

re:imagine

The George Washington University Cancer Center **WINTER 2016**

Stronger
Together

PURPOSE
BUILT

Putting
Cancer in
Perspective

The
Ballad
of Ms.
Jones

LEADING
FROM THE
CENTER

Tucker
Fellowship

Support
for
Health
Equity

GOING
TO THE
MAT





GW Cancer Center

AMAZING PROGRESS HAS BEEN MADE in the war on cancer since the National Cancer Act was signed into law by President Nixon in 1971; yet 45 years later, cancer remains a devastating health issue in our country and around the world.

It is within this context that the George Washington University (GW) School of Medicine and Health Sciences and its partners, the GW Medical Faculty Associates, GW Hospital, and GW's Milken Institute School of Public Health, have made a major investment to establish the George Washington University Cancer Center. By leveraging the existing talent across the GW campus under one umbrella, and with the additional recruitment of top-notch cancer investigators and our bold vision of "driving innovative research, personalized patient care, and cancer policy in the nation's capital," we are poised to *re:imagine* the fight against cancer.

In a changing cancer-care landscape, the adaptive cancer centers capable of reimagining their approach to research create the most exciting headway. We launch this biannual magazine – *re:* – to tell our story and share our vision for a new approach to cancer. The name helps us emphasize the center's efforts to break from conventional wisdom to find new ways forward.

Our newly dedicated space for cancer research will bring together basic scientists, clinical investigators, and engineers, as well as bioinformatics and computational scientists, to "break the silos" and *re:imagine* the creation of new technology and innovations in cancer research and care. Rounding up our forward-thinking is our focus on cancer policy. With our location in the nation's capital, we have a unique opportunity to be at the forefront of national initiatives to conquer cancer.

Join us in what will be an exciting journey, and together let's *re:imagine* a cancer-free world.

WELCOME

EDUARDO M. SOTOMAYOR, M.D.
Director, George Washington University Cancer Center

re:imagine



EXPANDING EFFORTS

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THE BALLAD OF MS. JONES

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George Washington University Cancer Center

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ROBERT SIEGEL, M.D. '77
Associate Center Director for Education and Training, Professor of Medicine

GW UNIVERSITY CANCER CENTER (GWCC) incorporates all of the existing cancer-related activities at the George Washington University (GW), GW School of Medicine and Health Sciences, the GW Medical Faculty Associates, the GW Hospital, and GW's Milken Institute School of Public Health, and serves as a platform to refocus and re-energize the university's efforts in cancer research and patient care. For more information about GWCC, visit gwcancercenter.com.



GWCC
Science and Engineering Hall
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Washington, D.C. 20052
202-994-0329

re:
is published biannually by
GW SMHS
Office of Communications
and Marketing



Support for Health Equity

THE GEORGE WASHINGTON UNIVERSITY CANCER CENTER (GWCC), with two grants totaling more than \$1 million, continues to prioritize health equity and cultural sensitivity for patients and providers in the Washington, D.C. area.

A \$1 million grant from the Pfizer Foundation, will advance equitable, patient-centered care through improved conversations, with an emphasis on patient health literacy and cultural sensitivity.

“We will develop tools to help patients identify their priorities for care and clarify when information is confusing,” explained Mandi Pratt-Chapman, principal investigator and associate center director for patient-centered initiatives and health equity at GWCC. “We will also train patient navigators and clinicians on communication techniques to support patient engagement and understanding of information across diverse and intersecting backgrounds.”

The project will examine the ways in which gender, gender identity, sexual orientation, race, ethnicity, and income affect the patient-provider relationship. It will also determine whether providers, with training, will be more confident and committed to providing culturally sensitive care to those with different experiences.

In further promoting cultural sensitivity, GWCC received a \$100,000 grant from Susan G. Komen as part of a local investment of more than \$1 million ahead of the 27th Annual Komen D.C. Race for the Cure in early May. With funding from the grant, GWCC will launch a project to increase Washington, D.C.’s lesbian, bisexual, and transgender (LBT) community’s health literacy and engagement in health care. It will also help health professionals to provide culturally sensitive care to LBT patients at risk or diagnosed with breast cancer.

“Komen’s support will help us encourage patients to share in decision-making about their treatment, educate clinicians and staff on strategies to provide affirming, sensitive care to LBT breast cancer patients, and raise awareness about unique cancer risks for LBT individuals,” Pratt-Chapman said.

STATS ON LBT AND D.C. CANCER RATES:

- > D.C. has the highest breast cancer death rate in the nation
- > D.C. also has the highest LBT population per-capita in the nation
- > Lesbian and bisexual women in same-sex relationships are 3.2 times more likely to have fatal breast cancer than heterosexuals

Pushing for Prevention

COLORECTAL CANCER, THE SECOND-LEADING CAUSE of cancer-related deaths nationwide when men and women are combined, is one of the few cancers that can be prevented. Through proper screenings, doctors can find and remove polyps, or growths, in the colon before they become cancerous.

To aid in the promotion of screenings, the George Washington University Cancer Center (GWCC) has joined with nearly 1,000 local and national organizations to support the “80% by 2018” initiative, led by the American

Cancer Society (ACS), the Centers for Disease Control and Prevention, and the National Colorectal Cancer Roundtable. The initiative aims to have 80 percent of adults age 50 and over regularly screened for colorectal cancer by 2018.

“Our support of the 80% by 2018 initiative represents a continuation and recognition of our work in comprehensive cancer control,” said Mandi Pratt-Chapman, associate center director for patient-centered initiatives and health equity at GWCC. “We are committed to spreading the

word about the importance of regular colorectal cancer screening.”

GWCC has made several inroads in promoting colorectal cancer screenings; it contributed to the ACS Colorectal Cancer Survivorship Care Guidelines and launched a survivorship module in its e-learning series for primary care providers. GWCC has also created a social media toolkit to promote screenings, coordinating its release with the launch of the “80% by 2018 Communications Guidebook: Effective Messaging to Reach the Unscreened.”

