Impacting Health Policy to Improve Outcomes

Cardiologists at Washington University School of Medicine are at the forefront of advocating and advancing evidence-based health care policy.

“We’re a bit of an anomaly here and also nationally,” says cardiologist Karen Joynt Maddox, MD, MPH. “Most clinicians who focus on health policy and public health are generalists and not specialists, but several cardiologists here are involved in health policy and public health research and initiatives.”

Joynt Maddox co-directs Washington University’s Center for Health Economics and Policy (CHEP), a core center established under the university’s Institute for Public Health. The Institute focuses on finding solutions and influencing policy related to complex health issues and health disparities. Leading two other centers in the Institute are hypertension specialist Angela Brown, MD, director of the Center for Community Health Partnership and Research, and cardiologist Victor Davila-Roman, MD, who was appointed associate director of the Center for Global Health in July 2019. Brown, along with cardiologist Lisa de las Fuentes, MD, MS, also joins Davila in the Center for Global Health.

“Because cardiovascular disease is so prevalent and is a very data-driven field compared to other medical specialties, it’s a great lens through which to view policy and public health,” explains Joynt Maddox, who previously served as a Senior Advisor in the Office of Health Policy for the U.S. Department of Health and Human Services, working on evidence-based policy approaches for vulnerable populations. “We want to expand health policy and public health research and provide opportunities for students, residents and fellows to learn to do this type of research and then work with state and federal officials to make policy better.”

The reason? Joynt Maddox points to one example. Federal quality measurement and pay-for-performance programs

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Two years ago, a commentary in the American Journal of Medicine noted, “Direct involvement in policymaking is... an invaluable experience for physicians... as exposure to the fast-moving policy environment can both guide relevant research and allow them to have a broad impact on health care.”

In our Division, there is an increasing emphasis on health policy research and how the conversation needs to shift from simply looking at medical outcomes to including the social and economic influences that can affect these outcomes, and yes, federal reimbursements.

Evidence-based health policy research is vital to ensuring that our healthcare system works for all. An example is when WU cardiologist and health policy researcher Karen Joynt Maddox and her former colleagues from Harvard’s School of Public Health and Brigham and Women’s Hospital published a study in the New England Journal of Medicine in 2018 that found Medicare’s bundled payment program appeared to have no significant impact

– have a marked impact on their health. “When these factors are present,” says Joynt Maddox, “complication rates can double in some heart failure patients.”

Over in the Center for Global Health, Davila and his colleagues are looking at similar issues but through a broader lens. The Center conducts research and identifies barriers to global health such as infectious diseases, nutritional deficiencies, maternal and child health, cancer and chronic diseases such as heart disease.

“In the last five to seven years, the focus on evidence-based health policy and global healthcare have exploded,” adds Joynt Maddox. “As schools offer more courses in health policy research and we train more clinicians and specialists to do this work, slowly the national conversation starts to shift.”

Improving Outcomes
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account for medical comorbidities when comparing hospitals to each other on things like readmission rates, but they don’t account for social inequities. The unique barriers faced by vulnerable populations — access to care, affordability of medications, transportation to and from follow-up health visits, stable housing, healthy food

...on efforts by hospitals to reduce overall healthcare costs. She and others in our Division are now taking a hard look at how social factors, such as lack of access to transportation, healthy food and vital community resources impact medical outcomes. We’ve also added a health policy research pathway in our fellowship program.

This year, the New York Times published an article titled, “Which Health Policies Work? We Rarely Find Out,” which noted the establishment of the Foundations for Evidence-Based Policymaking Act, designed to increase and improve the amount of health policy research. We anticipate our research efforts will expand over the next few years. In the meantime, the national conversation is broadening and we, as physicians, should take an active role in how policies impact our patients.

