The staff members and fellows of the Johns Hopkins Ciccarone Center for the Prevention of Cardiovascular Disease include:

**TOP ROW** Dominique Ashen, PhD, CRNP; Michael J. Blaha, MD, MPH; Roger S. Blumenthal, MD; Miguel Cainzos-Achirica, MD, MPH; Rhanderson Cardoso, MD; Zeina Dardari, MS; Dorothy Davis, PMC, MSN, RN

**SECOND ROW** Roberta Florido, MD; Gary Gerstenblith, MD; Ty Gluckman, MD; Sherita Golden, MD, MHS; Eliseo Guallar, MD; Cathy Handy, MD, MPH; Steven Jones, MD

**THIRD ROW** Thorsten Leucker, MD, PhD; Seth S. Martin, MD, MHS; Francoise Marvel, MD; Lena Mathews, MD; J. Bill McEvoy, MB BCh, MHS; Erin Michos, MD, MHS; Hassan Mirbolouk, MD

**FOURTH ROW** Khurram Nasir, MD, MPH; Chiadi Ndumele, MD, PhD, MHS; Oluseye Ogunmoroti, MD, MPH; Olusola Orimoloye, MBBS, MPH; Vincent Pallazola, MD; Wendy S. Post, MD, MS; Elizabeth Ratchford, MD

**FIFTH ROW** Sudipa Sarkar, MD; Vasantha Sathiyakumar, MD; Erin Spaulding, BSN, RN; Peter Toth, MD; Iftekhar Uddin, MD, MPH; Seamus Whelton, MD, MPH; Di Zhao, PhD

Cover photo by Laura Kupsey
The Ciccarone Center for the Prevention of Cardiovascular Disease had another banner year in 2018. Six years ago, Irene Pollin (right) made a transformational $10 million gift to expand our clinical research and educational initiatives. Many members of our Ciccarone Center team have been engaged in research that has been supported by the Pollin donation.

Dr. Roberta Florido (right) was our Pollin Cardiovascular Prevention Fellow last year and she received master’s degree-level training at the Bloomberg School of Public Health. Dr. Florido and many of our core faculty have greatly benefited from close collaborations with the Welch Center for Prevention, Epidemiology, and Clinical Research and their faculty including Drs. Elizabeth Selvin, Eliseo Guallar, Mariana Lazo, Kuni Matsushita, Joe Coresh, and Larry Appel. We are happy to announce that Roberta is now on the full-time faculty of the Ciccarone Center and a key member of the Heart Failure clinical service.

Dr. Florido, along with Dr. Chiadi Ndumele and Dr. Gary Gerstenblith, had a featured publication in Circulation in which they analyzed activity levels over time in more than 11,000 American adults. They found that middle-aged adults who had as little as six years without regular brisk physical activity were at much higher risk of developing future heart failure. They concluded that consistent participation in the recommended 150 minutes per week of at least moderate physical activity such as brisk walking in middle age would reduce future heart failure risk by a third.

Dr. Seamus Whelton (right) is now in his second year on faculty. He and his primary mentor, Dr. Mike Blaha, are experts in cardiac CT and have an American Heart Association (AHA) grant to examine the role of coronary artery calcium measurements to predict cardiovascular vs. cancer causes of death across the lifespan.

Dr. Blaha, our Director of Ciccarone Center Clinical Research, is known internationally for his work in subclinical atherosclerosis assessment to improve the accuracy of cardiovascular risk prediction. He and our adjunct faculty member Dr. Khurram Nasir pioneered the concept that the absence of coronary artery calcium is a marker of healthy vascular aging and is associated with a very low risk of a cardiovascular event over the next decade. His primary interests involve the use of cardiac CT technology, exercise stress testing, mobile health technology and electronic cigarettes (e-cigarettes). This past year he was awarded the Fred L. Brancati Excellence in Mentoring Award.

Dr. Blaha has guided more than 30 students and physicians in the development of clinical research careers. One of his current trainee, Dr. Hassan Mirbolouk, led two recent publications in Annals of Internal Medicine on the prevalence and distribution of e-cigarette use among American adults. Dr. Blaha is principal investigator of a large recent award from the FDA and NIH entitled AHA Tobacco Regulation and Addiction Center (ATRAC 2.0), which has a five-year budget of $2.7 million in direct costs. He and his colleagues will leverage the National Institutes of Health (NIH) Cross Cohort collaboration (for which Mike is Co-Chair) of 18 large studies to study the health risks of non-cigarette tobacco products. Dr. Blaha is part of an AHA Taskforce on outlining the so-called “Tobacco Endgame.”

Mike is working closely with Drs. Thorsten Leucker, Steve Schulman, and Gerstenblith in performing a randomized clinical trial of a powerful cholesterol-lowering agent, known as a PCSK9 inhibitor, in adults presenting with an acute coronary syndrome. Dr. Leucker is now in his second year on faculty and has a special research interest in the role of PCSK9 (a cholesterol receptor-controlling protein) on coronary artery endothelial cells, which help regulate heart muscle blood flow and the development of atherosclerosis.

Our Ciccarone Center Associate Director, Dr. Erin Michos, has also had another superlative year of clinical research and educational accomplishments. She is a national thought leader in cardiovascular risk assessment, vitamin D, as well as comprehensive prevention strategies, and she leads our research on women and cardiovascular health, which has been Irene Pollin’s passion for several decades. Erin is also an endurance athlete and has completed marathons in 32 different states.
Dr. Michos and Dr. Appel are leading the STURDY program, which is a randomized clinical trial of vitamin D supplementation for the prevention of falls in the elderly. She also led a high profile review and meta-analysis in *Circulation CV Quality and Outcomes* that did not find a benefit of multivitamins or mineral supplementation on cardiovascular disease. In 2018, amazingly, she was first or senior author on 18 scientific publications and this year eight of her mentees were primary authors at the American Heart Association Scientific Sessions.

**Drs. Seth Martin** and **Steve Jones** direct our rapidly growing Advanced Lipid Disorders program and are international thought leaders in the use of novel lipid-lowering drugs, anti-atherosclerosis agents, and the care of patients with genetic cholesterol disorders. They have mentored many fellows and residents in this area, such as **Dr. Vasanth Sathiyakumar**. Their work has led to the growing national and international adoption of the Martin/Hopkins method to more accurately estimate LDL-cholesterol. Given its superior accuracy, their novel equation is now increasingly employed by leading clinical laboratories in the U.S. and abroad.

**Drs. Martin** and **Francoise Marvel** (right) lead the Ciccarone Center’s pioneering work on digital and mobile health innovations with the goal of improving patient safety, outcomes, and healthcare efficiency. They have assembled a large multi-disciplinary team on the Corrie Project to enhance preventive strategies after a heart attack. The success of the innovative Corrie program has been recognized by many groups, such as the American College of Physicians for healthcare transformation, Apple, Uber, AHA, ACC, ESC, ASPC, TCT, the Maryland Innovation Initiative, and Stanford Medicine X. The Corrie program also received international attention when Dr. Martin spoke about it in Munich, Germany, at the European Society of Cardiology.

We are proud to announce that after 10 years at Johns Hopkins, **Dr. Bill McEvoy** has become Medical and Research Director of the National Institute for Preventive Cardiology in Galway, Ireland, and a tenured Professor at the National University of Ireland. Many members of the Ciccarone Center gathered to toast Bill, his wife Katherine (a Hopkins-trained psychiatrist) and their daughters, Rose and Aoife, before they left in July to return home to Ireland. Bill will continue strong collaborations with Baltimore as an adjunct Ciccarone Faculty.

**Drs. McEvoy** and **Michos** were on the writing panel of the ACC/AHA 2019 Comprehensive Guideline on Prevention of Cardiovascular Disease, for which I serve as co-chair. **Dr. Ndumele** (right) and I were on the writing group of the 2018 ACC/AHA Guidelines on Cholesterol Management and Cardiovascular Risk Assessment.

**Dr. Wendy Post** has been selected to be Director of Cardiovascular Research for the entire Division of Cardiology. She was co-chair of the university-wide Biomedical Scientific Workforce Committee; as a Provost’s Fellow she is working on implementation plans for the Committee’s recommendations. She also leads the cardiovascular working group of the Multicenter AIDS Cohort Study (MACS) and is the principal investigator for the NIH-funded Multi-Ethnic Study of Atherosclerosis (MESA) which now is in its 19th year. Wendy, Erin, Mike, Bill, Khurram, Seth, and I have co-authored many important clinical research papers from this landmark study.

The cornerstone of a comprehensive clinical and research center is helping people with their efforts at lifestyle modification. For 16 years, our Nurse Practitioner coordinator, **Dominique Ashen**, PhD, CRNP, has been playing a key role in the medical and lifestyle management of returning patients while pursuing innovative research on first responders with **Dr. Elizabeth Ratchford**, our Director of Vascular Medicine. **Kathy Byrne**, NP, has been a key member of our Advanced Lipid Disorders Center and has advised and counseled patients at high risk for future cardiovascular events. Recently, we welcomed **Dorothy Davis**, PMC, MSN, RN, to our team; she is focusing on advising our patients about ways to optimize lifestyle habits and works closely with many of the physicians in our group.

In conclusion, the legendary Lacrosse Hall of Fame coach and player, **Henry Ciccarone**, has inspired our great team of educators, researchers, and clinicians to better prevent and manage cardiovascular disease. All of our benefactors and research partners are our Most Valuable Players and All-Americans.

