

Sessions SUNDAY NOV. 14, 2021 DAILY NEWS

Inside



Explore these AHA initiatives in the **Virtual Exhibit Hall**

- Research
- Scientific Journals
- Hands Only CPR
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- Consumer Health
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- Target Aortic
 Stenosis
- Healthcare Business Solutions (ECC)



Opening Session examines pandemic response

Panelists dissect the confluence of COVID-19 science and social determinants.

here's no moving forward without acknowledging the past, particularly when addressing the COVID-19 pandemic that has gripped the world and the health care ecosystem for two years. That was the focus of Saturday's Scientific Sessions Opening Session, "Scientific Discovery as the Guiding Light: Moving Toward a Post-COVID World." Session moderators, AHA President Donald M. Lloyd-Jones, MD, ScM, FAHA, chair of the Department of Preventive Medicine and a professor at Northwestern University Feinberg School of Medicine in Chicago, and Manesh R. Patel, MD, FAHA, chief of the Division of Cardiology and the Division of Clinical Pharmacology at Duke University in Durham, North Carolina, engaged panelists in a thoughtprovoking and introspective look at pandemic lessons learned. The discussion exposed both the fragilities and strengths of the current health care system as well as AHA's role in the global response. It's that "energy" that will set the tone for this year's three-day Scientific Sessions, Dr. Lloyd-Jones said.

"This event is crackling with energy, but it's the people who bring it to life," Dr. Lloyd-Jones See **OPENING SESSION**, page 13

LIVE Today

Lewis A. Conner Presidential Address Launching a Generation With Ideal Cardiovascular Health

1-2:15 p.m. EST

Don't miss the Presidential Address featuring an inspiring Conner Lecture by Donald M. Lloyd-Jones, MD, ScM, FAHA, AHA president, an update from Nancy Brown, CEO, and presentation of the Chairman's Award by Raymond P. Vara, AHA chairman.



Introducing AHAtv, your source for Science News and Scientific Sessions highlights. Watch on the #AHA21 home page for bonus video content throughout the meeting. Watch now.

Session explores scope of and solutions for tackling health inequity



lyde W. Yancy, MD, MSc, FAHA, set the tone for Sunday's session in a June article in *Circulation*, "The Journey Toward Health

CS.ME.493

Achieving Health Equity: Advancing to Solutions Sunday, Nov. 14 9:30-10:45 a.m. Equity: Are We Nearing an Abyss or Ascending a Peak?" Dr. Yancy, chief of cardiology at Northwestern University, Feinberg School of Medicine in Chicago, will co-moderate the session, which features two speakers and a panel discussion. The session takes place 9:30-10:45 a.m. EST, Sunday, Nov. 14.

Speaker David O. Williams, MD, FAHA, will lead the session with a similar urgently titled talk on the



"the fierce urgency of health equity." Williams, who is senior physician at Brigham and Women's Hospital, and professor of medicine at Harvard Medical School in Boston,



will present the current reality of health equity by beginning with some definitions, he said. "I define health equity by See **HEALTH INEQUITY**, page 9



Valves, veins and new viewpoints in cardiothoracic surgery

Trials' results shed light on a new device for extending vein graft durability, the timing of bypass surgery after Ticagrelor cessation and aortic valve replacement, and best practices for concomitant tricuspid valve repair.

nvestigators in four trials revealed findings to impact the treatment of patients with severe aortic stenosis, acute coronary syndromes, mitral valve regurgitation and those undergoing coronary bypass grafting during "Valves, Veins and New Viewpoints in Cardiothoracic Surgery" on Saturday. They found:

- Early surgical aortic valve replacement can be considered a safe option for lowrisk patients with severe asymptomatic aortic stenosis and normal left ventricular function.
 Coronary artery bypass graft
- (CABG) surgery two to three days after the cessation of Ticagrelor did

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not increase the risk of perioperative bleeding.

- VEST, a novel device, may possibly help increase the longevity of vein grafts.
- Concomitant tricuspid valve repair during mitral valve surgery reduced the progression of tricuspid regurgitation.

Early surgical valve replacement benefits patients with asymptomatic severe aortic stenosis Early surgical aortic valve replacement can be considered in low-risk patients with severe aortic stenosis and normal left ventricular function regardless of See CARDIOTHORACIC SURGERY, page 10

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OnDemand Extended Access is available for FREE to all paid levels of AHA Members, and available for purchase to those who choose to remain non-Members. OnDemand content will be accessible for one year after the conference ends.

Consider hypertrophic cardiomyopathy (HCM) as part of your differential diagnosis.

Clinical suspicion of HCM includes the presence of symptoms,^{*} an abnormal EKG, a systolic ejection murmur, or family history.¹ Given the symptoms overlap with pulmonary and other cardiovascular conditions, identification of HCM can be challenging.²

Learn more about HCM at our microsite: https://bmshcmcongresses.com/aha

*symptoms of HCM can include: dyspnea, fatigue, palpitations, che

Heart failure isn't the only type of "failure" in cardiology: Raising the Clinical Suspicion for Hypertrophic Cardiomyopathy (HCM)





David Fermin, MD





Sara Saberi, MD

Matthew Martinez, MD A

ID Anjali Tiku Owens, MD (moderator)

This event is not part of the official Scientific Sessions 2021 as planned by the AHA Committee on Scientific Sessions Programing.

HCM, hypertrophic cardiomyopathy

References: 1. Ommen SR et al. *J Am Coll Cardiol*. 2020;76(25):e159-e240. 2. Argulian E et al. *Am J Med*. 2016;129:148-52. 3. Wexler RK et al. *Am Fam Physician*. 2009;79:778-84.

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Heart-Failure-Isnt-the-Only-

HCM starting Nov. 15th.

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com/aha

https://bmshcmcongresses.

Type-of-Failure-in-Cardiology-

Raising-the-Clinical-Suspicion-for-Hypertrophic-Cardiomyopathy-

After 10 years, should the CVH definition change?

n 2010, the American Heart Association published its definition of cardiovascular health (CVH) in order to meet the goal of improving the cardiovascular health of all Americans by 20% by 2020.

Now, more than 10 years later, a group of experts at a session on Saturday titled "Cardiovascular Health After 10 Years: What Have We Learned and What is the Future?" took a look back at that definition and the AHA's goals through the lens of what has changed in those 10 years and what is to come in the next 10.

Darwin R. Labarthe, MD, PhD, MPH, FAHA, professor of preventative medicine at the Feinberg School of Medicine at Northwestern University in Chicago, was part of the group that put together the original definition, which includes seven metrics: smoking status, physical activity, healthy diet, healthy weight, blood glucose, cholesterol and blood pressure.

These metrics were calculated to create a composite CVH score categorized by poor, medium and ideal. Those scores have been used in the intervening years in a number of ways to further understand CVH and both treat and prevent cardiovascular disease.

Joshua Bundy, PhD, MPH, assistant professor in the Department of Epidemiology at the Tulane University School of Public Health in New Orleans, presented an analysis of mid-life CVH and its outcomes.

With respect to aging, Dr. Bundy said that CVH is very much evidence-based and pointed to studies that have proven this over the years. He cited a study from the late 1980s called the "Atherosclerosis Risk in Communities," or ARIC, study.

"One of their key findings was that few ARIC participants had



ideal or even intermedial CVH," he said "But those that did had substantially lower cumulative incidents of CVD events. This concept of having optimal CVH is associated with substantially lower risk."

He also cited "The Multi-Ethnic Study of Atherosclerosis," or MESA, study, which was conducted after the definition of CVH was adopted and showed that CVH is a very important statistic.

"CVH is a good indicator of risk not just for CVD but also for cancer and other diseases," he said. "Those who have optimal CVH defined in a number of ways really have much lower risk not just for CVD but for mortality and for other different chronic diseases and also some acute diseases as well."

Age can be a critical factor in CVH as well. Bamba Gaye, PhD, from the National Institute of Health and Medical Research (Inserm) in Paris, France, said that CVH in young adults is something that needs to be maintained, restored or modified at as early an age as possible.

"If they have high cardiovascular health, even in early adulthood, they really have a very low risk of cardiovascular disease compared to people with moderate or low cardiovascular health," he said. "Whether younger or early adulthood, women, men, white or Black and no matter the level of education."

Although most studies show that maintaining a healthy lifestyle at a younger age can greatly improve CVH scores even through middle age, Dr. Gaye emphasized it's never too late to start on a healthy lifestyle.

"Maintaining good cardiovascular health throughout young adulthood is strongly associated with a low CVD risk profile in middle age along with lower health care costs," he said. "It is therefore important to promote CVH because it does make a difference in terms of outcome. It's never too late, but the earlier you improve your CVH, the better you do."

Norrina Allen, PhD, FAHA, associate professor in preventive medicine and pediatrics at the Feinberg School of Medicine at Northwestern University, said improvement could start in early childhood.

She outlined a study she participated in that focused on CVH trajectories in early childhood, starting as young as 8 years old, and its impact on midlife cardiovascular health.

The study suggests that by age 8 there are significant disparities in the CVH measures, with about 20% of 8-year-old children already See **CVH**, page 4

LATE-BREAKING SCIENCE

Check the Mobile Meeting Guide app for updates.

8-9 a.m. EST LBS.03 | Prevention to Intervention in Atrial Arrhythmias

- The Coffee and Real-time Atrial and Ventricular Ectopy (CRAVE) Trial (CRAVE)
- Dabigatran Versus Warfarin on Cognitive Outcomes in Nonvalvular Atrial Fibrillation: Results of The GIRAF Trial. GIRAF)
- Posterior Left
 Pericardiotomy Reduces
 Postoperative Atrial
 Fibrillation After Cardiac
 Surgery (PALACS)
- Outcomes of Adjunctive Left Atrial Appendage Ligation Utilizing the LARIAT Compared to Pulmonary Vein Antral Isolation Alone: The AMAZE Trial (AMAZE)

2:45 pm - 3:45 p.m. EST LBS.04 | Information Overload? Striving to Improve Care Delivery Through Digital Health and Automated Data

- Risk Evaluation and its Impact on Clinical Decision Making and Outcomes in Heart Failure: The REVeAL-HF Trial (REVeAL-HF)
- Detection of Atrial Fibrillation in a Large Population Using Wearable Devices: The Fitbit Heart Study

 Testing Individualized Triggers of Atrial Fibrillation: A Randomized Controlled Trial (I-STOP-AFib)

4-5 p.m. EST LBS.05 | Building on the Foundations of Treatment: Advances in Heart Failure Therapy

- Empagliflozin in Heart Failure With a Preserved Ejection Fraction ≥50%
 Results From the EMPEROR-Preserved Clinical Trial (EMPEROR-Preserved)
- The Canagliflozin Impact on Health Status, Quality of Life and Functional Status in Heart Failure (CHIEF-HF) Clinical Trial (CHIEF-HF)
- Efficacy and Safety of Empagliflozin in Hospitalized Heart Failure Patients: Main Results From the EMPULSE Trial (EMPULSE)
- Randomized
 Trial of Targeted
 Transendocardial
 Delivery of Mesenchymal
 Precursor Cells in High Risk Chronic Heart
 Failure Patients With
 Reduced Ejection
 Fraction (DREAM-HF)



ReSS cites top abstract winners

he American Heart Association released this year's Resuscitation Science Symposium (ReSS) Best of the Best Abstract Award winners. Each represents outstanding contributions in cardiac and trauma resuscitation science. The awards are presented for the top-scoring abstracts submitted to the ReSS.

