Heart & Vascular Hospital Ushers in New Era in Patient Care

See page 3
Heart & Vascular Hospital Marries High Tech and Hospitality

After four years of substantive planning and construction, we gathered in June to celebrate the completion of the 160,000 square-foot Heart & Vascular Hospital, housed on four floors in MedStar Washington Hospital Center’s North Addition.

The health care team, past patients, donors and guests shared this moment of great satisfaction, which comes with successfully transforming a blank schematic into a centerpiece for advanced cardiovascular care.

But our pride in this accomplishment extends beyond the architectural form that follows the critical function of advanced cardiac care. Shaping an environment that evokes the feeling that this facility is a secure oasis for patients is as important. From the very beginning, we have focused on creating a hospital dedicated to our patients’ physical and emotional health.

CREATING A PATIENT OASIS

We’ve taken our cue from the derivation of the word hospital, which shares its Latin root with the words hotel and hospitality—“hospes,” which means “to welcome someone in my house, to offer comfort and shelter.”

In previous decades, health care may have lost sight of someone in my house; to offer comfort and shelter.”

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In the new Heart & Vascular Hospital we’ve integrated aspects of “hospitality” and “customer satisfaction” into hospital design and care protocols. Initiatives to improve communication; increase face-to-face interaction among staff, patients and families; reduce noise and wait times for tests, and create visually pleasing spaces have been critical components of our strategy.

We’ve also built greater efficiency into the delivery of services. Throughout the new facility, dedicated care teams are assigned to each patient around-the-clock, and work collaboratively with our cardiologists and vascular and cardiac surgeons to ensure continuity of diagnosis and treatment plans. The model of care helps to get patients in and out of the hospital quickly, both using their time more wisely while they’re hospitalized and preparing them for continued recovery once discharged.

ADDING VALUE TO A COMMUNITY RESOURCE

The opening of the Heart & Vascular Hospital is one important part of a comprehensive, long-term plan to refine and enhance MedStar Heart & Vascular Institute. Our network of cardiovascular care has been a valuable community resource for decades, and has evolved over time to keep pace with the needs of the region.

It is a “living entity” built for flexibility and change. With each alteration of the system, we have added value with greater geographic reach, and more expertise, convenience and care options.

Among the most important “added value” has been our unique collaborative alliance with Cleveland Clinic’s Heart & Vascular Institute. One component of this relationship is the direct-to-employer managed care network pioneered by Cleveland Clinic. We were the first of their allied organizations to become a part of this contracting network, and we anticipate providing cardiovascular services to a number of the region’s largest employers.

INVESTORS AND PARTNERS

Preparing for the future of the region’s heart care is a complex task, which we can’t tackle alone. Throughout our history we have had the support of a visionary group of dedicated donors. This project and many others have been our key to an ambitious capital campaign goal.

Nancy and Harold Zirkin have been among the most generous. We’ve recognized their $10 million contribution by naming our new facility in their honor.

On June 16, MedStar Washington Hospital Center dedicated the Nancy and Harold Zirkin Heart & Vascular Hospital. Essentially a hospital within a hospital, the Zirkin Heart & Vascular Hospital is the culmination of years of steady growth of MedStar Washington Hospital Center’s cardiovascular services, now called MedStar Heart & Vascular Institute (MHVI).

“There is a clear philosophy of collaboration among all our specialists here,” says Stuart Seides, MD, physician executive director, MHVI. “Excellence begets excellence. It’s our ethos.”

In the next six pages, you can see where we are today, how we got here and where we expect to go.
Dedication

Nancy and Harold Zirkin Heart & Vascular Hospital

at MEDSTAR WASHINGTON HOSPITAL CENTER

More than 300 donors, former patients, healthcare staff, elected officials, and guests gathered at MedStar Washington Hospital Center on June 16 to witness the dedication of the area’s first dedicated cardiovascular hospital. The occasion marked the end of years of planning, design and construction, and the beginning of a new era of tightly coordinated, centralized specialty care for the most complex cardiovascular cases in the region.

“This is an extraordinary milestone for our patients,” said Stuart F. Seides, MD, physician executive director of MedStar Heart & Vascular Institute. “Every aspect of the new hospital was designed with patients’ comfort, convenience and safety in mind as we worked to create an environment conducive to healing.”

The result is a state-of-the-art facility that unites virtually the entire heart and vascular healthcare delivery staff—cardiologists, cardiac and vascular surgeons, nurse practitioners, cardiac care nurses, and other specialized caregivers—into one cohesive team in one location for more effective, streamlined care.

The physical improvements position MedStar Washington Hospital Center—allied with the world-renowned Cleveland Clinic and nationally recognized for excellence in cardiovascular care—for even more achievements in the years ahead.

For that, thanks go to Nancy and Harold Zirkin and their $10 million leadership gift. “When Nancy and I learned about the vision of MedStar Heart & Vascular Institute and its important alliance with Cleveland Clinic,” Mr. Zirkin says, “we saw this as an ideal opportunity to bring together our strong interest in better health with the region’s need for world-class heart care. We’re thrilled we were able to help make this dream a reality.”

