American Heart Association.

Scientific Sessions
DAILY NEWS
MONDAY
NOV. 7, 2022

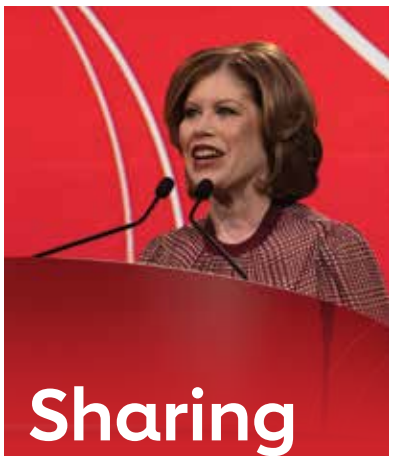
Overcoming adversity and related poor health from birth to adulthood

AHA president details reality and solutions.

Combatting the effects of adversity on a person’s physical health is a lifelong struggle, said Michelle A. Albert, MD, MPH, FACC, FAHA.

Dr. Albert, cardiologist and American Heart Association president, delivered the grim reality and supporting statistics during Sunday’s Presidential Session’s Conner Lecture. She has spent a decade studying how adversity translates into clinical medicine — more specifically, cardiovascular health. Her work focuses on biomarkers of cardiovascular disease

See **PRESIDENTIAL SESSION**, page 14



Sharing the good

AHA CEO Nancy Brown delivers impressive updates

AHA CEO Nancy Brown announced the organization’s recent significant progress during the Presidential Address on Sunday.

She delivered an exciting summary of AHA successes and initiatives, beginning with its Quit-Lying national campaign that exposes the dangers of vaping and nicotine. The AHA

See **AHA UPDATE**, page 14

Inside

And the Health Tech Competition winner is…

A new software platform that transforms clinical content into instantly available information takes the prize.

The judges have cast their ballots, and the winner of this year’s AHA Health Tech Competition is … AvoMD of Brooklyn, New York.

AvoMD co-founder Laurence Coman presented a no-code software platform that transforms clinical content — guidelines, algorithms, pathways and checklists — into “virtual clinical consults” available instantly at the point-of-care on standalone web/mobile apps and in the electronic health records.

“We’ve built a solution that takes the clinical knowledge — that could be clinical guidelines, hospital pathways, AI predictions, really any type of clinical knowledge — and it gets transformed into point-of-care physician support without needing coding experience,” Coman said. “So we built an application to help clinicians build their own clinical decision-support applications without needing IT or coding knowledge.”

Coman said he was honored to receive the award from the judges, which included Star Jones, national AHA volunteer, lawyer, TV personality and heart disease survivor.

“I am honored by the privilege just to be at the AHA and given this opportunity,” Coman said. “Both my parents are physicans and to be able to tell them that I’m even presenting at the AHA makes them proud and makes them happy. I’m doing all of this work as a consolation prize to them for not going to med school.”

Competition was fierce among the finalists, which included Bloomer Tech, Boston, Massachusetts; Cipherome, San Jose, California; NimbleHeart, Sunnyvale, California; and Opsis, Golden, Colorado.

See **HEALTH TECH**, page 14

Today at Sessions

Visit the Posters

Located within the Science & Technology Hall, posters are grouped into four zones by subject matter plus a fifth zone dedicated to Best in Specialty Conferences posters.

Rapid-Fire Forums, located in each poster area, draw attendees in for original science presentations and interactions with abstract authors.

See more online
Access the latest cutting-edge research from around the world with 3,000+ e-posters.

LATE-BREAKING SCIENCE

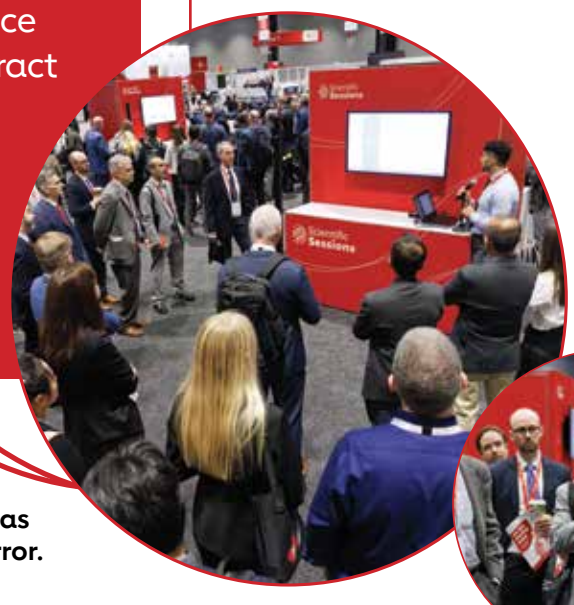
LBS.08. Late-Breaking Science: Treating Atrial and Supraventricular Arrhythmias
11 a.m.-Noon | Main Event I

- The Impact of "First-Line" Rhythm Therapy on Atrial Fibrillation Progression: The Progressive-AF Trial (*PROGRESSIVE-AF*)
- Self-Administered Etripamil for Termination of Spontaneous Paroxysmal Supraventricular Tachycardia: Primary Analysis From the Rapid Study (*RAPID*)
- Efficacy and Safety of Botulinum Toxin Type A for the Prevention of Postoperative Atrial Fibrillation in Cardiac Surgery Patients: Results From the Phase 2 Nova Study (*NOVA*)
- Clinical Trial to Evaluate an Atrial Fibrillation Stroke Prevention Shared Decision-Making Pathway (*ENHANCE-AF*)

LBS.09. Late-Breaking Science 9: Resistant HTN: A Pressure Cooker
3-4 p.m. | Main Event I

- Top-Line Results of The First-in-Class Aminopeptidase-A Inhibitor Firibastat in Treatment-Resistant Hypertension (FRESH) Study (*FRESH*)
- Sustained Blood Pressure Lowering Effect With the Dual Endothelin Receptor Antagonist Aprocitentan in Resistant Hypertension: Results From a Randomized, Controlled Study Including a Withdrawal Phase (*PRECISION*)
- Results From a Phase 2, Randomized, Double-Blind, Placebo-Controlled Trial Evaluating the Efficacy and Safety of Baxdrostat in Patients With Treatment-Resistant Hypertension (*BrigHTN*)
- Effect of Radiofrequency Renal Denervation on Blood Pressure in the Presence of Antihypertensive Drugs: 6-Month Primary Results From the SPYRAL HTN-ON Med Expansion Randomized Trial (*SPYRAL HTN-ON*)

Check the Mobile Meeting Guide app for updates.



CORRECTION
On page 1 of Sunday's *Daily News*, the caption identifying Jerome Adams, MD, MPH, former Surgeon General, in the Opening Session was unfortunately mislabeled. We apologize for the error.

Learning Studios

Learning Studios provide a unique opportunity for companies in the field of cardiology to share their latest advances in cardiovascular practices, services and technologies.

Monday, Nov. 7

See the Mobile Meeting Guide App for more details.

TIME	LOCATION	SUPPORTER	TITLE
9:30-10:15 a.m.	Learning Studio I	Kiniksa Pharmaceuticals	Treating Recurrent Pericarditis and Preventing Recurrence

FEATURED SCIENCE

FS.04. Emerging Heart Failure Science
8-9 a.m.

