, it feels like your life is racing toward an ultimate finish line ... on you know you're not ready to cross. It is easy to get stuck in between these zones," Hughes says. "Cancer is also full of emotional dualities: despair vs. hope, crudeness vs. grace, ugliness vs. beauty. Despite how miserable I felt, I would try to wake up with a positive mindset and go to bed grateful for the beauty and joy in my life. Much of this came from the simple acts of kindness from family and friends, reaffirming that I mattered and that we'll get through cancer together."

The RBWC became an avenue to raise awareness about gynecological cancers and fund research to continue the work for future generations.

"The Race venue brought all of us together. Family and friends from all aspects of my life met for the first time, sharing stories, laughing, and connecting the dots. The conversations that were happening



during that 5K were pretty magical,” Kristin says. “The Race also allowed all of us the opportunity to come together in action to support all 90,000 women with gynecological cancer despite their socio-economic backgrounds and access to health care.”

Even though the RBWC event did not occur as planned, the Halfway Thru Crew took to the track, walked side-by-side, and gathered for brunch afterward. The brightness of the Crew shone through the rain that morning. More than 100 participants, locally and across the country, in New York, Cincinnati, Miami, and other locations walked together. They had been fundraising and supporting Kristin throughout the summer. By Race Day, the group had raised nearly \$15,000, with donations ranging from \$10 to the thousands.

Though she never imagined being a spokesperson for gynecological cancer, Kristin hopes that events like the RBWC encourage more open dialogue and reduce the stigma many women face during menopause. She had the courage to talk with a friend who was listening to all the right things and encouraged her to ‘check in’ with her doctor. She adds that her participation in the RBWC became an outlet for action and empowerment during a terrifying time.

“It felt productive,” Kristin says. “It was a way to channel my gratitude and respect for the doctors and nurses at Magee. So, the Race, pulling together the dream team and putting together a strong front felt like, ‘This is the way Kristin’s going to handle cancer.’”

Tiffany Boehme **KEEP TIFFANY ALIVE!**

When it comes to raising money for cancer research, Tiffany Boehme is competitive. In the past, she’s played cow patty bingo at the VFW to support a cousin with medical bills from cancer, and even donned a full gown and dress shoes to paddle 20-foot dragon boats with the Pink Steel team.

Tiffany, who has metastatic breast cancer, goes to UPMC Magee-Womens Hospital every week for chemotherapy and considers it a second home. When she learned about the Race to Beat Women’s Cancers event, she saw it as an opportunity to give back to the hospital.

“It felt productive. It was a way to channel my gratitude and respect for the doctors and nurses at Magee.”

- KRISTIN HUGHES

“All nurses there are like family. They listen, they love me, they ask about my kids, they know me when I walk through the door,” Tiffany says. “I’d do anything for them. I’ve not had one negative experience with Magee.”

When Tiffany signed up for the Race to Beat Women’s Cancers, she also hoped it would be a distraction from a preventive hysterectomy scheduled in September 2022. She wanted to direct her energy into doing something to occupy her time and fundraising ahead of the Labor Day weekend event seemed to be the perfect fit

Tiffany’s team name, Keep Tiffany Alive!, speaks to the nature of her diagnosis and what is sometimes referred to as “the pink elephant in the room.”

“What people don’t realize is that for metastatic breast cancer, there is no cure. When they heard I got cancer, they don’t realize that you can’t beat it. They don’t realize that this is my life for the rest of my life: shots in my hip once a month, hysterectomy, hip replacement. This is my life now,” she says. “There’s nothing there for me to kick its ass with. So, I’m doing what I can to Keep Tiffany Alive.”

Along with the support of her family and friends, Tiffany set fundraising goals that she kept beating. Initially, her goal of \$1,000 was reached within a week. Then, \$2,000 and up. Tiffany’s husband and children helped spread the word through their school networks, friends in their local gym, and putting out calls on social media. The group planned to wear green — Tiffany’s favorite color.

By Race Day, the Keep Tiffany Alive! team had raised nearly \$7,500. But Tiffany is already looking forward to next year’s Race.