Dr. Seides concedes, “We’ve always been blessed with some of the most talented and dedicated physicians and nurses in the country. Now we are providing them with an environment that allows that teamwork to flourish—and ultimately allows us to provide the best possible patient care.”

MedStar Heart & Vascular Institute (MHVI), founded at MedStar Washington Hospital Center, is a national leader in the research, diagnosis and treatment of cardiovascular disease. Aligned with the nation’s #1 heart program, Cleveland Clinic Heart & Vascular Institute, MHVI comprises more than 140 cardiovascular physician specialists and the 10 MedStar Health Hospitals located in Central Maryland and Greater Washington, D.C. The new Zirkin Heart & Vascular Hospital is located on the campus of MedStar Washington Hospital Center in the Northwest quadrant of the city. The new facility ushers in a new era of health care, creating a patient experience that matches the Hospital Center’s nationally recognized clinical expertise.

From admission to discharge, all aspects of the new hospital-within-a-hospital help promote that goal. Patient units feature their own echocardiography, X-ray, stress tests and other non-invasive services for faster, more convenient examinations and evaluations. The majority of the 164 rooms are also private, furnished with couches and other amenities to increase the comfort and satisfaction levels of patients and their families.

July saw the opening of the last phase of the project, an expanded cardiovascular intensive care unit (CV ICU). A unique feature is a central boom suspended from the ceiling for medical gasses and electrical and data outlets. The design gives staff 360-degree patient access.

“The new, highly advanced ICU will allow us to constantly improve care, comfort and efficiency for the sickest patients in the region,” says Paul Corso, MD, chairman, Cardiac Surgery. The new Zirkin Heart & Vascular Hospital is the culmination of a dream for cardiovascular care in the mid-Atlantic region.”

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WHAT’S INSIDE

- 164,000 square feet dedicated exclusively to cardiac and vascular patients
- A separate entrance, lobby and admission office
- Outpatient clinic area including offices for cardiologists and surgeons, an enlarged Echocardiography Lab and waiting area
- An expanded 44-bed cardiovascular intensive care unit, combining cardiac surgery recovery, coronary critical care and surgical intensive care into one
- State-of-the-art technology throughout, including Echo Labs on each patient floor
- 164 rooms housing cardiac and vascular surgical patients, advanced heart failure patients, and medical cardiology and post-cardiac catheterization patients

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In 1962, when I was hired, I was the only full-time cardiologist on staff. Upon my arrival, there weren’t any cardiac patients because no one knew the hospital could treat them. I visited nearby hospitals to establish relationships, and eventually we started getting patients. During my time at the Hospital Center, I expanded the staff to include specialists and subspecialists. I taught an electrophysiology course, and established the Physician Assistants and Paramedic programs. I opened the first Catheterization Lab and the first Coronary Care Unit with about eight to 10 beds, and a heart station, where we were able to wirelessly monitor patients at other hospitals.

James Bacos, MD, Cardiologist
Chief of Cardiology, 1965-85

In 1965, I was chief senior surgical resident at the Hospital Center. I worked closely with him to set up the program. Before we were fully operational, however, a middle-aged man arrived in shock and near death because of a massive pulmonary embolism. We rushed him to the OR. The patient was not the patient you choose as your first case, but our priority was to save this man’s life! Dr. Absolon removed a very big blood clot from the pulmonary artery. The patient recovered and walked out of the hospital.

Jorge Garcia, MD, Cardiac Surgeon
Chief of Cardiac Surgery, 1978-91

In July 1978, just before I left NIH to go into private practice, my boss, Dr. Steve Epstein, brought down Dr. Keshishian and me assisting. This was chaotic. This was the first open-heart surgery here, and the team had really no time to rehearse and prepare.

Dr. Absolon did the operation with John Keshishian, MD, Thoracic Surgery, and Dr. Simon Stertzer, one of the first two Cardiologists. This was the first coronary angioplasty. When I returned, I started looking for patients. Equipment was primitive and patients were limited, anatomically. It took me six months to find the right patient. We scheduled the case appropriately enough, on Valentine’s Day, Feb. 14, 1981. We did it successfully, and the patient, a man in his 40s, had a great outcome. I followed him for years.

Stuart F. Seides, MD, Cardiologist
Physician Executive Director, MedStar Heart & Vascular Institute, 2011-present

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Future of Cardiovascular Care

From performing the first heart transplant in the nation’s capital to perfecting the most popular implanted heart pump in the world today, MedStar Washington Hospital Center has been synonymous with innovation for nearly 60 years. Now, its physicians and researchers are paving the way for even better patient care and outcomes in the future...here and everywhere.

SMALL DEVICES, BIG RESULTS

In 1988, the Hospital Center became one of the first three hospitals in the United States to implant a left ventricular assist device (VAD). Ever since, it’s been front and center in the march to perfect the technology and reduce both deaths from end-stage congestive heart failure (CHF) and reliance on heart transplant.

Leading the charge is Steven W. Boyce, MD, surgical director, Advanced Heart Failure Program, whose latest contribution to the field is the MVAD® (miniature ventricular assist device). Now in European trials, MVAD results in smaller incisions, less blood product use and shorter hospital stays. However, its biggest benefit is its size: Smaller than a thumb, MVAD may be the answer for individuals whose smaller chest cavities can’t accommodate even today’s streamlined models. Here at home, that often means women and children. In the Third World, it can mean practically anyone.

