

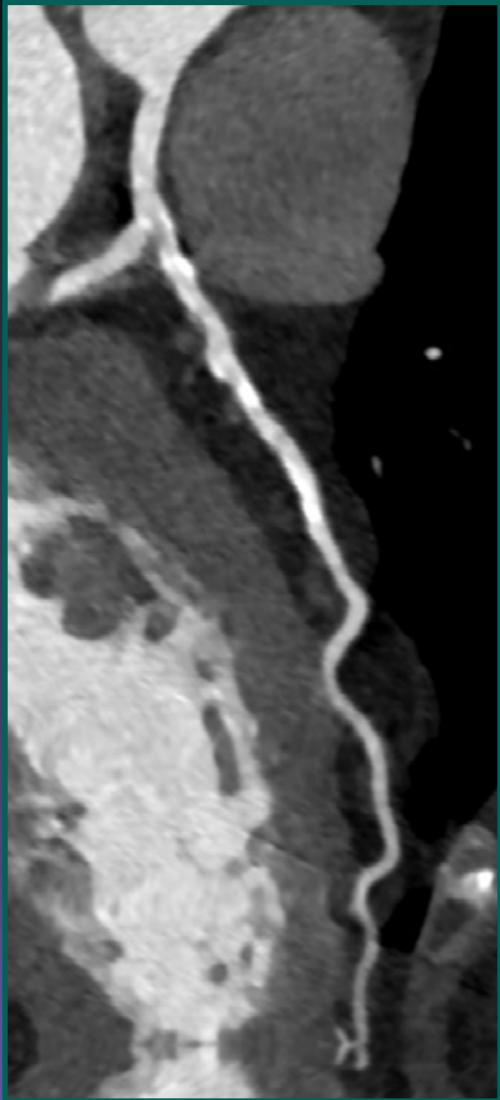
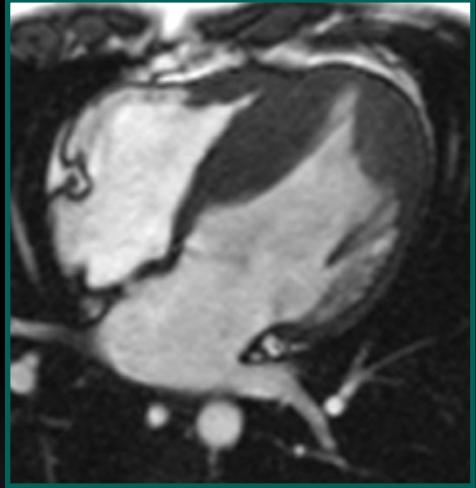
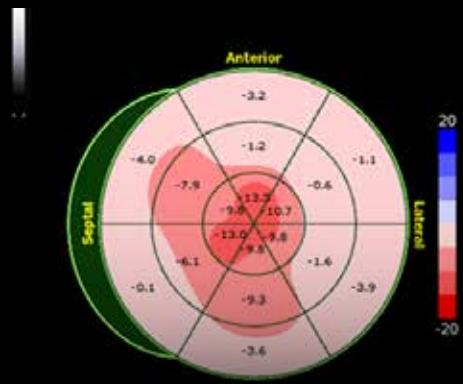
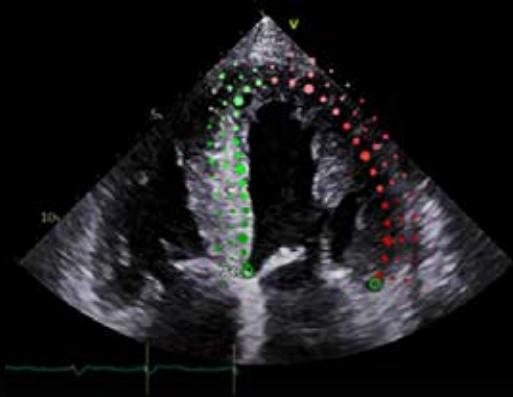
CARDIOLOGY