- Safety and Efficacy of Non-Ischemic Hypothermic Machine Perfusion (NIHP) in Human Heart Transplantation With an Ischemic Time of 6-8 Hours
- A Randomized, Multicenter, Placebo-Controlled Trial of the Beta3 Adrenergic Agonist, Mirabegron on Left Ventricular Mass and Diastolic Function in Patients With Structural Heart Disease, the Beta3lvh Trial (*BETA3LVH*)
- The Prelieve Trial: Final 1-Year Outcomes of the Prospective Atrial Flow Regulator Study in Heart Failure Patients and Responder Analysis (Prelieve)
- Exercise for the Prevention of Anthracycline-Induced Functional Disability and Cardiac Dysfunction: The Breast Cancer Exercise Intervention (BREXIT) Study (*BREXIT*)
- Dissemination of a Decision Support Tool for Left Ventricular Assist Device: How a Majority of United States Programs Implemented I-DECIDE-LVAD into Standard Patient Evaluations (*I-DECIDE-LVAD*)
- STRONG-HF: Successful Post-Discharge Management of Heart Failure

FS.05. Evolving Science in COVID-19
8-9 a.m.

- Anti-c5a Vilobelimab Reduces All-Cause Mortality in Critically Ill Covid-19 Patients and in Those With Comorbid Hypertension: A Phase 3 Randomized Double-Blind, Placebo-Controlled Study (*PANAMO*)
- A Randomized Trial of Lipid Metabolism Modulation With Fenofibrate for Acute Coronavirus Disease 2019 (*FERMIN*)
- Impact of Coronavirus Disease-2019 on Participants in Deliver (*DELIVER*)
- Rare Coding Variants in Cardiomyopathy-Associated Genes Predispose to Severe Covid-19 and Cardiac Injury (*COVID-CARDOGEN*)
- Prevalence of Myocarditis Among Patients Hospitalized With Laboratory-Confirmed SARS-CoV-2 Infection—14 US States, March 2020-May 2022 (*COVID-NET*)

FS.06. Optimal Management Post PCI/ACS
9:30-10:30 a.m.

- Long-Term Outcomes of an Invasive versus Conservative Strategy in Stabilised Patients Aged 80 Years or Older With Non-ST-Elevation Acute Coronary Syndrome, After Eighty Study: A Randomised Controlled Trial (*After Eighty Study*)
- Long-Term Follow-Up of Aspirin vs. Clopidogrel Monotherapy in the Chronic Maintenance Period After Percutaneous Coronary Intervention: The Host-Exam Extended Study
- Impact of Ticagrelor With or Without Aspirin on Total and Recurrent Bleeding and Ischemic Events After PCI: Results From the Twilight - Recurrent Events Sub-Study (*TWILIGHT*)
- Effect of Semaglutide on Progression of Coronary Atherosclerosis in Patients With Type 2 Diabetes: Final Results of the Stop Study (*STOP*)

FS.07. A Second Look at Practice-Changing Heart Failure Trials
11 a.m.-Noon

- The Effects of Dapagliflozin on Symptoms, Function and Quality of Life in Patients With Heart Failure and Mildly Reduced or Preserved Ejection Fraction: Results From the DELIVER Trial (*DELIVER*)
- Baseline Characteristics, Outcomes, and Treatment Response to Dapagliflozin in Patients Treated With an MRA or ARNI in DELIVER (*DELIVER*)
- Sex Differences in Characteristics, Outcomes and Treatment Response With Dapagliflozin Across the Range of Ejection Fraction in Patients With Heart Failure (*DAPA-HF, DELIVER*)
- Differences in Clinical Characteristics, Outcomes, and Treatment Response to Dapagliflozin Across the Range of Ejection Fraction in Black and White Patients With Heart Failure: A Pooled Analysis of DAPA-HF and Deliver (*DAPA-HF, DELIVER*)
- Comparison of Clinical Outcomes and Efficacy of Empagliflozin in Black vs White Patients With Heart Failure: A Pooled Analysis From the EMPEROR Program (*EMPEROR-Pooled*)
- Long-Term Survival After Cardiac Resynchronization in Ambulatory Heart Failure (*RAFT*)

FS.08. Digital Innovations to Improve CVD Prevention
11 a.m.-Noon

- Randomized, Controlled Trial of Digital Nutritional Cognitive Behavioral Therapy in Patients With Type 2 Diabetes Mellitus: Primary Outcomes of the BT-001 Pivotal Trial at 180 Days *(BT001 PIVOTAL)*
- A Randomized Controlled Trial of a Remotely Delivered Mobile Health Intervention to Augment Cardiac Rehabilitation: The Virtual AppLication-Supported ENvironment To INcrease Exercise (VALENTINE) Study (*The VALENTINE Study*)
- Smartphone-Based Cardiovascular Risk Reduction in Breast Cancer Patients [Smart-Breast]: A Randomized Controlled Trial (*SMART-BREAST*)
- A *PR*agmatic Trial *O*f *M*essaging to *P*roviders About *T*reatment of Hyper*LIPID*emia (*PROMPT-LIPID*)
- Incidental Coronary Artery Calcium: Opportunistic Screening of Prior Non-Gated Chest CTs to Improve Statin Rates (*NOTIFY-1*)

FS.09. The Present and Future of Lipid Lowering
3-4 p.m.

- ARO-ANG3, an Investigational RNAi Therapeutic, Decreases Serum Angiopoietin-Like Protein 3, Triglycerides, and Cholesterol in Patients With Mixed Dyslipidemia (*ARCHES-2*)
- ARO-APOC3, an Investigational RNAi Therapeutic, Decreases Serum Apolipoprotein C3, Triglyceride, and Non-HDL-C Concentrations While Increasing HDL-C in Patients With Severe Hypertriglyceridemia (*SHASTA-2*)
- Long-Term Efficacy of Very Low LDL-Cholesterol Levels With the PCSK9 Inhibitor Evolocumab: Analysis of the FOURIER and FOURIER-OLE Studies (*FOURIER-OLE*)
- Efficacy and Safety of Twice-Yearly Subcutaneous Inclisiran in Patients With High Cardiovascular Risk and Elevated Low-Density Lipoprotein Cholesterol up to 4 Years-The Orion-3 Trial
- Individual Participant Data Meta-Analysis of New-Onset and Worsening Diabetes Mellitus in Large-Scale Randomized Double-Blind Trials of Statin Therapy

Trial results shed light on benefits of radial artery for CABG, use of prophylactic methylprednisolone and ECMO for patients in cardiogenic shock

Investigators in four trials revealed findings during their Late-Breaking Science session, "High Impact Trials in Intervention and Surgery" on Sunday to potentially impact the treatment of pediatric patients requiring cardiac surgery and adult patients with cardiogenic shock, STEMI and coronary artery disease. They found:

- The radial artery for coronary artery bypass graft (CABG) demonstrated superior 15-year major adverse cardiovascular events (MACE) results.
- In the primary analysis, methylprednisolone did not impact mortality, morbidity or length of stay in infants undergoing cardiac surgery, but for secondary endpoints, there was a small improvement.
- Extracorporeal membrane oxygenation (ECMO) did not benefit patients in cardiogenic shock compared to conservative therapy.
- Traditional Chinese medicine compound improves clinical outcomes in Chinese patients with STEMI.

Consider using the radial artery for CABG surgery due to superior long-term clinical outcomes

Hare

Roughly 200,000 coronary artery bypass graft (CABG) operations are performed annually in the U.S. The most common operation uses the left internal thoracic artery (LITA) to the left anterior descending (LAD) artery followed by saphenous vein (SV) for the other grafts, occasionally with the additional use of the right internal thoracic artery (RITA). Why not consider the radial artery (RA) for the next most important target vessel after the LITA to the LAD?