“I hope I can turn this into an every-year thing. I hope it grows and grows,” she says. “I’m going to try to beat the previous year and one-up myself every year.”



THE HEART OF COMMUNITY-BASED research

MWRI and Healthy Start Forge
Innovative Studies at the Speed of Trust

SEATED INSIDE YOUR CHEST, JUST LEFT OF CENTER, IS THE HEART.

A fist-sized organ responsible for circulation, the heart sends oxygen and nutrients throughout the body and carries away unwanted carbon dioxide and waste products. In tandem with a vast network of blood vessels — a complex system over 60,000 miles long — the heart supports a continuous blood flow throughout the body that keeps us alive and healthy.

Maintaining heart health is important for everyone. But particularly for those populations with complications of the heart and cardiovascular system, including those during pregnancy, there are still unanswered questions left to investigate.

An innovative group of researchers has teamed up to explore heart health interventions during and after pregnancy, with members from Magee-Womens Research Institute (MWRI), University of Pittsburgh, and Healthy Start, a local nonprofit focused on improving maternal and child health in Allegheny County. Together, with support from the Jewish Healthcare Foundation (JHF), this interdisciplinary team is modeling how to co-design and conduct studies with the community.

Much like the heart, which functions within the greater cardiovascular system, this research takes a village — with researchers, partners, and program participants working together toward a shared goal of healthier outcomes and futures for mothers and babies.

**HOW IT STARTED:
Heart Health 4 Moms**

For Dr. Janet Catov, an epidemiologist studying pregnancy complications like hypertensive disorders of pregnancy, preterm delivery, and gestational diabetes, the cardiovascular lens offers another way to think about the causes and long-term effects of those complications.

“Women with a hypertensive disorder of pregnancy have a higher risk of heart disease later in life,” Dr. Catov explains. “So, they might present with a first heart attack or heart failure 10 years earlier than women without complications. That evidence has been clear for probably 20 years.”

Dr. Catov’s team at MWRI, which includes Dr. Esa Davis and Dr. Alisse Hauspurg, grew interested in testing interventions for women with hypertensive disorders of pregnancy to see if they could improve participants’ blood pressure profiles in the first year postpartum. To launch the Heart Health 4 Moms pilot trial, the MWRI team linked arms with Jada Shirriel, CEO of Healthy Start, and her team.

Pulling from well-established evidence indicating that self-monitoring of blood pressure coupled with a coach or support person can improve blood pressure outside of a pregnancy context, the group developed a similar intervention to pilot the concept for women during their first year postpartum. The research team co-created the studies to be culturally appropriate, responsible, and sustainable.

“This was a real-time opportunity to educate and have an impact on the lives of women who were having babies in our community to make them healthier, to make sure they maintain their health after they delivered their baby.”

— NANCY ZIONTS

To Nancy Zionts, chief operating officer at JHF, the innovative nature of the project was a significant draw: “This was a real-time opportunity to educate and have an impact on the lives of women who were having babies in our community to make them healthier, to make sure they maintain their health after they delivered their baby,” she says.

An outgrowth of the pilot study, made in part due to COVID restrictions at the time, was a culturally appropriate educational video series co-developed by MWRI and Healthy Start. To Ms. Shirriell, the Heart Health 4 New Moms video series was a chance to provide broader community education that reflected the target population of Black women and highlight the various resources in Pittsburgh and Allegheny County. Local medical providers, Healthy Start participants, community partners, and members contributed to the series, which ran online and on Healthy Start’s social media channels.

“[Participants] were able to draw on their personal strengths and expertise and share some aspects of heart health that were relevant, important, or meaningful for them,” Ms. Shirriell says. “It was a way to add another kind of human context to the work that we do and do something that’s different. When people think of research, I don’t

know how much we think about the enduring community education and providing resources in the community above and beyond explicitly what you ‘have to do’ as part of the research study.”

Results from the Heart Health 4 Moms trial were promising — not only did the pilot study establish the feasibility of conducting a program during the first year postpartum, but it also yielded preliminary data suggesting a modest improvement in blood pressure.