JANUARY/FEBRUARY 2026

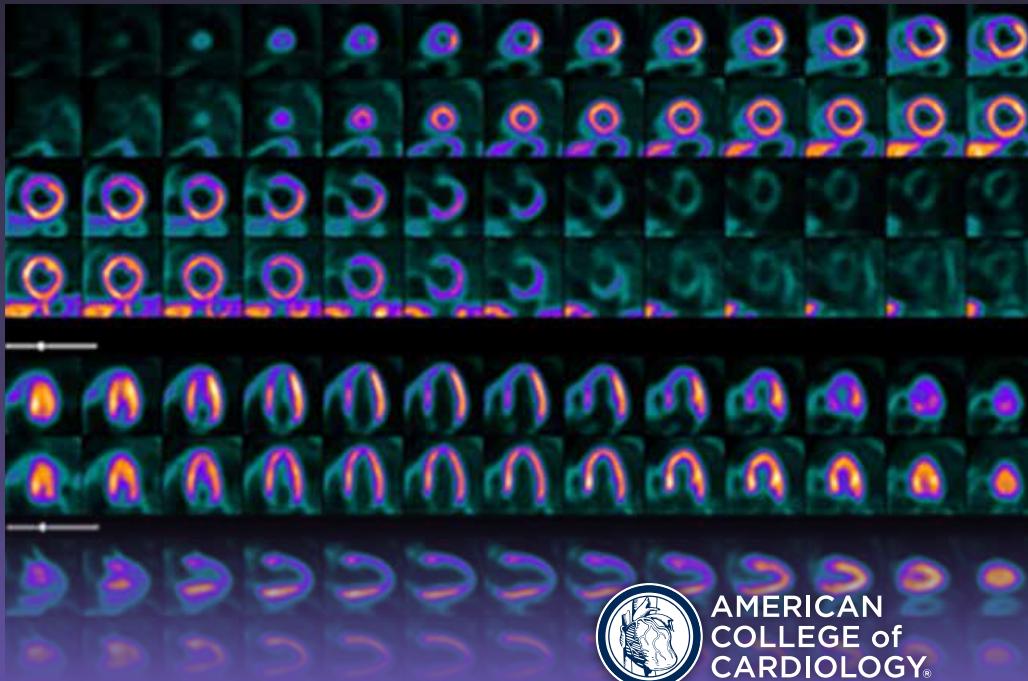
A Member Publication of the
American College of Cardiology

VOL. 55 | NUMBER 1



THE IMAGER OF THE FUTURE:

Defining a New Standard For
Advanced Cardiovascular Imaging



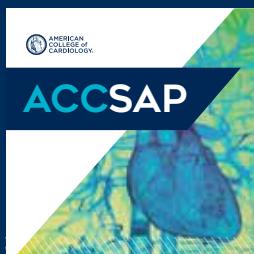
AMERICAN
COLLEGE of
CARDIOLOGY

YOUR CARDIOVASCULAR EDUCATION SIMPLIFIED

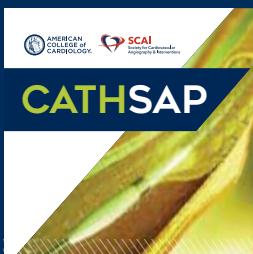
Stay current, strengthen your expertise and get exam-ready with ACC's premier Self-Assessment

Programs (SAPs). Access comprehensive content, board-style questions with rationales and references, and all the tools you need – all in one place!

Choose from ACC's full suite of educational SAPs:



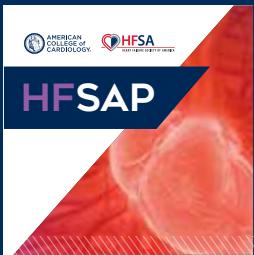
CARDIOVASCULAR DISEASE



INTERVENTIONAL CARDIOLOGY



CARDIAC ARRHYTHMIAS & ELECTROPHYSIOLOGY



ADVANCED HEART FAILURE & TRANSPLANT CARDIOLOGY



ADULT CONGENITAL HEART DISEASE



ECHOCARDIOGRAPHY

Each SAP is updated to reflect the latest advancements and clinical guidelines, providing expert-developed content in a format that fits your learning style.



©2026, American College of Cardiology G26017

Find the SAP That Best Meets Your Needs!

Visit ACC.org/SAP to Learn More.

Take Advantage of ACC's New Collaboration With OpenEvidence

OpenEvidence®

Curated content from
The American College of Cardiology
is now available in **OpenEvidence**.



Scan the QR code to get started.

Leveraging Apple Watch For Cardiovascular Care

Developed in collaboration with Apple, take advantage of this tool to guide clinicians on the use of Apple Watch in clinical practice. It helps advise patients on how to optimize their experience with Apple Watch along their care journey.