Roger S. Blumenthal, MD, FACC, FAHA, FNLA
The Kenneth Jay Pollin Professor of Cardiology Director, The Johns Hopkins Ciccarone Center for the Prevention of Cardiovascular Disease
It is with mixed emotions that we announce the departure of Bill McEvoy, MB BCh, MHS (left), on June 30, 2018. Dr. McEvoy was offered a tenured professorship in his home country — Ireland — as the director of the National Institute of Preventative Cardiology. He has been with the Ciccarone Center for 10 years and, while he will be greatly missed, we are excited for his new opportunity. Dr. McEvoy will continue as key contributor on our adjunct Hopkins faculty.

On the other hand, we recently welcomed Dorothy Davis, PMC, MSN, RN, to our team. She is focusing on advising our patients about ways to optimize lifestyle habits and works closely with many of the physicians in our group.

Kudos to Roberta Florido, MD, our newest faculty member, and Chiadi Ndumele, MD, MHS, PhD, and Gary Gerstenblith, MD, on their groundbreaking article, “Six-Year Changes in Physical Activity and the Risk of Incident Heart Failure,” which should be good news for all adults. By analyzing reported physical activity levels over time in more than 11,000 American adults, the researchers concluded that increasing physical activity to recommended levels in middle age is associated with a significantly decreased risk of heart failure. Unfortunately, studies have shown that fewer than half of Americans get recommended activity levels.

Another article by Dr. Ndumele and Josef Coresh, MD (left), “Weight History and Subclinical Myocardial Damage,” earned significant media attention. They found that maintaining a healthy weight is important for keeping the heart healthy and minimizing heart muscle damage as people age. The report inspired more than 15,500 impressions on Twitter on the @HopkinsMedNews account.

The story also appeared as a feature in “Inside Hopkins” and was mentioned in 133 media outlets, with most of the clips in international outlets from 29 different countries and was translated into Spanish, Chinese and Portuguese.

An article published with Dr. Sathiyakumar serving as lead author, “Fasting Versus Nonfasting and Low-Density Lipoprotein Cholesterol Accuracy,” lit up social media. The direct comparison study concluded that a newer method of calculating so-called “bad cholesterol” (LDL) levels in the blood (designed by senior authors Seth Martin, MD, MHS, and Steve Jones, MD (right), is more accurate than the older method in people who did not fast before blood was
drawn. The study attracted close to 20,000 impressions on Twitter on the @HopkinsMedNews account. The research was mentioned in 40 media outlets, including about one-third in international outlets.

Congratulations to Dr. Ndumele (right), who received the 2018 Young Physician-Scientist Award from the American Society for Clinical Investigation (ASCI). This award recognizes early-career physician-scientists who have made notable achievements in their research. His abstract is one of 35 to be presented at the annual meeting of The Association of American Physicians, the American Society for Clinical Investigation, and the American Physician-Scientists Association.

An outstanding research paper led by Vishal Rao, MD, MPH (right), a former Osler resident and new Duke University cardiology fellow, was published in JACC Heart Failure. Entitled “Adiposity and Incident Heart Failure and its Sub-types: the MESA Study,” the paper earned 4 NEWS AND HIGHLIGHTS

Dorothy M. Davis, PMC, MSN, RN

Dorothy Davis has been a nurse for 24 years. Her previous experience in critical care made her realize that time with patients for education purposes and follow-up was very limited. She is passionate about patient education and advocacy, and she’s motivated to provide population awareness regarding the benefits of lifestyle modification. She enjoys guiding people to healthier lifestyles; her father had a heart attack when he was 48 years old. In 2012, Dorothy learned to choose healthier foods, reduced her portion sizes, and started an exercise program that resulted in a 70-pound weight loss. She maintained the weight loss with continued exercise and healthier eating.

She joined the Ciccarone Center in January 2018 as Sr. Clinical Nurse and she looks forward to educating patients on the benefits of a healthy lifestyle and empowering them through their own personal journey to a healthier way of life. Her role with the Ciccarone Center includes providing patient education as it relates to lifestyle modification, medications, including initial teaching for PSCK9 inhibitor injections, and any follow-up testing. She also provides post-visit follow-up and test result calls, assesses further education needs, offers resources when indicated, and helps to answer any questions that patients may have. She is looking forward to working collaboratively on cardiology prevention education and community projects, as well as assisting in research activities.

We are excited to announce that Lena Mathews, MD (right), joined the Hopkins faculty as an assistant professor, on July 1, 2018. She will be working in both the main hospital and Johns Hopkins Bayview Medical Center echo lab, and with Dr. Michos as well as Pamela Ouyang, MD, Director, Johns Hopkins Women’s Cardiovascular Health Center, focusing on under-served populations.

Dr. Martin tweeted that he was “All smiles and full hearts” with the team representing CorrieHealth, the first cardiology Apple CareKit app, at the 2018 American Society of Preventive Cardiology (ASPC) Congress on CVD Prevention in Santa Ana Pueblo, New Mexico. Members of the team included Francoise Marvel, MD, and Erin Spaulding, RN, BSN, a PhD candidate at the Johns Hopkins School of Nursing studying engagement with mobile health and medication adherence among heart attack survivors. Spaulding shared the latest results of the MiCORE study, which includes data on 110 Corrie users who have experienced only a 5% 30-day readmission rate, compared with the national Medicare average of 20%. Corrie’s iShare program loans iPhones to patients who enroll in the MiCORE study.
Dr. Rao first prize in the epidemiology poster competition at the 2017 Stanley L. Blumenthal, MD, Cardiology Research Awards. His senior mentor was Dr. Michos.

We are proud of Renato Quispe, MD (right), a postdoctoral research fellow, for being selected as a finalist for the American Heart Association’s Elizabeth Barrett-Connor Research Award in Epidemiology. The Barrett-Connor Award recognizes excellence in research by early-career investigators and trainees and encourages continued biomedical research careers broadly related to cardiovascular function and diseases, including basic science, integrated physiology and clinical problems. Way to go, Renato!

Several Ciccarone staff now play key roles on the ACC/AHA National Guideline Committees. Dr. Ndumele and Roger S. Blumenthal, MD, are co-authors of the 2018 ACC/AHA Guidelines on Cholesterol Management and Cardiovascular Risk Assessment. Dr. Blumenthal also serves as co-chair of the 2019 ACC/AHA Primary Prevention of Cardiovascular Disease Guidelines, and Drs. Michos and McEvoy are key members of that important writing group.

Kudos to Michael Blaha, MD, MPH (right), for winning a well-deserved mentoring award this year from the department of medicine. The Frederick L. Brancati Excellence in Mentoring Award honors early-stage faculty (assistant professor or early associate professor within 3 years of promotion) who demonstrate “integrity and professionalism within the department,” helping mentees select and advance their career paths, and develop “excellence in research, education, and clinical program building."

Dr. Blaha made headlines in another way recently. His research on the growing use of electronic cigarettes, published in the Annals of Internal Medicine, landed a spot in The New York Times. Titled “From 0 to 10 Million: Vaping Takes Off in the U.S.,” the Times article explores the growing popularity of e-cigarette use, including a sizable portion of young people who have never smoked — more than half were younger than age 35. “The use of e-cigarettes in the U.S. is a complicated picture,” commented Dr. Blaha, the study’s senior author. “Almost everyone would agree that the use of e-cigarettes among people who have never smoked — we’re up to almost 2 million people — is something we have to watch very carefully.”

Dr. Martin and team have been tapped as one of 10 groups from Hopkins Medicine to become trained on the Johns Hopkins Precision Medicine Analytics Platform (PMAP). The training program is organized by the Technology Innovation Center, the inHealth Initiative, and the Institute for Clinical and Translational Research. PMAP teams will accelerate biomedical research and digital health innovation by combining EMR, medical imaging, physiological monitoring, and genomics onto a cloud-based big data platform. Dr. Martin and his team will learn how to significantly improve their prospective data collection methods and leverage machine learning algorithms in...
order to exit the program with skills necessary to build a Precision Medicine Center of Excellence. The team plans to leverage PMAP to bring patient-centered digital health to the clinic to support implementation of the new cholesterol guidelines led by Dr. Blumenthal. As the team works to secure large external grants, philanthropic support could help the team to rapidly scale up their efforts in the coming year.

In a combined effort between the Johns Hopkins Ciccarone Center for the Prevention of Cardiovascular Disease and the Center for Vascular Medicine, Dominique Ashen, PhD, CRNP, and Elizabeth Ratchford, MD (right), have developed a center of CVD prevention for firefighters. CVD accounts for approximately 50% of deaths among on-duty firefighters; early detection and treatment of CVD risk factors may prevent disability and death. They have completed two studies, funded by the National Fallen Firefighters Foundation, that have focused on methods of detection of subclinical atherosclerosis (CVD without symptoms) and primary prevention of CVD (avoiding its initial occurrence) in firefighters through risk assessment and risk reduction. Strategies for risk assessment and risk reduction include coronary artery calcium scan and blood work, as well as education about a healthy diet, aerobic exercise, maintenance of a normal weight, and tobacco cessation. Their first study was published in the American Journal of Cardiology in 2014. They are now working on their second manuscript to include the cost-benefit analysis of a CVD prevention program that can be utilized by fire departments throughout the nation. In late 2017, the CVD prevention program expanded to fire departments in two Maryland counties and two clinics.

Congrats to Thorsten Leucker, MD, PhD (right), who received the top award for his research in the Junior Faculty, Basic Science, category at the Northwestern Cardiovascular Young Investigators’ Forum, held in Chicago in October 2018.

We are pleased to announce that Dr. Leucker also was named one of the 2018 “Magic That Matters” awardees. Dr. Leucker’s cardiac MRI assessment of inflammation-related changes in global and regional left ventricular structure and function, following ST-elevation myocardial infarction, earned him the award.