That means a great deal to Dr. Boyce, who predicts that VADs will be the first-line, destination therapy for most CHF patients before the end of this decade. Already, MedStar Heart & Vascular Institute (MHVI) at the Hospital Center performs more than four times as many VAD procedures as heart transplants.

EASIER TREATMENTS FOR PATIENTS

When the Hospital Center first performed TAVR (transcatheter aortic valve replacement) as part of a nationwide clinical trial in 2010, the investigational device was revolutionary; a breakthrough approach that proved to extend life and its quality for frail, elderly or otherwise inoperable patients. Its success opened the floodgates for a wave of other innovative technology and techniques that can fix faulty valves while sparing patients the rigor of open-heart surgery.

“In the U.S. alone, end-stage CHF kills more people each year than cancer. Yet only 3,000 heart transplants take place worldwide in any given year. By continuing to improve VADS, we can help revolutionize the global treatment of heart failure, and extend quality of life for millions.”

—Steven W. Boyce, MD

(Left to right) Dror Luger, PhD, Stephen Epstein, MD, and Michael Lipinski, MD, PhD

“Today, we’re on the cusp of a new era in treating structural heart disease through less invasive means,” says Lowell Satler, MD, director, Cardiac Cath Lab.

“Our experience with combining interventional cardiology, surgical and imaging techniques shows that we can often use a catheter-based strategy and get the same result as a standard open-chest operation.”

Dr. Satler and his colleagues are participating in multiple clinical trials to test the newest hybrid therapies for vascular abnormalities:

• Trialign Transcatheter Repair for Tricuspid Regurgitation. Researchers are studying Trialign’s ability to reduce leakage by percutaneously implanting anchors in the valve and cinching them closed, effectively transforming a tricuspid valve into a bicuspid one.

• Tendyne. MHVI at the Hospital Center is one of six centers evaluating this new transcatheter-based mitral valve repair that approaches its target via a small opening in the bottom of the heart, avoiding a sternotomy and cardiopulmonary bypass.

• MITRAL. Accessed through the carotid or femoral artery, MITRAL deposits a supplemental valve in the malfunctioning mitral valve as an alternative to open-heart surgery. Ten sites are examining its effectiveness.

• MitraClip®. FDA- and CMS-approved for high-risk, non-surgical patients, MitraClip is now under study to determine its effectiveness as a treatment for heart muscle dysfunction.

MHVI also recently launched the first multi-institutional, clinical trial in the nation to evaluate the benefits of using TAVR in low-risk patients. “Around 75 to 80 percent of all aortic valve replacement surgeries today occur in this group,” Dr. Satler says. “If TAVR’s outcomes and long-term durability continue on the current trajectory, we could see this approach overtake open-heart surgery for the majority of aortic stenoses patients in the near future.”

Edward Woo, MD, director of MedStar Vascular Program, reports similar progress. MHVI is about to launch a clinical trial at MedStar Washington Hospital Center using minimally invasive stent grafts to treat disease processes in the body’s main blood vessel—the aorta—which would normally require open-heart surgery.

“We are consistently at the forefront of new techniques for treating complex aortic, carotid and lower extremity vascular diseases,” Dr. Woo says. “It’s a great feeling to be able to offer new options to patients that allow them to get back on their feet as quickly as possible.”

HEALING THE HEART: 3-D MODELS & STEM CELLS

“MHVI has always been at the forefront of novel, innovative drugs, technologies and cardiac devices, including heart models from 3-D printers,” concludes Ron Waksman, MD, director of Cardiovascular Research. “With more than 100 ongoing basic, clinical and translational trials, we’re better positioned than ever to help change the course of cardiovascular care.”

Dr. Waksman says, “3-D printing helps cardiologists better understand the anatomy of the heart especially in complex cases, and can help communicate to patients about their disease and how therapy will work. In complex cases, cardiologists can look at the anatomy of the heart in detail from different angles, touch it, and discuss the anatomical positions of the vessels, and select the right devices and strategy for treatment. We still use 2-D images, but it is time to open the door for 3-D imaging and printing.”

Stephen Epstein, MD, is MHVI’s head of translational and vascular biology research, and an international authority on stem cell therapy. He and his colleagues, Michael Lipinski, MD, PhD, and Dror Luger, PhD, are studying whether a special type of stem cell—adult-derived mesenchymal stem cells (MSCs)—improves cardiac function after a heart attack or in patients suffering from chronic heart failure. Because these scientists believe that excessive inflammation is a major contributor to progressive cardiac dysfunction in both these conditions, the team is also trying to determine if MSCs’ potential ability to heal damaged tissue stems from their anti-inflammatory properties. Results are extremely promising, and have opened the door for the next phase: a first-in-human, randomized trial involving 600 patients with chronic heart failure and, in the near future, a similar trial in patients with acute myocardial infarction.
Cardiogenetics

Determining the Genetic Cause of Cardiac Diseases

Imagine a world where genes not only tell the story of a person’s future health, but also allow physicians to intervene early and prevent future health problems.