Find out more and download the tool at
ACC.org/LeveragingAppleWatch



JANUARY/FEBRUARY

2026 Vol. 55 No. 1

WHAT'S INSIDE

10 New in Clinical Guidance
ACC: Your Trusted Source For Keeping Pace With Scientific Progress

14 Prioritizing Health
Front-of-Package Labeling: A New Tool For CV Prevention

14 Cover Story
The Imager of the Future: Defining a New Standard For Advanced Cardiovascular Imaging

20 From the Member Sections
Closing the Gap in Cardiology Competency in Peripheral Vascular Care

22 Focus on Heart Failure
A Long Road With Many Opportunities For Prevention

26 Feature
Finerenone: Expanding Heart Failure Treatment

16 Feature
AI and The Changing Landscape of Clinical Trials

02 Editor's Corner

03 Number Check

04 Pulse of ACC

06 JACC in a Flash

08 Journal Wrap

30 Heart of Health Policy

32 ACC Mission in Action

HONORING OUR LEGACY, EMBRACING THE FUTURE

Since its founding in 1949 during the "Golden Age of Cardiology," the ACC has been driven by a singular vision: to create a professional home dedicated to education, collaboration and progress. That same spirit gave rise to *Cardiology*, a publication designed to connect members, share knowledge and inspire action.

For over 50 years, *Cardiology* has chronicled the field's greatest advances – from early pacemakers to transcatheter valves, wearable monitors and AI-driven diagnostics. It has amplified advocacy efforts, spotlighted global health initiatives, and provided an important forum for sharing best practices, discussing

new science and exploring emerging trends. No matter the format, whether a one-color newsletter in the 1970s or the glossy tabloid-sized publication of the last eight years, *Cardiology* has remained an indispensable resource for clinicians worldwide.

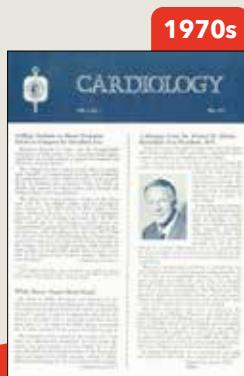
More than a publication, *Cardiology* is a living link between the College's founding ideals and the future of heart health. With this issue we are excited to introduce a refreshed format that takes into account your feedback regarding size and frequency. We are also working to enhance our digital presence (ACC.org/Cardiology), to allow for more bonus content and broader distribution to ACC members around the world.

Inside this issue, you'll find a cover story that dives deeper into the ACC's recent advanced imaging training

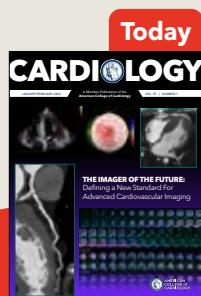
statement and what it means for "imagers of the future." Plus, don't miss features on the changing landscape of clinical trials, the latest science surrounding finerenone, and health policy highlights from the past year. ACC.26 Late-Breaking Clinical Trials have also been announced, as we gear up for New Orleans in March.

As we look to the future, *Cardiology* exists to keep you – our members – informed and ahead of the curve. To quote ACC founders **Franz Groedel, MD, MACC**, and **Bruno Kisch, MD, MACC**: "We will meet the future not merely by dreams but by concerned action and inextinguishable enthusiasm."

Enjoy this issue and the new look. As always, we welcome your thoughts at CardiologyEditor@acc.org. ■



1970s



Today



John Gordon Harold
MD, MACC



Editors-in-Chief
Peter C. Block, MD, FACC
John Gordon Harold, MD, MACC

ACC Chief Medical Officer
Richard J. Kovacs, MD, MACC

ACC Clinical Content Editor-in-Chief
Fred Kusumoto, MD, FACC

Publisher
American College of Cardiology

ACC CEO
Cathleen C. Gates

ACC Chief Communications Officer
Shalen Fairbanks

Managing Editor
Mary Mosley

Contributing Writers
ACC Communications Team

Design, Web and Production
ACC Creative and Branding Team

Advertising
Pharmaceutical Media, Inc.
ACCSales@pmirny.com

All correspondence for the American College of Cardiology should be sent to: Resource Center, American College of Cardiology, 2400 N Street NW, Washington, DC, 20037-1153. Neither the American College of Cardiology nor the publisher is responsible for statements made by any contributor. Statements or opinions expressed in *Cardiology* do not represent official policy of the American College of Cardiology unless so stated. No responsibility is assumed by the American College of Cardiology for any injury or damage to persons or property as a matter of product liability, negligence or otherwise or from any use or operation of any methods, products, instructions or ideas contained in the material herein. Although all advertising material published in *Cardiology* is expected to conform to ethical (medical) standards, inclusion in this publication does not constitute a guarantee or endorsement by the American College of Cardiology.

The American College of Cardiology (ACC) is a global leader dedicated to transforming cardiovascular care and improving heart health for all. For more than 75 years, the ACC has empowered a community of over 60,000 cardiovascular professionals across more than 140 countries with cutting-edge education and advocacy, rigorous professional credentials, and trusted clinical guidance. From its world-class JACC Journals and NCDR registries to its Accreditation Services, global network of Chapters and Sections, and CardioSmart patient initiatives, the College is committed to creating a world where science, knowledge and innovation optimize patient care and outcomes. Learn more at www.ACC.org or connect on social media using @ACCinTouch.