In July, Wendy Post, MD, MS (right), assumed the position of Director of Cardiovascular Research. In her new role, Dr. Post will lead the mentoring of junior faculty and fellows in their academic pursuits and will provide guidance in their grant submissions. She will also direct the Cardiology Division’s First Page initiative, which sends junior faculty’s specific aims to senior faculty for review and input. Dr. Post will also lead the division’s monthly administrative research meetings and provide guidance on all investigative strategic initiatives.

Rhanderson Cardoso, MD (right), was named the new Pollin Cardiovascular Prevention Fellow. This honor goes to a fellow destined for a career in academic medicine with a focus on preventive cardiology.

Dr. Cardoso says the honor will allow him to attend supplemental meetings and conferences and support his desire to get a Masters in cardiovascular epidemiology next year.

Francoise Marvel, MD, won 2nd place at the American Heart Association “EmPowered To Serve” Summit. Dr. Marvel represented Corrie Health, which is the first Apple Caret application to assist cardiac patients recover from heart attacks. AHA awarded $25,000 toward the project.
Stanley L. Blumenthal, MD
Cardiology Research Awards
Since 2004, the annual Stanley L. Blumenthal, MD, Preventive Cardiology Research Awards have been presented to the Hopkins postdoctoral fellows, graduate students, or house staff submitting the best abstracts to major research meetings, such as the American Heart Association or American College of Cardiology Scientific Sessions. The awards were established in 2003 by the family and friends of the late Dr. Stanley L. Blumenthal, a Phi Beta Kappa graduate of Johns Hopkins University and the School of Medicine. Dr. Blumenthal began his pediatrics training at Hopkins before moving to the University of Michigan to be a senior resident and then to Harvard’s Boston Children’s Medical Center to do Pediatric Cardiology training. He then worked at the National Children’s Medical Center in D.C. and George Washington University, and he had a large clinical practice in Silver Spring, Maryland.

Each year, the awards are bestowed following the division’s yearly cardiovascular research retreat. This year’s presentations and awards ceremony, held April 20, and organized by David Kass, MD, Director, Institute of CardioScience, featured lectures on cutting-edge cardiovascular disease science by Marc Halushka, MD, PhD, Hopkins Associate Professor in the Department of Pathology; William Pu, MD, Harvard University Professor of Pediatrics, Cardiology, BME; Svatik Shah, MD, MHS, Duke University Associate Professor of Medicine; and Suchi Saria, MsC, PhD, Hopkins Assistant Professor, Department Computer Science, Applied Math, Health Policy & Management. Cash prizes and certificates were awarded to the following outstanding young cardiovascular disease researchers.

First place in the ORAL COMPETITION went to James Beckett, for his presentation, “Calpain 9 as a Novel Therapeutic Target in TGFb-Induced Mesenchymal Transition & Fibrosis.” His faculty mentor was Hal Dietz, MD. Second place was awarded to Sabra Lewsey, MD (right), for “Exercise Intolerance and Abnormal Skeletal Muscle Energetics in the Frail Elderly.” Her mentors were Bob Weiss, MD, and Gary Gerstenblith, MD (right). Third place resulted in a three-person tie: Julia Cadrin-Touring, MD, for “Development of a Model for Individualized Arrhythmic Risk Prediction in a Primary Prevention Arrhythmogenic Right Ventricular Cardiomyopathy (ARVD/C) Population: a Transatlantic Multinational Collaboration,” mentored by Hugh Calkins, MD; Virginia Hahn, MD, for “Patients with Heart Failure with Preserved Ejection Fracion (HFpEF) Have Reduced Protein Kinase G (PKG) Activity & Higher Phosphodiesterase 5 (PDE5) Expression Compared to Patients with Heart Failure with Reduced Ejection Fraction (HFReEF),” mentored by David Kass, MD and Kavita Sharma, MD (right); and Erin Spaulding, RN, BSN (PhD Candidate at Hopkins School of Nursing), for “The Corrie Digital Solution for Heart Attack Recovery,” mentored by Seth Martin, MD, MHS.

First place in the BASIC SCIENCE POSTER COMPETITION went to Sumita Mishra, MD, for the presentation, “Therapeutic Effects of PDE9 Inhibition on Cardiac Function and Metabolic Profile in Chronic Obesity and Pressure-Overload Induced Cardiometabolic Disease”; her mentor was David Kass, MD. Oliver Monfedi, MB CHB, took second place for “The Beat Goes On – Evidence for the Coupled Clock System in Human Sinoatrial Nodal Cells”; his mentor was Edward Lakatta, MD.

Third place was awarded to Guobao Chen, PhD (right), for “Sca-1+ Cardiac Fibroblasts Promote Development of Heart Failure”; Dr. Chen’s mentor was Daniela Cihakova, MD, PhD.

Emily Brown, MGC, CGC
A certified genetic counselor, Emily Brown specializes in seeing patients with hereditary dyslipidemias, including familial hypercholesterolemia and hypertriglyceridemia conditions. As part of the Advanced Lipid Disorder Clinic, she speaks with patients about the benefits and limitations regarding genetic testing. On a national level, Brown co-chairs the Familial Hypercholesterolemia Working Group for the National Society of Genetic Counselors. She previously presented a webinar on genetic testing in hereditary hypertriglyceridemias for genetic counselors, and recently returned from the Global FH Summit. Additionally, she presented her research on implementing genetic testing to improve diagnosis rate for familial hypercholesterolemia at the National Society of Genetic Counselor’s (NSGC) Annual Education Meeting in November 2018.
First place in the CLINICAL SCIENCE POSTER COMPETITION went to Ali Keramati, MD (right), for “Targeted Deep Sequencing of the PEAR1 Locus for Platelet Aggregation in European and African American Families”; his mentor was Rasika Mathias, ScD. Kathryn Foti, MPH, took second for “Trends in Hypertension Prevalence, Awareness, Treatment, and Control: NHANES Survey, 1999-2014”; her mentor was Elizabeth Selvin, MPH, PhD. Third place went to Akbar Alipour, PhD, for his presentation, “Heat Mitigation for MRI-Guided Catheter Interventions”; Dr. Alipour’s mentor was Henry Halperin, MD.

Congratulations to all the winners!

P.J. Schafer Cardiovascular Research Award

The P.J. Schafer Cardiovascular Research Award funds the efforts of clinical investigators seeking a better understanding of how to diagnose premature heart disease and prevent sudden cardiac death. Previous recipients of this prestigious award, which is given to a junior faculty member, include Drs. Erin Michos, Richard George, Saman Nazarian, Rhondalyn McLean, Oscar Cingolani, Chiadi Ndumele, Michael Blaha, Allison Hays (right), and Seamus Whelton.

The 2018-2019 P.J. Schafer award winner is Roberta Florido, MD, MHS (right). Dr. Florido was a prior Pollin Cardiovascular Prevention Fellow and has worked closely with Dr. Ndumele on innovative projects looking at the important roles that physical activity, diet, and weight play in the development of heart failure. She is also pursuing research regarding the association of a history of cancer and subclinical heart muscle damage as measured by blood tests.

Our newest faculty member, Dr. Florido specializes in heart failure, mechanical circulatory support and heart transplant. She received her medical degree from Universidade Federal do Rio de Janeiro and completed an internal medicine residency at Boston University Medical Center. She completed fellowships in cardiology at the Johns Hopkins University School of Medicine. Her recently published research includes a groundbreaking article about the benefits of physical activity associated with decreased risk of heart failure, a consensus article on the management of bleeding in patients on oral anticoagulants, and the discovery that temporal reduction in troponin levels, measured by a high-sensitivity assay, change in response to lifestyle modifications and may serve as a surrogate for monitoring CVD risk.

Hopkins Cardiology is indebted to Paul and Vivian Schafer and the Board of the P.J. Schafer Foundation for their hard work and generous contributions in support of cutting-edge research geared to the prevention of sudden cardiac death, which tragically took the life of their son, P.J.

In recognition of the Schafer’s many years of selfless service and support of the programs and people of the Ciccarone Center and the University of Maryland, they were awarded the Association of Fundraising Professionals Unsung Heroes Award at the organization’s National Philanthropy Day luncheon on November 14.

**Michael J. Blaha, MD, MPH**

Dr. Michael J. Blaha serves as the Director of Clinical Research for the Ciccarone Center. His interests include primary and secondary prevention of cardiovascular disease, emphasizing early intervention in patients with advanced subclinical atherosclerosis detected using cardiac computed tomography. He is an internationally prominent preventive cardiologist and researcher in clinical epidemiology, with faculty appointments in both cardiology and epidemiology at the Johns Hopkins Bloomberg School of Public Health. He is an associate editor for the *Journal of Cardiovascular Computed Tomography* and for the “Diabetes & Cardiometabolic Clinical Community” on acc.org, and a standing voting member of the Endocrinologic and Metabolic Drug Advisory Committee for the FDA. Principal investigator for the Coronary Artery Calcium Consortium, co-chair of the Cross Cohort Collaboration, and a principal investigator for the American Heart Association (AHA) Tobacco Regulation and Addiction Center, Dr. Blaha has received multiple grant awards from a variety of funders, and has published over 375 research articles, many with trainees at Johns Hopkins. In 2018, Dr. Blaha received the Dr. Fred Brancati award at Johns Hopkins for excellence in mentoring.
NEWS AND HIGHLIGHTS

More Than 250
The Ciccarone Center publishes important original research articles, editorials, and review articles in many of the world’s top cardiology, internal medicine, epidemiology, and endocrinology journals. From October 2017 to September 2018, the Center showed amazing productivity, publishing more than 250 articles of significant basic and clinical research findings, commentaries, and review articles in many leading medical journals, including:

American Journal of Cardiology 7
American Journal of Epidemiology 1
American Heart Journal 4
American Journal of Medicine 5
Annals of Internal Medicine 5
Atherosclerosis 14
ATVB 1
British Medical Journal 1
Circulation 14
Circulation: Arrhythmias & Electrophysiology 1
Circulation: CV Quality & Outcomes 1
Circulation: Genomics & Precision Medicine 1
Clinical Chemistry 1
Diabetes Care 1
European Heart Journal 6
Heart 1
International Journal of Cardiology 6
JAMA Cardiology 5
JAMA Internal Medicine 1
Journal of Clinical Lipidology 2
Journal of Cardiovascular CT 4
Journal of the American College of Cardiology 10
JACC Cardiovascular Imaging 1
JACC Heart Failure 5
Journal of the American Heart Association 21
Lancet 3
Mayo Clinic Proceedings 5
PLoS One 2
Preventive Medicine 1

Our Ciccarone Center Contributors Change Lives
Philanthropy has been described as “private initiatives for the public good,” and here at the Ciccarone Center, we couldn’t be more grateful for those who entrust us with personal gifts to accomplish great things for those struggling with cardiovascular disease. Our donors fuel progress — progress for our patients, progress for our physicians and researchers, and progress for people worldwide who benefit from the science and service that stand at the center of Johns Hopkins Medicine.