The fast-growing field of cardiogenetics allows for improved screening and early treatment of certain inherited cardiovascular disorders. At MedStar Heart & Vascular Institute (MHVI), great strides are being made on two fronts—offering current genetic testing for individuals with familial cardiac syndromes and state-of-the-art research into the genetic contributions of diseases such as coronary disease.

FAMILIAL CARDIAC SYNDROMES

A subset of arrhythmias and cardiomyopathies are known to have a monogenic cause, that is, the disorder is caused by a single mutation in one of a number of known genes (see sidebar). For these conditions, efforts are underway to identify individuals and families at risk through genetic counseling and testing.

Susan O’Donoghue, MD, an electrophysiologist and the director of Cardiogenetic Services at MHVI, says, “A number of inherited disorders can cause arrhythmias, congestive heart failure and sudden death. In the past, diagnosis was based on clinical findings, EKG and imaging. But that has limitations.” Syncope, palpitations during exercise, a history of heart failure and sudden death. In the past, diagnosis was based on clinical findings, EKG and imaging. But that has limitations.

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Even when the right test is ordered, interpretation of test results is not always straightforward. Agather cautions that just because a change is identified, it does not always mean it is the answer for that individual and family. Variants of uncertain significance (VUSes) must be researched and explained. Hours are spent understanding the results in the context of patients and their family history, and then those patients and families are counseled about what the results may mean.

Dr. O’Donoghue acknowledges that cardiogenetics is an evolving science as new mutations are identified and VUSes are reclassified as disease-causing or benign. “Because of this complexity,” she says, “the consensus guidelines advise that genetic testing only be carried out at dedicated centers with genetic counseling before and after testing.” Patients with known or suspected inherited cardiac disorders or a family history of sudden cardiac death benefit from referral to a specialized center such as MHVI.

CORONARY ARTERY DISEASE RESEARCH

Family history of disease may be worrisome for some patients. For coronary artery disease, family history is a risk factor, but the genetic basis for the disease is less understood than the monogenic disorders seen in the cardiogenetics clinic. Research is underway to identify the genetic risks that may predispose some individuals to the disease.

Jose Vargas, MD, PhD, a cardiologist and researcher with MHVI, based at MedStar Georgetown University Hospital, is working toward further elucidating the genomic components of atherosclerosis. “The human genome project has opened up opportunities not available before,” he says. “For a relatively low cost with little effort, we can interrogate the human genome for genetic information. We are poised to really understand the difference in genetic codes of individuals and how it relates to disease status.”

Genome-wide association studies, in which all the genetic variations in individuals are tested against a given disease, have already isolated one variant in chromosome 9 that is associated with coronary artery disease. But although this association has been replicated many times, existing studies do not represent a diverse population. Instead, they are based mostly on a Caucasian population.

Dr. Vargas is determined to enhance diversity in genomic research. In one study with the National Institutes of Health, he is recruiting African American individuals for state-of-the-art genomic sequencing and cardiovascular imaging. “Testing needs to be more inclusive, more accurate, so we can understand disease physiology even better, and different disease manifestations in different people,” he says.

Dr. Vargas cites the results of one of his recently published studies in which he explored genetic associations with coronary artery disease in 6,000 individuals in the Multi-ethnic Study of Atherosclerosis (MESA). “Looking for the chromosome 9 variant,” he says, “to our surprise, we confirmed the association with coronary artery disease in Caucasians and Hispanics, but there was no association in Chinese Americans and African Americans...”

Jose Vargas, MD, PhD

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CARDIOVASCULAR INNOVATIONS

Cath Lab Introduces Two Innovative Software Programs

In the last 12 months, Lowell Satler, MD, medical director of MedStar Washington Hospital Center’s Cath Lab, and Eileen Searson, MHVI regional manager of Transformational Technology, have been working behind the scenes with IT professionals to create two software programs. One gives physicians a tool to help assess patient risk before procedures. The second prepares patients for what happens when they need a catheterization procedure.

RISK CALCULATOR

Taking a cue from new technology in the auto industry, Dr. Satler and Ms. Searson are working with MedStar Institute for Innovations (MI2) to create a Risk Calculator that provides a warning system to physicians before they begin procedures.

Dr. Satler compares the Risk Calculator to newer cars with alarms that alert you if you swerve over the white line or are about to back into a car. “You’re going to stop backing up if you get a warning, and you’ve probably avoided a fender bender,” he says. “Our Risk Calculator works on the same principle. This allows us to determine, on an individual basis, what the risk is before the procedure.”

“In the past, the model has been that we treat patients in the Cath Lab or OR,” says Ms. Searson, “then receive outcomes metrics weeks later. It’s not proactive. The Risk Calculator does it for them. And it’s in real time. It may allow us to re-examine procedures—factors doctors already know, but can’t quantify. The Risk Calculator does it for them. And it’s in real time. It may help the doctor decide whether to use a different blood thinner, to choose radial over femoral artery for entry, or thinner, to choose radial over femoral artery for entry, or maybe whether to proceed at all.”

Ms. Searson says they are ironing out a few wrinkles, “but hope to launch the Calculator in early fall. She says, “They say they wish they had something like this for every visit to the hospital.”