Resuscitation Champion Award

Mary M. Newman, MS, was awarded the 2021 Resuscitation Champion Award. Newman is co-founder, president and

CEO of Sudden Cardiac Arrest Foundation (SCAF) in Wexford, Pennsylvania, a nonprofit recognized for its Survivor



Network. She also is co-creator of Call-Push-Shock[™], an educational movement co-sponsored by SCAF.

Throughout her career, Newman has worked to save lives through her research, writing and advocacy

CVH

continued from page 3

in intermediate cardiovascular health. "The origins and loss of cardiovascular health are occurring very early in life," Dr. Allen said. "What's driving these trajectories? The largest clinical factor for that age group is body mass index (BMI) percentile. Increasingly, systolic blood pressure plays a role, but BMI is really the driving factor of where those cardiovascular health trajectories are going."

Studies such as this can help physicians find the best times to intervene when it comes to cardiovascular health, she said.

"These trajectories identify critical periods such as adolescence when we can intervene and represent the first step in intervening and promoting cardiovascular health in childhood and onward," she said.

Amanda Perak, MD, MS, FAHA, of the Children's Hospital of Chicago, said intervention could even begin as early as pregnancy.

"It used to be said that all babies start life with ideal CVH," she said. "But intuitively we know that's not true. Sometimes it's obvious, such as babies born pre-term or with low birth weight. But even without a frankly adverse newborn outcome, we suspect that CVH trajectories start to be established during fetal life."

Poor gestational CVH has been associated with up to nine times higher risk for adverse newborn outcomes and poor offspring CVH at up to 10 to 14 years of age, she said.

"While there's definitely more to learn about intergenerational CVH transmission,

roles at SCAF, the National Center for Early Defibrillation (University of Pittsburgh), Krannert Institute of Cardiology (Indiana University), Catalyst Research and Communications, Citizen CPR Foundation (CCPRF), Journal of Emergency Medical Services and Advanced Coronary Treatment Foundation.

Newman is credited with creating the "Chain of Survival" educational metaphor, which was later adopted by the American Heart Association and multiple organizations worldwide. Her most meaningful experiences have involved connecting with patients and families affected by sudden cardiac arrest and helping them navigate healthy paths forward.

Newman co-founded the Citizen CPR Foundation (CCPRF) and served as founding editor of Currents in Emergency Cardiac Care, a joint publication of CCPRF and AHA. In addition, she coauthored Challenging Sudden Death: A Community Guide to Help Save Lives.

For many years, Newman volunteered as a CPR instructor and member of the AHA Affiliate Faculty, Northwest New

we also need to be testing interventions," she said. "The earlier in the life course we intervene, theoretically we can expect a bigger long-term payoff."

Regardless of when those interventions take place, LaPrincess C. Brewer, MD, MPH, assistant professor of medicine at the Mayo Clinic College of Medicine in Rochester, Minnesota, said the focus needs to be on how and where they take place within the community, especially when it comes to disparities between under-represented populations and other communities.

"As we reflect on 10 years of CVH, it is essential to view our progress through a health equity lens," she said. "Unfortunately, there are persistent CVH disparities indicated by dismal proportions of racial and ethnic minority groups meeting ideal levels of all seven of the metrics. These CVH disparities were drivers of the disproportionate burden of COVID-19 in these groups as well."

Dr. Brewer said health is created by much more than clinical care. About 80% of health outcomes are influenced by other factors, such as physical environment, social and economic factors and health behaviors.

"It is not simple to address the social determinants of health. It takes intentional efforts to do so," she said. "Key recommendations from the American Heart Association include the use of culturally tailored, community-based interventions for specific groups to improve CVH, engaging the individual's support networks."

To that end, Dr. Brewer became the founding director of the Fostering African American Improvement in Total Health, or Jersey. She also volunteered as an EMT for the Chester, New Jersey, Fire Department, served on multiple national panels and was an advisor to the American Red Cross. Newman graduated magna cum laude with a Bachelor of Science from the University of Cincinnati, received her EMT degree from Northeastern University, pursued a Master of Public Health from Indiana University School of Medicine, and earned a Master of Science in Nonprofit Management from Robert Morris University.

Ian G. Jacobs Award for International Group Collaboration to Advance Resuscitation Science

Taku Iwami, MD, PhD, was awarded the Ian G. Jacobs Award for International Group Collaboration to Advance



Resuscitation Science for his work on the Comprehensive Registry of Intensive See **RESS TOP ABSTRACTS**, page 13

FAITH, Cardiovascular Health and Wellness Program. FAITH works alongside church liaisons and faith partners to develop inperson lifestyle intervention.

That intervention came in the form of an app that participants could download to allow them to be a part of their own health care journey.

"This process truly allowed us to build trust and a genuine relationship with the community," Dr. Brewer said. "And as a result, participants have better cardiovascular health, and we have enhanced our community outreach and credibility."

As for what the future holds, Wayne Rosamond, PhD, FAHA, professor of epidemiology at the University of North Carolina in Chapel Hill, said it is time to consider whether changes or expansions to the definition of cardiovascular health need to be made.

Dr. Rosamond said there are three possibilities — leave the definition as is, make incremental adjustments or completely rewrite the definition. Of the three, he said modification by establishing new health domains to improve the definition of CVH is the approach he would recommend.

"I believe that a modification of the definition is warranted," he said. "And indeed, this notion to build on the current definition to include some of the more complex challenges such as identifying, implementing and evaluating interventions that can preserve and promote CVH from childhood to middle age and beyond may help us address the relevance of emerging countervailing influences." •

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A year in review for Resuscitation Science and ILCOR

A conversation with Lance Becker, Dianne Atkins and Katherine Berg

ReSS.PL.04

Plenary Session 4: The Year in Review and ILCOR Update Sunday, Nov. 14 Noon-1 p.m. EST

2021 was a banner year in resuscitation for adults and pediatric populations, as well as for the International Liaison Committee on Resuscitation. The Daily News talked with representatives of each area prior to their presentations at the Plenary Session: The Year in Review and ILCOR.

The speakers addressed their view of the year.



Dr. Atkins (pediatrics): Stimulating, broad topics, but need for additional research.

Dr. Becker (adults): Really hard year. It has been a really hard year for anyone involved in the frontline resuscitation of patients. We have put this past year into the context of three major challenges:

- the threat to our health due to the combined impact of COVID on top of cardiac arrest
- the hit to our communities due to inequality of health care and structural racism that has been amplified by the pandemic
- the worsening of our economy that ultimately must support health care and the quest for new discoveries.



Dr. Atkins (pediatrics): The biggest topic this year comes from two publications comparing compression-only CPR with chest compressions with rescue breaths for infants, children and adolescents. Both papers conclude that compressions combined with rescue breaths result in better survival and neurologic outcomes for this population. The other significant topic is the timing of epinephrine (adrenaline) in pediatric cardiac arrest.

Dr. Becker (adults): The latest publications in many fields, including:

- advanced resuscitation with extracorporeal membrane oxygenation (ECMO)
- the role of targeted temperature management
- new drugs for resuscitation the impact of COVID and
- the impact of COVID and important lessons learned from COVID that may improve our future emergency care
- the impact of health disparities

and inequality in access to medical care in the United States

- new horizons for machine learning and artificial intelligence in resuscitation
- considering how long EMS rescuers should remain on scene versus load the patient for transportation to the hospital
 role of acute immediate
- percutaneous interventions (PCI) compared to delayed PCI
- engaging with survivors and patients on research priorities for the future.

Dr. Berg (ILCOR): The

Advanced Life Support (ALS) Task Force addressed coronary angiography after return of spontaneous circulation. We also reviewed CPR in the prone position, a topic with very little evidence behind it but that became highly relevant with the COVID-19 pandemic. ALS has also completed a review of therapeutic temperature management (TTM) in recent months and has already posted a draft Consensus on Science with Treatment Recommendations online. The Basic Life Support Task Force conducted multiple scoping reviews on resuscitation in the setting of drowning. The Neonatal Life Support Task Force conducted massive systematic reviews of cord management at birth and has new recommendations for family presence during resuscitation. The Education, Implementation and Teams Task Force reviewed digitally based BLS training, which is even more relevant now with so much being done virtually. Our COVID working group has updated recommendations on guidance around infection transmission during resuscitation. The First Aid Task Force has new reviews and recommendations on hydration and cooling of burns.

What has the year been like for resuscitation research funding?

Dr. Becker (adults): It has been a very difficult year for resuscitation research funding. The field even before COVID had been suffering for many years from poor funding. Organizations like the NIH have failed to provide robust funding on a par with most other deadly conditions. With COVID, these "funding disparities" for life-saving methods have become worse.



Dr. Atkins (pediatrics): We

have very little data on how COVID-19 has affected frequency or outcomes for pediatric cardiac arrest. This is an area ripe for research. Children are less severely affected, and the death rate is considerably lower, but we need to understand if COVID increases the risk of cardiac arrest. We also need a better understanding of multisystem inflammatory syndrome in children and its relationship to cardiac arrest.

Dr. Becker (adults): There has been a noticeable reduction in survival rates across the country. Communities undergoing medical system stress due to COVID have also seen a negative impact on many aspects of the chain of survival for both COVID and traditional cardiac arrest patients.