We are grateful to all our Ciccarone Center contributors, with added thanks to our lead donors listed below. A special shout-out goes to Dr. Nancy Grasmick, a longtime friend and advocate of the Johns Hopkins Heart and Vascular Institute, for her extremely generous leadership gift this year to support Dr. Wendy Post and her research team.

Mr. Michael A. Amato
Mr. and Mrs. Richard Amato
Mr. David L. Ansell
Mr. Sumit Banerjee
Mr. Edgar I. Calin
Mr. Stanley Goldstein
Dr. Nancy Grasmick
Mrs. Virginia F. Gomprecht
Mr. John A. Heyman
Ms. Joyce C. Koons
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Mr. and Mrs. Nicholas G. Paleologos
Dr. Marshall Sashkin
Mr. Andrew Samet
P.J. Schafer Foundation
Mr. and Mrs. Carter C. Shepherd
Mr. and Mrs. Richard A. Swirnow

Mr. and Mrs. Richard Amato
Irv and Virginia Gomprecht
Mr. and Mrs. Nicholas G. Paleologos
Dr. Nancy Grasmick
The team at the Johns Hopkins Ciccarone Center for the Prevention of Heart Disease recommends a simple and effective way to predict and prevent cardiovascular (CVD). Our “ABCDE method – which stands for Assessment of risk, Antiplatelet therapy, Blood pressure management, Cholesterol management, Cigarette/tobacco cessation, Diabetes prevention and treatment, and Exercise – systematizes the national guidelines into a comprehensive management plan for prevention. This algorithm provides an effective and efficient intervention each time a patient with or at risk for atherosclerotic heart disease makes contact with the medical system.

**A**ssessing Your CVD Risk
An adult can estimate his or her average risk of heart attack or stroke over the next 10 years by using a the atherosclerotic cardiovascular disease (ASCVD) Calculator: http://clincalc.com/cardiology/ascvd/pooledcohort.aspx

**B**lood Pressure – GO LOW!
High blood pressure is a significant cause of heart attack, stroke, kidney disease, and dementia. The latest recommendations for blood pressure is <130/<80. Lifestyle interventions, including regular aerobic exercise, eating a diet low in salt and high in fruits and vegetables, losing excess weight, and reducing alcohol intake all lower blood pressure.

**C**holesterol Therapy – A Must
Cholesterol gradually builds up on the walls of the arteries over time leading to cholesterol plaques, or atherosclerosis. Healthier dietary habits and increased exercise remain the two best ways to improve cholesterol but often statins or other medications are employed to lower cardiovascular risk.

**D**iabetes Prevention and Treatment
Both Diabetes and pre-diabetes can lead to heart disease, stroke, kidney failure, blindness, and amputations. You can help diagnose both conditions by checking your hemoglobin A1c (HbA1c) levels. A measured HbA1c of 5.7-6.4% represents pre-diabetes, while a level of 6.5% or more represents diabetes. Weight loss as well as improvements in diet and exercise helps to prevent development of diabetes. If you are diabetic, you may need medications, such as metformin or insulin, for optimal diabetes control.

**E**xercise is Key
Exercise helps us lose weight, stay healthy, and feel better about ourselves. A good exercise program consists of aerobic activity, strength training, and flexibility exercise. The new guidelines suggest 5 sessions of moderate- to vigorous- intensity physical activity per week, lasting an average of 40 minutes per session. Brisk walking qualifies as moderate-intensity physical activity.

**D**iet and Weight Management
A healthy diet should be rich in fruits, vegetables, and whole grains, along with low-fat dairy products, poultry, fish, legumes (green beans, navy beans, soybeans, etc.), and nuts. Sweets, sugar-sweetened beverages, red meat, and simple carbohydrates found in white breads, pastas, and white rice should be minimized.

Weight is measured using the body mass index (BMI). A normal BMI is 18-24.9 kg/m²; 25-29.9 kg/m² is considered overweight; and ≥30 kg/m² indicates obesity. For excess weight, making small changes in diet and exercise can aid in weight loss. The new guidelines suggest losing 3-10% of body weight via a low calorie diet combined with an increase in physical activity.

**SIMPLE AS ABC**

Preventing Cardiovascular Events Based on the 2017 Prevention Guidelines

**A**ssessing Your CVD Risk

**B**lood Pressure – GO LOW!

**C**holesterol Therapy – A Must

**D**iabetes Prevention and Treatment

**E**xercise is Key

**D**iet and Weight Management

**A**ssessing Your CVD Risk

An adult can estimate his or her average risk of heart attack or stroke over the next 10 years by using a the atherosclerotic cardiovascular disease (ASCVD) Calculator: http://clincalc.com/cardiology/ascvd/pooledcohort.aspx

**An Aspirin a Day**
A small dose of aspirin (81 mg) daily may lower risk of a heart attack and stroke. In many patients who have had a heart attack or have heart stents, adding another antiplatelet medicine, such as clopidogrel, to daily aspirin can an additional benefit. Aspirin is generally recommended for people with 1) an ASCVD risk estimate ≥ 20% over 10 years; 2) those who have known atherosclerosis

**Blood Pressure – GO LOW!**
High blood pressure is a significant cause of heart attack, stroke, kidney disease, and dementia. The latest recommendations for blood pressure is <130/<80. Lifestyle interventions, including regular aerobic exercise, eating a diet low in salt and high in fruits and vegetables, losing excess weight, and reducing alcohol intake all lower blood pressure.

**C**holesterol Therapy – A Must
Cholesterol gradually builds up on the walls of the arteries over time leading to cholesterol plaques, or atherosclerosis. Healthier dietary habits and increased exercise remain the two best ways to improve cholesterol but often statins or other medications are employed to lower cardiovascular risk.

**C**igarette/Tobacco Cessation
Tobacco use increases the risk of heart attack and stroke and is linked to multiple types of cancers. If you smoke, make every concerted effort to stop. Develop a plan to quit and set a quit date. Resources are available to help you stop smoking, including nicotine replacement therapies and prescription medications.

1-800-QUIT-NOW is a great resource

**D**iabetes Prevention and Treatment
Both Diabetes and pre-diabetes can lead to heart disease, stroke, kidney failure, blindness, and amputations. You can help diagnose both conditions by checking your hemoglobin A1c (HbA1c) levels. A measured HbA1c of 5.7-6.4% represents pre-diabetes, while a level of 6.5% or more represents diabetes. Weight loss as well as improvements in diet and exercise helps to prevent development of diabetes. If you are diabetic, you may need medications, such as metformin or insulin, for optimal diabetes control.

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Take control of your ABCs! For more information, call the Johns Hopkins Ciccarone Center for the Prevention of Cardiovascular Disease at 410-955-7376.

www.hopkinsmedicine.org/heart

Personalized prevention advice is the trademark of the Ciccarone Center.
WHAT IS THE CICCARONE CENTER?

Since 1990, the mission of the Ciccarone Center for the Prevention of Cardiovascular Disease has been three-fold:

- To provide excellent clinical care for people with, or at risk of developing, cardiovascular disease (CVD)
- To educate health care practitioners regarding the most recent advances in the identification of established and novel cardiovascular risk factors and their management so as to enable them to better decrease their patients’ risk of developing CVD
- To establish rigorous research programs to advance prevention of cardiovascular disease

Determined pursuit of these goals over the past 28 years has led to the creation of one of the fastest growing clinical, research, and educational programs at Johns Hopkins, which is highly regarded for its innovative and effective approaches to cardiovascular disease prevention and risk factor management.

Clinical Care

The trademark of the Ciccarone Center is its comprehensive approach, which involves both global assessment and aggressive management of multiple risk factors (rather than single risk factors, such as high blood pressure or high cholesterol alone) contributing to the development and progression of atherosclerosis. Our clinical center is dedicated to:

- The identification and management of individuals at risk for accelerated atherosclerosis (primary prevention) to prevent or delay the onset of CVD, and
- The management of patients with established vascular disease (secondary prevention) to reduce recurrent cardiovascular events and long-term disability, and to prolong survival.

Education

Our educational efforts are directed to both the medical community and the general public. The Ciccarone Center serves as a model for teaching the science and art of prevention of cardiovascular disease to Cardiology fellows, residents, and students at the Johns Hopkins School of Medicine and the Bloomberg School of Public Health. Our faculty participate in educational activities including seminars and lectures at national and international forums.

Our physicians and nurse practitioners also educate patients and the public in the most recent health management guidelines and behavior modification techniques to achieve individual prevention goals.