 Patients have used the portal, and the response has been positive. Many of the patients who will receive the portal are older and some are unfamiliar with computers, but Dr. Satler says family members help them navigate. “We’ve had several octogenarians who have given us great feedback,” he says. “They say they wish they had something like this for every visit to the hospital.”

PATIENT EDUCATION PORTAL

From watching hospital TV dramas, most people know generally what to expect when they are having surgery, but aren’t so familiar with what happens if they are told they need to undergo a catheterization procedure. “You get chest pain,” says Ms. Searson. “You’re frightened. Your doctor says you need a diagnostic cath. It can be scary.”

To help put patients at ease, the Cath Lab teamed up with the software company Mytonomy and the hospital’s own Simulation Training & Education Lab (SiTEL) to create an engaging Patient Education Portal to dispel fear by explaining the process, from before patients arrive until after they are discharged. The portal, introduced in February, is receiving positive feedback from patients.

The portal also rolled out at MedStar Union Memorial Hospital this summer and is slated to go live at MedStar Franklin Square Medical Center and MedStar Southern Maryland Hospital Center this fall.

The portal consists of short videos—none longer than two minutes—that highlight key portions of the process, including what patients should bring to the hospital, the personnel they will meet, the procedure itself, questions they should ask their doctor, discharge information and resources available.

Dr. Satler says, “Studies show that information is best transmitted and retained through short videos. Mytonomy had developed similar portals for student learning. With their help and SiTEls, we created a unique format, through video and animation, to manage the transition from the outpatient setting, to the hospital, and back out again. We even have a virtual tour to show patients how to get from the parking garage to the Cath Lab on the fourth floor.”

About 300 patients have used the portal, and the response has been positive. Many of the patients are older and some are unfamiliar with computers, but Dr. Satler says family members help them navigate. “We’ve had several octogenarians who have given us great feedback,” he says. “They say they wish they had something like this for every visit to the hospital.”

HIGH RISK

MEDIUM RISK

LOW RISK

Top) Lowell Satler, MD, medical director of MedStar Washington Hospital Center’s Cath Lab; (Middle) Eileen Searson, MHVI regional manager of Transformational Technology; (Bottom) Patient Education Portal for Cath Lab
D.C. Family Makes Generous Grant

A generous grant from Juliet and Lee Folger has been put to good use at MedStar Heart & Vascular Institute (MHVI). Beginning in 2012, the D.C. couple has made a sizable donation each year to benefit cardiovascular care in three areas: research, education and prevention.

Under the terms of the grant, both MHVI faculty and Georgetown University students receive funds to advance cardiac care. In the research into disease prevention alone, 15 grants have resulted in numerous research presentations, abstracts and manuscripts including award-winning works.

Other monies have gone toward establishing a lectureship in heart disease prevention.

“This is an example of growing collaboration between MedStar and Georgetown University,” says Allen J. Taylor, MD, medical director, Advanced Heart Failure. “It includes data for coronary artery bypass grafting and aortic valve replacement surgeries. The award is given for clinical excellence and the highest standards of ethics and professionalism.”

VAD Program Receives High Praise from The Joint Commission

The Joint Commission surveyor for our Ventricular Assist Device (VAD) program spent two days this spring with our VAD team. “I am pleased and proud to let you know that our program came through with flying colors, with no recommendations for improvement,” says Samer Najjar, MD, medical director, Advanced Heart Failure.

STS Gives Highest Rating for Both CABG and AVR

The Society of Thoracic Surgeons awarded three stars, its highest rating, for our calendar year 2015 cardiac surgery program at MedStar Washington Hospital Center. It included data for coronary artery bypass grafting and aortic valve replacement surgeries. The award is given for clinical excellence and the highest standards of ethics and professionalism.

MEININGER NAMED MEDICAL DIRECTOR OF CARDIAC ELECTROPHYSIOLOGY FOR BALTIMORE REGION

Glenn Meininger, MD, has been named medical director of Cardiac Electrophysiology (EP) services for the Baltimore region of MedStar Heart & Vascular Institute (MHVI). In this role, Dr. Meininger will collaborate with MHVI leadership in the strategic growth and development of cardiac arrhythmia services across the Baltimore region, including enhancing connectivity with EP services in Washington, to provide seamless and accessible care for patients and referring providers across the entire MedStar geographic footprint.

Dr. Meininger is a medical graduate of Johns Hopkins University where he completed his training in Internal Medicine, Cardiology, and Cardiac Electrophysiology. He has practiced in the MedStar system since 2003 and has served as the director of Cardiac EP and associate chief of Cardiology at MedStar Franklin Square Medical Center. He is widely regarded as an expert in the use of multiple modalities including complex ablation in the treatment of cardiac arrhythmias, which is further enhanced by his strong commitment to clinical research.

Penny Joins MHVI as Vice President

Wendy Penny has been named vice president of MedStar Heart & Vascular Institute at MedStar Washington Hospital Center and is responsible for daily operations and oversight of the Institute.

A registered nurse, Penny managed two Pediatric units and a Pediatric special care unit, and later became director of Telemetry, Medical/Surgical units, Pediatrics, and Oncology at AtlanticCare Regional Medical Center in Atlantic City, New Jersey. She later became assistant administrator for the 350-bed mainland campus responsible for nine units and departments.