Dr. Berg (ILCOR): Our work has been fully virtual this year. Most of our task force members have also been pulled for extra clinical work in their roles as critical care, emergency medicine and other acute care specialties. These time commitments in some cases slowed our ILCOR work, but I think we completed an impressive See RESS, ILCOR, page 9



Lance B. Becker, MD, FAHA, professor, Institute of Bioelectronic Medicine, Feinstein Institutes for Medical Research, chair and Dorothy and Jack Kupferberg Professor of Emergency Medicine, Donald and Barbara Zucker School of Medicine at Hofstra/ Northwell in Manhasset, New York



Dianne Atkins, MD, professor of pediatrics, University of Iowa School of Medicine in Iowa City



Katherine Berg, MD, associate director of the Center for Resuscitation Science and assistant professor of medicine at Beth Israel Deaconess Medical Center in Boston. Berg is vice chair of the Advanced Life Support Task Force with ILCOR (International Liaison Committee on Resuscitation).



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SATURDAY, NOVEMBER 13, 2021 • 1:45 PM - 2:30 PM (ET)

Clinical Insights in CAD and/or PAD: Reducing the Risk of Major Cardiovascular Events

Vamsi S. Krishna, MD

Interventional Cardiology and Endovascular Medicine Director of Cardiac Catheterization Laboratory Director of Cardiac Rehabilitation Seton Heart Institute Kyle, Texas

PROGRAM DESCRIPTION

Patients with coronary artery disease (CAD) and/or peripheral artery disease (PAD) are at risk for major cardiovascular events, including cardiovascular death, myocardial infarction, and stroke. This lecture will discuss an approach to reducing the risk of these events.

This event is not part of the official Scientific Sessions 2021 as planned by the AHA Committee on Scientific Sessions Programming

SUNDAY, NOVEMBER 14, 2021 • 11:00 AM - 11:45 AM (ET) **Clinical Insights in NVAF:**

Reducing the Risk of Stroke and Systemic Embolism

Dharmesh Patel, MD, MBBS (LON), FACC, FNLA, FACP, FASPC

Cardiologist Stern Cardiovascular Foundation Memphis, Tennessee

PROGRAM DESCRIPTION

Patients with nonvalvular atrial fibrillation (NVAF) are at risk of stroke. This lecture will present options for reducing the risk of stroke in patients with NVAF and in patients with NVAF and obesity.

This event is not part of the official Scientific Sessions 2021 as planned by the AHA Committee on Scientific Sessions Programming.

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First Clinical Case Competition yields six Gold Award winners

ongratulations to the Clinical Case Competition Gold Award recipients who participated in the first AHA Clinical Case Competition.

These individuals both nationally and internationally submitted outstanding case reports that were well presented and considered to be of high interest to Scientific Sessions attendees.

Amit Khera, MD, MSc, FAHA, and co-chair for the Committee on Scientific Sessions Programming, congratulated the award recipients and their important participation



in the partnership of science and clinical medicine.

The winners are:

Shravya Vinnakota

Mayo Clinic Rochester Category: Cardio-Oncology 17189: Radiation-Induced Accelerated Multivalve Disease in a Patient With Subaortic Membrane

Juthipong Benjanuwattra

Texas Tech University Health Sciences Center, Lubbock, Texas Category: General Cardiology (ACS) 16758: Unexplained Recurrent ST-Elevation Myocardial Infarction Complicated by Diffuse Alveolar Hemorrhage in Undiagnosed Granulomatosis With Polyangiitis

Ling Kuo

Taipei Veterans General Hospital, Taipei, Taiwan Category: Cardiovascular Imaging 17160: Cardiac Sarcoidosis Mimicking Arrhythmogenic Right Ventricular Cardiomyopathy Presenting With Syncope

Mustafa Alam

New York Institute of Technology College, Mesa, Arizona Category: Cardio-Oncology 17116: Recurrent Atrial Myxomas as a Presenting Feature of Carney Complex

Danielle Sganga

Stanford, Palo Alto, California Category: Critical Care Cardiology 17180: Complications of a Severe Case of Multisystem Inflammatory Syndrome in Children

Yazan Aljabery

Cleveland Clinic Abu Dhabi, Abu Dhabi, United Arab Emirates Category: Valvular Heart Disease 17147: Multidisciplinary-Team Management of a Severely Ill Pregnant COVID-19 Patient With a Newly Diagnosed Severe Mitral Stenosis •

Watch here: https://youtu.be/ uP2lba_a7iM



Simon Capewell, DSc, MD, MBBS, shared his enthusiasm for populationwide cardiovascular disease prevention strategies in an interview with Daily News. Dr. Capewell is professor of public health, policy and systems at the Institute of Population Health at the University of Liverpool, and leads a research program that focuses on the prevention of non-communicable diseases using policy analyses, empirical evidence and quantitative modeling.

He will present "Can Population Science Benefit Preventive Cardiology?" during the Paul Dudley White International Lecture 8-9 a.m. EST, Sunday, Nov. 14.

CS.ME.497

Paul Dudley White International Lecture: Can Population Science Benefit Preventive Cardiology? Sunday, Nov. 14 8-9 a.m. EST What is the oneword answer to your title question: Can population science benefit preventive cardiology?

Dr. Capewell: Massively.



Dr. Capewell: Population science is a broad church, spanning a wide range of disciplines, including public health, epidemiology, informatics, social sciences, economics, psychology, health services research, disease prevention, policy and political science.



Dr. Capewell: Population science can address the risks of tobacco smoking and unhealthy diet of sugar, salt and animal fats — hence an individual's levels of cholesterol, glucose, blood pressure and cigarettes.



Dr. Capewell: A penny-anounce tax on sugar-sweetened beverages; FDA requiring manufacturers to remove all industrial trans fats from their processed food, using Generally Recognized As Safe, or GRAS, regulations; and smoke-free laws to protect customers in bars, shops and workplaces.

What is the evidence for the effectiveness of population-wide strategies to reduce the burden of CVD?

Dr. Capewell: Population-wide CVD prevention strategies can be powerful, rapid, equitable,

With Simon Capewell

Population science packs powerful punch and is more effective than targeting high-risk individuals — in lowering CVD risk

> sustainable and cost-saving. My lecture will summarize the extensive U.S. and international evidence from RCTs, natural experiments, epidemiological and modeling studies.

Why use a wholepopulation-based approach? Why not just focus on people at high risk for CVD?

Dr. Capewell: The wellevidenced "effectiveness hierarchy" shows that "upstream," structural prevention policies, which create healthy environments for entire communities and countries, are far more powerful than "downstream" interventions that target high-risk people, such as advice leaflets or medications — all these being "agentic," that is, totally reliant on the individual to choose to respond, and continue to do so.

Is the population approach to CVD a better way to address health inequities than the high-risk approach?

Dr. Capewell: Yes. Upstream, population-wide structural prevention is undoubtedly the "best bang for the buck." This is especially true when money and resources are scarce.

Wealthy countries like the United States and the United Kingdom can afford to do both — also funding additional measures to target high-risk individuals. But that would always be the minor contributor, however much money was spent.

If you had the power to pass legislation through the U.S. Congress, what CVD risk factors and wholepopulation measures would you focus on?

Dr. Capewell: I would persuade Congress to legislate mandatory (not voluntary) regulations to:

- Halve the current per-capita dietary sodium consumption
- Halve the consumption of processed foods and, like tobacco, increasingly tax processed foods, meat and SSBs, to raise revenues.
- Use some of those revenues to halve the shop price of healthy foods (vegetables, fruit, nuts, seeds, whole grains, stanols, seafood and olive oil; and thus double the consumption of these unprocessed "real" foods).

Paul Dudley White (1886-1973), the namesake of this lecture, is considered the founder of preventive cardiology. He was a staunch advocate of exercise, diet and weight control in the prevention of heart disease and, as such, he was a vigorous walker and bicycle rider. What do you do to lower your own risk of CVD?

Dr. Capewell: I salute Paul Dudley White for his remarkable far-sightedness. I, myself, remain very active walking, gardening and playing with my grandchildren. I usually consume a very healthy diet, (including stanol spreads and yogurts) with almost no junk food or SSBs.

Do you have any additional thoughts regarding your presentation?

Dr. Capewell: We owe a great debt to the Healthy Alliances facilitated by the AHA and others. Thanks to them, the U.S. has already achieved major policy successes around tobacco control, sugar-sweetened beverage taxation and trans fat elimination.

The next step is to equal the best countries' policies by halving the average U.S. intake of junk food and sugar-sweetened beverages, and doubling the average U.S. intake of healthy foods and beverages. •

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Sunday, Nov. 14

9 a.m. EST Health Equity and Cardiovascular Disease

11 a.m. EST Doctors With Heart

12:30 p.m. EST Innovation Showcase

3:15 p.m. EST Mental Health and Cardiovascular Disease

Change is coming to new heart failure guidelines



ew treatment guidelines for heart failure are in the final stages of writing, review and approval by the AHA, the American College of Cardiology and other stakeholders. Draft recommendations have not been made public, but members of the guideline committee have strong ideas of what should be included, starting with novel medications and positive health equity strategies

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to address social determinants of health that so dramatically affect patient care and outcomes.



with reduced ejection and in patients with preserved ejection fraction," said

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James Fang, MD, FAHA, John and June B. Hartman Presidential Chair and professor of medicine and chief of cardiovascular medicine at the University of Utah School of Medicine. "Sodium-glucose cotransporter-2 inhibitors were originally designed for patients with diabetes and have had dramatic effects in heart failure. These drugs are a resoundingly safe medication with a very broad indication, so we're very hopeful they will be addressed.

"It is increasingly clear after several years of exposure that the angiotensin receptor neprilysin inhibitors, or ARNIs, work quite well," he added. "They are already included in guidelines for HFrEF, and we would hope on the basis of data that have been presented, they may also be addressed in the management of HFpEF."

Dr. Fang will discuss medication-related changes that could or should be part of the new guidelines during "Where Should New Heart Failure Guidelines Change in 2021?" on Sunday from 3:30-4:30 p.m. EST. Khadijah Breathett, MD, MS, assistant professor of medicine at the University of Arizona Sarver Heart Center, will address some of the health equity strategies needed to make the new guidelines effective for all patients.

There is a growing recognition that effective medications and appropriate prescribing are just a single step in the effective management of heart



failure, Dr. Breathett said. Dr. Breathett outlined circumstances in which patients will not have the best

- outcomes. Patients who: · Cannot afford appropriate medications • Lack adequate transportation or childcare
- to get to care • Have not received an understandable explanation of why they should exercise and adjust their diets
- Do not receive the appropriate care and attention because of provider bias
- · Encounter other barriers to care related to race, ethnicity and socioeconomic status. She emphasized that all of these factors can, and must, be addressed.