Cardiology (ISSN: 2165-3674) is published ten times a year by the American College of Cardiology, 2400 N Street NW, Washington, DC, 20037-1153. Periodical postage at Washington, DC, and additional mailing offices.

POSTMASTER: Send address changes to American College of Cardiology, 2400 N Street NW, Washington, DC, 20037-1153.

© 2026 American College of Cardiology Foundation

Find us at ACC.org/Cardiology

E-mail cardiologyeditor@acc.org

Follow us using @ACCinTouch with #Cardiologymag



Inaugural JACC Stats Report Reveals State of CV Health in the US

The **JACC Cardiovascular Statistics 2026** is more than numbers – it's a roadmap for action. Drawing on nationally representative surveys, clinical registries, administrative claims and vital statistics, the JACC Stats Report provides a comprehensive view of cardiovascular health in the U.S. and reveals progress, persistent challenges and opportunities for change. ■



The data tell a powerful story – but what comes next starts with you.

Scan the QR code to explore the full JACC Stats Report and related infographics and join JACC in turning these numbers into meaningful action.



Scan the QR code for the downloadable JACC Stats Report Infographic Library.



“ We cannot improve what we do not measure, and we cannot accelerate progress without a shared understanding of where we are and where we have been. **”**

- **Harlan M. Krumholz, MD, SM, FACC**



20

The number of years over which hypertension-related cardiovascular deaths have nearly doubled in the U.S.



40%

The percentage of U.S. adults affected by obesity, with rates climbing across all demographics.



2X

The rate of cigarette use among low-income adults is twice as high compared with the average.



2009 - 2023

The span in which diabetes has increased in the U.S., with sharp rises seen among younger, low-income and Black populations.



<1 in 4

The proportion of high-risk adults who achieve guideline-recommended LDL targets.



50%

The percentage decline in mortality from coronary artery disease since 2000. However, widening inequities threaten these gains. Stroke mortality shows similar troubling trends.

ACC.26: Don't Just Present. Publish in JACC Journals

Each year, ACC's Annual Scientific Session brings together thousands of cardiovascular clinicians to explore the hottest science and trends transforming cardiovascular care. ACC.26 in New Orleans from March 28-30 will be no different! Take advantage of the opportunity to amplify your ACC.26 abstract, case study or late-breaking clinical trial (LBCT) by simultaneously publishing in ACC's world-renowned JACC Journals. Submit your manuscript for consideration by Jan. 23 for oral and poster presentations and by Feb. 15 for LBCT and Featured Clinical Research presentations.

Why Publish With JACC Journals?

- Unmatched Impact
- Global Reach
- Streamlined Experience
- No Publication Fee
(except for open access)
- Preprint-Friendly

Scan the QR code to submit papers and ensure the greatest amplification and widest dissemination, including consideration for video interviews, infographics, podcasts, expert commentary and more. When submitting, cover letters should note the desire for "ACC.26 Simultaneous Publication."

Additionally, please specify if the paper is submitted for LBCT or Featured Clinical Research consideration. ■



Valentin Fuster CV Symposium Explores Evolving Science and Trends Shaping Patient Care

The 2025 Valentin Fuster Cardiovascular Symposium returned to New York in December, offering three days of comprehensive education focused on the hottest science and trends that shaped cardiovascular care in 2025.

The conference opened with a look at emerging frontiers in arterial disease, including advances in early detection of silent atherogenesis, evolving prevention trials, refined coronary calcium and CT angiography assessment, and new tools for understanding vasomotion-dependent ischemia. Acute coronary syndromes were explored through updated clinical questions, guideline gaps and evolving antithrombotic strategies across the continuum of coronary artery disease.

Sessions on chronic coronary disease, stroke and pulmonary embolism highlighted contemporary approaches to multivessel disease, cerebrovascular disorders and peripheral arterial disease. Prevention focused discussions emphasized cardiorespiratory fitness, obesity management, RNA-based therapies for lipid disorders, diabetes-modifying strategies, and differing hypertension guidelines.

The second day shifted to cardiopulmonary and electrical failure, covering advances in imaging, genetic testing, pharmacologic therapy and device-based management for a broad spectrum of myocardial diseases.

Rhythm focused sessions addressed atrial fibrillation, ventricular tachycardia and long-term outcomes of device therapies.