Gregory A. Ewald, MD, FACC
Interim Chief, Cardiovascular Division

Thank you for your support!
Research has long been an important component of the Cardiovascular Fellowship Program at Washington University School of Medicine. Whether a fellow’s goal is to develop into a research scientist or to emerge as a thought leader in clinical cardiology, our program provides meaningful research opportunities for all. The Research Mentorship Committee led by Michael Rich, MD, the Associate Program Director for Research, provides oversight for fellows participating in our Clinical Pathway as they select a mentor and create a unique research project. The Investigator Pathway, with the T32 Training Grant Program led by Abhinav Diwan, MD at its core, for fellows whose ultimate goal is developing into an independent investigator.

These efforts and others are paying large dividends. Eight years ago, the Division helped to establish Cardiovascular Research Day (see page 5), a day-long event highlighting the innovative research in CVD by pre and post docs, fellows and others from the Division. Thanks to efforts led by Jeanne Nerbonne PhD, Director of the Center for Cardiovascular Research, we have increased the number of cardiology fellows presenting their research projects. This year, almost one quarter of the presentations were by our fellows! Presentations ranged from studies into cardiac notch signaling to the role of donor macrophages to disparities in mechanical circulatory support.

This depth and breadth of fellows’ research is exciting. We are proud that many have submitted abstracts to local and national meetings. Lots more to follow.

Fellowship Program Update
Andrew Kates, MD

Alumni Update
William Katsiyiannis, MD, MS, FACC, FHRS
Cardiology Fellow, 1999-2003
Cardiac Electrophysiology Fellow, 2002-2004
Currently: President and Chairman of Cardiology, Minneapolis Heart Institute and Vice President, Allina Health Cardiovascular Services
Since becoming president of the Minneapolis Heart Institute and Chief of the Cardiovascular Service for Allina Health in 2013, Katsiyiannis has seen overall clinic volumes increase 10 percent or more annually. The Institute has a team of 81 physicians and surgeons and offers clinics in all subspecialties of cardiovascular medicine. Katsiyiannis and his team oversee 40 subspecialty outreach clinics throughout Minnesota, North Dakota, and Wisconsin as well as a telemedicine clinic in Naples, Fla. He has been with the Heart Institute since 2004, when he first joined the team as a cardiac electrophysiologist. He was firmly committed to a clinical pathway and notes that, “During my interview at the Institute, I actually said that on a scale from 1 to 10, I rated leadership interest as a zero. But as time went on, I realized the ability to make contributions to healthcare through leadership.” Over his tenure as head of the Institute, he has restructured governance and operational models and spearheaded the establishment of innovative services that expanded patient access, improved cost efficiencies, and increased referrals. In 2018, he received the Robert G. Hauser Outstanding Leadership Award from the Minneapolis Heart Institute Foundation. He also was named one of Minnesota’s 100 Influential Health Care Leaders in 2016.

Favorite Fellowship Memories: I have so many fond memories of the people I trained with and of the faculty that taught us so much. One favorite memory is from our first week as cardiology fellows. A colleague didn’t realize that Barnes Hospital was connected to Jewish Hospital by skyway. So, when he was called in the middle of the night to perform an echo on a patient at Jewish Hospital, he proceeded to roll an echo machine (they were quite big back then) outside down the sidewalk along Kingshighway all the way to Jewish Hospital - in the middle of the night!

Favorite Leisure Activities: I have 2 sons ages 20 and 19 that bring me incredible joy. I also enjoy playing the drums in an R&B dance band.

Welcome New Fellows
Welcome to the new fellows who will join our Cardiovascular Fellowship Program in July 2020:

Brendan Caprio, MD
BJH/Washington University
Michael Katsnelson, MD
BJH/Washington University
Adam Lick, MD
BJH/Washington University
Roland Njei, MD
BJH/Washington University

Caleb Norton, MD
Vanderbilt University
Olakanmi Olagoke, MD
John Stroger/Cook County Hospital
Tarun Ramayya, MD
BJH/ Washington University
Hannah Wey, MD
Northwestern University
Noah Williford, MD
University of Iowa
Lavine Honored with Presidential Early Career Award

Kory Lavine, MD, PhD, is a recipient of a prestigious Presidential Early Career Award for Scientists and Engineers (PECASE). The award, announced by the White House in July 2019, is the highest honor bestowed by the U.S. government to outstanding scientists and engineers who are in the early stages of the independent research careers and who show exceptional promise for leadership in science and technology. Lavine was nominated by the National Institutes of Health.