"Guidelines do not typically address issues such as bias, structural racism and social determinants of health," Dr. Breathett said. "We have to start looking at our individual hospital policies and purse strings to identify strategies that help ensure patients get what they need to live fulfilling lives out of the hospital, to live lives of the highest quality possible. That means going beyond the medications we prescribe to improving access.

"We already know how we compare to other countries around the world. We spend the most and we have the worst survival. It doesn't add up. We have to make conscious decisions on how we are going to address these issues," she said.

2021 International Consensus on **Cardiopulmonary Resuscitation** and ECC Science With Treatment Recommendations

This annual International Liaison Committee on

Resuscitation (ILCOR) summary incorporates the most recently published resuscitation evidence. It includes updates for a wide range of resuscitation topics, including video-based dispatch systems, an extensive review of neonatal cord management, basic life support education and training in adults and children, COVID-19 infection risk to rescuers, and more, as well as a number of first aid topics. It also identifies high priority knowledge gaps requiring further research.



ReSS, ILCOR

continued from page 5

amount, especially considering the impact of the pandemic. We have very much missed being able to connect in person once yearly, and I hope in-person meetings can resume at some point.



Dr. Atkins (pediatrics): The pandemic has likely slowed the rate of research and publications on pediatric cardiac arrest as our emergency medicine and critical care physicians were the ones whose clinical responsibilities were dramatically increased by the pandemic. Pediatric cardiac research is difficult to perform because it is an uncommon event at most hospitals. Thus, the need for multicenter coalitions and cooperation is paramount.

Dr. Becker (adults): The year has been worse in terms of outcomes and more preventable deaths. However, the research would suggest many newer approaches that are near the horizon, which will improve survival in the future.

Dr. Berg (ILCOR): I think the main difference has been conducting all of our work virtually, and the impact COVID-19 has had on many members. ILCOR also

continues to work on accelerating the speed at which we address and incorporate new evidence, as we did this year with TTM. We have also been responsive to the clinical need for guidance due to changes brought by COVID; that is, prone CPR and infection transmission during resuscitation.



Dr. Becker (adults): There are so many lessons that we can all learn from this year to improve our future years. We need to examine the year, consider the lessons learned in biology, in public health, in policy and in politics in order to elevate the field in the coming years.

Dr. Berg (ILCOR): That we are adaptable, and that ILCOR volunteers will go above and beyond to get the work done.



Dr. Becker (adults): The lack of funding for resuscitation research not only inhibits the research we do this year, but it profoundly impacts future discoveries by discouraging young people from making a career choice to pursue resuscitation research. This has already led to a severe reduction of our pipeline of new young researchers

developing innovative new science. In my opinion, the whole field is undergoing a downturn. If we do not reverse this negative trend, the science goes slower, discoveries are deferred for years, and ultimately there are preventable deaths that occur due to our inability to move the field forward.

Dr. Berg (ILCOR): I think engaging new volunteers in this work is challenging virtually, without those in-person connections.

What's next? What do 0 you think the topics of this update will be next year?

Dr. Atkins (pediatrics): Some of the biggest topics include neuroprognostication during the resuscitation and within the immediate 12 to 72 hours after the arrest. Additionally, post-cardiac care is a significant topic of concern. Implementation of the science into the clinical arena is very important to increase neurologic outcomes.

Dr. Becker (adults): Hopefully, we will see a steady progression of new discoveries, enhanced investment and better policy to save more lives.

Dr. Berg (ILCOR): Temperature management, systematic reviews on resuscitation in drowning and many other topics on which new data are emerging.

HEALTH INEQUITY

continued from page 1

saying that it means everybody has fair and just opportunity to be as healthy as possible. That means removing obstacles to health care, such as poverty, discrimination, things like that," said Dr. Williams. "And it means reducing and eliminating disparities in health and determinants that effectively exclude people from health care."

To characterize the problem, Dr. Williams identified the many and varied populations who are not experiencing health equity, and then pored over these data for objective information for each group. The list includes Black, Hispanic, Native American, Alaskan Natives, and rural populations.

He will dig further by describing the historical response to health equity, including efforts by the American Heart Association, American College of Cardiology and the Marmot

Review, which examined health equity in England in 2010.

"There are data that show an effect," Dr. Williams said. "If you look at coronary heart disease over time from 1999 to 2017, you'll see a decline that extends to historically under-resourced groups, for example, including people who are members of the Native American, Alaskan Native, Hispanic, Asian Pacific, Black communities as well has those that are white- everybody's incidence went down."

Although that is good news, Dr. Williams said, the progress is limited. "The problem has been recognized for a long time. There has been a reduction in certain indices of mortality that have been seen in all the groups, although differences still exist between the groups so it's an ongoing issue that is not yet resolved," he said.

What does Williams suggest to build on the progress? "Somebody needs to study this as a question," he said. "That's something I

learned in cardiology in tackling scientific questions. You can make a longitudinal database so you capture data of a population: You track them, you see what happens over time, you try to identify interventions and you have serial reports about what's going on rather than just isolated looks."

Sonia Angell, MD, MPH, agrees that data and research are part of the solution to achieving health equity. However, "improvements will only come from translating the understanding that comes from the science into real and meaningful changes in our communities at large," she said

Angell, assistant professor of medicine at the College of Physicians and Surgeons of Columbia University in New York, will address "The Path Forward: Solutions for Achieving Health Equity."

Among the solutions Angell suggests are taking on the structural contributors to poor health. "This includes careful

"There are data that show an effect. If you look at coronary heart disease over time from 1999 to 2017, you'll see a decline that extends to historically underresourced groups."

- David O. Williams, MD, FAHA

attention to the way they shape the quality of key determinants of health, like housing, employment and food — and importantly, working to eliminate systemic racism and other biases," she said.

Right here, right now, cardiologists can make a difference, she said. "As doctors, we tell people to make heart healthy choices, like to be physically active, eat a diet rich in fruits, vegetables and whole grains, low in sodium, and to avoid sugary drinks and get plenty of sleep. But people can't make healthy choices if they don't have healthy choices, and it's clear that

in our country, the opportunity to make healthy choices is not equally shared."

Doctors and cardiologists can change this, she said. "We can be advocates for our patients. Importantly, through our research and our understanding of science and health, we can be clear in communicating the systemic changes needed to create heart healthpromoting environments for all."

The session will be co-moderated by Crystal Cené, MD, MPH, FAHA, associate professor of medicine and clinical epidemiology, University of North Carolina School of Medicine, Durham. •

CARDIOTHORACIC SURGERY

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symptoms, according to the Aortic Valve ReplAcemenT versus Conservative Treatment in Asymptomatic SeveRe Aortic Stenosis: the (AVATAR) trial. The multinational, multicenter, eventdriven randomized trial evaluated the safety and efficacy of early surgical aortic valve replacement in asymptomatic patients with severe aortic stenosis and normal left ventricular systolic function. Nine centers in seven European countries enrolled 157 patients, with 79 patients randomized to conservative treatment, such as watchful waiting and treating comorbidities according to guidelines, and 78 randomized to early surgery.



Marko Banovic, MD

"Currently, there is a strong recommendation for intervention in patients with severe aortic stenosis only when they have symptoms or impairment in left ventricular systolic function. However, the most frequent symptom is dyspnea, which is subjective and often difficult to interpret," said Marko Banovic, MD, PhD, cardiologist and associate professor at the University Clinical Centre of Serbia Cardiology Clinic, the study's principal investigator.

Compared to subjects in the conservative treatment group, subjects randomized to early surgical aortic valve replacement had lower incidence of primary composite endpoint, which included all-cause death, acute myocardial infarction, stroke and unplanned hospitalization for heart failure requiring intravenous treatment with diuretics or inotropes. Among the individual components, all-cause death and heart failure hospitalizations were most common and appear to drive the overall early surgery benefit. There were no differences between groups in secondary endpoints, including in-hospital and operative mortality, repeated

major adverse cardiovascular events, major bleeding or thromboembolic complications.

Dr. Banovic noted that the study's results, based on the randomized, controlled design, expand upon previous observational data and results of the only randomized trial published in 2019 of selected patients with very severe aortic stenosis.

"Our findings indicate that surgical valve replacement can be considered when low-risk patients are asymptomatic. We remain mindful that the totality of the evidence needs to expand, but our data bring additional important consistency for the clinician's consideration that early surgery can or should be considered when aortic stenosis becomes significant regardless of the symptoms," Dr. Banovic said. "This is of importance in clinical practice since aortic stenosis is the most frequent valvular disease among patients referred to the hospital." This study has a simultaneous publication in **Circulation**.

Earlier bypass surgery after Ticagrelor cessation did not increase perioperative bleeding

Patients with acute coronary syndromes undergoing coronary artery bypass graft surgery two to three days after the cessation of Ticagrelor, a potent, rapidacting antiplatelet agent (P2Y12 inhibitor), did not experience more Class 3 (severe) or Class 4 (massive) perioperative bleeding as defined by the Universal Definition for Perioperative Bleeding in adult cardiac surgery, compared to patients undergoing CABG surgery five to seven days after Ticagrelor cessation, according to A Randomized Study of Early Versus Delayed Coronary Artery Bypass Surgery among Patients With Acute Coronary Syndromes Treated With Ticagrelor, The RAPID CABG Study.

The randomized, parallel group multicenter noninferiority trial enrolled 143 patients with acute coronary syndromes treated by CABG surgery. Using perprotocol analysis, Class 3 (severe) perioperative bleeding was 4.6% in the early surgical group compared to 5.2% in the delayed surgery group (p=0.0253).

"In patients with acute coronary syndromes, an early surgical strategy, two to three days



Derek So, MD

after Ticagrelor cessation, was noninferior in incurring severe or massive bleeding compared to delaying surgery until five to seven days," said Derek So, MD, cardiologist and clinician investigator at the University of Ottawa Heart Institute, the study's principal investigator. In secondary analysis, the median length of stay was nine days in the early surgery group versus 12 days in delayed surgery group.

The study provides insight on the timing of CABG surgery in relation to European Society of Cardiology and ACC/AHA guidelines, which suggest waiting three and five days after Ticagrelor cessation, respectively. "This is the first and only randomized trial looking at the specific timing of CABG surgery and Ticagrelor cessation, which might reassure surgeons that going to surgery earlier than five days is safe," Dr. So said.