The RA proved to be a superior conduit for CABG surgery, according to The Radial Artery Patency and Clinical Outcomes, the RAPCO Trial. The single-center unblinded trial included two parallel, interfacing, randomized clinical trials to compare the RA as the second graft, with other conduits for CABG surgery, namely the RITA taken from behind the sternum and the SV taken from the leg. The study randomized 394 younger patients, mostly without diabetes, in the RAPCO-RITA limb of the study and separately randomized 225 older patients, more with diabetes, in the RAPCO-SV study, with enrollment over 10 years between 1995 and 2005.

All patients had reached a minimum of 15 years post-surgery by 2020. Only two patients were lost to follow-up. In an analysis of the 15-year follow-up, CABG with RA demonstrated a significant positive difference in MACE, defined as the combined clinical endpoint of all-cause mortality, myocardial infarction and coronary revascularization, compared to CABG using either the RITA or SV.

Data show that <10% of cardiac surgeons in the U.S. and Europe routinely use the RA for coronary artery bypass grafting.

"We had previously demonstrated better graft patency at 10 years for the radial artery. Now RAPCO demonstrates the long-term clinical benefits of the radial artery over both the right internal thoracic artery and the saphenous vein for coronary artery bypass grafting surgery," said the study's lead researcher, Dr. David Hare, MD, senior cardiologist at the Brian F. Buxton Cardiac Surgery Department at the Austin Hospital in Melbourne, Australia.

There was a 26% reduction in long-term MACE compared to the RITA and 29% reduction in MACE compared to the SV. Dr. Hare noted that the differences seem to be largely driven by all-cause mortality.

"This is the first single randomized controlled trial to demonstrate better clinical outcomes using radial arterial grafting compared with both RITA and SV," Dr. Hare noted. "All isolated CABG operations should consider using a radial artery graft unless there are specific contraindications. Instrumental radial arteries cannot be assumed to be satisfactory CABG conduits."

Methylprednisolone did not benefit infants requiring cardiac surgery

Hill

Perioperative methylprednisolone didn't confer a significant benefit in infants undergoing cardiac surgery with regard to the trial's primary endpoint, which was a ranked composite, including death, heart transplant and any of 12 major post-operative complications, according to Steroids to Reduce Systemic Inflammation After Infant Heart Surgery: The STRESS Trial.

Participants not meeting any mortality or morbidity endpoint were ranked based on post-operative length of stay. However, in a secondary analysis, methylprednisolone reduced the likelihood of the primary endpoint when analyzed without risk adjustment.

The randomized, controlled trial was conducted at 24 U.S. sites and led by investigators at Duke University, Vanderbilt University, the University of Florida and Johns Hopkins University. The trial evaluated the safety and efficacy of perioperative methylprednisolone in 1,200 infants (<1 year) undergoing heart surgery with cardiopulmonary bypass. Patients were recruited from The Society of Thoracic Surgeons Congenital Heart Registry and randomized 1:1 to methylprednisolone or placebo.

"Methylprednisolone also increased prevalence of hyperglycemia requiring insulin therapy in the steroid group, which is a known side effect of steroids," said Kevin Hill, MD, the study's principal investigator and a pediatric cardiologist at Duke Children's Hospital & Health Center, in Durham, North Carolina.

In a subgroup analysis, there was relatively greater evidence of benefit for infants undergoing lower complexity operations (STAT 1, 2, 3), those with longer CPB times and those without prematurity.

Still, the trial's unique pragmatic "trial within a registry" design was a success.

"Not only was this the largest trial ever completed in children undergoing heart surgery, but according to our preliminary analysis, the trial was only one-third the cost of a traditional clinical trial, at $3 million," Dr. Hill said. "That's one of the greatest successes of the STRESS Trial: demonstrating the efficiencies and cost savings of this approach of a pragmatic trial built into an existing patient registry."

Dr. Hill noted that future studies should evaluate mechanisms for risk-stratification to elucidate whether a more targeted approach might offer benefit in select sub-populations. The study will be published in the *New England Journal of Medicine* following the presentation.

ECMO did not improve outcomes in cardiogenic shock compared to early conservative therapy

Ostadal

Current guidelines recommend considering mechanical circulatory support in patients with cardiogenic shock. Still, immediate implementation of extracorporeal membrane oxygenation (ECMO) in patients with rapidly deteriorating or severe cardigenic shock did not improve clinical outcomes, compared with an early conservative strategy that

permitted downstream use of ECMO in case of worsening hemodynamic status, according to Extracorporeal Membrane Oxygenation in the Therapy of Cardiogenic Shock: Primary Results From the Multicenter, Randomized ECMO-CS Trial.

The multicenter, randomized, investigator-initiated, academic, clinical trial enrolled 117 patients with rapidly deteriorating or severe cardiogenic shock from September 2014 to January 2022. Eligible patients were randomized to early conservative therapy or immediate ECMO in addition to standard care. The primary endpoint was a composite of death from any cause, resuscitated circulatory arrest and implementation of another mechanical circulatory support, including ECMO in the conservative arm, at 30 days. A composite primary endpoint occurred in 37 (63.8%) and 42 (71.2%) patients in the ECMO and conservative therapy groups, respectively (P=0.21).

Fewer patients in the ECMO group required other mechanical circulatory support, compared with the conservative group (17.2% versus 42.4%, P=0.003); 23 individuals in the conservative group (39%) required later ECMO support. All-cause mortality at 30 days was comparable between the groups (50.0% versus 47.5%).

"Even in patients with severe or rapidly deteriorating cardiogenic shock (SCAI stage D-E), early hemodynamic stabilization using isotropes and vasopressors with implementation of MCS only in case of further hemodynamic worsening is a therapeutic strategy comparable to the immediate insertion of ECMO," said Petr Ostadal MD, PhD. The study will be published in *Circulation* following the presentation.

Chinese herbal medicine improves outcomes in patients with STEMI

Yang (joined via livestream)

Tongxinluo (TXL), a traditional Chinese medicine compound that has been approved for angina and stroke in China since 1996 with its protective effects on the endothelium, significantly improved both 30-day and 1-year outcomes in Chinese patients with acute ST-segment elevation myocardial infarction (STEMI), according to The Impact of Chinese Herbal Medicine, Tongxinluo in Patients With Acute Myocardial Infarction—Results From the CTS-AMI Trial.

The multicenter, double-blind, placebo-controlled trial randomized 3,755 patients 1:1 within 24 hours of presentation to either TXL, with a loading dose of 2.08 grams (eight capsules) on day one, followed by 1.04 grams (four capsules) three times daily for 12 months, or the same placebo doses, in addition to STEMI guideline-recommended treatment for both groups.

The primary endpoint was a 30-day MACCE, a composite of cardiac death, re-myocardial infarction, emergent coronary revascularization, and stroke. Secondary endpoints included 1-year MACCE, all-cause mortality, re-hospitalization due to heart failure and in-stent thrombosis.

The primary 30-day MACCE endpoint occurred in 64 (3.39%) of patients in the TXL group versus 99 (5.24%) of patients in the control group (P=0.006). The TXL group had lower 1-year MAACE compared to the placebo group, resulting in a decreased risk for 1-year cardiac death, myocardial infarction and stroke. The 30-day cardiac death and malignant arrhythmias were also reduced significantly in the TXL group, with 56 (2.97%) in the TXL group compared to 80 (4.24%) in the placebo group (P=0.040).