The symposium concluded with in-depth reviews of valvular heart disease, aortic pathology and hypertrophic cardiomyopathy.

The popular year in review session also returned, highlighting 10 emerging areas poised to shape cardiovascular progress in 2026, including genetics and biomarkers. Forward looking exploration of cognitive impairment and cardiovascular health across the lifespan, was another key part of the conversation. ■



ACC Industry Advisory Forum Tackles Tech, Trust and the Future of CV Care

“The New Information Age and Implications for Cardiovascular Health” was the focus of ACC’s latest Industry Advisory Forum (IAF), which brought together clinical, industry and policy leaders for a full day exploration of how rapidly evolving information ecosystems are reshaping cardiovascular care.

The meeting opened with remarks from IAF Chair **Edward T.A. Fry, MD, MACC**, who framed the forum’s focus on navigating an era defined by data proliferation, digital tools and shifting patient expectations. ACC President **Christopher Kramer, MD, FACC**, followed with an update on the College’s strategic priorities, with particular emphasis on its continued commitment to overcoming the challenges associated with misinformation in cardiology, the ongoing cardiovascular workforce crisis, and AI’s role in care delivery. “This is vital to our forward progress,” he said.

The morning keynote, delivered by **Anne Zink, MD**, examined the challenges of “reclaiming reality” in American health care, highlighting the growing tension between scientific evidence, public perception and the speed at which information – and misinformation – spreads.

Her remarks set the stage for a robust panel discussion on how clinicians and patients will engage with health information in 2026. Moderated by **Katie Berlacher, MD, MS, FACC**, the panel featured insights on scientific communication, the role of the cardiovascular care team, AI-driven clinical decision support and the expanding influence of social media on patient behavior and professional discourse.

The afternoon session shifted toward implementation, with **Jennifer N. Avari Silva, MD, FACC**, moderating a panel on building trust in technology and extending care beyond traditional clinical settings. Experts explored integrating wearable data into care pathways, leveraging AI to support workforce capacity, advancing patient centered digital tools and strengthening care models that reach patients where they live.



Moving forward, strengthening implementation across cardiovascular care will be key, including expanding cross-sector collaboration and sharing best practices. In the months ahead, the ACC will work with industry, health systems and technology partners to identify joint opportunities that support scalable, sustainable progress in the information age. ■



Supporting the Next Generation of **Critical Care Cardiology Clinicians**

The ACC congratulates the four recipients of ACC’s Critical Care Cardiology (CCC) PULSE Program grants. The CCC PULSE Program provides grant funding for away electives that deepen clinical exposure, enhance procedural competency and promote understanding of advanced CICU care. Supported by the ACC and the ACC Critical Care Cardiology Section, and sponsored by J&J Med Tech - Abiomed, the program continues to foster the next generation of leaders in critical care cardiology. This year’s awardees are:



Marissa Donatelle, BA, MD, of Mount Sinai Medical Center will complete her elective at Vanderbilt University Medical Center.



Rohan Ganti, MD, from Rutgers Robert Wood Johnson Medical School will train at the Cleveland Clinic.



Guadalupe Lisseth Hernández González, MD, of the National Institute of Cardiology “Ignacio Chávez” in Mexico City will train at the University of Minnesota.



Darren C. Tsang, MD, MPH, from RUSH University Medical Center will complete his elective at the University of California San Francisco. ■



NEW PROPOSED CRITERIA FOR MONITORING ATTR-CM

Recognizing a need to update the 2021 criteria for monitoring disease progression in patients with transthyretin amyloid cardiomyopathy (ATTR-CM), a group of international experts shared new proposed criteria, including recommendations for thresholds and monitoring frequency, in a recent Position Statement published in *JACC: Heart Failure*.

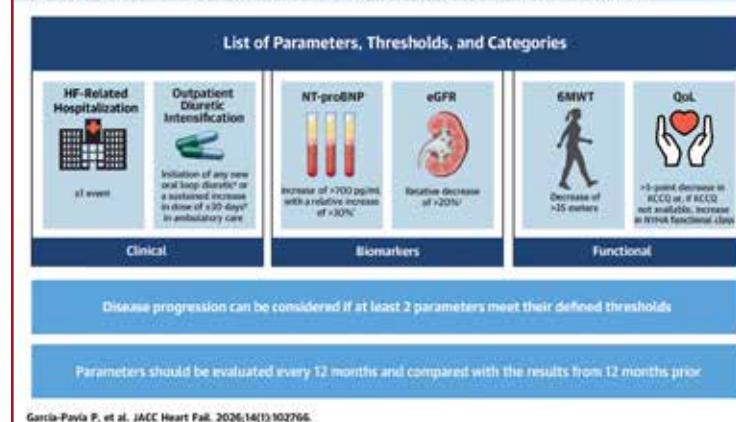
Pablo García-Pavía, MD, PhD, Matthew S. Maurer, MD, FACC, et al., introduce six parameters as part of the updated disease monitoring criteria that are evidence-based and “relatively feasible to capture in routine clinical practice.” They suggest that disease progression can be considered

if at least two of the parameters meet these defined thresholds and should be evaluated every 12 months. (See figure.)