Lavine’s research is focused on understanding how the immune system impacts the development of cardiovascular disease, specifically heart failure. Since joining the Cardiovascular Division’s faculty in 2015, Lavine’s lab has been the first to note that there is a diversity of specific immune cells, macrophages, within the heart. “We found that there are essentially two types of macrophages in the heart — a specialized set of macrophages derived from embryonic origins that are involved in promoting the repair of injured heart tissue and another, called CCR2+ macrophages, that are involved in the progression of heart failure,” says Lavine. “This dichotomy explains a long-standing confusion as to why the immune system can be both helpful and harmful.”

Lavine’s lab then researched the signaling pathway that guides how macrophages react. In collaboration with Washington University radiologists, the team developed a novel imaging probe that can see and differentiate the types of macrophages in the heart. He notes, “The probe worked in animal models and we are now conducting clinical trials in heart attack patients. We also are making a compound that we believe will inhibit the negative aspect of these cells.”

Within the next 5 to 10 years, Lavine hopes to further investigate the CCR2+ macrophages to determine whether their amount or where they are located in the heart impacts the extent of heart failure and if the length of time the body’s immune system has been triggered is a factor. In addition to the NIH, Lavine is funded by grants from the Barnes-Jewish Hospital Foundation, Children’s Discovery Institute and the Burroughs Wellcome Fund.

Donation Helps Fund New Cardiology Medical Education Pathway

This spring, Prashanth Thakker, MD, is completing a customized third year of cardiology fellowship focused on medical education. The new pathway mirrors a national push to formalize training and develop critical skills necessary to become an effective clinician educator.

“Previously, you learned on the job and with the help of mentors,” Thakker says. “But there are specific skills that are needed in terms of curriculum development, creating a dynamic learning environment, and to become an effective academic leader that can be better learned from a more formative curriculum or pathway.”

To build the pathway, the Division tapped into programs both here and elsewhere. Thakker is pursuing a master’s degree in medical education through a two-year distance-learning program with the University of Missouri-Kansas City. Here, he also is a fellow with the Division of General Medicine and is assisting with the Washington University Teaching Physician Pathway (WUTPP), a program that is focused on giving residents and fellows the knowledge, skills, experience, and mentorship in order to develop as competent and inspired clinician-educators and future leaders in medical education.

A generous donation from a former faculty member to the division’s Smith-Oliver Alumni Society helped to fund Thakker’s pursuit of a medical education pathway. Paul Eisenberg, MD, MPH, was a resident and then a fellow of the Cardiovascular and Pulmonary Division at Washington University before joining the faculty in 1985. He rose to become professor of medicine and director of the Cardiac Care Unit at Barnes Hospital before leaving the university to pursue a career in industry in 1998.

“Advances in medical science and technology are dramatically changing the practice of cardiovascular medicine,” says Eisenberg. “As a result, the way we train cardiovascular specialists needs to evolve. I believe it is not sufficient to simply train on the basic skills; rather we need to focus on providing a framework for a lifetime of continuous education. This requires understanding how to evaluate new evidence as well as implement new therapies and technologies.”

Thakker will remain in the Division as an advanced interventional cardiology fellow for 2020-2021.
8th Annual Cardiovascular Research Day

More than 60 abstracts were presented by predoctoral trainees, postdoctoral and cardiology fellows, and junior faculty at the 8th Annual Cardiovascular Research Day. The symposium, hosted by the Cardiovascular Division and Washington University School of Medicine’s Center for Cardiovascular Research, is an opportunity for young basic, translational and clinical researchers to highlight and learn about current research projects under way on campus and discuss findings with senior faculty members, many of whom serve as research mentors.

From our Division, clinical cardiology fellow Natasha Wolfe, MD, received the award for Best Clinical Research Poster, titled, “Optimal Medical Therapy Improves Survival in Patients with Ischemic Cardiomyopathy: An Analysis of the STICH Trial.”