"TXL did not result in severe side effects, such as major bleeding," said Yuejin Yang, MD, PhD, professor of cardiology at Fuwai Hospital of CAMS & PUMC, National Center for CV Disease in Bejing, China. "These findings support the use of TXL as an adjunct therapy in treating STEMI, at least in China and other developing countries." •

Major guideline changes for managing heart failure highlighted

An education and discussion session at 9:30 a.m. Monday will highlight the updated 2022 guidelines for managing heart failure.

"The 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: Executive Summary" will focus on current evidence and major changes in recommendations to help improve the lives of patients and increase your confidence in using newer medical therapies regardless of patient comorbidities, especially chronic kidney disease, diabetes and atrial fibrillation.

The landscape of heart failure treatment has changed dramatically in the last five years. New FDA-approved medications and advanced therapies can treat patients with heart failure with reduced ejection fraction. Focus on multimorbidity, prevention, health care equity and initiating and titrating heart failure medications to target doses has also increased.

Albert

Thus, it's important to be familiar with current treatment capabilities and refer patients for advanced therapies earlier, said Nancy M. Albert, PhD, CCNS, CHFN, CCRN, NE-BC, FAHA, one of the presenters for the session.

"In the new guidelines, heart failure has been redefined based on ejection fraction, and current status and treatment is geared toward the new/revised terms," said Dr. Albert, associate chief nursing officer, research and innovation and heart failure advance practice nurse at the Cleveland Clinic in Ohio.

Moreover, guideline-directed medication therapies for heart failure are more complex. The session will include discussions on new guideline-recommended therapies for patients with HFpEF, including use of an SGLT2 inhibitor, a new class of therapy with a 2a class/level of recommendation, and an angiotensin receptor neprilysin inhibitor, which, like some of the older therapies including use of a mineralocorticoid receptor antagonist, has a 2b class/level of recommendation.

The session will also include a review of the four pillars of core medications for patients with heart failure with reduced ejection fraction.

Morris

"There's an abundance of therapies," said Alanna A. Morris, MD, MSc, FAHA, also a session presenter who is director of heart failure research at the Emory University Clinical Cardiovascular Research Institute in Atlanta.

UPCOMING SESSION

The 2002 AHA/ACC/HFSA Guideline for the Management of Heart Failure: Executive Summary
Monday, Nov. 7
9:30 a.m. | Main Event I

"Providers should use as many of the core therapies as patients can tolerate to try to reduce their risk of hospitalization and death."

The session will also touch on whether to initiate medication simultaneously or incrementally, and how to titrate — fast versus more slowly. Themes that will be covered include:

- Quadruple therapy for heart failure with reduced ejection fraction: implementation and titration
- Achieving equity in heart failure prevention
- Treating heart failure with mildly reduced ejection fraction and heart failure with improved ejection fraction
- New treatment options for patients with heart failure with preserved ejection fraction
- When to refer patients to advanced heart failure centers

Despite the range of therapies, heart failure still has a high rate of morbidity and mortality.

"We want to make sure clinicians are aware of guideline changes so we can try to reduce the risk of death and hospitalization for these patients," Dr. Morris said. •

Scientific Sessions OnDemand™ Extended Access

Even if you can't make it to every session, you can now obtain convenient access to the exceptional education and science presented at Scientific Sessions 2022. Beginning Nov. 15, 2022, through Oct. 31, 2023, access more than 300 hours of presentations and earn continuing education credits. Visit Professional Membership in the Heart Hub to learn more about how you can get Extended Access FREE with your paid membership.

Stop by HeartQuarters

One-stop for all things AHA

(Located in the Heart Hub)

Congratulations to Sarah Margaret Urbut, MD, PhD, Massachusetts General Hospital in Boston, for receiving the inaugural **Quest Diagnostics and Steve Rusckowski Early Career Investigator Award for Preventive Cardiovascular Medicine Research**.

Urbut

Sponsored by Quest Diagnostics, the award recognizes trainees and new investigators in the formative years of their careers who have the potential to become future leaders in preventive cardiovascular medicine.

The award is named for retiring CEO, Steve Rusckowski, under whose leadership Quest Diagnostics achieved "Gold" status in the American Heart Association's Workplace Health Achievement Index for the past several years, ranking the company's workplace health initiative among the best in the nation.

Session features updates of new guideline for diagnosing and managing aortic disease

Presenters in Monday's session, "Highlights of the New AHA/ACC/Aortic Disease Guidelines," will give an overview of extensive updates for diagnosing and managing aortic disease.

The new guideline, officially released on Nov. 2, is based on the latest scientific evidence after considerable advances in care since the last ACC/AHA guideline on aortic disease was published in 2010.

Aortic disease, one of the less common forms of cardiovascular disease that includes aneurysms, tears, ruptures and blockages, is associated with high morbidity and mortality.


Isselbacher

"This newly released guideline will be a vital resource to guide cardiovascular specialists in the U.S. and around the world in caring for this patient population," said Eric M. Isselbacher, MD, MSc, session moderator and co-director of the MGH Thoracic Aortic Center at Massachusetts General Hospital in Boston.

While the 2010 guideline focused on thoracic aortic disease, the new guideline provides recommendations on nearly all aspects of diagnosing and managing thoracic and abdominal aortic disease.

"In the last 10 years, there has been a plethora of advanced scientific evidence specifically focusing on the genetics of aortic disease, advanced imaging in aortic disease management, new technologies in both open surgical repair and endovascular repair of complex aortic disease and the multidisciplinary treatment of aortic disease," said Christina Fanola, MD, MSC, assistant professor of medicine at the University of Minnesota who served on the ACC/AHA guideline's management team. "This required us to take a close look at the old guidelines and consider how to best incorporate new evidence to enhance clinical practice."


Fanola

The session will inform the new evidence basis for a patient with aortic disease, emphasizing shared decision-making, the importance of a team approach and emerging genetic insights.

Dr. Fanola and Vidyasagar Kalahasti, MD, a cardiologist at the Cleveland Clinic, will focus on updated recommendations that reflect the latest scientific advancements and those that have not been significantly addressed in prior guidelines.

"The new guidelines will change the management of aortic disease," Dr. Fanola said. "We're moving away from treating the disease as a whole to treating the patient as an individual. The guidelines will help clinicians take a more individualized treatment approach for each patient and incorporate the latest scientific advancements into patient care.