HOW IT’S GOING: Postpartum Doula Heart Health Interventions

With this initial success under their belts and thanks to the collaborative nature of their partnership, the team went on to apply for National Institutes of Health (NIH) funding to move the program into its next phase.

The timing was right: an uptick in focus on maternal and child health disparities in light of COVID brought more attention and funding to this critical period of the life course. Dr. Davis says that the increased spotlight on these disparities opened the avenues to addressing them in a cross-disciplinary format — a must for maternal-child health research, which spans multiple disciplines.

“[Our research] requires not just the medical side or the public health side, but it really involves the community side, because those community teams have been very important to help support mom and babies well before and after pregnancy, with lactation specialists, doulas, and community health workers,” she says.

MWRI, Pitt, and Healthy Start put their heads together to determine how to build out the program. As Ms. Shirriell explained the expertise and enthusiasm of postpartum doulas trained and certified at Healthy Start, the team leaned into developing a program model built upon this existing and trusted community resource. “The evidence in the research tells us that doulas support a better birth outcome, particularly for Black women and other women who may be more subject to having adverse birth experiences and outcomes,” she says. “So, what we’re doing is taking the traditional heart and hypertensive disorders, taking the traditional ways of managing those through monitoring and clinical intervention, and coupling them with community-based interventions designed and delivered by people

who are actually part of the community that we're studying and saying, 'Does this, in turn, improve outcomes even more?'"

The group's NIH funding proposal, titled "Eliminating Racial Disparities in Severe Maternal Morbidity by Addressing Hypertension in the Year After Delivery" garnered a 5-year, \$2.9 million R01 grant from NIH-NIMHD (National Institute on Minority Health and Health Disparities) to build out the next phase of the interventions.

In the new program model, postpartum doulas are trained in heart health, using education modules that will be administered during weekly sessions in the first eight to 12 weeks postpartum and cover topics such as physical activity, diet, sleep, smoking, stress, and mental health. Participants will track their weight, blood pressure, and physical activity using Bluetooth-enabled devices allowing the team to monitor progress over time. The doula will also facilitate a monthly group for program participants to provide peer support in making and sustaining lifestyle changes. The research team is simultaneously conducting a system evaluation to help identify structural facilitators and barriers to accessing care.

"To really tackle this problem, it involves multiple disciplines, multiple perspectives that need to be collaborating," says Dr. Davis. "I think our project is a model of how we can bring together people of different backgrounds to be able to look at this issue from all of those angles."

BENEFITS OF Collaboration

The heart health initiatives from the MWRI-Healthy Start partnership address critical disparities, particularly those closest to home. A 2019 Gender and Racial Equity Commission report comparing Pittsburgh to nearly 90 other U.S. cities with sizable white and Black populations found that Pittsburgh's infant mortality rate for Black babies is over six times higher than for white babies. The report also noted that maternal mortality among Black mothers in Pittsburgh was worse than in comparable cities.

"It's really important for us not to lose sight of this crisis of maternal morbidity and mortality and infant mortality, and that cardiovascular

"Women with a hypertensive disorder of pregnancy have a higher risk of heart disease later in life. So, they might present with a first heart attack or heart failure 10 years earlier than women without complications. That evidence has been clear for probably 20 years."

— DR. JANET CATOV



risk and health contributes to that,” Dr. Catov says. “There are structural contributors to these disparities. So, until we bring the voice of Black women to the table across the care spectrum, I don’t think we know how to make our systems more responsive to diverse women and their needs.” Dr. Davis adds that community partners can provide key input for research design, given that they work with women in the communities and understand the day-to-day challenges they face. She explains that a successful community-based research initiative must engage and involve partners from the start so that the research design and interventions are appropriately crafted and can truly make an impact.

“Bring [the community] on as investigators and bring them on early on in the project,” Dr. Davis says. “Say ‘Hey, this is what we’re thinking — help us think it through. How from your perspective, would this look? Would this work? How could this intervention be delivered? How can we really, truly partner in this?’”

Ms. Shirriell says that co-developing research with Dr. Catov and her team has influenced how Healthy Start will continue participating in research, with their role as both co-designers of studies while representing, supporting, and recruiting community members as well as training them to be interventionists.