In 2009 Penny was named the assistant vice president for all Cardiovascular Services across the hospital system. In 2014 she joined the HCA/Osceola Regional Medical Center in Orlando, Florida, as vice president of Central Florida’s Heart & Vascular Institute.

Penny graduated with a Bachelor of Science degree in Nursing from Richard Stockton College of New Jersey, and has a Master of Business Administration from St. Joseph’s University Haub School of Business, Philadelphia, Pennsylvania.

She says, “I look forward to working closely with our outstanding team of physicians, nurses and healthcare professionals to continue to grow and expand our programs and take this progressive cardiovascular enterprise to the highest levels. Our cardiovascular team has an aligned vision and a commitment to create the highest quality of care and the best experience for all of our patients.”

Leadless Pacemaker Offers Less-Invasive Alternative

The latest interventional device in the cardiologist’s toolbox is tiny. But revolutionary. The Medtronic MicraTM Transcatheter Pacemaker System is leadless and the smallest single chamber pacemaker in the world. It was approved by the FDA in April 2016, and is currently awaiting a national coverage determination by the Centers for Medicare and Medicaid Services (CMS).

Implanted directly into the heart’s right ventricle, the device benefits selected patients with arrhythmias, offering a less-invasive alternative to conventional pacemakers. Placed by catheter through the femoral vein, it shaves great promise for some patients who need single chamber pacing.

MedStar Union Memorial Hospital and MedStar Washington Hospital Center will be two of the first sites in the region to use the new leadless pacemaker. “This is an expansion of current technology to help patients avoid some long-term vascular risks,” says Glenn Meininger, MD, an electrophysiologist at MedStar Union Memorial Hospital. “It is best suited for patients with limited vascular access, such as the elderly or patients with kidney disease or a cancer history.”

The device features a pacer and electrode in one unit, which is embedded in the right ventricle. The Micra is 93 percent smaller than conventional pacemakers. It is about the size of a large vitamin capsule and has a 12-year battery life. It adjusts to the patient’s heart rate automatically, sensing changes in the body related to activity level. It also enables patients to undergo MR imaging. Because there is no chest incision and no wires, the device results in faster recovery.

“Having a wire connected to the device, there is a risk of infection or the wire can break,” Dr. Meininger explains. “This device limits that risk.”

In its current form, the Micra has limited use. Dr. Meininger cautions. Only 15 to 20 percent of patients would be eligible for this device as the current device only offers pacing in a single chamber of the heart, Dr. Meininger says.

The real significance of this device is that it represents the wave of the future. “It highlights the transition to smaller, less invasive therapies that may allow rhythm management through micro technology,” Dr. Meininger concludes.
Christopher Barnett, MD, MPH

Director, Cardiovascular ICU

As an earnest young man, Christopher Barnett’s reason for pursuing medicine was pure—and familiar. Like many medical students, he wanted to do something meaningful with his life and help people. With many career choices, the dream fades a bit as reality bites along the way, but happily for Dr. Barnett, his youthful enthusiasm for good works has been realized time and time again.

Time spent caring for patients at San Francisco General Hospital was filled with moments of real satisfaction. As an associate professor of Medicine at the University of California, San Francisco (UCSF), the critical care cardiologist cared for the city’s most marginalized residents.

“It’s a county hospital providing services for the poorest of the poor in a very affluent city,” he explains. “Every day I felt that I was doing something important for people who really needed me. And at the end of the day I always felt good with what I had accomplished.”

Now thousands of miles away from the California coast, Dr. Barnett is discovering that same sense of purpose as part of the MedStar Heart & Vascular Institute (MHVI) team at MedStar Washington Hospital Center. “The Hospital Center takes care of some of the most challenging cardiovascular cases in the nation. It’s a fantastic mix of academic medicine, clinical excellence and innovative care delivery,” he says. “It also provides care to a wide range of people—some of whom are the neediest among us. I like feeling part of this kind of community. I even bought a home in the neighborhood.”

UNIQUE COMBO: CRITICAL CARE & CARDIOLOGY

Dr. Barnett is one of just a handful of physicians with fellowship training in both cardiology and critical care. He is heading up the new cardiovascular ICU in the recently opened Heart & Vascular Hospital at MedStar Washington Hospital Center. “The new facility is a beautiful space, which has been designed to streamline care and foster efficiency. It’s unlike any other ICU I’ve seen with its large windows and light,” he says.

“The way the service has been structured encourages professional collaboration across specialties—and a novel approach to care that benefits patients,” he adds. Dr. Barnett’s appointment comes with the development of an independent Department of Critical Care Medicine, and the integration of cardiology and critical care within MHVI. “We treat some of the sickest patients—those with assist devices and advanced heart failure. This state-of-the-art ICU is devoted to their experience to recognize and treat. But despite the complexities of these problems, we are fortunate to have very effective therapies,” he adds. “And in the end, all of our technological and pharmaceutical sophistication is still focused on the simple goal of helping people.”

Jose Vargas, MD, PhD

The eighth grader came to the United States from the Dominican Republic not knowing any English. But just a few years later, he was named a Rhodes Scholar.