Access to Care Policy Summit

CONSTANCE M. YANCY, MBA, RN, program manager in the Division of Quality and Health Outcomes, Department of Health Care Finance, signs up for the care coordination and system fragmentation discussion group during GWCC’s Access to Care Policy Summit. The summit, one of several held this year, brought together those in strategic positions to focus on policies designed to amend disparities in cancer care and outcomes.





DC RELAY FOR LIFE

George Washington University Cancer Center (GWCC) partnered with the American Cancer Society (ACS) to serve as the Presidential Sponsor of the 2016 DC Relay for Life. Billed as “the largest block party in the world,” with food, music, and entertainment, the ACS Relay for Life featured teams of colleagues, families, and friends who took turns walking the track at Half Street Fairgrounds (next to the Washington Nationals Park) in celebration of cancer survivors and in memory of those who have been lost to the disease. GWCC Director Eduardo M. Sotomayor, M.D. (left), and Elizabeth Franklin, M.S.W., ACSW, director of policy and engagement for GWCC’s Institute for Patient-Centered Initiatives and Health Equity (center), were among the members of GWCC’s relay team.

Saving Our Skin

ALEJANDRO VILLAGRA, PH.D., ASSISTANT PROFESSOR in the Department of Biochemistry and Molecular Medicine at the George Washington University (GW) School of Medicine and Health Sciences, and his colleagues received a \$500,000 grant from the Melanoma Research Foundation to further their work using immunotherapy to treat melanoma.

The team includes Villagra; Eduardo M. Sotomayor, M.D., director of the George Washington University Cancer Center; and Jeffrey S. Weber, M.D., Ph.D., deputy director at the Laura and Isaac Perlmutter Cancer Center at the NYU Langone Medical Center.

Villagra is working to merge two different areas of therapy: immunotherapy and epigenetic modifiers.

He found, using in vitro and in vivo models, that when the two therapies are mixed, the efficiency of the immune system is improved, allowing it to attack and control cancer.

Because of that, he said, the researchers are not focusing on the tumor itself, but trying to help people’s bodies recognize the cancer and fight it.

George Washington University Cancer Center Takes a Collaborative Approach to Genitourinary Oncology

THE GEORGE WASHINGTON UNIVERSITY CANCER CENTER (GWCC) recently tapped Jianqing Lin, M.D., associate professor of medicine and physician in the Division of Hematology/Oncology, and Harold Frazier II, M.D., FACS, professor of urology, to lead the center’s Genitourinary (GU) Oncology Multidisciplinary Program. The program will help grow research into GU cancers and patient therapies.

The GU tract includes the kidneys, the bladder, the ureters, the urethra, and, in men, the testicles and the prostate. As leaders of the program, Lin and Fraizer will foster collaborations between oncologists, urologists, radiologists, radiation oncologists, pathologists, and other health care professionals throughout GWCC.

“The GU Oncology Multidisciplinary Program will provide more opportunities for our GU care and research teams to work closely on identifying new strategies that will improve the lives of our patients,” said Eduardo M. Sotomayor, M.D., director of the GWCC.

Steering Toward a Cure

REPRESENTATIVES FROM THE EAGLEBANK FOUNDATION joined members of the George Washington University Cancer Center (GWCC) and the George Washington (GW) Medical Faculty Associates to announce the gift of \$750,000 for a new mobile mammography unit, the "Mammovan." The Mobile Mammography Program, which began in 1996, brings early breast cancer detection to women throughout Washington, D.C., regardless of their ability to pay.

"It's really a very exciting time in our history; we have this new van that will allow us to serve more women and use newer technology," said Rachel Brem, M.D., program leader of the Breast Cancer Multidisciplinary Program at



Breast cancer is curable if it's detected early, and mammograms are essential to the screening process.

GWCC and professor of radiology at the GW School of Medicine and Health Sciences, at a reception held Oct. 6.

Breast cancer is curable if it's detected early, said Brem, and mammograms are essential to the screening process. What's critical, she added, is reaching out to women in underserved communities, particularly in Washington, D.C., which has the

highest death rate from breast cancer in the country. The Mammovan, due to its mobility, breaks down geographical barriers. The self-contained vehicle, outfitted with the latest imaging equipment, visits corporate and commercial sites to provide screenings to working women and those without access to health care facilities. With appointments generally lasting between 15 and 30 minutes, the Mammovan has been able to screen more than 2,000 women annually at 160 locations across the metro area.