Kalahasti

"We're excited to bring this new data forward and hope it dramatically changes care in complex aortic disease and triggers more questions in the field and more ongoing prospective research studies. Many questions still remain, but the first step is bringing the new guidelines to clinical practice." •

UPCOMING SESSION

Highlights of the New AHA/ACC/Aortic Disease Guidelines
Monday, Nov. 7
3 p.m. | Main Event II

Exhibitors

AHA Game Yard	2055
ADInstruments, Inc.	2306
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Amarin Pharma, Inc.	805
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American College of Cardiology	2224
American College of Physicians/ Annals of Internal Medicine	2613
Amgen	400
Association of Black Cardiologists	2712
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Charmcare Co. Ltd.	2906
CSL Behring	1804
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Cytokinetics	1604
Daxor Corporation	2707
Dexcom	2216
Doximity	1858
Duke Clinical Research Institute	1600
Edwards Lifesciences	811
Elsevier, Inc.	709
Elucid	2411
Esperion Therapeutics	1010
FDA Center for Tobacco Products	2715
FujiFilm VisualSonics, Inc.	1810
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HeartLab	2700
Humacyte, Inc.	2918
Hypertrophic Cardiomyopathy Association	1913
Impulse Dynamics	2227
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Invitae	2607
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Janssen Pharmaceuticals, Inc.	1213
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Kiniksa Pharmaceuticals Corp.	1824, 1915
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Knowledge Portal Network	2612
Labcorp Drug Development	1911
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Medtronic	2027
Merck & Co., Inc.	813
Metabolic Endocrine Education Foundation	2713
MiCare Path	2907
Milestone Pharmaceuticals	1807
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My Health Connection	2206
NEJM Group	714
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The Japanese Circulation Society	710
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TIMI Study Group	2413
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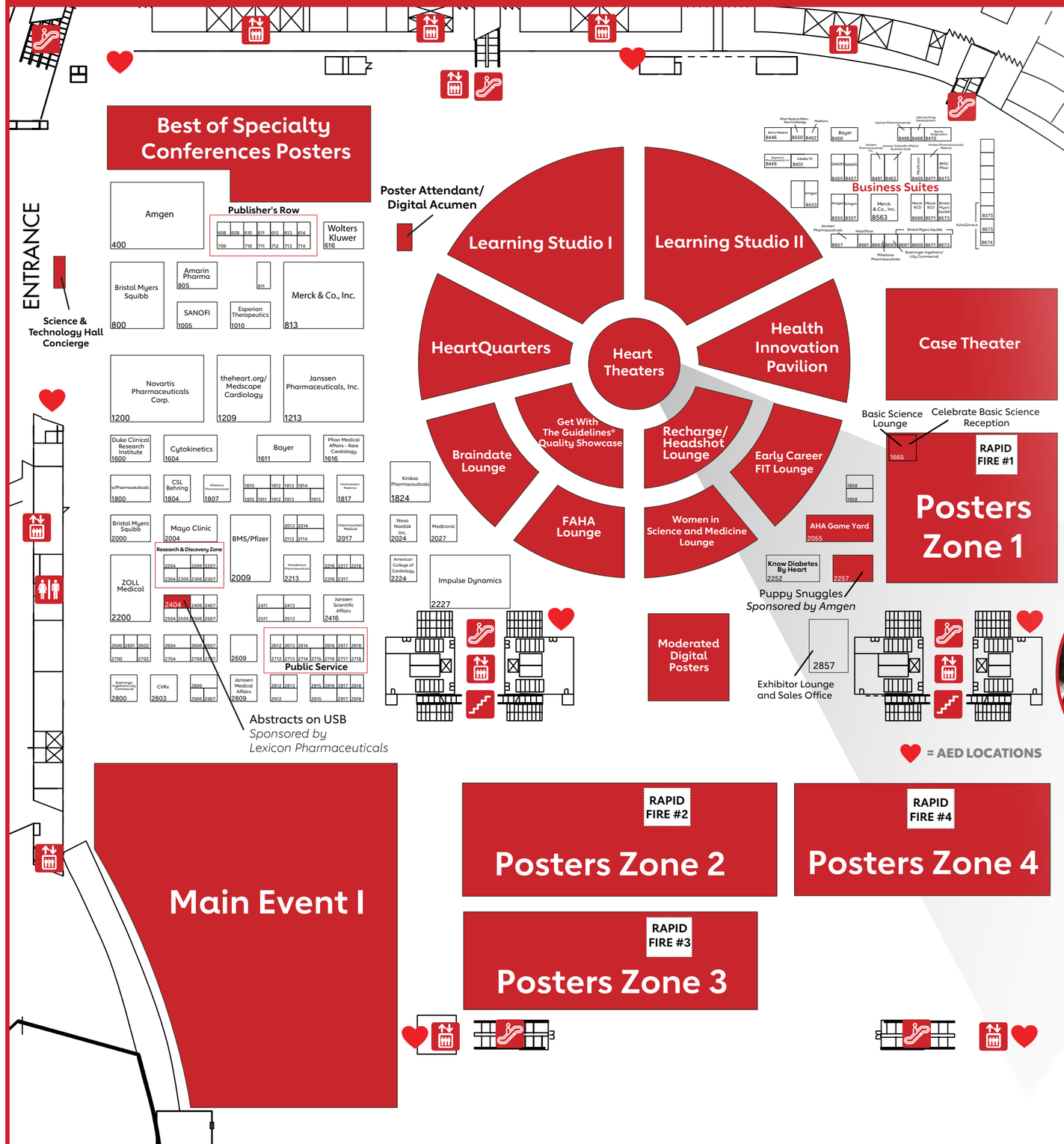
Vektor Medical, Inc.	2218
Viz.AI	2504
Wolters Kluwer	616
World Heart Federation	2615
ZOLL Medical Corporation	2200

Science & Technology Hall

South Hall, Third Floor

HOURS
Monday, Nov. 7
9 a.m.-3 p.m.



Heart Hub

The Heart Hub is a unique learning and networking destination where attendees can participate in a variety of immersive, interactive and educational opportunities all in one place.

The Heart Hub includes:

- Learning Studios
- Health Innovation Pavilion
- Early Career & FIT Lounge
- Women in Science & Medicine Lounge
- FAHA Lounge
- Braindate Lounge
- Recharge/ Headshot Lounge
- Get With The Guidelines® Quality Showcase
- Heart Theaters
- HeartQuarters

Uncovering novel approaches

The Late-Breaking Science session "Breakthrough Strategies in the HF Journey" on Saturday found that:

- CRISPR-Cas9 gene therapy is safe in Phase I transthyretin amyloidosis cardiomyopathy trial.
- Decision support in the emergency department improves access to heart failure (HF) care.
- Routinely collecting patient-reported outcomes and sharing them with clinicians can improve HF care.
- IV Iron can reduce HF rehospitalization, CV death in nonhospitalized HFrEF.

First-in-human CRISPR-Cas9 gene therapy safe, potentially effective in transthyretin amyloid cardiomyopathy

Gillmore

The first human trial of a CRISPR-Cas9 gene editing therapy has shown good safety and potential for significant clinical efficacy in a phase 1 trial of patients with transthyretin amyloid cardiomyopathy (ATTR-CM).

ATTR-CM is caused by progressive accumulation of misfolded transthyretin (TTR) protein, which is produced almost exclusively in the liver, said Julian Gillmore, MD, PhD, professor of medicine at the University College London and head of UCL Centre for Amyloidosis in London.

Investigational agent NTLA-2001 was designed to knock out the *TTR* gene in the liver of patients with ATTR amyloidosis, halting production of TTR protein and progression of cardiomyopathy from accumulation of amyloid in the heart.

"Without treatment, amyloid deposits continue to accumulate in the heart and the condition is universally fatal," Dr. Gillmore said. "The principle of treatment is to reduce the concentration of circulating *TTR* protein, reducing the amyloid substrate, to allow an equilibrium in which existing amyloid deposits are cleared more rapidly than new amyloid is deposited."

Because *TTR* protein is directly responsible for the disease, coupled with the exclusive production of circulating *TTR* by the liver, ATTR amyloidosis a good target for *in vivo* gene editing using a CRISPR-Cas9 system, Dr. Gillmore said. The normal function of *TTR* is limited to thyroxine and vitamin A transport, and experience with gene silencers indicate that knockout is likely to have limited and manageable adverse physiologic effects.