“On my first day of school, a kid at the bus stop asked me if I were new,” Jose Vargas, MD, PhD, recalls. “I had to ask my mother to translate.”

In the Dominican Republic, Jose Vargas’s family was happy, but his parents, a social worker and a psychologist, relocated to the U.S. when their four children were teens to give them better educational opportunities. Dr. Vargas was 13.

While learning English on the fly, Dr. Vargas says because his parents were strong advocates of education, he had a sense early on that perseverance and hard work would pay off. It did. After a year in English as a Second Language classes, he moved to a bridge program at Magruder High School in Montgomery County, Maryland. By 11th grade, he was in regular classes, and as a senior was taking AP courses. Nevertheless, he says, “I started the race pretty late.” He laughs now at some of the issues he encountered. “In the bridge program, our textbooks all had a larger font. Like they thought that would make it easier!”

His teachers had noticed his exceptional abilities and aptitude in science, and selected him for a Howard Hughes Medical Institute’s summer internship at the nearby National Institutes of Health (NIH). “The first person I met was Dr. Michael Gottesman, director of intramural research,” Dr. Vargas says. “He was a fantastic mentor and introduced me to other great mentors. I worked there during summers while an undergraduate at Loyola College in Baltimore.”

Although research was still top of mind, Dr. Vargas was interested in medicine, too. Not many people are faced with this dilemma: acceptance to Harvard Medical School AND a Rhodes and a Marshall Scholarship. (He was the first Loyola student to win a Rhodes Scholarship.) He opted for the Rhodes, and Harvard allowed him to defer medical school while he pursued a PhD in Functional Genetics.

While at Oxford University, he worked on several research projects that involved DNA sequencing, a field in its infancy at the time. “We experimented with worms, fruit flies and frog eggs, in which we inserted genetic information that changed the development of the organisms. In human genome sequencing was starting to become available, and we wanted to identify ways to ascribe functions to human genes based on experiments on these model organisms.”

After Oxford, Dr. Vargas earned his Harvard medical degree and then completed a residency in Internal Medicine and fellowship in Cardiology at Johns Hopkins Hospital. He joined MedStar Heart & Vascular Institute at MedStar Georgetown University Hospital in 2013 with a 60/40 split between clinical work and research. He currently is working on several research projects at NIH. He is passionate about diversifying the current genomics landscape. “Although the vast majority of genetic studies performed to date focus on patients of European descent,” he explains, “we are finding more and more that the conclusions from those studies can vary greatly depending on ancestry. In fact, understanding a patient’s genomic background is proving to be important for assessing disease risk, and is crucial for personalized medicine. Through generations our genomes interact with our environment and alter how our bodies manifest different diseases. We are just beginning to understand the impact this has on disease and the risk for different populations. It is a fascinating time in medicine right now. In 10 years, things will be very different.”
Welcome to the Newest Fellows

In July, 13 new fellows joined MedStar Washington Hospital Center in various specialties and subspecialties of cardiovascular services. Below are their bios and special interests.

Chadi Alraies, MD MPH
- Medical degree from the School of Medicine, University of Aleppo, Aleppo, Syria, 2002
- Internship and residency in Internal Medicine at Case Western Reserve University/St. Vincent Charity Hospital, Cleveland, Ohio, 2006 to 2008
- Fellowship in Cardiovascular Medicine and Master of Public Health at the University of Minnesota, Minneapolis
- Begins fellowship here in the field of Interventional and Structural Heart Disease
- Interests: complex coronary interventions and hemodynamic cardiovascular support. Outside of work he loves watching movies with family, building Legos with his son, and is an avid blogger, twitter user, and professional development coach. His favorite quote is by the actor Will Smith: “If you’re not making someone else’s life better, then you’re wasting your time.”

Nana Afari-Armah, MD
- Medical degree from George Washington University, Washington, D.C., in 2009
- Internship and residency in Internal Medicine, fellowship in Cardiology at Temple University Hospital, 2009 to 2016
- Begins fellowship here in Advanced Heart Failure
- Interests: He is huge soccer fan and enjoys watching the English Premier League.

Vijaywant Singh Brar, MD
- Medical degree from Government Medical College and Hospital, Chandigarh, India
- Residency at Georgetown University Hospital
- Fellowship here in Cardiovascular Medicine
- Interests: advanced cardiovascular imaging, electrophysiology and critical care cardiology

Kyle D. Buchanan, MD
- Medical degree with honors from Loyola University Chicago Stritch School of Medicine in 2010
- Residency in Internal Medicine at University of Pittsburgh Medical Center from 2010 to 2013
- Fellowship in Cardiovascular Medicine at the Medical College of Wisconsin/Froedtert Hospital in Milwaukee, Wis., 2013 to 2016
- Begins his fellowship here in Interventional Cardiology
- Interests: My training focus lies within acute coronary syndrome and coronary artery intervention. More specifically, I have an interest in ethnic and social differences of coronary artery disease.

Brian C. Case, MD
- Medical degree, cum laude, from St. George's University School of Medicine, Grenada, West Indies, in 2012
- Residency in Internal Medicine at MedStar Georgetown University Hospital, Washington, D.C., in 2015
- Begins his fellowship here in Cardiovascular Medicine
- Interests: Within the field of cardiology, my interests include Interventional Cardiology and the Coronary Care Unit. In my free time, I enjoy playing sports and love everything that D.C. has to offer.