Research

The Ciccarone Center is committed to conducting cutting-edge research on the lifestyle basis of cardiovascular risk, risk factors for cardiovascular disease, early detection of atherosclerosis, and appropriate use of pharmacotherapy for prevention of future cardiovascular events like heart attack stroke. We conduct research on three levels:

- Epidemiology research studies documenting the prevalence of cardiovascular risk factors and cardiovascular disease, both in the United States and globally.
- Clinical research studies of cardiovascular disease involving informed, consenting adults, including studies of wearable technology and studies of new pharmaceuticals recently introduced into the marketplace.
- Basic research to decipher fundamental mechanisms responsible for the development, progression, and clinical manifestations of atherosclerotic vascular disease, from the level of isolated arterial cells to small and large animal models of heart disease. We have particular expertise in inflammation.

A Personalized, Comprehensive Approach

The Ciccarone Center specializes in managing adults who are at high risk for future cardiovascular disease because of the presence of multiple cardiac risk factors (such as hypertension, dyslipidemia, diabetes, smoking, sedentary lifestyle, or overweight status) or a history of known cardiovascular, cerebrovascular or peripheral arterial disease.

Albert Danso Osei, MD

A physician from Ghana and a recent graduate of the Johns Hopkins Bloomberg School of Public Health, Dr. Albert Danso Osei is a postdoctoral research fellow working at the Ciccarone Center under the supervision of Dr. Michael Blaha. He conducts research on the possible cardiovascular effects of novel tobacco products, including markers of both sub-clinical and clinical cardiovascular disease. In his study of the association between e-cigarette use and cardiovascular disease by combustible cigarette smoking status, using the Behavioral Risk Factor Surveillance System (BRFSS) 2016 and 2017 data, he demonstrated that dual use of e-cigarettes plus combustible cigarettes is associated with significantly higher odds of CVD. Compared to combustible smoking alone, the results set the stage for the conduct of longitudinal studies exploring potential CVD risks associated with e-cigarettes, particularly in dual users. The study is in preparation for submission to JAMA Cardiology, with Dr. Osei as first author.
The goals of Ciccarone Center’s personalized, comprehensive approach to lifestyle and medical management is to slow or halt the progression of cardiovascular disease and thereby decrease one’s future risk of a heart attack, stroke, and heart failure. We also sponsor research that includes large epidemiologic studies, single and multicenter clinical trials, and basic molecular studies.

Several groups of patients are of particular interest to the Ciccarone Center:
- Women and ethnic minorities
- Patients with metabolic disorders such as inherited dyslipidemias, the metabolic syndrome, and diabetes
- Patients with accelerated atherosclerosis
- Persons with a family history of premature cardiovascular disease
- Persons with recurrent chest pain but without significant obstructive coronary artery disease
- Persons who cannot tolerate standard cholesterol or blood pressure medications

### State-of-the-Art Testing
We are especially interested in individuals who develop cardiovascular disease before the age of 65. We also have special expertise in the screening and management of asymptomatic family members of persons with premature atherosclerotic disease. Our team may selectively employ state-of-the-art testing to identify factors contributing to heart disease clustering in families.

For an individual patient, we may use the latest assessment techniques to measure lipoproteins (total cholesterol, high-density lipoprotein cholesterol [HDL-C], LDL-C, and triglyceride levels) and apolipoproteins [Lp(a), apolipoprotein B] as well as nontraditional risk factors.

### Advanced Diagnostic Tools
Among asymptomatic adults with no history of cardiovascular disease, we may use a 64-slice or a 320-slice multi-detector computed tomography (MDCT) scan of the heart to measure the extent of coronary artery calcification. The presence of elevated coronary artery calcification (e.g., > 75th percentile for one’s age and gender or > 100 Agatston Units) or thickened carotid arteries are signs of accelerated atherosclerosis for one’s age and may prompt more aggressive comprehensive risk factor changes achieved by both medical management and lifestyle modification.

 Occasionally, a cardiac CT angiogram may also be indicated in patients with atypical chest pain and inconclusive stress test results. After an initial comprehensive evaluation, this test may help to inform management decisions, including more sophisticated laboratory and diagnostic testing and intervention.

### Improving Lifestyle Habits
We specialize in helping people improve their lifestyle habits by assisting them in achieving behavior changes such as:
- Following healthier diets
- Maintaining a prudent body weight
- Smoking cessation
- Maintaining a regular aerobic program
- Coping better with stress

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### Our Mission
We have built the Johns Hopkins Ciccarone Center with the following goals in mind:

1. **Provide a center dedicated to clinical patient care and the global assessment of risk factors for cardiovascular disease, which enables patients to receive:**
   - the latest information on the prevention of atherosclerotic vascular disease,
   - comprehensive management of CVD risk factors, and
   - high-quality care that is integrated into the other health promotional resources of Johns Hopkins.

2. **Create a center for the education of health care providers in the area of prevention of cardiovascular disease.**
   Teaching by our physicians and nurse practitioners broadly targets Hopkins nurses, medical students, fellows, and physicians as well as the provider and patient community at large.

3. **Foster cardiovascular research, including both epidemiologic studies, clinical trials and translational research.**
ON THE PULSE OF WOMEN’S HEART HEALTH: 
RECENT RESEARCH STUDIES

Heart Disease in Women: The Impact of Biological Sex, Sex Hormones, and Gender

The Ciccarone Center’s Associate Director, Dr. Erin Michos, has had a long-standing interest in women’s heart health. She is the Training Director for the American Heart Association’s (AHA) Go Red for Women Research Network at Johns Hopkins. Dr. Michos and her research team have published a number of key papers related to novel risk factors for cardiovascular disease (CVD) in women, with special attention to the role of stress, hormones, and gender-specific outcomes.

Stress in Women: Dr. Michos and Dr. Lena Mathews published a paper in the *Journal of Women’s Health* (May 2018) about the impact of psychosocial stressors on women’s health. They found that women who reported increased levels of stress, depression, low life satisfaction, hopelessness, or sadness were much less likely to meet ideal measures of cardiovascular health.

Sex Hormones: Drs. Michos, Mathews, Vinita Subramanya, Wendy Ying, and Di Zhao showed that higher androgen (testosterone) levels in women were associated with a more adverse cardiovascular profile, including increased cardiac hypertrophy, stiffness of the aorta, endothelial dysfunction, and increased levels of a blood marker of heart wall stress. Additionally, women with higher free testosterone levels had increased progression of calcification in their heart arteries. Importantly, women with higher levels of testosterone relative to estrogen had increased risk of a cardiovascular event or heart failure. Progression of subclinical atherosclerosis may be an intermediate step that links higher androgens in women to increased CVD risk.

Gender Differences in CVD

**Outcomes:** The Michos team found that women with CVD were more likely to have poorer patient provider communication, poor perception of health status, and lower health-related quality of life scores. Women with ASCVD also had lower usage of preventive aspirin and statins. In addition, they found that >50% of women did not meet the minimal AHA recommended physical activity amounts. This was particularly true for women of racial/ethnic minorities and of lower socioeconomic status. This was associated with significant healthcare costs, compared to women who did meet the recommended targets. These findings have important public health implications and require more research towards understanding the gender-specific differences in healthcare quality, delivery of recommended therapies, promotion of physical activity, and reduction of costs.

Funding Opportunities for Future Research in Women’s CVD Health

Dr. Michos and her research team have identified a number of areas for future research related to novel risk factors for CVD in women:

**Genetic Response to Vitamin D Supplements:** Previous work by Dr. Michos has examined the role of vitamin D levels and cardiovascular risk, but findings have been mixed and differed between whites and blacks. It is likely that the usual measure of vitamin D in the blood (25-hydroxyvitamin D levels) does not explain the whole story, and there might be racial differences in vitamin D related gene expression. Thus, using stored blood from the STURDY study, a randomized clinical trial investigating four different treatment doses of vitamin D supplements, Dr. Michos (and her genetic epidemiology faculty colleague, Dr. Tin) are seeking funding to perform a pilot study to measure gene expression pre/post vitamin D supplementation. Their goal is to see whether gene expression can discern individual response to vitamin D supplementation and inform optimal individualized (personalized) threshold and dose for vitamin D supplementation. Results from this pilot study will enable the submission of a larger grant application for studying novel vitamin D measures, genetics, and subclinical cardiovascular disease funding.

**Trajectory of Sex Hormones in Late Life:** Prior work by Dr. Michos in the MESA study have linked single measures of sex hormones (testosterone) with future cardiovascular disease risk in women after menopause. However, many unanswered questions remain, particularly about the influence of changes in these same hormone levels later in life and how this trajectory of sex hormone levels later in life influences a woman’s subsequent CVD risk. Dr. Michos is seeking funding to measures sex hormones from two additional time points from the MESA study to look at change in hormone levels with subclinical and clinical cardiovascular outcomes as well as associations with body composition and adiposity measures.
A listing of the publications by the staff of The Johns Hopkins Ciccarone Center for the Prevention of Heart Disease, from October 2017 through September 2018.

ANTIPLATELET/ANTICOAGULANT


Summary: Dual antiplatelet therapy was associated with lower CV mortality in observational samples undergoing bypass surgery, but not in randomized clinical trials. Lower rates of SVG occlusion with DAPT are offset by a higher rate of major bleeding.


Summary: This drug interaction suggests that the interaction between opioids and oral P2Y12 platelet inhibitors is a drug class effect associated with all opioids.


Summary: Estimates of potential off-label use should be interpreted cautiously due to limitations in available information.


Summary: In patients undergoing catheter ablation for AF, uninterrupted periprocedural NOACs are associated with a low incidence of stroke or TIA and a significant reduction in major bleeding as compared with uninterrupted VKAs.