“It really became crystal clear to me that there’s a very important place for Healthy Start and an important part for us to play in terms of making sure that we help bridge the gap between the community’s understanding of research,” she says. “Yes, research has historically done harm. There is still harm being done. It’s still not perfect, but I’m a believer that you have to get in the game. You can’t sit on the sidelines because it’s going to be done regardless of whether or not we participate. And there’s a lot at stake from the impact of the research and the results of the research.”

Demia Tyler, Healthy Start’s director of strategic initiatives, has begun to build out the organization’s infrastructure in anticipation of further growth in this area.

BEST PRACTICES in Community-Research Partnerships

As Ms. Shirriell indicates, the experience of working with the MWRI team has helped her advocate for community presence in research and bolstered expectations around working with researchers. She says that successful collaborations, like that with MWRI, require natural inquisitiveness, a willingness to learn and share power, and even slowing down the process to factor in considerations presented by the community. Apart from these components, Ms. Shirriell says that entering a long-term commitment rather than a one-off project is the ideal scenario.

“I appreciate that there has been that commitment to grow in our relationship, but also to sustain it long term because this is not going to be an overnight thing. There’s been a lot of mutual learning, and I think there’s also a lot of mutual learning and new developments to come,” she says. “It’s definitely a long game where there has to be a willingness to continue to invest in and be willing to put in the adequate level of resources to get the type of output and results that we need to see.”

For funders like the Jewish Healthcare Foundation, collaborations like this set the tone for how community-based research should be executed and create positive ripple effects.

“The fact that this is getting out of the laboratory, getting out of the literature, and even getting out of the doctor’s office, and going right into the community and educating real women — that is what we love to see. Real women will educate other real women,” Ms. Zionts says.

For Dr. Catov and the MWRI team, collaborations like this bring us closer to the overall goal of improving maternal and infant health.

“It’s really been an honor, and it’s just such an exciting opportunity to actually partner with women to help understand the whole pregnancy experience and what it can teach us about babies, health, about mom’s health,” Dr. Catov says. “The passion driving the work is really the goal of improving the health of moms and babies. That’s what we’re after.”

The MWRI-Healthy Start research team is currently recruiting pregnant and postpartum participants for the Heart Health Doula Research Study. To learn more about this research study and to see if you qualify to participate, scan the QR code.



The following grants awarded are funding invaluable, groundbreaking work to improve women's health on a global scale. This research acts as the foundation of progress on topics that are aimed to ensure improved health, survival, and quality of life for all women, mothers, and children.


Janet Catov, PhD, MS

Received a 5-year, \$2.9 million R01 grant from the NIH-NIMHD (National Institute on Minority Health and Health Disparities) titled, "Eliminating Racial Disparities in Severe Maternal Morbidity by Addressing Hypertension in the Year After Delivery."


Rui Liang, MD

Received a 5-year, \$2.8 million R01 grant from the NIH-NICHD (National Institute of Child Health and Human Development) titled, "Impact of Hyperglycemic Memory on Innate Immune Response to Urogynecologic Mesh."


Haider Mahdi, MD

Received a 3-year, \$450,000 grant from OCRA (Ovarian Cancer Research Alliance) titled, "Targeting CD47-SIRPa Axis to Overcome Therapy Resistance in Ovarian Cancer."


Mellissa Mann, PhD

Received a 5-year, \$2.1 million R01 grant from the NIH-NICHD (National Institute of Child Health and Human Development) titled, "Regulatory Mechanisms Governing Imprinted Domains During Early Development."


Lisa Rohan, PhD

Received a 2-year, \$1.1 million grant from the Bill & Melinda Gates Foundation for a project titled, "Reproductive Tract PBPK & Exposure Modeling."

HAPPENINGS

jun. 11

34TH ANNUAL UPMC MAGEE-WOMENS HOSPITAL SURVIVORSHIP WORKSHOP AND CELEBRATION

SHERATON PITTSBURGH HOTEL AT STATION SQUARE, PITTSBURGH, PA

Join us for a lively morning of education, conversation, and celebration. Hear from specialists about the latest cancer therapies and research, including a keynote speaker. There will also be a raffle and a wonderful candle lighting ceremony to celebrate survivorship.