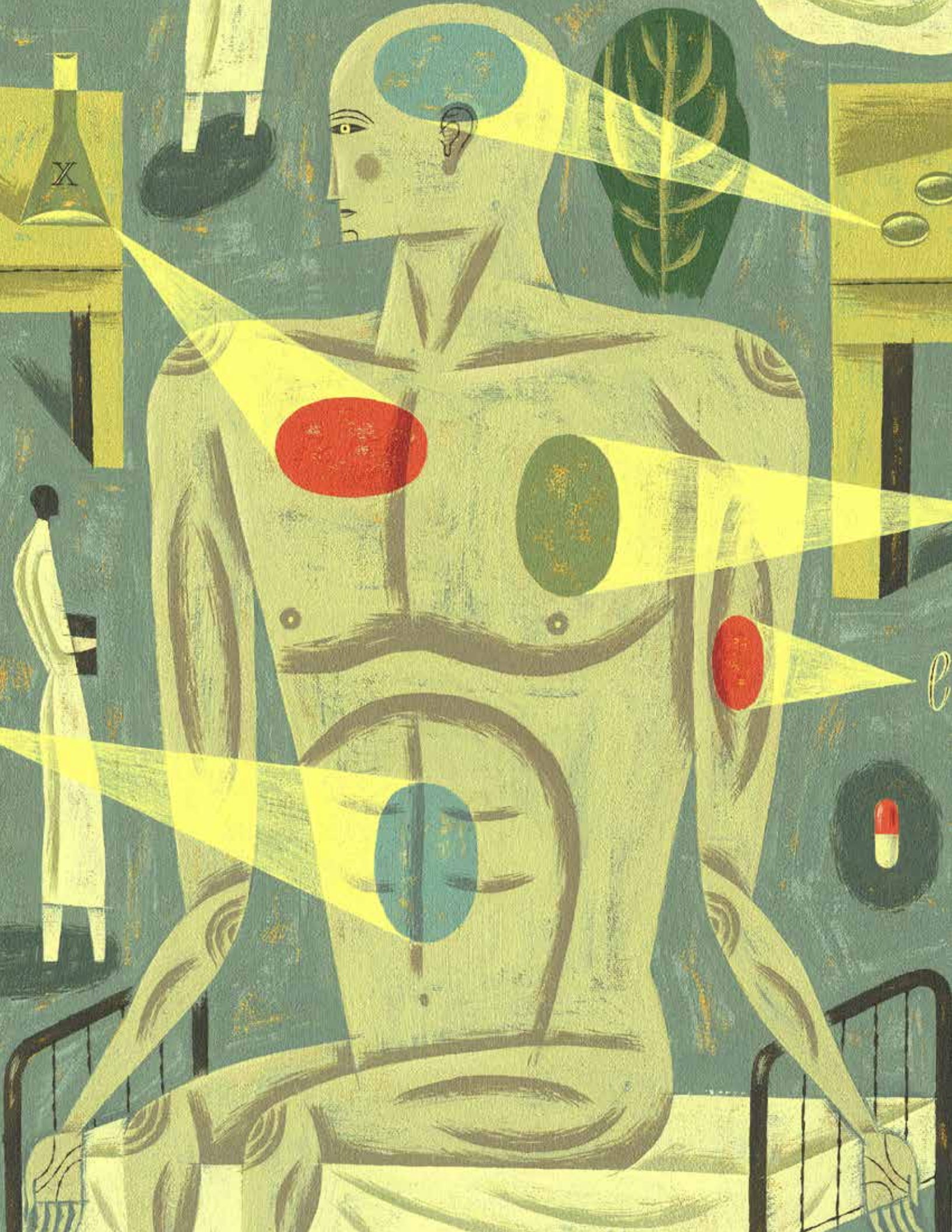
"EagleBank and the [EagleBank] Foundation together are energized to be part of something that has had such a tremendous impact on the women in our community," said Donald R. Rogers, chair of the EagleBank Foundation. "Those women who would not have access to mammograms are so well-served

A NEW MAMMOVAN

Representatives from the EagleBank Foundation presented the George Washington University Cancer Center and the George Washington Medical Faculty Associates with the gift of \$750,000 for a new mobile mammography unit.

by the concept of having a mobile Mammovan out there, going to them, reaching out."

The EagleBank Foundation, created to support local organizations that provide research and services to survivors of breast cancer, made its largest contribution to a single organization with the gift of the new Mammovan. The founder of the EagleBank Foundation, Ron Paul, also promotes kidney disease and transplant awareness, education, and service through the newly created GW/Ron and Joy Paul Kidney Center.



Stronger Together

GW UNITES TO ADVANCE CANCER RESEARCH, CARE

BY **KATHERINE DVORAK**

Katzen brings to GWCC its charge “to foster scientific research in cancer and provide personalized and empathetic clinical care for cancer patients.”

ROBERT SIEGEL, M.D. '77

UNDER THE UMBRELLA OF A new cancer center, George Washington University’s (GW) School of Medicine and Health Sciences (SMHS), GW Hospital, the GW Medical Faculty Associates (MFA), and GW’s Milken Institute School of Public Health (Milken SPH) will link clinical care, research, outreach, education, and policy with a common goal in mind: to lessen the burden of cancer and to advance cures in the nation’s capital.

The George Washington University Cancer Center (GWCC), directed by Eduardo M. Sotomayor, M.D., who also serves as director of the Division of Hematology and Oncology at the GW MFA and professor of medicine at SMHS, offers a unique opportunity for the university to build on its past with an eye toward a future of greater innovation, enhanced multidisciplinary work, and a united commitment to lead the way in fighting cancer. Those efforts also will include earning a National Cancer Institute designation within the decade, a major goal championed by Sotomayor.

Approaching New Horizons

Two major GW initiatives, the Institute for Patient-Centered Initiatives and Health Equity (IPCIHE) and the Dr. Cyrus and Myrtle Katzen Cancer Research Center (Katzen), come into the fold under GWCC, combining separate histories and missions to support one common vision.

IPCIHE has grown in size and scope in its 13 years, and brings patient navigation, patient support, and its strong Washington, D.C. community ties to GWCC.

“With all of our projects, we focus on how to best prepare patients, how to support health care providers in their work, and how to facilitate supportive systems,” says Mandi Pratt-Chapman, GWCC associate center director for patient-centered initiatives and health equity. She adds that IPCIHE’s work has expanded to include a multi-level approach that addresses cancer health disparities alongside patient-centered care.

In addition to IPCIHE, Katzen brings to GWCC its charge “to foster scientific research in cancer and provide personalized and empathetic clinical care for cancer patients,” says Robert Siegel, M.D. '77, associate center director for education and training at GWCC and professor of medicine at SMHS.

Katzen, which was made possible through a \$10 million gift from Cyrus Katzen, a noted dentist and philanthropist in the Washington, D.C. area, provides critical support through its innovative cancer research pilot grant program, which in 2010 began funding a series of seven one-year research grants. "It's a collaborative program between GW and the GW MFA to try to come up with translational research that could be implemented in patient care sooner than basic research could," explains Leo Schargorodski, executive director of Katzen.

Today, Katzen includes oncology and hematology units, an infusion center, and offers clinical care, social services, and specialized programs for cancer patients.

With leadership from IPCIHE and Katzen coming together to work for a shared mission under GWCC, the ability for collaboration around available pilot funding resources will blossom.

"The senior leadership team has created a strategy in terms of what types of programs we want to build to develop a strong, distinctive team of GW investigators who have the capacity to dramatically impact both cancer care and science," says Michael K. Benedict, Pharm.D., associate center director for administration and finance at GWCC.

Schargorodski agrees, adding that he sees an exciting time ahead, especially in light of the opening of the eighth floor of the new, state-of-the-art Science and Engineering Hall, where GWCC is housed.

In addition to providing a home for IPCIHE and Katzen, GWCC is linking researchers across GW's campus –

"We focus on how to best prepare patients, how to support health care providers in their work, and how to facilitate supportive systems."