Olusola Orimoloye, MBBS MPH

With a medical degree from the University of Ibadan, Nigeria, and a Master of Public Health degree from the Johns Hopkins School of Public Health, Dr. Olusola Orimoloye serves as a postdoctoral research fellow at the Ciccarone Center. Over the past year, under the guidance of Dr. Michael Blaha, Dr. Orimoloye has focused on race and ethnicity differences in the prognostic implications of coronary artery calcium and the predictive utility of coronary artery calcium in race and ethnicity groups underrepresented in the Pooled Cohort Equations. In addition, he has also worked extensively on investigating potential cardiometabolic risks associated with the use of electronic cigarettes.

He plans to pursue residency training in Internal Medicine in the coming year, where he hopes to grow his clinical skills, in preparation for a clinician-scientist career in cardiology.


Summary: Uncertainties remain regarding the optimal screening pathway, frequency of follow-up imaging, candidate selection for thromboprophylaxis, and treatment strategies for post-MI left ventricular thrombus.


Summary: This study provides important information on the impact of fentanyl administered during PCI on the absorption of ticagrelor and its antiplatelet activity.


Summary: AF was associated with increased risk of incident venous thromboembolism, resulting in a greater risk of incident AF.


ASSESSMENT

Orimoloye OA, Budoff MJ, Dardari ZA, Mirbolouk M, Nasir K, Miedema MD, Blumenthal RS, Blaha MJ.


**Summary:** CAC is strongly predictive of all-cause and cardiovascular disease mortality, though its prognostic implications may vary by race.


**Summary:** The prevalence of self-reported periodontal disease may be strongly influenced by educational status and other socioeconomic features.


**Summary:** Surprisingly, the extent of atherosclerotic cardiovascular disease (ASCVD) risk overestimation using the pooled cohort equations may be even greater among South Asians considered at low and intermediate risk than among non-Hispanic whites.

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*Seth Martin, MD, MHS*

From his leadership in the Advanced Lipid Disorders Clinic to his leadership on digital health technology, Dr. Seth Martin drove innovation on the frontlines of care this past year. Dr. Martin and his team in the lipid clinic have pioneered the use of innovative cholesterol-lowering therapy, PCSK9 inhibitors, in over 400 patients at Johns Hopkins. Offering a new method to more accurately track LDL cholesterol levels in such patients, Dr. Martin led a collaboration with the TIMI study group at Harvard to validate the method across 49 countries. Dr. Martin also represented the Ciccarone Center at the Asian Pacific Society of Cardiology in Taiwan, where he served as a session co-chair and also as a speaker to share our cutting-edge approaches in lipidology and preventive cardiology. He was featured in *The New York Times* for his insights.

In line with the patient- and family-centered mission of Johns Hopkins Medicine, Dr. Martin, along with Francoise Marvel, MD, and the Corrie Health team, are leveraging digital and mobile health technology to improve preventive care in our highest risk patients. Dr. Martin and his team were invited to share their promising work at several cardiovascular science meetings as well as at a health tech panel in Washington, DC, about how technology is changing cardiovascular medicine. As Dr. Martin and his team continue to push the boundaries of what is possible with the use of technology, combined with process and culture, to enable patients in preventive care, they are looking for support to accelerate their efforts. A new digital innovation lab will serve as the central hub for multi-disciplinary collaboration to fulfill a vision for a future in which technology is seamlessly integrated into the human experience to make it easier to stay healthy.

In recognition of his accomplishments, Dr. Martin was promoted to Associate Professor of Medicine. He was inducted as a fellow of the AHA, appointed to the prestigious national statistics committee, and appointed as a board member of the Mid-Atlantic AHA. Dr. Martin was also appointed as a fellow and board member of the American Society of Preventive Cardiology. He continues to serve on the Maryland State Advisory Council.


**Summary:** The combination of carotid artery intima-media thickness and coronary artery calcium (CAC) further refines risk calculation for ischemic stroke/transient ischemic attack prevention and prioritizes those in most need of statin therapy.

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**Summary:** The absence of coronary artery calcium is associated with a very low incidence of CV mortality or events in individuals who are eligible for lipid-lowering therapy.

**Summary:** This review summarizes evidence concerning CAC, including its pathobiology, modalities for detection, predictive role, and role in the new guidelines.


**Summary:** Meta-analysis of clinical trials and prospective cohort studies demonstrates that MVM supplementation does not improve cardiovascular outcomes in the general population.


**Summary:** Although CAC and mammograms share a number of characteristics, the evidence supporting CAC as a tool for widespread CVD screening purposes is limited.


**Summary:** Optimal LS7 status was associated with a lower risk of AF, suggesting that promoting ideal cardiovascular health reduces the incidence and burden of AF.


**Summary:** Participants with discordant eligibility had ASCVD rates that varied significantly according to baseline CAC, suggesting CAC could aid clinical decision making for statins.


**Summary:** Self-reported ED predicted incident CVD in those free of CVD at baseline.


**Summary:** The CAC-DRS classification applied on a per-patient basis represents the total calcium score and the number of involved arteries.


**Summary:** The presence of higher degrees of CAC was associated with greater absolute benefit of statin therapy but there was no relation with hsCRP levels and statin benefit.


**Summary:** Given the relationship between subclinical and clinical CVD with ED, all men with vascular ED should undergo cardiovascular risk assessment.


**Summary:** The absence of ASCVD and a favorable cardiovascular risk profile were associated with significantly lower medical expenditure among cancer patients.


**Summary:** Adults with elevated CAC have healthy lifestyle options to lower risk and delay CVD onset, over and above standard preventive therapies.

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**Kathleen Byrne, NP**

Kathleen Byrne is a nurse practitioner in the Advanced Lipid Disorders Clinic seeing patients with various lipid disorders, including those with familial disorders. Working with patients and family members to optimize their cardiovascular health, Kathy focuses on explaining how an individual’s lipid disorder impacts both their cardiovascular and overall health and assists them in incorporating the recommendations for diet and exercise into their daily lives.

A key component of care has been assisting patients who are in need of PCSK9 inhibitors to obtain and use the medication appropriately.
We found overlap in predictors of incident HFmEF with other HF subtypes.


Summary: This editorial examines the relationship between a lifestyle score and multi-territorial vascular disease.


Summary: Higher resting heart rate was associated with mitral annular calcium incidence and AVC progression, independent of traditional CVD risk factors.

Tibuakuu M, Jones MR, Navas-Acien A, Zhao D, Guallar E, ... Michos ED. Exposure to ambient air pollution and calcification of the mitral annulus and aortic valve: MESA. Environmental Health. 2017 Dec 21;16(1):133.


Summary: An elevated resting heart rate is independently associated with a greater cognitive decline and risk of dementia over 20 years.


Summary: More favorable self-rated health was associated with better CVH.


**Summary:** Joining forces for combined cardiovascular and oncological preventive and research efforts will have synergistic worldwide public health benefits.


**Summary:** The combination of cIMT and CAC can best determine who can benefit from a statin.


**Summary:** About half of eligible statin users could forgo pharmacologic therapy since they have no coronary artery calcium.


**Summary:** The combination of cIMT and coronary calcification is associated with cardiovascular versus cancer mortality: The CAC Consortium. *European Heart Journal - Cardiovascular Imaging.* Forthcoming 2018.


**Summary:** While multi-site thoracic extra-coronary calcification is associated with stroke, its incremental predictive value beyond CAC and traditional risk factors is modest.


**Biomarkers**


**Summary:** The utility of hsCRP for ASCVD prediction was modest, though hsCRP was associated with incident VTE in statin non-users, and mortality and heart failure (HF) in statin users.


**Summary:** Inflammatory biomarkers and adipokinetones (IBA) were not associated with CAC presence or severity in MASALA.

**Simon TG, … Blaha MJ, … Chung RT.** Circulating Interleukin-6 is a biomarker for coronary atherosclerosis in nonalcoholic fatty liver disease: MESA. *International Journal of Cardiology.* 2018 May 15;259:198-204.

**Summary:** In adults with nonalcoholic fatty liver disease (NAFLD), IL-6 is independently associated with the prevalence and severity of atherosclerosis.


**Summary:** The biomarker hsCRP better stratifies risk among smokers.


**Summary:** Biomarkers of renal dysfunction, endothelial dysfunction, and inflammation were associated with incident HFrEF.

Summary: This article examines the potential role of inflammatory targets to prevent CVD events.


Summary: Feeling lonely is associated with systemic inflammation in community-dwelling US adults.


Summary: This editorial examines the potential role of inflammation-targeted therapy and the implications of the CANTOS trial.


Summary: Interleukin 6 is strongly and independently associated with ASCVD events, HF, and all-cause mortality, particularly among statin users.


Summary: hs-cTnT levels change in response to lifestyle modifications may serve as a surrogate for monitoring CVD risk.


Summary: Short-term inhibition of xanthine oxidase does not significantly improve impaired endothelial function in patients with stable CAD.

McEvoy JW. High-sensitivity troponin and heart failure with preserved ejection fraction-balancing P values with prior knowledge and common sense. JAMA Cardiology. 2018 Sep 1;3(9):892.


Summary: There is a broad differential for troponin elevation in young patients, which differs based on demographic features.


Summary: Reduced kidney function, calcium and phosphate metabolism disorders, and inflammation, independent of established CVD risk factors, may promote CAC progression among kidney disease patients.

Omar Dzaye, MD, PhD

With an interest in cardiovascular disease and neurology, Dr. Omar Dzaye obtained an MD and PhD in Berlin, Germany. He is presently doing a combined cardiovascular and radiology research fellowship at the Ciccarone Center for the Prevention of Heart Disease. Based on his PhD in medical neurosciences and then a residency in radiology, Dr. Dzaye has focused his work on subclinical cardiovascular disease in relation to neurologic outcomes — particularly stroke and dementia — and is mentored by Dr. Michael Blaha along with Drs. Joao Lima, David Bluemke, and Bruce Wasserman.
RESEARCH PUBLICATIONS

BLOOD PRESSURE


Summary: Patients with CAC and ECC are at markedly higher risk of incident hypertension and will benefit from more intensified prevention efforts.