► For details, registration, and sponsorship opportunities, visit MageeWomens.org/Survivorship.

jun. 18-19

16TH ANNUAL NOAH ANGELICI MEMORIAL GOLF EVENT

SHEPHERD'S ROCK GOLF COURSE, NEMACOLIN WOODLANDS RESORT, FARMINGTON, PA

Join us for a full day of golf at the beautiful Shepherd's Rock Golf Course. The proceeds benefit the center for Innovative Fetal Intervention at UPMC Magee.

► For sponsorship opportunities, contact Jane Klimchak at 724-350-2940. For more information, visit noahshouseofhope.com.

jun. 25

20TH ANNUAL KIDS AND CRITTERS NICU REUNION

PITTSBURGH ZOO & AQUARIUM, PITTSBURGH, PA

All UPMC Magee-Womens Hospital and UPMC Children's Hospital NICU graduates and their families are invited to attend the 20th Annual Kids and Critters NICU Reunion. The proceeds benefit the NICU family initiatives at UPMC Magee-Womens Hospital. Registration opens April 15, 2023.

► For details, registration, and sponsorship opportunities, visit MageeWomens.org/2023NICUReunion.

jul. 31

6TH ANNUAL PARS FOR POSTPARTUM DEPRESSION GOLF OUTING

EDGEWOOD COUNTRY CLUB, PITTSBURGH, PA

Enjoy a full day of fun, great views, and 18 championship holes to benefit the postpartum depression program at UPMC Magee.

► For details, registration, and sponsorship opportunities, visit MageeWomens.org/PARS.

aug. 17-18

5TH ANNUAL PITTSBURGH PENGUINS ALUMNI ASSOCIATION'S CAST FOR A CURE

HEMOWATERS CLUB, SPRUCE CREEK, PA

Enjoy two days of relaxing fly fishing with Pittsburgh Penguins Alumni. Proceeds benefit the Nicole Meloche Breast Cancer Fund at Magee-Womens Research Institute.

► For details, team information, and sponsorship opportunities, visit MageeWomens.org/CastforaCure.

sept. 3

3RD ANNUAL RACE TO BEAT WOMEN'S CANCERS 5K RUN/WALK

NORTH PARK BOATHOUSE, PITTSBURGH, PA

Join us for a fun-filled morning in celebration of life as we honor those affected by breast, ovarian, cervical, and endometrial cancers. Whether you run or walk, your participation and fundraising efforts will play a key role in the efforts to advance women's cancer research and patient care.

► For details, registration, and sponsorship opportunities, visit MageeWomens.org/5K.

Our events are designed for you to celebrate, enjoy, learn, and grow with us as we work to improve the health of women worldwide. We hope to see you at a future function where funds raised go directly to research and patient care.



sept. 7-8

12TH ANNUAL WCRC FLY FISHING CLASSIC
HOMEWATERS CLUB,
SPRUCE CREEK, PA

Enjoy two days of fly-fishing competition on the beautiful waters at HomeWaters Club. Proceeds benefit the Women's Cancer Research Center's efforts to reduce the incidence and death from women's cancers.

► For details, team information, and sponsorship opportunities, visit MageeWomens.org/WCRC.



fall 2023

6TH ANNUAL WOMEN WHO ROCK™ CONCERT
STAGE AE, PITTSBURGH, PA

Women Who Rock™ connects all women through the power of music and helps to educate, support, and fund women-centric health research and music endeavors. We "Rock the Future of Women's Health" and shine a spotlight on women in music. Proceeds benefit women's health research at Magee-Womens Research Institute.

► For more details as they become available, visit womenwhorock.info.

nov. 6-8

15TH ANNUAL CONFERENCE OF THE ONCOFERTILITY CONSORTIUM

THE WESTIN PITTSBURGH, PITTSBURGH, PA

The Oncofertility Consortium explores the reproductive future of cancer survivors. The Consortium brings together academics, health care providers, and community leaders from across the country to expand current knowledge, clinical practice, and training for a wide spectrum of issues in oncofertility.