NTLA-2001 uses a lipid nanoparticle encapsulating messenger RNA for SpCas9 protein and a guide RNA that targets *TTR*. Preclinical studies showed durable knockdown of circulating *TTR* protein after a single dose. Nonhuman primate studies suggested a maximum human dose of 1 mg/kg.

Part 1 of this ascending dose trial included 12 patients with ATTR-CM. Six patients in NHYA functional class 1-2 received 0.7 mg/kg or 1 mg/kg NTLA-2001 by intravenous infusion and six with NYHA class 3 heart failure received 0.7 mg/kg. Patients have been followed up to six months.

"NTLA-2001 was generally well tolerated, and no clinically significant laboratory findings were noted," Dr. Gillmore said. "*TTR* knockdown was very impressive. Serum transthyretin levels fell by more than 90% in all three cohorts such that there is a significant chance that we will see clinical benefit with patients achieving an equilibrium between amyloid production and clearance resulting in stability or possibly even improvement in cardiomyopathy symptoms."

Providing better access to HF care with ED decision support

Lee

Many patients who present to the emergency department with heart failure symptoms are routinely hospitalized because of no practical options for rapid outpatient care or uncertainty about their risk status.

A novel decision-support algorithm reduced all-cause death and cardiovascular hospitalization compared to usual care at 30 days and 20 months after initial presentation.

The Comparison of Outcomes and Access to Care for Heart Failure (COACH) Trial used the validated EHMRG30-ST risk algorithm based on information routinely available in electronic medical records to stratify HF patients presenting to the emergency department by lower and higher risk. High-risk patients were admitted for treatment. Low-risk patients were referred to a rapid response outpatient clinic staffed with cardiologists and HF specialists.

"When patients go to the emergency department currently, the physicians are using their clinical judgment to decide whether to admit them for heart failure or not," said Douglas S. Lee, MD, PhD, FRCPC, Ted Rogers Chair in Heart Function Outcomes at the Peter Munk Cardiac Centre of the University Health Network and professor of medicine at the University of Toronto. "There are other factors as well, the patient's social circumstances and support, among others, but it ultimately comes down to our clinicians' judgment, which we think is pretty good. What we found was the COACH model can enhance outcomes. We saw better clinical outcomes, fewer high-risk patients released from the emergency department and faster outpatient follow-up among lower risk patients discharged early from hospital."

COACH randomized 2,480 patients to the COACH intervention

in heart failure science

and 2,972 to conventional emergency department care across 10 acute care hospitals. The median age of patients was 78 and 55% were male.

At 30 days, the primary outcome of all-cause mortality and cardiovascular hospitalization was significantly lower in the intervention group (HR=0.880, p=0.036) compared to usual care. Results at 20 months similarly favored the intervention group (HR=0.951, p=0.007).

Direct emergency or hospital discharge of high-risk patients was reduced from 28.1% in usual care to 18.9% in the intervention group (p=0.009). Low-risk patients in the intervention group received ambulatory care more quickly than usual care patients (HR=1.127, p=0.028).

"We'd like to see clinicians use this decision-support tool in the emergency department to help make better decisions," Dr. Lee said. "We'd also like to see if machine learning can't improve the algorithm and outcomes and explore the effect of decision support on the total cost of care."

COACH was published simultaneously in the *New England Journal of Medicine*.

Patient-reported outcomes can improve HF care

Sandhu

Initial results from the ongoing Patient-Reported Outcome Measurement in Heart Failure Clinic (PRO-HF) Trial show that routinely collecting a standardized questionnaire on heart failure health status during clinic visits can improve clinicians' understanding of patients' symptoms and patient experiences. Early indications also show that patient-reported outcomes can help clinicians better individualize HF management approaches.

"Understanding how heart failure symptoms affect a person's life is crucial for the management of health failure patients," said Alexander Tarlochan Singh Sandhu, MD, MS, cardiologist at Stanford University School of Medicine in Palo Alto, California. "Traditionally health status assessment is done by clinicians using the New York Heart Association (NYHA) functional assessment classification. But clinicians are not particularly good at identifying a patient's NYHA class and they make judgments regarding a patient's symptom burden that are often discordant with patient's own assessment of their health status."

Researchers at the Stanford Heart Failure Clinic randomized 1,248 patients who completed a 12-question short form Kansas City Cardiomyopathy Questionnaire, the KCCQ12, at each clinic visit. KCCQ12 results were shared with clinicians for 624 patients in the intervention arm while KCCQ12 were not shared with clinicians treating the other 624 patients in the usual care arm.

As part of the trial, the researchers evaluated clinician assessment of health status and patient experience among the subset of 1,051 patients with their initial PRO-HF clinic visits between October 2021 and June 2022. The researchers compared the accuracy of clinicians' NYHA assessment by comparing clinician assessment with KCCQ-12 responses in both arms. They also evaluated patients' assessment of clinician interactions and interviewed clinicians regarding the usefulness of KCCQ12 results and the effects on management decisions. All trial participants will be followed 12 months following enrollment.

The initial results, based on patients' initial clinic visits, showed that correlations between NYHA class and patient-reported health states were significantly stronger when clinicians had access to patients' KCCQ12 overall summary scores, r=-0.73 vs r=-0.061 (p<0.001). Patients in the intervention arm were more likely to agree that their clinicians understood their symptoms (OR=2.16) and their overall health status (OR=2.10).

"We are seeing real evidence that implementing patient-reported health status assessment as a part of routine heart failure care in the outpatient setting can improve clinicians' assessment of patients' health status and improve patients' evaluations of their clinicians and the care they receive," Dr. Sandhu said. "Identifying symptomatic patients more accurately is increasingly important for treatments in which the primary benefit is improved quality of life and improved functional status."

PRO-HF was published simultaneously in *Circulation: Heart Failure*.

IV ferric derisomaltose reduces HF rehospitalization and CV death for a broad range of ambulatory and hospitalized patients

Kalra

New data show that intravenous ferric derisomaltose (FDM) reduces the risk of recurrent HF hospitalization and cardiovascular death by up to 24% in a broad population of patients with heart failure with a reduced left ventricular ejection ≤45% (HFrEF) fraction and iron deficiency. About 85% of patients were not hospitalized at randomization.

Up to 50% of heart failure patients are iron deficient, though many aren't anemic, said Paul R. Kalra, MD, FRCP, at Portsmouth Hospitals University NHS Trust, Portsmouth, and University of Glasgow, U.K. Iron deficiency is associated with worse quality of life, impaired exercise capacity and a greater risk of both HF hospitalization and cardiovascular death.

"We know from earlier trials that for patients with HFrEF, intravenous ferric carboxymaltose (FCM) improves symptoms and exercise capacity in the following three to six months," Dr. Kalra said. "For patients hospitalized with HFrEF, IV FCM reduced the risk of recurrent rehospitalization for heart failure over 12 months.

"IRONMAN enrolled a much broader population of patients with HFrEF, mostly from outpatient clinics, and followed their outcome for up to five years. This long follow-up revealed the high burden of disease and current unmet need of this population as well as the benefits and safety of IV FDM, despite the latter part of the trial being severely affected by COVID-19."

IRONMAN randomized 1,137 patients with HFrEF and evidence of iron deficiency to intravenous FDM or usual care between 2016 and 2021 across 70 hospital clinics in the United Kingdom. The primary endpoint was a composite of recurrent HF hospitalizations and cardiovascular death. Secondary endpoints included quality of life. Median follow-up was 2.7 years.