MANDI PRATT-CHAPMAN

“The GW
community has
a unique set
of resources
to draw upon
to build an
exceptional
cancer center.”

EDUARDO M. SOTOMAYOR, M.D.



A COMMITMENT TO FIGHT CANCER

The George Washington University Cancer Center is directed by Eduardo M. Sotomayor, M.D., (second from left) who also serves as director of the Division of Hematology and Oncology at the GW MFA and professor of medicine at SMHS. At Sotomayor's left is Mandi Pratt-Chapman, associate center director for patient-centered initiatives and health equity. To the right is Robert Siegel, M.D. '77, associate center director for education and training, professor of medicine; Michael K. Benedict, Pharm.D., associate center director for administration and finance; and Edward Seto, Ph.D., associate center director for basic sciences, professor of biochemistry and molecular medicine.

including the Milken SPH, the School of Engineering and Applied Science, and the Columbian College of Arts and Sciences – with pediatric cancer researchers at Children's National Health System.

“The GW community has a unique set of resources to draw upon to build an exceptional cancer center,” says Sotomayor. “Our goal is to develop something here that is truly special and one of a kind.”



Expanding Efforts

BY **KATHERINE DVORAK**

“Scientists have to work together, where they can bounce ideas off each other and work in groups to do things beyond each [person’s] expertise.”

EDWARD SETO, Ph.D.

THE DAYS OF BASIC SCIENTISTS laboring in virtual isolation in their labs in search of the next discovery are well in the past. In today’s research world, collaboration is key. That’s never been more evident than in the sparkling new facilities on the eighth floor of George Washington University’s (GW) newly built Science and Engineering Hall (SEH), which reflects the importance of having a space dedicated to collaboration across disciplines.

The SEH, which overall spans 500,000 square feet, is the largest academic building dedicated to the fields of science and engineering in Washington, D.C., and the very top floor is now home to a growing number of cancer research labs run by George Washington University Cancer Center (GWCC).

Having the space allows GWCC and SMHS to broaden their research efforts, especially when it comes to cancer and translational science, says Edward Seto, Ph.D., associate center director for basic sciences at GWCC and professor of biochemistry and molecular medicine at SMHS.

Two current key areas of emphasis in the labs include cancer epigenetics and immunology and immunotherapy, says Seto, who provides leadership for the development, implementation, and evaluation of basic science-related programs and initiatives. He says scientists in other areas of the new labs will dedicate research to microbial oncology, work that will be done with the help of the Department of Microbiology, Immunology, and Tropical Medicine at SMHS.

In addition, the space will better foster collaboration between students and researchers in both SMHS and in the School of Engineering and Applied Science, Seto says.

“A lot of non-scientists think research is [based on the idea of] someone who’s doing experiments alone in the basement or garage,” he says. “But that’s not how science is done.

Scientists have to work together, where they can bounce ideas off each other and work in groups to do things beyond each [person's] expertise."

Every inch of the new floor, Seto goes on to say, "has been designed to promote collaboration and the exchange of ideas. With everyone working together, good ideas are bound to come out of it."

Currently, seven SMHS labs occupy the 22,000 square feet of space on the eighth floor, and another three groups will be added by the beginning of 2017, according to Seto. When the floor is completely filled, he says they anticipate there will most likely be between 12 and 15 labs there.

The floor also includes 19 offices, 60 workstations, and common and meeting areas. It features state-of-the-art equipment that will enable researchers to carry out their molecular biology, biochemistry, and cell biology work, Seto says. In addition, the floor will house a new facility to perform patient-derived xenograft model studies, a preclinical platform that will help predict the effectiveness of novel targeted agents for cancer patients.

Seto adds that the building and the eighth floor show GW's commitment to advancing both science and engineering, "something everyone is very happy about."



Purpose Built

WITHIN THE 500,000 SQUARE FEET of the new Science and Engineering Hall (SEH), researchers and students from the George Washington University (GW) School of Medicine and Health Sciences (SMHS) are hard at work not only on the eighth floor, but also in other areas of the building, including a specialized Nanofabrication and Imaging Center (NIC), operated by the Office of the Vice President for Research.

The NIC is one of the most pristine areas on campus. It houses a class 100 cleanroom equipped with a full spectrum of nanotechnology equipment that will be used to create devices that are tens of nanometers in size in an environment free from contaminants.

The neighboring microimaging suite is filled with modern microscopy instrumentation, allowing visualization of atomic structures, integrated microcircuits, neuronal circuits, and more. The advanced tools and technologies will allow researchers to study samples in ultra fine detail and allow them to create large 3 D reconstructions of specimens.

For Anastas Popratiloff, M.D., Ph.D., adjunct professor of anatomy and regenerative biology at SMHS, combining microscopy and nanofabrication capabilities under one roof is a great approach.

"I believe in technology, and I believe technology can change perceptions," he says. "This is the kind of thing that's going to move us forward."

The new research infrastructure will expand the scientific and applied research GW does, he says. In addition, it stimulates sharing not only of equipment but also ideas between students and faculty in the Columbian College of Arts and Sciences, the School of Engineering and Applied Science, and SMHS.

"I think collaboration is becoming more and more important," Popratiloff says.



Putting Cancer in Perspective

George Washington University Cancer
Center Unites a Diverse Team of
Investigators to Approach Cancer
from More Than One Angle



BY **MOLLIE BLOUDOFF-INDELICATO**

NAME A BODY PART OR organ system – skin, lung, prostate, breast, colorectal, kidney, bladder, thyroid – and you can be certain that there is a kind of cancer that targets that area, and each type presents its own unique treatment challenges. To address the multidimensional world of cancer, the George Washington University Cancer Center (GWCC) offers an interdisciplinary approach to cancer research and treatment, pairing clinicians with immunologists, geneticists, bioengineers, microbiologists, and policy experts to offer broad exploration of the disease.

Building partnerships among GWCC's myriad departments is crucial to the center's mission. An interdisciplinary approach to cancer care and treatment leads to fresher perspectives and expertise, which in turn leads to greater breakthroughs. It also allows researchers more opportunities to learn from one another.