► For more details as they become available, visit MageeWomens.org/OFC.

nov. 17

THE TWENTY-FIVE CLUB UPMC MAGEE-WOMENS HOSPITAL FALL LUNCHEON

DUQUESNE CLUB,
PITTSBURGH, PA

Enjoy boutique-style shopping and a delightful lunch with a special keynote presentation. Proceeds support newborn medicine and neonatal research at UPMC Magee-Womens Hospital and Magee-Womens Research Institute.

► For more details, visit MageeWomens.org/Events/Twenty-Five-Club.

GENEROSITY IN ACTION

By Abbey Fenton

Pastime with a Purpose

Husband-and-wife Duo Launch an Annual Golf Outing to Raise Money for a Cause Close to Home



ON JULY 31, 2014, ELLIOTT CHARLES VEHOVIC WAS born a healthy baby at UPMC Magee-Womens Hospital. Bill and Noona Vehovic were thrilled to have a healthy baby boy after several in vitro fertilization (IVF) attempts. Soon after bringing Elliot home, Noona started to experience feelings of being overwhelmed and anxious. It was not until Bill found her inconsolable on the floor that he realized it was time to find help. Noona was admitted to UPMC Magee and diagnosed with postpartum depression (PPD) and postpartum anxiety (PPA).

“Women are strong,” says Bill. “Women can look good on the outside and could be really hurting on the inside and you are never going to be able to tell.”

After going through this experience together, Bill and Noona wanted to do something to raise awareness about PPD and PPA and help others in similar situations. So, the event Pars for Postpartum golf outing was born. Bill and Noona created and co-chaired an event for the Pittsburgh community to not only raise awareness about the signs of PPD and PPA, but also to educate our community about the resources available to them. Those attending this event enjoy 18 championship holes at the Edgewood Country Club, dinner with keynote speakers, raffles, and more.

“If I can help coach men, spouses, partners, whomever to know what to look for and know who to reach out to for help when you recognize those things, I’m solving half my mission,” Bill says.

With the yearly event raising awareness for PPA and PPD, the second half of the Vehovics’ mission is fulfilled through their support of programs for patients going through similar experiences.

Since its creation five years ago, this successful event has raised more than \$175,000 for programs at UPMC Magee and UPMC Western Psychiatric hospitals. One of the programs benefiting from this event is the New and Expectant Mother Skills Training Program (NEST). This program was created to bring PPD- and PPA-specific therapy to the Pittsburgh community. NEST includes both group therapy and intensive outpatient therapy for expectant mothers or up to one year postpartum. The program also includes a broad range of treatments including stabilization of symptoms and crisis behaviors, medication counseling during pregnancy and lactation, specialized care for mood disorders, and encouragement for mother-infant bonding.

“Being diagnosed with postpartum disorder is very isolating,” Noona says. “Being able to participate in a group setting and seeing that you are not alone and that other people going through what you are going through gives you a sense of community.” Thanks to the funds raised by the Pars for Postpartum outing, the NEST program was able to add a child care room to their Wexford location. NEST encourages and facilitates mother and infant bonding during treatment. The child care room was created in hopes that mothers who have older children can utilize child care while bonding with their newborn.

For more information on the Pars for Postpartum event visit: MageeWomens.org/PARS.

HELP CHANGE THE WAY THE WORLD TREATS WOMEN

There are many ways to support Magee-Womens Research Institute & Foundation. The most common, and immediately impactful, is to make a gift of cash. However, planned gifts are often made with assets such as securities, real estate, artwork, retirement plan assets, donor-advised funds, and insurance policies. Many of these gifts come with unique tax benefits. You can make a gift from just about any type of asset you own.

WAYS TO MAKE A GIFT:

**Bequests and Beneficiaries | IRA Charitable Rollovers | Appreciated Stocks
Life Insurance | Real Estate and Other Property**

To learn more, contact Jazmin Rosenberger at rosenbergerj3@upmc.edu.



Magee-Womens Research Institute & Foundation may be designated as the beneficiary of Charitable Remainder Trusts, Charitable Lead Trusts, and Charitable Gift Annuities but will not serve as Trustee.



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