Supported saphenous vein coronary bypass grafting shows promise for graft durability

VEST, a novel veinous external support device, did not statistically significantly prevent intimal hyperplasia in vein grafts after coronary bypass surgery at one-year follow-up, compared to non-Vested vein grafts, according to preliminary data from Efficacy and Safety of an External Support Device for Saphenous Vein Coronary Bypass Grafts: the VEST trial.

The multicenter, prospective randomized trial conducted through the NHLBI-Supported Cardiothoracic Surgery Trials Network at 17 cardiac surgery centers in Canada and the U.S. enrolled 224 patients with multivessel atherosclerotic coronary artery disease, scheduled to undergo saphenous vein grafts during coronary artery bypass grafting surgery with arterial grafting of the internal mammary artery to the left anterior descending and two or more saphenous vein grafts. The

study used within-patient control; one of the vein grafts within each patient was randomly assigned to receive VEST external support.

Patients underwent routine coronary bypass operations, with 75% of the vein grafts harvested by endoscopic/minimally invasive techniques. Patients received standard intraoperative surgical care and postoperative care with coronary angiogram follow-up one year after surgery.

The primary endpoint, intimal hyperplasia area/graft occlusion, which was assessed by intravascular ultrasound at 12 months, did not reach statistical significance (p=0.07). The analysis included imputed data for patients who did not undergo angiographic and intra-vascular ultrasound assessment of both a vested and nonvested vein graft at the time of follow-up. Among patients who had assessment of both vested and nonvested grafts at follow-up, intimal hyperplasia area was statistically significantly lower in the vested grafts (p=0.04).



John D. Puskas, MD

"Vein grafts don't last forever after coronary bypass surgery. About half of them will be closed in 10 years," said John D. Puskas, MD, chair of the department of cardiovascular Surgery at Mount Sinai Morningside in New York City, the study's principal investigator. "But this concept of supporting vein grafts with a VEST, a cobalt chromium mesh, which is an extremely inert material, may have merit for increasing the longevity and durability of vein grafts."

As dictated by the study's protocol, patients will continue to be followed through five years. "We're cautiously optimistic this field of investigation will lead to better care for patients in the future," Dr. Puskas said.

Concomitant tricuspid repair during mitral valve surgery reduced tricuspid regurgitation progression Tricuspid annuloplasty in patients with moderate or less than

moderate tricuspid regurgitation undergoing mitral valve surgery with tricuspid annuloplasty (TA), had a lower incidence of the progression of tricuspid regurgitation (TR), compared to patients who underwent mitral valve surgery alone. However, reduced TR progression came at the cost of an increased risk of permanent pacemaker implantation, according to Evaluating the Benefit of Concomitant Tricuspid Repair During Mitral Valve Surgery.

The international trial, conducted in 34 centers through the Cardiothoracic Surgical Trials Network and the German Center for Cardiovascular Research, randomized 401 patients with moderate tricuspid regurgitation or less than moderate tricuspid regurgitation and tricuspid annual dilation $\geq 40 \text{ mm}$ (or \geq 21mm/M2) scheduled for mitral valve surgery for primary mitral regurgitation to mitral valve surgery alone or mitral valve surgery with tricuspid annuloplasty with undersized a rigid nonplanar tricuspid annuloplasty ring. The primary two-year endpoint was a composite of reoperation for TR, progression of TR by two grades from baseline or the presence of severe TR, or death.



James S. Gammie, MD

"At two years, tricuspid annuloplasty had no impact on major adverse cardiac and cerebrovascular events, survival or quality of life. But two years may not capture the long-term effects of tricuspid valve intervention. Long-term follow-up is ongoing to fully determine the net clinical benefit of concomitant TA," said James S. Gammie, MD, the James T. Dresher Sr. professor in Cardiac Surgery at Johns Hopkins Heart and Vascular Institute in Baltimore. The trial analysis was simultaneously published in the New England Journal of Medicine.

Δs



The Daily News spoke with Robert J. Lefkowitz, MD, FAHA, co-recipient of the 2012 Nobel Prize in Chemistry for his work on G-coupled protein receptors, which allow the body's cells to sense and respond to internal and external signals, such as flavors, taste, smell, odor, light and danger.

GCPRs are now the target for numerous modern drugs. Dr. Lefkowitz promises to recap "50 years of research in 50 minutes" during the Distinguished Scientist Lecture. For this interview, Dr. Lefkowitz, the James B. Duke professor of medicine at Duke University, expounded on the importance of clinicianscientists, spoke of his esteem for the American Heart Association and gave us a peek into his new book.

He will present his Distinguished Scientist Award on G-protein coupled receptors 3:30-4:30 p.m. Saturday, Nov. 14, live.

CS.ME.499

Distinguished Scientist Lecture: G-Protein Coupled Receptors Sunday, Nov. 14 3:30-4:30 p.m. EST The Distinguished Science Lecture is one of many awards you've received from the AHA. What do the American Heart Association and Scientific Sessions mean to you?

Dr. Lefkowitz: The first value that the American Heart Association has had for me is that it is responsible for my one and only job. When I was a young fellow in cardiology at Mass General Hospital in Boston from 1971 to 1973, I gave two presentations at the AHA, one in 1971 and one in 1972.

The chief of cardiology at Duke, Andrew Wallace, heard those presentations and was sufficiently impressed that he invited me down to Duke to have a look at a job heading up a new program called "molecular cardiology," which as a discipline did not yet exist. I was initially reluctant. The idea of moving that far south was not attractive to me. I thought I would take the job for five to seven years, hopefully begin to make my mark and then move back to the northeast. But, in fact, I fell in love with the area, my research took off, and voila! I've stayed the rest of my career.

Beyond that, I really enjoy the AHA meetings. They are fantastic in terms of their depth of science — basic, fundamental research through the latest in clinical science.

What advice do you have for young cardiologists?

Dr. Lefkowitz: I would suggest that they really try to incorporate an element of scientific research investigation into their careers. It doesn't have to be basic bench work; it could be clinical research or somewhere in between translational research. If you want to have a long career, I think it's fun to have different aspects to it. You know, a lot of clinical work eventually becomes very repetitive. I mean, when you've seen your 200th patient with heart failure, or your 500th with hypertension, you don't have to think about it a lot — you pretty much know reflexively what to do. But the research laboratory — be it the clinical or the basic — is the opposite. Every day is different, every experiment is different, every question is different. It keeps things a little livelier.

With Robert J.

Lefkowitz, MD, FAHA

The pursuit of receptors for adrenaline

As a card-carrying physician-scientist, could you comment on the state of physicianscientists today? In 1979, Dr. James Wyngaarden called them an endangered species. What's it like now?

Dr. Lefkowitz: Worse. He was the first one to call attention to the declining number of physicianscientists. He was my first boss, because he was chair of medicine at Duke, when Andy Wallace, the chair of cardiology, came looking for me. Dr. Wallace worked for Dr. Wyngaarden. That was more than 40 years ago, and he was, astutely, the very first person to sound the alarm. The reason I helped start the Physician-Scientist Support Foundation is that the problem has grown progressively worse, and fewer and fewer physicians are becoming physician-scientists. Nothing more acutely or vividly shines a spotlight on the importance of physician-scientists than the pandemic, with Tony Fauci being the poster child for physician-scientists, and how important they are, especially in times of crisis like this.

Do you think more people will become physician-scientists because of Dr. Fauci?

Dr. Lefkowitz: I do believe that. I think a lot of young people are being inspired by Tony, to say, "Wow! What an amazing career, what an amazing opportunity to apply scientific and medical knowledge to the benefit of humanity." I'm quite certain there will be a large number of young people who are going to be drawn into such a career. I know for a fact that last year the number of applications to medical school was the largest that it has been either in history or in many, many years.



Your book A Funny Thing Happened on the Way to Stockholm: The Adrenaline-Fueled Adventures of an Accidental Scientist came out in February. How did that come about?

Dr. Lefkowitz: A Funny Thing Happened on the Way to Stockholm — that's obviously patterned after [the 1962 Broadway musical] "A Funny Thing Happened on the Way to the Forum." I like that because I'm basically a funny guy, and if you've read the book, you know there are lots of humorous stories in there that reflect my approach to life, which is filled with humor.

The second part of the title, The Adrenaline-Fueled Adventures *of an Accidental Scientist* — the adrenaline part, it turns out adrenaline is a big part of my research. I worked on receptors for adrenaline, but the key part is "accidental scientist." I never intended to be a scientist. From the time I was 7 or 8 years old. I dreamed of nothing but being a physician. I was inspired by our family physician, who made house calls. I was totally taken by this man, what he did — he'd come to the house, lay on hands, carry that black bag from which he'd pull all manner of magical instruments, the stethoscope, the otoscope, blood pressure

machine. I just loved it. Of course, I didn't know the term at the time, but what I clearly experienced as a youngster was a calling to the practice of medicine. I never doubted that I would be anything other than a physician.

When I graduated from medical school in 1966, the Vietnam War was raging and in addition to a lottery draft for all men over 18, there was a nonlottery draft, conscription, for all male physicians, so 100 percent of male physicians on graduation from medical school in the 1960s went into the Armed Services for two years. They would give you a two-year deferment after graduation to get some further clinical training and then you went into the Army, the Navy, the Air Force or the Public Health Service, and you spent one of your two years, pretty much, in Vietnam. It was a very unpopular war — but there were very few legal ways out. One of the few was to be drafted into the Public Health Service because they had some stateside assignments, like the NIH and the CDC and other research institutions. So, of course, everyone wanted to get into the Public Health Service, and it was very competitive, and they had their pick of the best and the brightest. Fortunately, I had very high grades and recommendations. I and a number of others were drafted into the Public Health Service and assigned to the NIH where we began doing research. And after a miserable first year or year-anda-half where absolutely nothing worked for me, I began to have some success and get the bug. So, the "accident" for this accidental scientist was the Vietnam War and my being drafted into the Public Health Service and being assigned to the NIH.