Of note, the criteria specifically focus on the monitoring of disease



CENTRAL ILLUSTRATION Criteria for Evaluating Disease Progression in Patients With ATTR-CM



progression of patients with ATTR-CM and not amyloid deposition progression and “should be used solely to identify when a patient is experiencing a worsening of their disease course.”

Looking ahead, the authors suggest future studies should look at whether disease-modifying changes in treatment improve clinical outcomes. **Scan the QR code** for more details. ■



García-Pavía P, Witteles R, Damy T, et al. *JACC HF*. 2025;Nov 26:102766. doi: 10.1016/j.jchf.2025.102766.

CARE GAPS IN LIPID MANAGEMENT IN YOUNG ADULTS

An analysis of young adults with LDL-C ≥ 190 mg/dL found statin therapy was initiated in <50% within five years, with a decline in follow-up testing signaling a further significant care gap.

The longitudinal study conducted from 2008 to 2020 and published in *JACC* centered on 771,681 young adults aged 18-39 years in the Kaiser Permanente Southern California health care system (mean age, 30 years; 51% women; 47% Hispanic).

Results showed that of the participants with LDL-C levels ≥ 190 mg/dL, only 29%, 34% and 46% had statin therapy started within one, two and five years, respectively.

Additionally, there was a decline from 53% to 36% in one-year follow-up testing of participants with LDL-C levels of 160-189 mg/dL and a high 30-year risk of atherosclerotic cardiovascular disease. Statin initiation in high-risk populations also declined: from 32% to 20% for those with

LDL-C 160-189 mg/dL and from 37% to 13% for those with LDL-C ≥ 190 mg/dL.

“Our findings underscore that early adulthood is a critical window for prevention, and identifying these areas of opportunities for earlier intervention is essential to reducing young adults’ lifelong heart risk,” says **Teresa N. Harrison, MS**, lead study author.

“The good news is that health care systems have a potential roadmap to develop next-generation care models,” Harrison adds. “The promising results from our safety net program, SureNet, suggest that integrating patient outreach and clinician decision support may be an effective strategy to further advance proactive, early cardiovascular prevention.” ■



Harrison TN, Zhang Y, Choi SK, et al. *JACC*. 2025;Nov 10: https://doi.org/10.1016/j.jacc.2025.10.052.

IMPROVED CARDIAC REMODELING AFTER TTVR, TTVA

Two recent studies published in *JACC: Cardiovascular Interventions* provide evidence of improved cardiac remodeling post transcatheter valve replacement (TTVR) and transcatheter valve annuloplasty (TTVA).

In a single-center, retrospective, shorter-term study of 80 TTVR patients (median age, 81; 65% women), 88% had baseline massive/torrential tricuspid regurgitation (TR). Replacement (80% with EVOQUE) was a technical success in 90%; TR was mild or less in 96%.

At a median follow-up of 40 days, TTVR was associated with a reduction in right ventricular (RV) end diastolic volume (EDV; 138.2 to 59.5 mL/m²; p<0.001) and increase in septal curvature and stroke volume, leading to a 65% increase in effective RVEF and 20% increase in RV coupling. A reciprocal increase was seen in left ventricular (LV) EDV (49.6 to 57.9 mL/m²; p=0.001). Greater discordance of these two volumes at baseline, as indicated by an average eccentricity index ≥1.25, led to greater reverse remodeling, lower follow-up NT pro-BNP levels and greater symptom improvement.

In a longer-term study of 156 patients with severe TR who had TTVA with the Cardioband system, the procedure was successful in 62%. At discharge, 37% still had severe or greater TR. The patients were 79 years old, 76% women and 89% had atrial fibrillation.

At a median follow-up of 435 days, 71% of patients had a TR reduction ≤2+ and 68% improved in NYHA class ≤III (p<0.001 for both). Compared with baseline, right atrial area, RV length, RV midventricular dimension and RV basal dimension were significantly reduced.

Torrential to severe TR reduction still led to remodeling (RV basal diameter, 50 vs. 44 mm; p=0.007); right heart remodeling was associated with a decrease in vena contracta width (odds ratio, 1.14; p=0.015).