Summary: There needs to be more rigorous regulatory review of health apps prior to their release.


Summary: The 2017 ACC/AHA hypertension guidelines will markedly increase the number of people labeled as having hypertension and treated with drugs.


Summary: The 2017 ACC/AHA hypertension guidelines will markedly increase the number of people labeled as having hypertension and treated with drugs.

Hassan Mirbolouk, MD
Following graduation from medical school in Iran, Mohammadhassan (Hassan) Mirbolouk, MD, completed two years of postdoctoral research working on the Tehran Lipid and Glucose Study (TLGS) – the first population-based cohort study in the Middle East. He then joined the Ciccarone Center in March 2017 as a postdoctoral research fellow working under supervision of Dr. Michael Blaha. He has published more than 10 papers in the last year in multiple peer review journals, including two papers authored with Dr. Blaha published in *Annals of Internal Medicine*. These two papers are among the first describing e-cigarette using population data from the most extensive dynamic national health survey in the world,The Behavioral Risk Factor Surveillance System (BRFSS). Dr. Mirbolouk, currently applying to internal medicine residency, plans to complete a cardiology fellowship and pursue research in preventive cardiology.

CV IMAGING/INTERVENTIONS


CHOLESTEROL


Summary: Between 2002 and 2013, nonstatin use increased by 124%, resulting in a 364% increase in nonstatin-associated expenditures.


Summary: We review the treatment approach for the appropriate use of CAC testing in the intermediate-risk patient to guide shared decision making.


Summary: After more accurately estimating LDL-C, guideline-suggested non-HDL-C targets could alter management in only a small fraction of individuals, including those with CHD.


Summary: Allowing the option for non-fasting lipid assessment reduces a barrier to lipid testing and can facilitate a more convenient assessment of ASCVD risk.


Summary: High lipoprotein(a) levels were not associated with incident AF.


Summary: This review of novel molecular targets addresses available Mendelian and observational data, therapeutic agents in development, and early outcomes results.


Summary: Niacin may confer benefit in patients with CHD who have high triglycerides and low HDL by reducing levels of remnant lipoprotein cholesterol.


Summary: Evolocumab significantly lowers atherogenic lipoprotein particles including low-density and remnant lipoproteins.


Summary: The Martin/Hopkins equation is more accurate than the Friedewald equation in calculating LDL-C when the triglycerides are elevated.


Summary: In patients with low LDL-C, the Martin/Hopkins method will lessen undertreatment because of LDL-C underestimation by the Friedewald method.


Summary: No robust association exists between lipid concentrations and cognitive function or between the use of lipid-lowering medication and worse cognitive function.
RESEARCH PUBLICATIONS


Summary: The Martin/Hopkins method performs successfully better than the traditional Friedewald formula in nonfasting samples when the triglycerides are elevated or the LDL-C is low.


Summary: This editorial focuses on the most cost-effective groups to treat with a PCSK9 inhibitor.


Summary: The vast majority of adults who present with an MI at a young age would not have met current guideline-based treatment thresholds for statin therapy.


Summary: A lipoprotein profile with increased triglyceride-rich lipoproteins is associated with increased coronary artery calcification.


Cardoso R, Blumenthal RS. CAC score controversies: how the 2018 USPSTF recommendation statement misinterpreted the data. *Cardiology Today*. Sept 2018
E-cigarette users who do not smoke conventional cigarettes have a higher prevalence of high-risk lifestyle factors and worse self-rated mental and physical health than nonusers.

Summary: Measures of health status and healthcare did not explain differences in depressive symptoms between people with and without diabetes.


**Summary:** There is a strong inverse linear dose-response relationship between ideal CVH metrics and both all-cause and cardiovascular disease-related mortality.


**Summary:** Our results provide clinical evidence demonstrating the cardiovascular safety of a high-fat, low-carbohydrate diet used in adults with epilepsy for at least 12 months.

Savji N, … Blaha MJ … Ho JE. The association of obesity and cardiometabolic traits with incident HFpEF and HFrEF. *JACC Heart Failure*. 2018;6(8):701-709.

**Summary:** Obesity and insulin resistance are more strongly associated with risk of future HFpEF versus HFrEF. The differential risk of HFpEF with obesity seems particularly pronounced among women and may underlie sex differences in HF subtypes.

**EXERCISE**


**Summary:** Although there was no association between daily physical activity and smoking urges, there was a modest inverse relationship between recent step counts and urge.


**Summary:** Maximal exercise capacity modified the relationship between BMI and survival in patients with HF, upholding the presence of an exercise capacity-obesity paradox dichotomy as observed over the short-term in prior studies.


**Summary:** Poor augmentation of pulse pressure with exercise is a novel and easily quantified exercise-based feature to identify increased risk of heart failure and death.


Fujita S, … Martin SS. Pilot study of a smartphone application designed to socially motivate cardiovascular disease patients to improve medication adherence. *mHealth*. 2018 Jan 3;4:1
GENDER DIFFERENCES


Summary: Measures beyond the Agatston score provide important clues to sex differences in atherosclerotic plaque, refine risk detection and focus preventive strategies.


Summary: Both women and men with several adverse self-perceived psychological factors were less likely to have optimal or adequate CVH.


Summary: Sex hormone levels after menopause are associated with increased CVD risk.


Summary: Higher testosterone and lower sex hormone levels are associated with a greater increase in LV mass in men and women.


Summary: Higher free testosterone levels in post-menopausal women is associated with 10-year progression of coronary artery calcium.


Summary: A more androgenic sex hormone pattern was associated with greater increase in NT-pro-B-natriuretic peptide in women over 10 years, which may reflect a mechanism for CVD risk.


Shaw LJ, Min JK, Nasir K, ... Whelton SP, Dardari ZA, ... Blaha MJ. Sex differences in calcified plaque and long-term cardiovascular mortality; observations from the CAC Consortium. European Heart Journal. 2018 Sept 12.

Summary: The relative hazard for CVD mortality was higher in women than in men for multivessel CAC and larger lesions. Measures beyond the Agatston score provide important clues to sex differences in atherosclerotic plaques.

GENETICS/ELECTROPHYSIOLOGY


Summary: Common genetic variants located near genes involved in vitamin D metabolism and renal phosphate transport are associated with differences in circulating FGF23 concentrations.
Francoise A. Marvel, MD

Since beginning her fellowship at Johns Hopkins this summer, Francoise A. Marvel, MD, has continued work on innovation in healthcare systems and cardiovascular disease prevention with the Corrie Health project and Myocardial Infarction COMbined device Recovery Enhancement (MiCORE) Study, in collaboration with Dr. Seth Martin, MD, MHS. Identified by the American Heart Association as a “trailblazer,” Dr. Marvel and the Corrie Health team were selected as finalists and grant recipients at the EmPOWERED To Serve Urban Health Accelerator™.

Dr. Marvel was also an invited speaker at the AHA’s Go Red for Women and Prevention Magazine’s event in New York City, called “Heart Health 3.0: How Innovations in Technology, Medicine, and Healthcare Are Helping Women Fight Heart Disease.” This year’s American College of Cardiology annual conference in Orlando included an Innovation Challenge for Digital Health for the first time, and Drs. Marvel and Martin were selected as finalists to co-present Corrie Health.

Dr. Marvel also presented MiCORE Study preliminary results at the 30th anniversary of the Transcatheter Cardiovascular Therapeutics (TCT) conference in San Diego for a Digital Health Care Innovation and Focused Session on Acute Coronary Syndrome. As this year’s recipient of the Armstrong Award for Excellence in Quality & Safety at Johns Hopkins, Dr. Marvel was recognized for her work on improving healthcare systems for cardiovascular disease prevention using digital health.


Summary: This analysis indicates that a higher resting HR is associated with aortic valve calcium, though genetic results do not support a causal relation.


Summary: Global electric heterogeneity is a marker of subclinical abnormalities in cardiac structure and function.


HIV


Summary: There is a significant relationship between increased metabolically-active epicardial adipose tissue and depressed local coronary endothelial function in people with HIV.


HIV


Summary: Biomarkers of CVD have different patterns of association with HIV/HCV coinfection compared with mono-infection and healthy controls.

Haberlen SA, … Post WS, Brown TT. To T or not to T: Differences in testosterone use and discontinuation by HIV serostatus among men who have sex with men. *HIV Medicine*. 2018 Oct;19(9):634-644. **Summary**: Given the high prevalence of both testosterone therapy use and CVD risk among HIV-infected men, the benefits and risks of therapy should be examined in future studies of aging HIV-infected men.


Kelso-Chichetto NE, … Post WS, Cook RL. The impact of long-term moderate and heavy alcohol consumption on incident atherosclerosis among persons living with HIV. *Drug and Alcohol Dependence*. 2017 Dec 1;181:235-241. **Summary**: Moderate alcohol consumption was associated with a significant protective effect on incident atherosclerosis in men only.


**VASCULAR/AORTIC DISEASE**


Sharma K, … Ndumele CE, Schulman SP, Russell SD; Osler Medical Housestaff. Randomized evaluation of heart failure with preserved ejection fraction patients with acute heart failure and dopamine: The ROPA-DOP Trial. *JACC Heart Failure*. 2018 Oct;6(10):859-870. **Summary**: In patients hospitalized with acute heart failure, low-dose dopamine had no significant impact on renal function, and a continuous infusion diuretic strategy was associated with renal impairment.


Vitamin D deficiency is independently associated with subclinical interstitial lung disease and its progression, based on increased high-attenuation areas and abnormalities.