Had I not had that experience, I undoubtedly would never have gone into research and would have happily spent my life practicing medicine and cardiology. The remarkable thing is just how successful that program was in producing my entire generation of physician-See LEFKOWITZ, page 12

LEFKOWITZ

continued from page 11 scientists, academicians, professors of medicine and deans of medical schools. In my class - those of us from 1968 to 1970, maybe 100 people — four of us, all physicians, with really no prior research training, would go on to win the Nobel Prize, which is insane. So it turns out between 1964 and 1972 — eight peak years of the Vietnam War — there was this program, which came to be called somewhat derisively the "Yellow Berets." You have the Green Berets and their bravery, and you have the Yellow Berets who are fighting the "Battle of Bethesda," so to speak. Of this Yellow Beret program, 10 of us would go on to win the Nobel Prize, and the program would produce virtually my entire generation of professors and deans of medicine.



Dr. Lefkowitz: We were assigned a lab. There was a matching system. The one I got was not the one I wanted. I was looking for a much more cardiovascular-oriented lab.

I knew in medical school that I wanted to do cardiology. That was to a big extent influenced by the fact that my father and mother had premature coronary artery disease. But instead, I ended up in a lab at the NIH that did endocrinology. As it turns out, this was another fortunate piece of serendipity for me because the techniques I learned from the endocrinology people were very biochemical and molecular, which was not a part of cardiological research at the time. So, I was then able to see the value of applying biochemical and endocrinological approaches — like receptors — to the CV system. I think that helped jumpstart my career.



Dr. Lefkowitz: Yes. I am very honored to receive another wonderful award from the AHA. They have been wonderful in honoring me over the years. Every time I get one of these awards or give an honorary lecture here, it always draws me back to the very beginning in my career and how I got my job by virtue of presenting at the AHA, so I always I have very warm feelings toward the organization. •



Industry Events Learning Studios and Industry Symposia

Sunday, Nov. 14

These events are not part of the official Scientific Sessions 2021 as planned by the AHA Committee on Scientific Sessions Program.

6-7:30 a.m. EST

• Screening and Management of Chronic and Diabetic Kidney Disease: How Does Your Approach Compare With the Experts?

9:30-10:15 a.m. EST

- Implementing GDMT in Worsening Heart Failure Patients – Easy or Challenging? A Debate
- Add on Efficacy. Oral, Nonstatin Therapies for Lowering LDL-C

11-11:45 a.m. EST

- Clinical Insights in NVAF: Reducing the Risk of Stroke and Systemic Embolism
- Double Trouble: AF & HF
- Cholesterol Efflux Hypothesis: Rethinking Good Cholesterol

12:15-1 p.m. EST

• The Journey to Diagnosis: Recognizing the Signs and Symptoms of Transthyretin Amyloid Cardiomyopathy (ATTR-CM)

- Diagnosing Aortic Stenosis in Women to Close the Treatment Gap
- Evolving the Chronic Heart Failure Treatment Paradigm in Cardiology

3:30-4:15 p.m. EST

• VASCEPA® (icosapent ethyl): Elevating the Standard of Care

5-6 p.m. EST

• Improving the Detection and Management of Cardiac Immune-Related Adverse Events in Patients With Cancer Is a Must: Are You Prepared?

5-6:30 p.m. EST

• Updates in Heart Failure: From Definition to Treatments and Everything In-Between

7:30-9 p.m. EST

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ReSS TOP ABSTRACTS

continued from page 4

Care for out of hospital cardiac arrest (OCHA) Survival Study (the CRITICAL Study). The award recognizes international collaboration among individuals over an extended time resulted in major contributions to fundamental or clinical science related to cardiac arrest or traumatic injury. In 2007, he was honored with AHA's ReSS Young Investigator Award.

Dr. Iwami currently serves as a professor in the department of Preventative Services at Kyoto University School of Public Health in Japan. Dr. Iwami earned his MD from Gunma University in Maebashi, Japan, and his PhD from the department of Traumatology and Acute Critical Medicine at Osaka University Graduate School of Medicine in Japan.

Dr. Iwami also serves as managing director of the Japanese automated external defibrillator (AED) foundation and as vice chief director of the non-profit organization, Osaka Life Association. His work is directed at resolving clinical questions and improving clinical practices in health promotion, preventive medicine and resuscitation against cardiac arrests.

Dr. Iwami's academic work includes serving as chair for the research and registry working group of the International Liaison Committee of Resuscitation (ILCOR). He is a past member of the editorial board and co-chair for Education, Implementation and Teams Task Force (EIT), part of the Japanese resuscitation guidelines; chair of the AED committee of Japanese Circulation Society; chair of the standardization of health information committee for the Japanese National University Council of Health Administration Facilities; a member of out-ofhospital cardiac arrests registration committee of the Japanese Association for Acute Medicine; past chair of the School Basic Life Support (BLS) committee of Japanese Society for Emergency Medicine; and past chair of the Utstein Osaka Project.

Lifetime Achievement Award in Cardiac Resuscitation Science

Kazuo Okada, PhD, of the Japanese Resuscitation Council was among the winners of the 2021 Lifetime Achievement Award in Cardiac Resuscitation Science. The award was established by the Emergency



Cardiovascular Care Committee in 2003 to honor scientists for their outstanding contributions in resuscitation science. •

To be eligible to receive one of these awards, attendees must have submitted an abstract to ReSS 2021 during the regular submission process that is related to either cardiac or trauma resuscitation science, receive a top score for that abstract and be a member of the American Heart Association.

OPENING SESSION

continued from page 1

told attendees as he reminded them of AHA's 2024 goal of being "champions for health equity" to advance cardiovascular health for all, including identifying and removing barriers to health care access and quality.

Within months of the start of the pandemic, Dr. Lloyd-Jones said, AHA rapidly deployed millions of dollars in grants and collected real-time data to show that "it's not about the color of your skin that affects outcomes of COVID hospitalizations." The problem occurs "further upstream" in terms of social determinants and educating patients before hospitalization.

Calling the pandemic, "a once in a century health crisis," Gary H. Gibbons, MD, director of the National Heart, Lung, and Blood Institute (NHLBI), said cardiologists were "immediately drawn into the fray of a condition that affects the entire organ system."

"Our entire community [of investigators] was called upon to

be part of the vanguard to address it," he said.

Dr. Gibbons noted the benefit of being able to leverage the NHLBI clinical networks across the country to create a comprehensive platform for rapidly testing therapeutics to identify effective treatment for the COVID-19 public health crisis.

As such, Dr. Gibbons spoke of the importance of addressing and empowering front-line partnerships against COVID-19 disparities via the National Institute of Health (NIH) Community Engagement Alliance. The alliance leverages academic partners, communitybased organizations, health care centers and providers, faithbased organizations, state and local government agencies and pharmacy networks.

"For example, in Mississippi, a local pastor might be more effective than a pronouncement from the Centers for Disease Control and Prevention (CDC)," Dr. Gibbons said. "We need to leverage trusted messengers."

Panelist Victor Dzau, MD, FAHA, a professor of medicine at Duke University, said the provider's role in understanding social determinants should be part of early medical school training in the pre-clinical years.

Addressing the "drivers of health disparities, including the social determinants of health, structural racism and rural health inequities is the only way to truly achieve equitable health and well-being for all," as AHA's 2024 goal states. It's all a part of a bigger picture, according to panelist Keith C. Ferdinand, MD, FAHA, a professor of medicine at Tulane University School of Medicine in New Orleans. Although Dr. Ferdinand touted the contributions of academics and research, he said health care delivery has failed.

"Implementation science has fallen by the wayside," Dr. Ferdinand said. However, he noted that advances in telehealth driven by the pandemic will improve future health care delivery in certain areas of the country. In particular, Dr. Ferdinand noted the deployment of wireless technology in rural Mississippi to get patients

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back on track in managing chronic conditions, such as diabetes and hypertension.

Panelist Emelia J. Benjamin, MD, ScM, FAHA, associate provost for faculty development at Boston University, spoke from her perspective of being at an urban, safety-net hospital. She said the COVID pandemic had exposed profound health care inequities.

"Patients don't want science from an ivory tower," Dr. Benjamin said. "They want it from their local communities — in their homes, where they shop."

Patients can gain trust from the medical and scientific communities from having a diverse group of providers, panelists said. That includes seeing more women in cardiology, according to Roxana Mehran, MD, FAHA, professor of medicine and director of Interventional Cardiovascular Research and Clinical Trials at the Zena and Michael A. Wiener Cardiovascular Institute at Mount Sinai School of Medicine in New York.

Drawing more women to cardiology, making it a family-

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friendly subspecialty and advancing more women to leadership roles is critical and will impact patients in a profound way, she said.

"Our workforce must look like the patient, and right now it doesn't," Dr. Mehran said. "We're losing a pipeline of talent, especially women, who have not reached leadership positions."

Finally, not to be forgotten is the mental health toll the COVID-19 pandemic has taken on clinicians and patient alike, according to Donna K. Arnett, PhD, MSPH, FAHA, dean of the University of Kentucky College of Public Health in Lexington. Dr. Arnett underscored the importance of learning this lesson from the current pandemic to prepare for the next.

"We need to think about the future pandemic in terms of mental health among our practitioners, the isolation of children, the elderly, and double the number of emergency room admissions for attempted suicides in teenagers," Dr. Arnett said. "We need to think about that now." •

Distinguished Achievement Awards

The scientific councils' **Distinguished Achievement Award** recognizes individuals who have made major contributions to the affairs of a scientific council over a continuing period and who have made substantial professional contributions to the field represented by the council. Some councils present this award annually while others present the award every three years*.

Congratulations to the 2021 awardees.