In the study, residual TR ≥3 at discharge was associated with an elevated mortality rate vs. TR <3 (26% vs. 13%; p=0.042). "Residual TR therefore must be taken seriously. Close clinical follow-up and the evaluation of further treatment options, such as staged edge-to-edge repair, should be carefully taken into consideration in this vulnerable 'high-risk-cohort,'" write the authors. ■



Le Ruz R, Agarwal V, George I, et al. *JACC Intv.* 2025;Nov 26: doi:10.1016/j.jcin.2025.10.023.

Hasse C, von Stein P, Althoff J, et al. *JACC Intv.* 2025;23:2911-21.

IS LBBAP FEASIBLE IN PATIENTS WITH CARDIAC SARCOIDOSIS?

In patients with cardiac sarcoidosis (CS), defined using Heart Rhythm Society criteria, left bundle branch area pacing (LBBAP) was found to be feasible and provide stable long-term lead performance, according to a single-center retrospective study published in *JACC: Clinical Electrophysiology*.

LBBAP was successful in all 19 study patients (mean age, 59 years; 21% women) without acute complications. Baseline-paced QRS duration was 139 ms; mean threshold was 0.75 V, R-wave amplitude 15.2 mV

and impedance 738 Ω. Lead parameters remained stable over a 437-day follow-up, with no differences related to septal involvement (seen in 50-60%). QRS was >130 ms and LVEF <50% in four patients and LVEF improved from 27% to 50% in patients with LBB block.

"Integration of advanced imaging into procedural planning allows better patient selection and may optimize long-term outcomes," write the authors. "Further studies are needed to define optimal timing of conduction system pacing in CS and other inflammatory cardiomyopathies." ■

Gurin M, Litt M, Zghai T, et al. *JACC: Clin Electrophysiol.* 2025;Nov 21:doi: https://doi.org/10.1016/j.jacep.2025.09.046.



High-Dose Flu Vaccine Reduces Hospitalizations

High-dose inactivated influenza vaccine (HD-IIV) was more effective than standard-dose inactivated influenza vaccine (SD-IIV) in reducing severe outcomes and hospitalizations, based on findings from the FLUNIITY-HD pooled analysis published in *The Lancet*.

The analysis focused on results from two large-scale studies from Denmark and Spain, DANFLU-2 and GALFLU, which assessed HD-IIV vs. SD-IIV in preventing hospitalization for influenza or pneumonia in adults >65 years.

Among nearly 467,000 individuals in the FLUNIITY-HD analysis, the incidence of hospitalization for influenza or pneumonia was 0.56% and 0.62% in the HD-IIV and SD-IIV group, respectively, with a relative vaccine effectiveness (rVE) of 8.8%.

"Nearly 9% of hospitalisations for influenza or pneumonia were prevented with HD-IIV," vs. SD-IIV, write the authors. "Importantly, similar rVE estimates were observed in comorbid patients with higher baseline risk of the primary endpoint, suggesting that the number needed to vaccinate per case averted in these populations would be lower."

Other findings with HD-IIV include a lower incidence of all-cause hospitalizations, hospitalizations for cardio-respiratory-related events and laboratory-confirmed influenza with hospitalizations for cardio-respiratory-related events and laboratory-confirmed influenza. The



Scan the QR code to read results from DANFLU-2 and GALFLU.



Scan this QR code for patient resources from CardioSmart including a downloadable infographic on vaccinations and heart health.

effectiveness of HD-IIV and SD-IIV was consistent across seasons and subgroups.

"These findings provide the first definitive evidence of the superior protection of HD-IIV vs. SD-IIV against hospitalisation outcomes - severe outcomes of great importance to patients, clinicians, and decision makers," write the authors. ■

Johansen ND, Modin D, Pardo-Seco J, et al. *Lancet*. 2025;406:2425-34.

SURMOUNT-4: Weight Gain After Stopping Tirzepatide

Among participants with obesity who achieved $\geq 10\%$ weight reduction following 36-week tirzepatide treatment, withdrawing the drug led to a $\geq 25\%$ weight regain in most within one year, according to a post hoc analysis of the SURMOUNT-4 trial published in *JAMA Internal Medicine*. Furthermore, improvements in initial cardiometabolic parameters were reversed more in those who regained than maintained their weight loss.

In this analysis of the 308 participants in the placebo arm of the extension study, 82% had a $\geq 25\%$ weight regain. By category of weight loss, 54 regained $<25\%$, 77 regained 25 to $<50\%$, 103 regained 50 to $<75\%$ and 74 gained $\geq 75\%$.