"Fostering interdisciplinary collaborations ... is extremely important," says Eduardo M. Sotomayor, M.D., director of GWCC, director of the Division of Hematology and Oncology, and professor of medicine at the GW School of Medicine and Health Sciences (SMHS). "We really want to have an impact in cancer care in our community and beyond."

Bioengineering

One of the most productive interdisciplinary partnerships is between

GWCC and GW's Department of Biomedical Engineering in the School of Engineering and Applied Science.

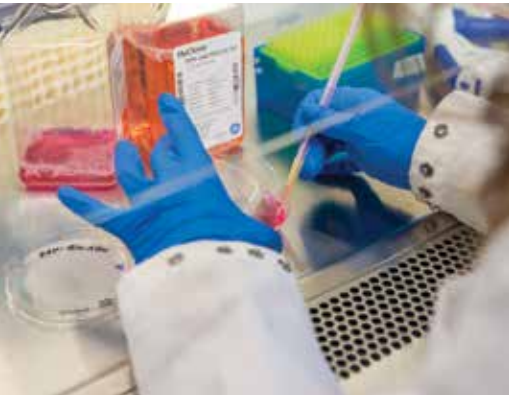
Through a \$6 million grant from the Leducq Foundation, a private human health care foundation that pairs researchers at top universities in the United States with universities in Europe, the department is focusing on cardiac regularization, or, more specifically, how to prevent heart arrhythmias. Cancer patients undergoing chemotherapy treatments, for example, may experience chemo-related heart issues, and researchers believe they can help stave off cardiac conditions.

"One of the major problems in cancer drug development is that many of these drugs have cardiac toxicity," says Igor Efimov, Ph.D., chair of the Department of Biomedical Engineering who was recently appointed program leader of Cancer Engineering and Technology Program at GWCC. "The chemotherapy agent used in breast cancer is very effective but, in many patients, it has side effects that have severe cardiac myopathy – heart failure."

Efimov and his team are studying the mutations in genes responsible for heart failure, and they're using actual hearts donated to science, rather than the traditional mouse models or human cells.

"[Previously], the only way to study the toxicity of drugs before [going to drug trials] was in animal models or cell





lines," Efimov says, "but if a medication is not toxic in a mouse, that doesn't mean it won't be toxic in a human."

Even human cells don't offer a good comparison to a real heart. "Your drug might be nontoxic in a cell line, but when you try to do it in human patients, it doesn't work," he adds.

GW, however, is working with the Washington, D.C. regional transplant community to ensure they have hearts available for the study. Once the lab receives a heart, researchers cut the cardiac tissue into pieces of 300 micrometers, about the circumference of a human hair, and then run tests.

The George Washington University Cancer Center offers an interdisciplinary approach to cancer research and treatment.

"[With] real human hearts, we can test for various therapies and drugs," Efimov explains. "This will help accelerate drug development for lots of drugs for cancer [and] for heart disease."

Cancer Immunology and Immunotherapy

GWCC also is tapping into the use of novel knowledge to harness the immune system against cancer. Immunotherapy is "revolutionizing the way we treat cancer," Sotomayor says. Although cancer immunotherapy has been around for several decades, only in recent years

has this field met success and begun making significant strides in our war against cancer. Unfortunately, the newly developed therapies only benefit a fraction of cancer patients.

To better understand why so few benefit from these novel immunotherapies, researchers at GWCC are looking to understand mechanisms of resistance to checkpoint blockade strategies or (chimeric antigen receptor) CAR-T cells as well as test pre-clinical models combinatorial approaches of these transformational agents with drugs targeting epigenetic pathways in immune cells, "Cancer Immuno-epigenetics."

GWCC researchers are also focusing on developing the next generation of CAR T-cells with a special emphasis in solid malignancies. By growing more specific and multi-functional CAR T-cells in a laboratory, researchers can help fight cancerous tumors, according to the National Cancer Institute. In collaboration with investigators at Children's National Health System, who have developed several clinical protocols for children with cancer, GWCC will be expanding CAR T-cell therapy to adults cancer patients in the DC area and surroundings.

"We're bringing innovative research to areas in need," Sotomayor says.

"We are not just repeating what other cancer centers are doing – we're coming with our own set of unique ideas."

Microbial Oncology

GW is expanding its potential treatment options with microbial oncology, a burgeoning field that looks at the association between microbes and cancer.

"There are viruses that are associated with cancer – HIV, Hepatitis C, HPV – but there are other microorganisms that are associated with cancer development," Sotomayor explains.

By genetically modifying microorganisms, researchers believe they can better fight cancer. One of GWCC's current projects is manipulating a parasite that can travel to organs difficult for drugs to reach. The idea is to use these modified microbes or parasites to get into a cancerous tumor and release a dose of medication that will then kill the tumor.

"The microbes you have in your gastrointestinal tract or skin can either fight cancer or make a person more susceptible to cancer," Sotomayor explains.

Policy

Situated less than 3 miles from the United States Capitol building, GW is in a unique position to advocate for patients on a higher scale.

GWCC, along with SMHS, the GW Milken Institute School of Public Health (SPH), and GW Law, has a cancer policy program that uses an interdisciplinary approach to create white papers and engage the policymakers in Washington, D.C.

"We have a unique opportunity in Washington," Sotomayor says. "We'll bring all the stakeholders that are

here in Washington [together]. It's about [putting] everyone in one room and finding solutions. We can become the epicenter of these discussions here at George Washington."

GWCC has already made strides. For instance, the leadership at GWCC found that Medicaid patients in Washington, D.C. didn't have access to chemotherapy drugs. This finding triggered the creation of a task force led by Mandi Chapman, associate center director for patient centered initiatives and health equity and Sara Rosenbaum, J.D., professor of health policy at the Milken SPH and Harold and Jane Hirsh Professor of Health Law and Policy at GW Law. After the task force met with D.C. Medicaid officials, the center can now take patients through this health care program.

With the arrival of 2017, GWCC is prioritizing growth. The center will hire more basic, population researchers as well as clinical investigators to ensure it can translate novel scientific discoveries into even better cancer prevention and care for the population we serve in our catchment area and beyond. Sotomayor also plans to expand research in precision medicine by integrating university-wide efforts in genomics, big data, bio-informatics, biostatistics and computational sciences.