ATVB Distinguished Achievement Award in Arteriosclerosis

Sponsored by the Council on Arteriosclerosis, Thrombosis and Vascular Biology (ATVB)

• Rama Natarajan, PhD, FAHA, Beckman Research Institute, City of Hope National Medical Center, Duarte, California

BCVS Distinguished Achievement Award

Sponsored by the Council on Basic *Cardiovascular Sciences (BCVS)*

• Ronglih Liao, PhD, FAHA, Stanford University, Stanford, California

CLCD Distinguished Achievement Award

- Sponsored by the Council on Clinical
- Cardiology (CLCD)
- Ileana L. Piña, MD, MPH, FAHA, Central Michigan University, Detroit, Michigan

CVSN Distinguished **Achievement Award**

Sponsored by the Council on

- Cardiovascular and Stroke Nursing (CVSN) • Nancy T. Artinian, PhD, RN, FAHA,
- Michigan State University College of Nursing, East Lansing, Michigan

EPI Distinguished Achievement Award*

Sponsored by the Council on Epidemiology and Prevention (EPI)

• Daniel T. Lackland, DrPH, FAHA, Medical University South Carolina, Mt. Pleasant, South Carolina

Young Hearts Distinguished Achievement Award

Sponsored by Council on Lifelong Congenital Heart Disease and Heart Health *in the Young (Young Hearts)*

• Pedro J. del Nido, MD, FAHA, Boston Children's Hospital

Lifetime Achievement Awards

GPM Medal of Honor

Sponsored by the Council on Genomic and Precision Medicine

• Patrick T. Ellinor, MD, PhD, FAHA, Massachusetts General Hospital, Boston, Massachusetts

Laennec Master Clinician Award Sponsored by the Council on Clinical

Cardiology • Julia H. Indik, MD, PhD, FAHA, University of Arizona, Tucson, Arizona

Council on Quality of Care and **Outcomes Research Outstanding** Lifetime Achievement Award Sponsored by the Council on QCOR

• Frederick A. Masoudi, MD, MSPH, FAHA, University of Colorado School of Medicine - Anschutz Medical Campus, Aurora, Colorado

Young Hearts Meritorious Achievement Award

Sponsored by the Council on Lifelong Congenital Heart Disease and Heart Health in the Young

• Charles I. Berul, MD, FAHA, Children's National Heart Institute, Washington, DC

Council Named Lectures

Council lectures feature presentations from some of today's foremost clinicians and researchers as well as those with a lifetime of contributions to the field of cardiovascular disease.

Ancel Keys Memorial Lecturer

Sponsored by the Council on Epidemiology & Prevention (EPI)

• David C. Goff Jr., MD, PhD, FAHA, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, Maryland

Charles T. Dotter Memorial Lecture

Sponsored by the Council on Cardiovascular Radiology and Intervention (CVRI)

• Suresh Vedantham, MD, Washington University School of Medicine, St. Louis, Missouri

Dickinson W. Richards Memorial Lecture

Sponsored by the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation (3CPR)

• Mark Robert Nicolls, MD, Stanford University, Stanford, California

George E. Brown Memorial Lecture

Sponsored by the Council on Basic Cardiovascular Sciences (BCVS)

• Rong Tian, MD, PhD, FAHA, University of Washington, Seattle, Washington

George Lyman Duff Memorial Lecture

Sponsored by the Council on Arteriosclerosis, Thrombosis and Vascular Biology (ATVB)

• Karin Bornfeldt, PhD, FAHA, University Washington, Seattle, Washington

GPM and EPI Mid-Career **Research Award and Lecture**

Sponsored by the Council on Genomic and Precision Medicine (GPM) and the Council on Epidemiology and Prevention (EPI)

• Naveen L. Pereira, MD, FAHA, Mayo Clinic, Rochester, Minnesota

James B. Herrick Award for **Outstanding Achievement in** Clinical Cardiology

Sponsored by the Council on Clinical Cardiology (CLCD)

• Alice K. Jacobs, MD, FAHA, Boston University School of Medicine, Boston, Massachusetts

Helen B. Taussig Memorial Lecture

Sponsored by Council on Lifelong Congenital Heart Disease and Heart Health in the Young (Young Hearts)

• Roberta G. Williams, MD, FAHA, University of Southern California, Los Angeles, California

Katharine A. Lembright Award

Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN)

• Anna Strömberg, PhD, RN, FAHA, Linköping University, Linköping, Sweden

Kathleen A. Dracup Distinguished Lecture Exemplary Career in **Mentoring Award**

Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN)

- Christopher S. Lee, PhD, RN, FAHA, Boston College, William F. Connell School of Nursing, Newton,
- Massachusetts

Kenneth D. Bloch Memorial Lecture

Sponsored by the Council on Basic Cardiovascular Sciences (BCVS)

• Jane A. Leopold, MD, FAHA, Brigham and Women's Hospital, Boston, Massachusetts

Laennec Clinician Educator Lecture

Sponsored by the Council on Clinical *Cardiology (CLCD)*

• N.A. Mark Estes, III, MD, FAHA, University of Pittsburgh Medical Center, Pittsburg, Pennsylvania

Robert I. Levy Memorial Lecturer

Sponsored by the Council on Epidemiology and Prevention (EPI)

• Penny M. Kris-Etherton, PhD, FAHA, Pennsylvania State University, University Park, Pennsylvania

Russell Ross Memorial

Lectureship in Vascular Biology Sponsored by the Council on Arteriosclerosis, Thrombosis and Vascular Biology (ATVB)

• Denisa D. Wagner, PhD, FAHA, Boston Children's Hospital, Boston, Massachusetts

Sol Sherry Distinguished Lecture in Thrombosis

Sponsored by the Council on Arteriosclerosis, *Thrombosis and Vascular Biology (ATVB)*

• Alisa S. Wolberg, PhD, FAHA, University of North Carolina, Chapel Hill, North Carolina

Stroke Council Award and Lecture

Sponsored by the Stroke Council

• Bruce Ovbiagele, MD, MSc, MAS, MBA, MLS, FAHA University of California, San Francisco, California

Science Catalyst Keynote & Thomas Smith Memorial Lecture Sponsored by the Council on Basic

Cardiovascular Sciences (BCVS) • Christine E. Seidman, MD, FAHA, Brigham and Women's Hospital, Boston, Massachusetts

William J. Rashkind Memorial Lecture

Sponsored by Council on Lifelong Congenital Heart Disease and Heart Health in the Young (Young Hearts) • TBD

William W. L. Glenn Lecture

Sponsored by the Council on Cardiovascular Surgery and Anesthesia (CVSA)

• Ralph J. Damiano Jr., MD, FAHA, Washington University School of Medicine, St. Louis, Missouri



Special Recognition Awards

Special Recognition Awards acknowledge clinicians and scientists active in basic, clinical, translational or population cardiovascular research for specific career endeavors and achievements.

Award applications for Scientific Sessions will reopen in April 2022. Please visit Council Awards for opportunities to apply for active awards. Awards applicants must be AHA Professional Members and must be affiliated with the AHA sponsoring scientific council at the time of application.

Clinical Article of the Year Award

Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN)

• Anne M. Fink, PhD, RN, FAHA, University of Illinois, Chicago, Illinois

CVSA Surgery & Anesthesiology Mentoring Award

• Linda Shore-Lesserson, MD, FAHA, Northwell Medical Center, Manhasset, New York

Excellence in Clinical Practice Award

Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN)

• Wendy Dusenbury, RN, DNP, FNP-BC, AGACNP-BC, ANVP-BC, FAHA, University of Tennessee Health Science Center, Memphis, Tennessee

GPM Medal of Honor

Sponsored by the Council on Genomic and Precision Medicine (GPM)

• Patrick T. Ellinor, MD, PhD, FAHA, Massachusetts General Hospital, Boston, Massachusetts

GPM Mentoring Award

Sponsored by the Council on Genomic and Precision Medicine (GPM)

• David M. Herrington, MD, MHS, FAHA, Wake Forest Baptist Health, Winston Salem, North Carolina

Marie Cowan Promising Early

Career Investigator Award Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN)

• Billy A. Caceres, PhD, RN, FAHA, Columbia University, New York, New York

Mathy Mezey Excellence in Aging Award

Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN)

• Ruth M. Masterson Creber, PhD, MSc, BSN, FAHA, Well Cornell Medicine, New York, New York

Council on Quality of Care and Outcomes Research Outstanding Lifetime Achievement Award

- Frederick A. Masoudi, MD, MSPH, FAHA, University of Colorado School of
- AHA, University of Colorado School of Medicine – Anschutz Medical Campus, Aurora, Colorado

Research Article of the Year Award

Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN)

• Salah Al-Zaiti, PhD, RN, ANP-BC, FAHA, University of Pittsburgh School of Nursing, Pittsburgh, Pennsylvania

Max Harry Weill Award for

Resuscitation Science Sponsored by the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation (3CPR)

- Takahiro Nakashima, MD, PhD,
 University of Michigan Ann Arbor
- University of Michigan, Ann Arbor, Michigan

Stroke Article of the Year Award

Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN) and the Stroke Council

• Gianluca Pucciarelli, PhD, MSN, RN, FAHA, University of Rome "Tor Vergata," Rome, Italy

Women in Cardiology Mentoring Award

- Sponsored by the Council on Clinical Cardiology (CLCD)
- Lorrel E. Brown Toft, MD, University of Nevada, Reno School of Medicine, Reno, Nevada

Best Abstract Awards

These awards are presented for the top-scoring abstracts submitted in the sponsoring council's abstract categories at Scientific Sessions.

3CPR Best Abstract Award

Sponsored by the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation (3CPR)

 Victoria Toro, PhD, Université Laval, Québec, Canada

ATVB Early Career Award for Outstanding Research

Sponsored by the Council on Arteriosclerosis, Thrombosis and Vascular Biology (ATVB) • TBD

IBD

ATVB Special Recognition Awards

Sponsored by the Council on Arteriosclerosis, Thrombosis and Vascular Biology (ATVB)

- Marvin T. Nieman, PhD, FAHA, Case Western Reserve, University Cleveland, Ohio
- Ryan E. Temel, PhD, University of Kentucky, Lexington, Kentucky
- Francine K. Welty, MD, PhD, FAHA, Harvard Medical School, Brookline, Massachusetts

CVSN Best Abstract Award

Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN)

• Yashika Sharma, MSN, RN

Outstanding Research Awards in Pediatric Cardiology

Sponsored by the Council on Lifelong Congenital Heart Disease and Heart Health in the Young (Young Hearts)

- Andrea Z. Beaton, MD, FAHA
- Caren S. Goldberg, MD
- Stephanie Santana, MD

Resuscitation Science Symposium 2021 Best of the Best Abstract Awards

These awards recognize top scoring abstracts in cardiac or trauma resuscitation science.

Sponsored by the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation (3CPR)

- James M. Gray, MD, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio
- Jing Li, MD, University of Illinois at Chicago, Chicago, Illinois
- Mitsuaki Nishikimi, Feinstein Institutes for Medical Research, Manhasset, New York
- Gitte Linderoth, MD, Copenhagen Emergency Medical Services, Copenhagen, Denmark



Paul Dudley White International Scholar Award View the list of winning authors (PDF)

Early Career Abstract Awards

These awards are designed to recognize endeavors by early career clinicians and scientists. Candidates will be considered not only for the quality and relevance of their research being submitted to Scientific Sessions but also for their accomplishments, contributions to their fields and expertise as researchers in general.

Congratulations to the finalists selected to present their oral abstract at Scientific Sessions.