~Kim SM, Zhao D, Podolanczuk AJ, Lutsey PL, Guallar E, … Michos ED
A listing of the late-breaking clinical research data presented at major cardiology meetings by the faculty and fellows of the Johns Hopkins Ciccarone Center for the Prevention of Heart Disease.

Presentations at the 2018 Scientific Sessions of the American Heart Association (AHA), November 10-12; Chicago.

Martin SS. Doc, should I get a Fitbit? Use of m-health tools in weight management.

Martin SS. Can a smartphone app help reduce 30-day readmissions?


Florido R, Ndumele CE. Get up and move! Can physical activity and fitness prevent heart failure onset?

Florido R, Ndumele CE. Effective clinical strategies to reduce obesity and cardiometabolic risk: Interactive case discussion.

Pallazola V, Sathiayakumar V, Fashanu OE, Jones SR, Santos RD, Toth PP, ... Blaha MJ, Martin SS. Validation of a novel low-density lipoprotein cholesterol equation in the ELSA-Brasil Cohort Study.

Sathiayakumar V, Park J, Guallar E, Lazo M, Santos RD, Toth PP, Jones SR, Martin SS. Is estimation of Lp(a)-C accurate enough for clinical use?

Bennett CS, Fashanu OE, Marvel FA, ... Gerstenblith G, Berkowitz SA, Chandra-Strobos N, Martin SS. Independent predictors of 30-day readmission after acute myocardial infarction at a large, inner city medical center.

Marvel FA, Spaulding E, ... Martin SS. Corrie Health: A cardioprotective digital health solution for urban healthcare transformation.

Bensenor I, ... Blaha M, Jones S, Toth PP, et al. Large triglyceride-rich lipoprotein particle is associated with the progression of the coronary artery calcium score: A 4-year follow-up of the ELSA-Brasil Cohort Study.

Palazzolo V, ... Jones SR, ... Blaha MJ, Toth PP, Martin SS. Validation of a novel low-density lipoprotein cholesterol equation in the ELSA-Brasil Cohort Study.

Toth PP, et al. Long-term statin persistence is poor among high-risk patients and is worse in women and younger patients: A real-world administrative claims analysis.

Okunrintemi V, ... Ogunmoroti O, Mahajan S, Khan S, Guliati M, Nasir K, Michos ED. Gender differences in patient reported outcomes among adults with atherosclerotic cardiovascular disease.


Tibuakuu M, ... DeFilippis A, Blaha MJ, Michos ED. National trends in smoking cessation counseling by health care providers among US adult smokers with ASCVD: Insights from the 2006 to 2015 Medical Expenditure Panel Survey (MEPS).

Awotoye J, ... Zhao D, O'Neal WT, Michos ED. Elevated resting heart rate is associated with the incidence of venous thromboembolism: The Multi-Ethnic Study of Atherosclerosis.

Ezeigwe A, Fashanu OE, Zhao D, ... Michos ED. The novel inflammatory marker Glyca and the prevalence and progressions of valvular and thoracic aortic calcification: The Multi-Ethnic Study of Atherosclerosis.

Fashanu OE, Oyenguta A, Zhao D, ... Michos ED. The composite inflammatory marker, Glyca, and its association with ankle branchial index, carotid plaque and peripheral arterial disease: The Multi-Ethnic Study Of Atherosclerosis (MESA).

Ying W, Zhao D, Ouyang P, Subramanya V, Vaidya D, Ndumele CE, ... Post WS, Michos ED. Sex hormone levels and high-sensitivity cardiac troponin T among men and post-menopausal women: MESA.

Ying W, Zhao D, Ouyang P, Subramanya V, Vaidya D, Ndumele CE, Guallar E, Sharma K, ... Post WS, Michos ED. Associations between cyclic guanosine monophosphate (cGMP) and modulators of the cGMP pathway in a population-based cohort: MESA.

Subramanya V, Ying W, Zhao D, Vaidya D, Ndumele CE, Lima JA, Ouyang P, ... Post WS, Michos ED. Lower circulating levels of cyclic guanosine monophosphate are associated with greater concentric left ventricular remodeling in the Multi-Ethnic Study of Atherosclerosis.


Michos ED. Making sense of CV disease prevention in your patients: new data about aspirin.
Presentations at the 2018 Scientific Sessions & Expo of the American College of Cardiology (ACC), March 10-12; Orlando.

Batkoff BW, Gluckman TJ ... Thew S. Improving the value to transcatheter aortic valve replacement.


Gluckman TJ ... Sanz ML. Implementation of an EMR-based cardiovascular discharge checklist to close gaps in care.

Gluckman TJ, ... Sanz ML. Implementation of an EMR-based continuous electrocardiographic monitoring order to reduce inappropriate utilization.

Petersen JL, Gluckman TJ, Westcott RJ. Oral anticoagulant use in patients with atrial fibrillation managed by primary care and cardiology providers with or without use of a structured note for PINNACLE Registry.

Cardoso R, ... McEvoy JW, Whelton S, Gluckman TJ, Blumenthal RS. A systematic review and meta-analysis of dual antiplatelet therapy vs. antiplatelet monotherapy after coronary artery bypass graft surgery.

Albert NM, Gluckman TJ, ... Lucas J. Change in hospital performance and transition-care measures 1-year after initiation of the Patient Navigator Program.

Gluckman TJ, ... Lucas J. Improving identification and assessment of readmission risk for acute myocardial infarction and heart failure patients following implementation of a national quality improvement program.


Bittencourt M ... Jones SR, Kulkarni KR, Blaha MJ, Toth PP, Lotufo PA. High-density lipoprotein subfractions are not independently associated with coronary artery calcium: A cross-section analysis.

Core Members of Dr. Erin Michos’s Research Group
Dr. Michos’s research team had a strong showing at AHA 2018. Pictured are (from left) Martin Tibuaku, MD; Victor Okunrintemi, MD; Dr. Michos; Oluwaseun Fashanu, MD; Josephine Awotayo; and Kene Ezeigwe. Other mentees who also presented at AHA 2018 but were unable to attend the luncheon were Olatokunbo Osibogun, MD; Vinita Subramanya, MD; and Wendy Ying, MD.


Kwo PY, ... Toth PP. Management of statins during glecaprevir/pibrentasvir treatment for chronic hepatitis C.


The Ciccarone Center for the Prevention of Heart Disease was founded in 1989 in memory of Henry A. "Chic" Ciccarone, a legendary athlete and lacrosse coach at Johns Hopkins who died at age 50 after his third heart attack.

But he was more than that. In the way he led his teams and his life, Chic embodied all that Johns Hopkins itself represents: dedication, excellence, leadership.

With intense, energetic competitiveness, pride, and engaging, infectious humor, Chic compiled an extraordinary record of achievements in athletics. As a three-time All-American midfielder and team captain, he won nearly every major Hopkins lacrosse award and was named to the All-Time Hopkins lacrosse team upon his graduation in 1962.

In 1989, the friends and former players of Coach Ciccarone began raising funds for the development of a comprehensive program geared toward the prevention of coronary heart disease events. The Ciccarone Center sought to unite the proud traditions of Hopkins lacrosse and Hopkins Medicine.

We all have a stake in winning the battle against heart disease. By joining the team at the Ciccarone Center, by sharing our enthusiasm and dedication to it, your support of coronary disease prevention will protect your life and the lives of those you love.
We see patients Monday through Friday at the Johns Hopkins Ciccarone Center at Green Spring Station and on Mondays, Tuesdays, and Fridays at the Johns Hopkins Outpatient Center. Dr. Michos also sees patients at Odenton. At each location we can perform exercise stress tests, treadmill stress echo tests, echo Doppler tests, EKGs, Holter monitors, and refer patients for cardiac CT scans. Vascular ultrasound testing and consultations are available at Green Spring Station. Vascular Medicine consultations are also available at White Marsh.

Appointments at the Johns Hopkins Ciccarone Center at Green Spring Station, 10755 Falls Road, Pavilion I, Suite 360, Lutherville, MD 21093 location can be scheduled at 443-997-0275. (Drs. Blumenthal, Post, Ashen, Ratchford, Whelton, and Blaha)

Appointments at the Johns Hopkins Outpatient Center, 601 North Caroline Street, Baltimore, Maryland 21287, can be scheduled at 443-997-0270. (Drs. Jones, Ndumele, Blumenthal, Martin, McEvoy, and Gerstenblith)

Appointments at the Johns Hopkins Cardiology Center at Odenton, 1132 Annapolis Road, Suite 104, Odenton, MD 21113, can be scheduled at 443-997-0275 or 410-874-1520. (Dr. Michos)

Appointments for Vascular Medicine consultations or vascular ultrasound testing can also be scheduled through Dr. Ratchford’s Center for Vascular Medicine scheduling line at 443-997-1800. Dr. Elizabeth Ratchford serves as the Medical Director of the vascular ultrasound laboratory at Green Spring Station.

Donors make contributions for reasons as unique as the donors themselves. Some give out of gratitude for restored health. Others choose to honor a friend, family member, or the physician that guides their medical care. Still more want to make a personal investment in the science that informs the treatments for cardiovascular patients around the world.

Whatever their reason, people give to make a difference. At the Ciccarone Center, we are committed to making a difference too, and we invite you to join us as a philanthropic partner. There is power and potential in every gift we receive, and we are grateful for each individual who chooses to tap into that power with a personal contribution.

Help us make a difference. Make your gift today using our secure online form at: https://secure.jhu.edu/form/heart

Or make your check payable to Johns Hopkins Medicine with the Ciccarone Center noted on the memo line and mail to:

The Johns Hopkins Heart and Vascular Institute Development Office
600 N. Wolfe Street
536 Blalock
Baltimore, MD 21287

For more information, contact Lisa Hammann, Director of Development, at 443-287-7384 or Lhammann1@jhmi.edu