"I am amazed by the talent that is here," Sotomayor says. "[This is an] exciting [time] to build an innovative cancer center in the nation's capital."



PRIORITIZING GROWTH

In 2017, the George Washington University Cancer Center (GWCC) is prioritizing growth. The center will hire more basic, population researchers as well as clinical investigators to ensure it can translate novel scientific discoveries into even better cancer prevention and care for the population we serve in our catchment area and beyond. Sotomayor also plans to expand research in precision medicine by integrating university-wide efforts in genomics, big data, bio-informatics, biostatistics and computational sciences.



A TEST OF FAITH AND ENDURANCE

Amy Jones began to feel twinges of pain near her left breast in 2015. She has now completed her chemotherapy treatments, and she is on maintenance therapy.

The Ballad of Ms. Jones

AMY JONES, OR “MS. JONES” as she’s known around the George Washington University Cancer Center (GWCC), flips through a catalog of head wraps and scarves, discussing her choices while the machines in the treatment room punctuate her rolling monologue with beeps.

“I came [into the world] with no hair, I have no hair now, [God] gave me hair then, he’ll give me hair again,” she says to her patient navigator, Eva Ruiz, who laughs.

“What about that scarf I gave you?” Ruiz asks.

“You should’ve seen me tie that thing,” Jones says. “Girl, every time I would slip one way, it’d slide the other. And you know what? I walked in church that day, just like this, [without a wig]. The pastor looked at me, and I smiled.”

Jones is a loyal churchgoer whose life path – one that’s exceedingly unusual in a staid city like Washington, D.C. – has led her to GWCC. Born to unmarried parents, she was sold to a couple who couldn’t have children. “I’ll tell anybody, I’m blessed because Vivian and Mac got me for a half-a-pint of liquor,” Jones says. “The reason why I say I’m blessed is there’s no telling where I’d be today if [Vivian] hadn’t stepped up.”

Vivian and Mac put her through Catholic school, and with them, “everything was beautiful,” Jones says. After graduating, she held a succession of jobs in health care – geriatrics was her calling, she explains – and the EPA, and she met her husband when he was stationed at Fort Bragg, North Carolina. Together, they had four children.

“I lost my namesake,” she adds, adjusting the white blanket tucked around her. “I had a junior: Amy Vivian Brooks II. I lost her to breast cancer in 2014.” Jones began to feel her own twinges of pain near her left breast a year later.



"That's something that took me back, when I was diagnosed with [stage 4 breast cancer]," she recalls. "Then I begin to argue and fight with God. You took my child, and then you give me breast cancer? Isn't that kind of backwards, God? I went into a battle for about two days with him."

She heard his voice one night, she says, calling to her, "You got it." Frantic, she rushed out of her home and called her friend. "She bust out laughing," Jones says. "She said, 'You don't get it yet, do you? When are you going to learn to shut your mouth and listen? That was God answering you, you dummy.' And then everything else transpired."

Initiating treatment, however, turned into a second battle for Jones; it was difficult for her to negotiate the various appointments, and she was reluctant to attend wound care services – until Ruiz stepped in.

"I will make it happen," Ruiz recalls saying. She arranged for transportation, called the wound care office to make sure Jones would have an appointment, and provided emotional support. Once Jones fully engaged in her treatment plan, "she was a peach," Ruiz says.

"It was scary at first," Jones recalls. "I'm a wuss for needles. Everybody on this floor will tell you, when it comes to needles, they've got to hold my hand, and I'm scrunching [my face] up and everything, but the team that I am with has dealt with my idiosyncrasies, let's put it that way. They have walked me through, they've held my hand."

Jones has now completed her chemotherapy treatments, and she is on maintenance therapy every three weeks, indefinitely.

"I'm 65 years old," she says. "I don't care what anybody says; when something like this comes up, it's not only a test of your faith, it's a test of endurance."

Her reward, she says, was returning to her church to rejoin the gospel choir, whose members had been praying for her.

On the first Sunday in November 2016, Jones was there, in full-voice, with the choir that brings her such comfort and joy. "It's something about singing, especially about singing gospel, that I just love. It takes me to another whole level. It's a beautiful thing."

"When something like this comes up, it's not only a test of your faith, it's a test of endurance."

AMY JONES





WASHINGTON, D.C. IN NUMBERS

49%

49% of the population in Washington, D.C. is **African American**

The African American mortality rate is

11% higher

than national average

1 in 3

1 in 3 patients in Washington, D.C. are on **Medicaid**

highest

Washington, D.C. has the highest pancreatic cancer incidence in the United States

largest

Washington, D.C. has the largest LGBT population per capita in the United States

highest

Washington, D.C. has the highest prostate cancer death rate in the United States

10th

Washington, D.C. has the 10th highest overall rate of cancer incidence of major U.S. cities

6%

Washington, D.C. has an 6% cancer incidence – highest in the United States

Gay men are **twice as likely** to be diagnosed with cancer

Lesbian and bisexual women are **3.2 times** more likely to have fatal breast cancer

> Data from the National Cancer Institute and the DC Department of Health.



THE ASSOCIATE CENTER DIRECTORS
 The George Washington University Cancer Center's associate center directors bring vast experience to the leadership table. From the top: Edward Seto, Ph.D., Michael K. Benedict, Pharm.D., Mandi Pratt-Chapman, and Robert Siegel, M.D.

Leading from the Center

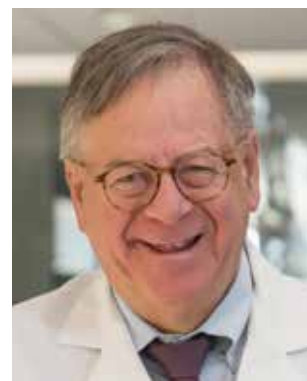
AT THE GEORGE WASHINGTON UNIVERSITY CANCER CENTER (GWCC), the new crop of associate center directors (ACD), from diverse professional backgrounds, bring vast experience to the leadership table. The ACDs will provide support to GWCC Director Eduardo M. Sotomayor, M.D., as he works to build out the staff and achieve National Cancer Institute (NCI) designation within the decade.