Cournand and Comroe Early Career Investigator Award

Sponsored by the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation (3CPR)

- Megan Griffiths, MD, John Hopkins University, Baltimore, Maryland
- Sasha Z. Prisco, MD, PhD, University of Minnesota, Minneapolis, Minnesota
- Tsukasa Shimauchi, MD, PhD, Laval University, Quebec City, Quebec, Canada
- Tomoyoshi Tamura, MD, PhD, Brigham and Women's Hospital, Boston, Massachusetts
- Lianghui Zhang, MD, PhD, University of Illinois at Chicago, Chicago, Illinois

CVSA Resident Prize

Sponsored by the Council on Cardiovascular Surgery and Anesthesia (CVSA)

- Makoto Hibino, MD, MPH, PhD, University of Toronto, St. Michael's Hospital, Toronto, Canada
- Yujiro Yokoyama, MD, St. Luke's University Health Network, Bethlehem, Pennsylvania

Elaine W. Raines Early Career Investigator Award

Sponsored by the Council on Arteriosclerosis, Thrombosis and Vascular Biology (ATVB)

- Mark C. Blaser, PhD, Brigham and Women's Hospital, Boston, Massachusetts
 Henry S. Cheng, PhD, Brigham and
- Women's Hospital, Boston, MassachusettsFang Li, PhD, Columbia University Irving Medical Center, New York, New York
- Tanmay Mathur, MS, Texas A&M University, College Station, Texas

Elizabeth Barrett-Connor Research Award for Early Career Investigators in Training

Sponsored by the Council on Epidemiology and Prevention (EPI)

- Utibe R. Essien, MD, MPH, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania
- Avirup Guha, MBBS, MPH, Case Western Reserve University, Cleveland, Ohio
- Nicholas Marston, MD, MPH, Brigham and Women's Hospital, Boston, Massachusetts
- Amgad Mentias, MD, MS, Cleveland Clinic, Cleveland, Ohio
- Nilay S. Shah, MD, MPH, Northwestern University Feinberg School of Medicine, Chicago, Illinois

Genomic and Precision Medicine Early Career Investigator Award

Sponsored by the Council on Genomic and Precision Medicine (GPM)

- Kevin A. Friede, MD, Duke University, Durham, North Carolina
- Michael G. Levin, MD, University of Pennsylvania, Philadelphia, Pennsylvania
- Kazuo Miyazawa, MD, PhD, RIKEN Center for Integrative Medical Sciences, Saitama, Japan
- Seyedeh Maryam Zekavat, MD, PhD, Yale School of Medicine, New Haven, Connecticut

Jay D. Coffman Early Career Investigator Award

Sponsored by the Council on Peripheral

- Vascular Disease (PVD)
- Mohsin Chowdhury, MD, Beth Israel Deaconess Medical Center, Boston, Massachusetts
- Jordan K. Schaefer, MD, University of Michigan, Ann Arbor, Michigan

Laennec Fellow in Training (FIT) Clinician Award

Sponsored by the Council on Clinical Cardiology (CLCD)

- Charlotte Andersson, MD, PhD, FAHA, Boston Medical Center, Boston, Massachusetts
- Vanessa Blumer, MD, Duke University Medical Center, Durham, North Carolina
- Lee Bockus, MD, PhD, University of Washington, Seattle, Washington
- Megan M. McLaughlin, MD, MPH, University of California, San Francisco, San Francisco, California
- Inbar Raber, MD, Beth Israel Deaconess Medical Center, Boston, Massachusetts

Lifestyle and Cardiometabolic Health Early Career Investigator Award

Sponsored by the Council on Lifestyle and Cardiometabolic Health

- Yoriko Heianza, PhD, MS, RD, Tulane University, New Orleans, Louisiana
- Evangelos K. Oikonomou, MD, DPhil, Yale School of Medicine, New Haven, Connecticut
- Matthew W. Segar, MD, MS, UT Southwestern Medical School, Dallas, Texas

Louis N. and Arnold M. Katz Basic Science Research Prize for Early Career Investigators

Sponsored by the Council on Basic Cardiovascular Sciences (BCVS)

- Paul Cheng, MD, PhD, Stanford University, Stanford, California
- David Y. Chiang, MD, PhD, Brigham and Women's Hospital, Boston, Massachusetts
 Barbara Gonzalez Teran, PhD, Gladstone
- Institutes, San Francisco, California • Yuri Kim, MD, PhD, Brigham and
- Women's Hospital, Boston, Massachusetts

Martha N. Hill Early Career Investigator Award

Sponsored by the Council on Cardiovascular and Stroke Nursing (CVSN)

- Martha Abshire Saylor, PhD, RN, Johns Hopkins University School of Nursing, Boston, Massachusetts
- Angela Durante, PhD, MSN, RN University of Rome "Tor Vergata," Rome, Italy

Melvin Judkins Early Career Clinical Investigator Award

Sponsored by the Council on Cardiovascular Radiology and Intervention (CVRI)

- Matthew K. Burrage, MBBS, University of Oxford, Oxford, England
- Amrit Chowdhary, MBBS, MSc, MRCP, University of Leeds, Leeds, England
- Hashrul N. Rashid, MBBS (Hons), MRCP (UK), Monash Health, Victoria, Australia
- Valery L. Turner, MD, Stanford University School of Medicine, Stanford, California
- William Watson, MBB Chir, University of Oxford, Oxford, England

Melvin L. Marcus Early Career Investigator Award in Cardiovascular Sciences

Sponsored by the Council on Basic Cardiovascular Sciences (BCVS)

- Daniel J. Blackwell, PhD, Vanderbilt University Medical Center, Nashville, Tennessee
- Toshiyuki Ko, MD, PhD, The University of Tokyo Hospital, Tokyo, Japan
- Jason D. Roh, MD, MHS, Massachusetts General Hospital/ Harvard Medical School, Boston, Massachusetts
- Yang Zhou, PhD, The University of Alabama at Birmingham, Birmingham, Alabama
- Han Zhu, MD, Stanford University, Stanford, California

Continued on page 17

Early Career Abstract Awards (continued from pg. 16)

QCOR Early Career Investigator Abstract Award

- Dennie Kim, University of Virginia, Charlottesville, Virginia
- Jordan B. Strom, MD, Richard A. and Susan F. Smith Center for Outcomes Research in Cardiology, Boston, Massachusetts
- Theresa Anderson, MD, University of Michigan, Ann Arbor, Michigan
- Chetan Huded, MD, Saint Luke's Mid America Heart Institute, Kansas City, MO
- Veer Sangha, Yale University, New Haven, Connecticut

ReSS Early Career Investigator Awards

- Afrah Abdul Wahid Ali, MBBS, University of Maryland School of Medicine, Baltimore, Maryland
- Tomoaki Aoki, MD, PhD, Feinstein Institutes for Medical Research, Northwell Health System, Manhasset, New York
- Matthew Barajas, MD, Vanderbilt University Medical Center, Nashville, Tennessee
- Frederick Brown, MD, Washington University School of Medicine, St. Louis, Missouri
- Alexis Cole, BS, Boston Children's Hosp, Newburyport, Massachusetts
- Ruben Crespo, MD, PhD, University of Minnesota, Minneapolis, Minnesota
- Yusuke Endo, DVM, PhD, Feinstein Institute for Medical Research, Manhasset, New York
- Katharyn L Flickinger MS, University of Pittsburgh, Pittsburgh, Pennsylvania
- R. Angel Garcia, DO, Saint Luke's Mid America Heart Institute, University of Missouri-Kansas City, Kansas City, Missouri
- Brian Haskins, BSC, NHMRC Centre of Research Excellence in Pre-Hospital Emergency Care Australia and New Zealand (PEC-ANZ), Monash University, Melbourne, Australia
- Toshihiro Hatakeyama, MD, Emergency and Critical Care Center, Dokkyo Medical University Saitama Medical Center, Koshigaya, Japan
- Ryan Huebinger, MD, UT Health of Houston, Houston, Texas
- Changshin Kang, MD, PhD, Chungnam National University Hospital, Daejeon, Republic of Korea

- Shaveta Khosla, PhD, MPH, University
 of Illinois at Chicago College of
- Medicine, Chicago, Illinois
 Shengyuan (David) Luo, MBBS, Rush University Medical Center, Chicago, Illinois
- Aurora Magliocca, MD, Mario Negri Institute, Milan, Italy
- Oscar Mitchell, MD, Hospital of the University of Pennsylvania & Center for Resuscitation Science, Philadelphia, Pennsylvania
- Sivagowry Moerk, MD, PhD student, Aarhus University Hospital, Aarhus, Denmark
- Ziad Nehme, PhD, Ambulance Victoria/ Monash University, Blackburn North, Australia
- Norihiro Nishioka, MD, Kyoto University, Kyoto, Japan
- Masashi Okubo, MD, MS, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania
- Matthew Potter, BSC, Barts and The London Sch of Med and Dentistry, London, United Kingdom
- HoGul Song, MD, Chungnam National University Hospital, Republic of Korea
- Kazuya Tateishi, MD, Chiba University Hospital (Englewood Hospital and
- Medical Center), Chiba, Japan
 Andy T. Tran, DO, University of California Irvine School of Medici
- California, Irvine School of Medicine, Irvine, California

Samuel A. Levine Early Career Clinical Investigator Award

Sponsored by the Council on Clinical Cardiology (CLCD)

- Neel M. Butala, MD, MBA, Massachusetts General Hospital, Boston, Massachusetts
- Shaan Khurshid, MD, MPH, Massachusetts General Hospital, Boston, Massachusetts
- James P. MacNamara, MD, MSc, UT Southwestern Medical School, Dallas, Texas
- Ambarish Pandey, MD, MSCS, UT Southwestern Medical School, Dallas, Texas

Vivien Thomas Early Career Investigator Award

Sponsored by the Council on Cardiovascular Surgery and Anesthesia (CVSA)

- Awais Ashfaq, MS, Johns Hopkins All Children's Hospital, Boston, Massachusetts
- Yuanjia Zhu, MD, MS, Stanford University, Stanford, California

Young Hearts Early Career Investigator Award

Sponsored by Council on Lifelong Congenital Heart Disease and Heart Health in the Young (Young Hearts)

- Amee Bigelow, MD, MS, Nationwide Children's Hospital/The Ohio State University, Columbus, Ohio
- Mansi Gaitonde, MD, Emory University, Atlanta, Georgia