Brian Forrestal, MBBS
- Bachelor of Medicine, Bachelor of Surgery (MBBS) from the University of Limerick Graduate Entry Medical School, Ireland, where he graduated with honors in 2013
- Residency in Internal Medicine at Morristown Medical Center, Atlantic Health System, Morristown, N.J., in 2016
- Begins fellowship here in Cardiovascular Disease
- Interests: the use of new methods to improve patient education in cardiovascular disease and improving the participation of patients in the maintenance of their cardiovascular health

Harish Jarrett, MB ChB
- Bachelor of Medicine and Surgery (MB ChB) with honors from the University of Manchester, Manchester, United Kingdom, in 2010
- Residency in Internal Medicine and Surgery at the North West Thames Foundation School, London, United Kingdom, in 2012
- Second residency in Internal Medicine at the Lewis Katz School of Medicine Temple University Hospital, Philadelphia, in 2015
- Begins fellowship here in Cardiology
- Interests: I am hoping to get a fantastic all-round education during my general fellowship. My research interests involve looking at national outcomes in treating venous thromboembolic disease, both deep vein thrombosis and pulmonary embolism. As a result, I hope to pursue interventional training following my general training.

Hyelin Kim, MD
- Medical degree from the University of Utah School of Medicine, Salt Lake City in 2011
- Internship and residency in General Surgery at the University of Massachusetts Medical School/UMass Memorial Medical Center from 2011 to 2016
- Begins fellowship here in Vascular Surgery
- Interests: global medicine, healthcare policy and innovations in surgery. When not in the hospital, I like world travel. I love to try new restaurants and different types of food. I also like to read, golf, swim, ski and snowboard

Jing-Yuan (Jimmy) Ma, MD
- Medical degree from the University of Alabama School of Medicine, Birmingham, in 2013
- Residency in Internal Medicine at University of Pittsburgh Medical Center from 2013 to 2016
- Begins fellowship here in Cardiovascular Medicine
- Interests: My interest in cardiology stems from my background in engineering. The rapid development of novel mechanical fixes to the body's pump excites me, i.e. transcatheter valve devices, left atrial appendage closure devices, etc.

Jose Marcial-Suarez, MD
- Medical degree from the University of Puerto Rico, Medical Sciences Campus, in 2010
- Residency in Internal Medicine residency and a Cardiovascular Fellowship at the University of Puerto Rico School of Medicine, Medical Sciences Campus, Rio Piedras, PR, from 2010 to 2016
- Begins fellowship here in Clinical Cardiac Electrophysiology
- Interests: Cardiac electrophysiology is a rewarding field that I know I will find to be fulfilling as my life's work because of the constant theoretical, technological and procedural advancements that continue to challenge those who choose to evolve within this cardiovascular specialty. Another passion in my life is music. I enjoy playing the classical guitar in addition to attending live performances of jazz, classical and reggae music.

Usman Salahuddin, MBBS
- Medical degree from Aga Khan Medical College, Pakistan, in 2009
- Post graduate medical education, Aga Khan University Hospital, Pakistan, in 2012
- Internship and residency in the Department of Internal Medicine, University of Texas Southwestern Medical Center, Dallas, from 2012 to 2016
- Begins fellowship here in Cardiovascular Disease
- Interests: advanced cardiac imaging

Michaes Zemedenkun, MD
- Medical degree from Harvard Medical School, Boston, Mass., in 2010
- Internship and residency in Internal Medicine at NYU-Weill Cornell Medical Center, New York, NY, from 2010 to 2013
- Fellowship in Cardiology at MedStar Georgetown University Hospital and MedStar Washington Hospital Center from 2013 to 2016
- Begins fellowship here in Advanced Echocardiography and Structural Heart Disease
- Interests: enjoy watching soccer, running and spending time with family and friends

Integrated Vascular Surgery Resident
Caitlin M. Sorensen, MD
- Masters of Science in Physiology and Biophysics and medical degree from Georgetown University in 2012 and 2016, respectively
- Begins an Integrated Residency in Vascular Surgery
- Interests: Part of what drives me to vascular surgery is the variety and complexity of cases. Not only does it span the entire body, but it also melds tiny, delicate carotid surgeries with big complex aortic cases and amputations. It encompasses open and endovascular cases, and covers both urgent surgeries and elective procedures. Outside of the hospital, I enjoy live music and collecting vinyl records, exploring the area through hikes or bike rides, and following any Bay Area sports teams.
Cardiovascular Physician is a publication of MedStar Heart & Vascular Institute. It is a forum to share clinical, research and teaching information in cardiology, cardiac surgery and vascular care.

Please submit editorial comments to Norma Babington, at norma.babington@medstar.net, or 202-877-0201.

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September 16
The Cosmos Club, Washington, D.C.
Course Director: Edward Platia, MD

2016 UPDATE ON THE TREATMENT OF HEART AND VASCULAR DISEASE
October 1
Gaylord National Resort and Convention Center, National Harbor, Md.

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