Overall, the primary endpoint (p=0.07) for patients in the iron arm was reduced 18%. A pre-specified COVID-19 sensitivity analysis, 91% of the total cohort, showed a 24% reduction in the primary endpoint (p=0.045). Secondary endpoints showed trends favoring IV FDM, although most didn't achieve statistical significance.

The trial was analyzed by intention-to-treat, but 17% of patients randomized to the control arm received non-protocol IV iron, Dr. Kalra said. He said the out-of-protocol iron treatment may have affected differences between treatment and usual care arms.

"IRONMAN adds substantially to our knowledge of the efficacy and safety of intravenous iron for patients with heart failure, with no evidence of an excess of adverse events," Dr. Kalra said. "These results are likely to influence clinical practice and guidelines in Europe and North America."

IRONMAN was published simultaneously in *The Lancet*.

New digital hub offers professional education to complement lifelong learning

The American Heart Association has launched Intelligo Professional Educational Hub™ to empower health care professionals to advance their skills and stay up to date on medical knowledge in a fast-changing industry.

The science-based digital learning platform complements the AHA's Lifelong Learning continuing education catalog, which has long provided trusted, evidence-based resources for every step of a health care professional's career.

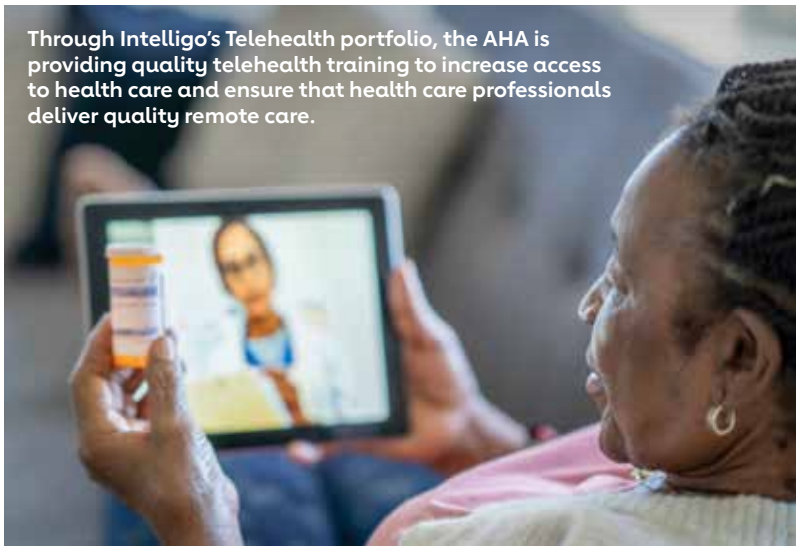
In addition to more than 500 existing educational programs on Lifelong Learning, Intelligo features free, paid subscription and premium content in the following portfolios:

- **Stroke:** Our comprehensive stroke curriculum enables health care professionals to maintain competency and learn the latest science to improve care and outcomes for stroke patients.
- **Telehealth:** Our new premium eLearning courses and certificate programs prepare health care professionals to treat patients remotely and provide best practices for telemedicine.
- **Health Equity:** Our training prepares health care professionals to identify health disparities and integrate solutions that build health equity into clinical practice to better serve communities and patients.

Improving patient care and outcomes with telehealth

The pandemic radically changed the way health care professionals serve their patients. Over the past two years, a huge proportion of care has shifted to the virtual landscape as clinicians and patients search for a safe, reliable way to receive needed care.

Through Intelligo's Telehealth portfolio, the AHA is providing quality telehealth training to increase access to health care and ensure that health care professionals deliver quality remote care. The portfolio features three evidence-based, premium eLearning courses with CE credits developed by the American Board of Telehealth, a national entity powered by the American Heart Association and comprised of telemedicine experts. The portfolio subscription model also includes 12 micro-module courses.



Through Intelligo's Telehealth portfolio, the AHA is providing quality telehealth training to increase access to health care and ensure that health care professionals deliver quality remote care.

The AHA's telehealth education also provides an opportunity for universities and colleges to equip future health care professionals with skills and knowledge to succeed with virtual care. Institutions with medical programs can add the telehealth courses based in real-world experience to their curriculum so students can learn best practices for using telehealth.

In early 2023, the AHA will launch individual telehealth certification for health care professionals interested in demonstrating their commitment to virtual care. The AHA has a longstanding tradition of certifying high-quality health care organizations and will offer the same gold standard to individual clinicians. This new certification will be available on Intelligo.

Intelligo to expand in 2023

The AHA will broaden Intelligo's course offerings to international audiences with future developments on the hub expected next year. We'll also launch additional portfolios.

Intelligo will evolve to a centralized learning platform with the technological capacity to house all professional education resources, creating a seamless experience for health care professionals.

To learn more, visit the Intelligo area in HeartQuarters in the Heart Hub. AHA staff will be on site to address questions. Explore Intelligo today at **intelligohub.org.** •

Claiming CE credits for #AHA22

#AHA22 attendees can receive up to 24 Continuing Education credits. CE credit claiming is limited to participation during the event Nov. 4–7, 2022. Complete the credit claim process within 30 days to avoid credit expirations.

1 Log in

a. Go to **learn.heart.org**
b. Click Activities in Progress
c. Enter your username and password and Sign In.

2 Select the activity

a. Select the Scientific Sessions 2022 activity
b. Review the Activity Overview, scroll to the bottom and click Continue.
c. View the contents of the Activity Material page and click Continue (Pharmacists will select the specific sessions attended, click Register Selected Sessions and click Continue.)

3 Claim credit

a. Complete the conference evaluation, which is required to claim credit. Once complete, click Submit and Continue
b. Click the Claim button for the appropriate accreditation.
c. Click Continue to generate your certificate.
d. Click Finish. The activity is stored under Transcript.

Medtech is getting smarter — and so is patient care

Four new innovations seek to redefine how cardiovascular care is done.

Cardiovascular care technology is getting smaller, faster, safer — and will lead to better patient outcomes.

In the Health Innovation Pavillion Sunday morning, four presenters shared new technology approaches in "Predicting the Future for Medtech," an AHA/TCT partnership presentation.

James Min, MD, FACC, FESC, MSCCT, founder and CEO of Cleerly, Inc., said the New York-based company is seeking to create a more personalized analysis and treatment of heart disease by using advanced cardiac imaging to take a more preventative approach to heart health.

Cleerly's imaging technology measures low-density plaques to provide a whole-heart evaluation of atherosclerosis to identify at-risk people who may not show symptoms before a heart attack.

"We'd like to try to usher the field of cardiology away from population-based estimates into precision heart care to pinpoint an individual who's at risk, and then to translate and educate these people in a way that you can just look at a screen and know who's sick and who's not," he said.

Phillippe Genereux, MD, interventional cardiologist and director of the Structural Heart Program at the Gagnon Cardiovascular Institute at Morristown Medical Center in Morristown, New Jersey, presented a new pump from Puzzle Medical Devices that won the TCT Innovation Competition earlier this year.

The ModulHeart device provides hemodynamic support through three endovascular pumps inserted in a series and assembled in parallel into a self-expandable anchor implanted in the descending aorta. Dr. Genereux said the pump offers increased stability and increased blood flow by using three pumps as opposed to one in most traditional devices.

Riyaz Bashir, MD, FACC, professor of medicine at Temple University Hospital in Philadelphia, Pennsylvania, said his BASHIR endovascular catheter can control infusion of fluids, including thrombolytics, for patients with intermediate to high risk of acute pulmonary embolism.