Another clinical cardiology fellow, Brittany Dixon, MD, joined three other young researchers for a series of oral presentations moderated by cardiologist physician-scientist Kory Lavine, MD, PhD. “The presentations, selected from among the submitted abstracts, were illustrative of the breadth of cardiovascular research conducted at Washington University in multiple departments and divisions, including Cardiology and the departments of Cell Biology and Physiology; Biochemistry and Molecular Biophysics; and Molecular Genetics and Genomics,” says Jeanne Nerbonne, PhD, Director of the Center for Cardiovascular Research.

Dixon’s presentation, titled “Higher Body Mass Index Associated with Decreased Exchange-free Survival at One Year in Patients with Left Ventricular Assist Devices” focused on the effect obesity has on outcomes in patients with advanced heart failure therapies.

Leslie Leinwand, PhD, was the keynote speaker for the Burton E. Sobel Lecture during the day-long event. Leinwand, the Distinguished Professor of Molecular, Cellular and Developmental Biology, says Lanza, “The School of Medicine has a long history in cardiac MRI, but the modality has been under-utilized due to complexity, cost and reproducibility. In this new collaboration, WU brings its substantial medical strengths and expertise in treating patients, and UIH brings unique strengths in imaging hardware and software design and artificial intelligence (AI) expertise.”

AI is anticipated to eliminate extensive time and resource demands of current operations, which will improve workflow and upgrade cMRI from a diagnostic-only tool to a patient treatment management tool. The new imaging system was recently installed in the Center of Research, Technology & Entrepreneurial Exchange (CORTEX), a research and technology hub adjacent to the School of Medicine. AI/cMRI research will be conducted in phases over the next four to five years. Lanza, who directs the Consortium for Translation Research in Advanced Imaging and Nanomedicine (C-TRAIN), has extensive experience in cardiac MRI, dating back to the beginning of the technology in 1995. Considered a pioneer in molecular imaging, his most recent efforts include the invention of several Sn 2 lipase labile prodrugs, new lipid nanoparticle drug delivery technology, a nuclear probe effective for thrombus detection in patients with ventricular assist devices, and creation of an artificial hemoglobin erythrocyte mimic.

Lanza will lead the cMRI aspect of the cardiology program in collaboration with Dr. Anita Bhandiwand, the cMR clinical medical director and lead for the cardiology CMRI training program in conjunction with the ongoing Radiology training program.
Douglas Mann, MD, FHFS, Lewin Chair and Professor of Medicine, Cell Biology and Physiology, was honored with the 2019 Lifetime Achievement Award from the Heart Failure Society of America (HFSA).

The award, given at the HFSA’s 23rd Annual Scientific Meeting in Philadelphia, Pa., in September 2019, recognized Mann’s outstanding contributions to the field of heart failure, including in research, clinical work and in education.

Mann is a founding member of the society and served as its president from 2008 to 2010. He was chief of the Cardiovascular Division at Washington University School of Medicine from 2009 to 2019, when he stepped down from the leadership role in May to focus more time on clinical care and research. He is internationally recognized for his research into the molecular and cellular basis of heart failure, with particular emphasis on the role of innate immunity in disease progression and recovery of the failing heart. Along with numerous peer-reviewed articles on the role of inflammatory mediators in cardiac remodeling and myocardial recovery, Mann is the editor of Heart Failure, A Companion to Braunwald’s Heart Disease, and co-editor of the seminal cardiovascular textbook, Braunwald’s Heart Disease. He also is the founding editor of JACC: Basic to Translational Science.

During his 10-year tenure as chief of the Cardiovascular Division, Mann oversaw significant enhancements to the university’s cardiovascular research efforts. He expanded the number of physician scientists and researchers engaged in a wide range of basic, translational and clinical investigations within the division and championed the establishment of the Center for Cardiovascular Research.

“It is such a well-deserved honor for Doug to be recognized with the Lifetime Achievement Award from the HFSA,” notes Gregory Ewald, MD, interim chief of the Cardiovascular Division. “In addition to his leadership, he has provided mentorship to so many members in the society. We are very fortunate to have him as a colleague in the Cardiovascular Division.”