Michael K. Benedict, Pharm.D., is the newest addition to GWCC, with his appointment as ACD for administration and finance. He oversees the central administrative functions of the center. Benedict joins GW from Georgia Regents University Cancer Center in Augusta, Georgia, where he served as the ACD for administration. In this role, he provided administrative leadership and oversight for the clinical and research components of an emerging NCI-designated cancer center. Before that, Benedict served as ACD for administration at the H. Lee Moffitt Cancer Center and Research Institute (Moffitt Center), an NCI-designated Cancer Center in Tampa, Florida.

GWCC's ACD for basic sciences is **Edward Seto, Ph.D.**, who comes to GW from the Moffitt Center, and is also a professor of biochemistry and molecular medicine. In his ACD role, Seto not only collaborates with other ACDs, including those in clinical investigations, population sciences, administration, and education, to promote the integration of programs, but he also works with other leaders to identify potential programs across all areas of science. In addition, Seto provides leadership for the development, implementation, and evaluation of basic science-related programs and initiatives.

Mandi Pratt-Chapman, ACD for patient-centered initiatives and health equity, focuses on national research for patient-centered care and integration of research into practice. In her role at GWCC, she is responsible for creating a patient services program, growing community relationships, and maintaining a portfolio of projects related to patient-centered care. Pratt-Chapman joined GW's cancer efforts in 2008 and became the director of the GW Cancer Institute in 2012. She is a founding director and the driving force of several GW initiatives that have had a lasting and profound impact on the national landscape for patient navigation and cancer survivorship policy and training.

GW's School of Medicine and Health Sciences' **Robert Siegel, M.D. '77**, serves as GWCC's ACD for education and training. Siegel, who joined the faculty at SMHS in 1982 as a professor of medicine, was the founding director of the Dr. Cyrus and Myrtle Katzen Cancer Research Center at the GW Medical Faculty Associates. His research interests focus on refining therapies for breast and head and neck cancers. Siegel was among the first to document that young African American women are more likely to develop biologically more aggressive cancer compared to Caucasians and Hispanics. He has supervised the medical school's second-year program in hematology since the fall of 1982, and is the director of the GW Board Review Course.





Going to the Mat

BY **KATHERINE DVORAK**

COLORFUL YOGA MATS DOT THE floor in the activities room of George Washington University's Cloyd Heck Marvin Center during the gentle yoga class, where cancer patients and their families from across the Washington, D.C. area come to reduce stress and achieve a sense of mindfulness.

When a person is first diagnosed with cancer, they may not be in the best mindset, and yoga is a way to decompress, says Aaron Wertlieb, a class regular.

After being diagnosed with prostate cancer, Wertlieb says his doctors at GW thought the class would help him manage both the stress of the diagnosis and the stress of his IT job at a downtown Washington, D.C. law firm. While at first skeptical about what yoga could offer him, Wertlieb says now he goes out of his way to make it to every class.

"When I miss a week, I really feel it physically and spiritually," he says of the weekly sessions, which typically draw about eight to 12 people. "I try not to miss any because it really helps."

Wertlieb points to class instructor, Yael Flusberg, as the center of his newfound dedication to yoga.

"I've heard a lot of people who take yoga say they have a lot of positive or negative experiences depending on the teacher. I think Yael has a special heart for the class and how she handles the people there," he says.

YOGA AS STRESS REDUCTION

A cancer diagnosis often increases a patient's stress level. By taking a yoga class, patients can reduce stress and achieve a sense of mindfulness. Here, cancer patients and their families participate in a gentle yoga class at the George Washington University's Cloyd Heck Marvin Center.



That level of understanding, Flusberg says, always came naturally to her, but since her own breast cancer diagnosis in the spring of 2016, it's become something much more.

"Being diagnosed gave me insight and made me more mindful of the different phases of cancer. It's really allowed me to open my heart," she says.

Flusberg, a trained yoga therapist, Reiki teacher, and board-certified polarity therapist at the GW Center for Integrative Medicine, says she works in a more therapeutic context than a regular yoga instructor.

She emphasizes relieving the stress that comes with being a cancer patient, and helping class members "find a place of relaxation and peace within a time of chaos [and] confusion," Flusberg says.

It's that approach that appeals to Wertlieb – that and the support the group's members offer him. "I went through a lot of crazy stuff ... last year," he says, "and if it wasn't for them, I would have struggled with those things much more."

Flusberg also understands the need for that support during instruction. She says when she started teaching the class four years ago, Jennifer Bires, LICSW, a clinical social worker in the Division of Hematology/Oncology who leads the cancer support groups program, told her: It's not just about the yoga, it's really another support group.

With that in mind, Flusberg says she tries to cultivate a sense of ease and friendship between the class members. They know when someone will be undergoing chemotherapy or when it's someone's last week of radiation. There's always extra support offered from each member outside of the regular class hour, she says.

Gentle yoga, which has been around for about four years, is just one of many support groups offered through the George Washington University Cancer Center. Additional programs include the Caregivers' Support Group, Nutrition Club, Young Adult Group, and Survivorship Series, among many others. All classes are free and open to the public.

"We try to have something for everyone: we want to make sure that no matter where someone is on the cancer continuum, that we have a group that they could benefit from," Bires says.

"Cancer can be a pretty isolating experience, and all of our support groups allow people to find other people like them," she adds. "It becomes an important part of their journey and makes something positive out of a bad experience."

Wertlieb says he has yet to try any other classes, but he has seen some that interest him that he may join. He adds that he's currently in a place where he's glad he can do an activity as physical as yoga.

Flusberg understands that, and says one of her goals is to make sure class participants don't feel like porcelain dolls. The class is not only about relaxation methods, but also focuses on balance and posture. In addition, Flusberg says, she wants students to feel comfortable in their own bodies, even as the cancer may be changing how they see themselves.

"[O]ften there's a sense that the body has betrayed them. So, for me, the most important thing that I could do ... is have people develop a sense of friendliness and relationship with their bodies," Flusberg explains.

It's also a safe space to explore, she adds, and if a participant wants to try a more challenging position, she will offer a modification. But, like in Wertlieb's case, it's also a great place for people who have never done yoga before.