Dr. Bashir said a study using the device on 109 high-risk patients in 18 U.S. sites found a reduction in the RV/LV ratio by 33.3% at 48 hours, a reduction in the PA obstruction index by 35.9% at 48 hours, and fewer than 1% major bleeding or device-related adverse events.

Yoram Richter, PhD, CEO of Medinol and CSO of Microtech, presented Microtech's implantable microsensors that on their own or attached to existing devices can turn them into smart devices that become real-time physiologic monitors. Smaller than the point of a pen, the devices don't need to be powered because they use a micro drum that's stimulated with ultrasound waves, which causes it to vibrate and power the device.

"What we have is a sub-millimeter, passive, robust and stable sensor platform that is used either by itself just as a sensor or to enhance existing devices," he said. "It can be interrogated in the hospital or quite easily by the patients in their own homes." •

PRESIDENTIAL SESSION

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risk and social determinants of health, especially among women and people of underrepresented groups.

"Adversity is a state of persistent difficulty, calamity or misfortune that affects one's ability to achieve various life goals, including health outcomes, well-being or happiness," said Dr. Albert, who as AHA president serves as chief science volunteer and presides over the association's Science Advisory & Coordinating Committee.

Citing violence, racism, crime, natural disasters, COVID-19 and economic distress as examples of adversity across the globe, Dr. Albert's address detailed "the biology of adversity and how economic adversity underpins it all."

Cardiovascular — and all clinical outcomes — can be modified, for better or worse, by a person's resilience and traditional risk factors that can't always be controlled. However, a more positive and lasting influence is available through a person's wealth, Dr. Albert said. And she's not just talking about money.

"In this context, wealth can be finances, social capital or support or even joy," said Dr. Albert, the Walter A. Haas-Lucie Stern Endowed Chair in Cardiology and Professor in Medicine Admissions Dean for the University of California San Francisco School of Medicine and founding director of the Center for the Study of Adversity and Cardiovascular Disease.

"Wealth is the currency that can help counter the experience of adversity."

Understanding these interconnections is an important first step, Dr. Albert said, but not without further insight. For example, racial and ethnic discrimination is an all-too-common form of adversity that Dr. Albert refers to as a "discrimination iceberg." She said about one-third of discrimination is the tip of the iceberg — readily observable or overt. This includes things such as hate crimes. However, two-thirds of the "dangerous majority" occurs below the surface of the iceberg, or is covert, she said. This includes structural racism and implicit biases.

"Research shows significant associations of everyday discrimination with surrogate biomarkers of cardiovascular disease, such as elevated high sensitivity C-reactive protein levels, coronary artery calcification, hypertension as well as low birth weight, poor sleep and with outcomes such as cognitive impairment and mortality," she said.

The biology of adversity can be a lifelong struggle, beginning in utero and the effects of which can be passed on via epigenetic mechanisms. Add to that the potential for adverse maternal experiences such as depression, economic issues and low social status, and these adverse childhood experiences (ACES) can lead to poor cognitive outcomes and cardiovascular disease. The most common ACE, however, is economic adversity, Dr. Albert said.

"I believe economic adversity is a root cause of health inequities and disparities," she said.

The top 1% of people in the U.S. have nearly 20 times greater wealth than the bottom 50% of the global community, Dr. Albert said. About 12% of people have difficulty paying medical bills. This includes 20% of middle-income people. The statistics are "jarring," she said.

"Clearly, this makes the playing field uneven, and economic progress nearly impossible as it limits intergenerational wealth and health," Dr. Albert said. "You might be thinking education could help bridge that gap. But it is not that simple."

Though education increases a person's wealth, the returns aren't the same for everyone. In fact, Black people must have a post-graduate degree to attain similar wealth as white people with a high-school degree, Dr. Albert said.

As daunting as these health disparities are, Dr. Albert said that not everyone enduring adversity will experience poor health outcomes. Still, she said there's hope. Cardiology researchers and clinicians can make a difference, whether it's writing a grant, raising awareness through public speaking, partnering with private and community organizations or participating in legislative advocacy.

"I want to empower you to see yourself as part of the solution," she said. "You can be part of the movement toward ensuring education and employment in a way that will improve generational wealth and health. It starts with committing to making a difference. We need not let people die from the effects of economic adversity. You can make a difference by supporting innovative ideas." •

AHA UPDATE

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has made great strides toward eliminating flavored tobacco products and moving the FDA to announce its intention to reduce nicotine levels in cigarettes and proposing to prohibit the sale of menthol cigarettes and flavored cigars.

"Solving big problems is what we do at the American Heart Association," Brown said. "It's been that way for nearly 100 years — since that summer day in 1924, when six cardiologists formed our organization at the Drake Hotel just a few miles from here."

Brown summarized numerous recent funding partnerships, including increased funding to the AHA's Second Century Campaign; an agreement with Bank of America to improve the health of historically excluded populations; funding from the Deloitte Health Equity Institute and a relationship with Society for Human Resource Management to develop and scale tools to improve the health and well-being of the nation's workforce; and a deal with HCA Healthcare and HCA Healthcare Foundation to fund the AHA's Getting to the Heart of Stroke initiative.

Brown also announced the AHA, Rockefeller Foundation and Kroger will launch a national Food Is Medicine research initiative this spring.

"It reaffirms the American Heart Association's mission: To be a relentless force for a world of longer, healthier lives," Brown said. •

HEALTH TECH

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Bloomer Tech uses ordinary clothing made with advanced fabrics technology integrated with machine learning to turn everyday items — with a focus on women's physiology — into lifestyle medical health care devices. The clothing uses a patented platform called LILY to collect medical-grade data for women. Aceil Halaby, chief operating officer, said this addresses a major problem for women's health care.

Founded on the belief that everyone deserves the best medicine, Cipherome's goal is to personalize drug treatment by understanding a patient's genomic information and combining that with clinical factors to provide the best drug for a patient. Chief business officer Jose Estabil said adverse medical events in the U.S. and patients being prescribed drugs that may not best fit their needs is a $100 billion problem.

Recognizing the limitations of traditional, exercise-based ECG monitoring, NimbleHeart has created a custom hardware design for its ECG Harness with patent-pending motion artifact reduction technology and a biomechanics-based harness design with shape and sensor locations for men and women and for different body types. CEO Sonal Tambe said these can be used for monitoring from home, the office, gym or alternate care settings.

Launching this month, Plateful by Opsis is a free smartphone app that will give you the complete picture of your food — from nutritional value and portion size to its impact on the planet. It allows users to tell how healthy their food is, learn how to eat better with motivation and guidance, track their nutrition journey and scan products for simple, actionable food choices.

AvoMD will receive a membership to the AHA's Center for the Health Technology & Innovation Innovators Network, a consortium that connects entrepreneurs, providers, researchers and payers. Members also have access to the association's digital guidelines, recommendations and best-in-class science as they develop their digital health care technologies. •

Explore a treatment option for NYHA Class II–III obstructive HCM

Learn more at BMS Booth 800

The FDA has approved a treatment option for appropriate patients with symptomatic NYHA Class II–III obstructive HCM. Visit BMS Booth 800 to learn about the MOA, examine the endpoints, and read about the safety profile of this treatment option.

FDA=US Food and Drug Administration; HCM=hypertrophic cardiomyopathy; MOA=mechanism of action; NYHA=New York Heart Association.

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