Wertlieb says it has shown him how helpful the exercise can be. "I was definitely a little hesitant and skeptical, but I'm not anymore."

"When a person is first diagnosed with cancer, they may not be in the best mindset, and yoga is a way to decompress."

AARON WERTLIEB

SUPPORT GROUPS

The George Washington University Cancer Center with support provided by the Dr. Cyrus and Myrtle Katzen Cancer Research Center (Katzen Center) supports a wide variety of holistic and wellness services for cancer patients and their families. These groups are free of charge and open to the community.

THE GW MEDICAL FACULTY ASSOCIATES

(GW MFA)
2150 Pennsylvania Ave., N.W.
Washington, D.C. 20037

ACTIVE TREATMENT

(all cancers)
Open to patients currently undergoing treatment.
Second and fourth Wednesday each month, 12:30–1:30 pm
MFA, first floor, 1-402
Facilitator: Jennifer Bires, LICSW
(202) 741-2218

CAREGIVERS' SUPPORT GROUP

Share common concerns, give and receive advice, and learn coping skills.
Third Tuesday each month, 12:30–1:45 pm
MFA, first floor, 1-402
Facilitator: Lindsay Blair, M.S.W.
(202) 677-6229

GYNECOLOGICAL CANCER SUPPORT GROUP

First and third Wednesday each month, 12:30–1:30 pm
MFA, first floor, 1-402
Facilitator: Lindsay Blair, M.S.W.
(202) 677-6229

HEAD AND NECK CANCER GROUP

For patients, survivors, and caregivers of head and neck cancers.
First Tuesday each month, 12:30–1:30 pm
MFA, Katzen Center board room
Facilitator: Lindsay Blair, M.S.W.
(202) 677-6229

MULTIPLE MYELOMA GROUP

This group is open to multiple myeloma patients, survivors, and caregivers. Meetings feature speakers as well as education and support. Please call to register.
Fourth Thursday each month, 5:30–6:30 pm
MFA, Katzen Center board room
Facilitator: Jennifer Bires, LICSW
(202) 741-2218

NUTRITION CLUB

First Monday each month, Noon–1 pm
MFA, Katzen Center board room
Facilitator: Jennifer Leon
(202) 741-6489

PROSTATE CANCER EDUCATIONAL GROUP

The prostate cancer educational group is free and open to patients, survivors, and caregivers in the Washington, D.C. metro area.
Second Tuesday each month, 6–7:30 pm
MFA, first floor, 1-402
Facilitator: Lindsay Blair, M.S.W.
(202) 677-6229

GENTLE YOGA

This group introduces patients and caregivers to the physical and emotional benefits of yoga.
Tuesdays, 5–6 pm
GW Marvin Center,
Fifth floor activities room
800 21st St., N.W.
Facilitator: Jennifer Bires, LICSW
(202) 741-2218

SURVIVORSHIP SERIES

An educational series featuring a different speaker each month.
Second Thursday each month, 11:45 am–12:45 pm
MFA, Katzen Center board room
Facilitator: Lindsay Blair, M.S.W.
(202) 677-6229

WASHINGTON, D.C. METROPOLITAN AREA BRAIN TUMOR SUPPORT GROUP

This group is open to patients/survivors with brain tumors and their caregivers. Outside professional speakers provide discussion on key topics.
First Thursday each month, 6:30–8:30 pm
MFA, Katzen Center board room
Facilitator: Jennifer Bires, LICSW
(202) 741-2218

YOUNG ADULT GROUP

Young adults (19 to 39 years of age) who are currently in treatment or are cancer survivors may attend this structured discussion group facilitated by two social workers.
Third Sunday of each month, 5–6:30 pm
The Charles E. Smith Center
600 22nd St., N.W.
Facilitator: Jennifer Bires, LICSW
(202) 741-2218

Parking is provided for all groups. For more information about upcoming support groups and events, visit smhs.gwu.edu/katzcancer/events.

All groups are free of charge and open to the community.





Heather Levin, M.D.

THE CANCER RESEARCH CHAPTER

BY **CJ TRENT-GURBUZ**

HEATHER LEVIN, M.D. '15, STARTED the research chapter of her life with help from mentor Lopa Mishra, M.D., director of the Center for Translational Medicine and professor of surgery with the George Washington University (GW) School of Medicine and Health Sciences.

"I had been talking with Dr. Mishra, who's the [primary investigator] of the lab I'm working with," Levin recalls. "I started working with her to compile some of her research and what I could potentially work on with her this year."

The two packaged that information and applied for a grant, the new Albert L. Tucker and Elizabeth T. Tucker Postdoctoral Fellowship, established through the Albert L. Tucker and Elizabeth T. Tucker Foundation and housed within the George Washington University Cancer Center (GWCC).

"We are very grateful for the support that has been provided by the Tucker Foundation," says Eduardo M. Sotomayor, M.D., director of GWCC. "It will enable us to provide valuable training to a fellow who will make a difference in the field of cancer research."

The \$1 million grant supports the postdoctoral training of a promising young cancer researchers; this year, that researcher was Levin.

"Having this award allows me to pursue a research year before I begin residency, which will allow me to strengthen my medical background and strengthen my science background before I start," she explains.

Levin, with Mishra, is focusing on liver cancer, one of the most common causes of cancer deaths worldwide. Together, they have traced two elements of the cancer: first, they identified the TGF-beta pathway, a cellular pathway that plays a significant role as a tumor suppressant; second, using the cancer genome atlas, a catalog of genome sequencing and genetic mutations from cancer patients, they discovered that the E3 ligase enzyme was altered in more than 50 percent of liver cancer patients identified in the atlas.

"Looking at that specific enzyme, it actually targets part of the TGF-beta pathway for degradation," Levin explains. "The TGF-beta pathway is playing a tumor suppressive role, and the E3 ligases are degrading a piece of that pathway [and] stopping that tumor suppressive role, so we believe that we can target those E3 ligase enzymes with various treatments. We can actually restore that tumor suppression role of that pathway in treating cancer."

She adds, "It's really exciting for me to have this research year."

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Cancer Center