Across these four categories, there was a linear increase in mean change in waist circumference (ranging from 0.8 to 14.7 cm), systolic blood pressure (from 6.8 to 10.4 mm Hg), non-HDL-C (-0.4% to 10.8%), hemoglobin A1c (from 0.14% to 0.35%) and fasting insulin (-4.0% to 26.3%).

"Together, these results may inform patient-clinician conversations and shared decision-making on long-term weight management focused on sustained health benefits and help counsel patients on the implications of treatment discontinuation," write the study authors. ■

Horn DB, Linetzky B, Davies MJ, et al. *JAMA Intern Med*. 2025; Nov 24: doi:10.1001/jamainternmed.2025.6112.

What Reduces Stroke Risk in Asymptomatic CAS?

Adding stenting to medical therapy but not endarterectomy, vs. medical therapy alone, led to a significantly lower risk of stroke in patients with asymptomatic carotid artery stenosis (CAS), according to two parallel CREST-2 trials presented at the Society of Vascular and Interventional Neurology meeting and published simultaneously in *NEJM*.

Thomas G. Brott, MD, et al., conducted two trials involving patients with high-grade ($\geq 70\%$) CAS in 155 centers in five countries. All 2,485 patients (69 years old, 38% women) received intensive medical therapy and were randomized to transfemoral carotid artery stenting or carotid endarterectomy.

When comparing medical therapy alone against the addition of stenting, the occurrence of the composite primary outcome of any stroke or death within the first

44 days or ipsilateral ischemic stroke within four years was 6.0% vs. 2.8% ($p=0.02$), and against the addition of endarterectomy it was 5.3% and 3.7% ($p=0.24$).

Looking at the occurrence of strokes or death during days 0-44, there were none in the medical therapy group vs. seven strokes and one death in the stent group (1.3%). In contrast, in the medical therapy and endarterectomy groups, there were no deaths but there were three strokes (0.5%) and nine strokes (1.5%) in the respective groups.

After 44 days, the annual rate of ipsilateral ischemic stroke was 1.7% and 0.4% in the medical therapy and stent groups respectively, and 1.3% and 0.5% in the medical therapy and endarterectomy groups. ■

Brott TG, Howard G, Lal BK, et al. *N Engl J Med*. 2025;Nov 21: doi:10.1056/NEJMoa2508800.

Stent Optimization Post OCT-Guided PCI Improves Outcomes

Among patients with complex lesions who underwent optical coherence tomography (OCT)-guided PCI, long lesions and small vessels were identified as major determinants of OCT suboptimization, and achieving successful stent optimization was significantly associated with improved clinical outcomes, according to a post hoc analysis of the OCCUPI trial published in *EHJ*.

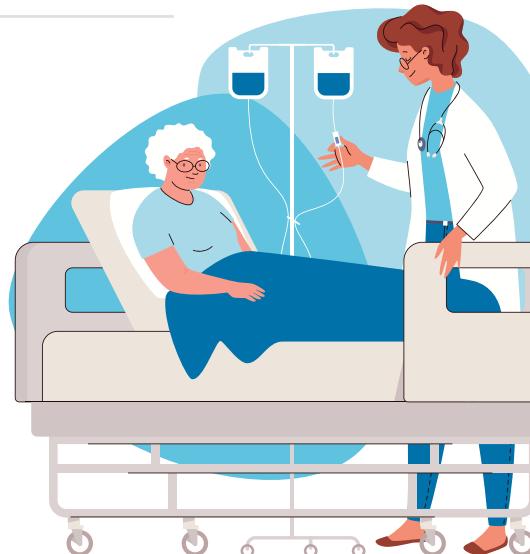
In the analysis, 773 patients were classified using OCCUPI-OCT criteria, of whom 549 patients (71%) achieved OCT optimization criteria and 224 did not (OCT suboptimization). Multivariable analysis revealed that long lesions (≥ 28 mm) and small vessels (< 2.5 mm) were significant independent predictors of OCT suboptimization.

At one year, there was a significant reduction in the primary endpoint in patients with OCT optimization vs. suboptimization (2.9% vs. 9.4%, $p<0.001$) or who had angiography guidance (7.5%, $p<0.001$). The primary endpoint was the cumulative incidence of cardiac death, myocardial infarction, stent thrombosis or ischemia-driven target vessel revascularization.

Each component of the OCCUPI-OCT criteria was independently and significantly correlated with favorable

outcomes, including assessment of stent expansion (minimal stent area, $\geq 80\%$ of the mean reference lumen or $\geq 100\%$ distal reference lumen areas; >4.5 mm 2), apposition (malapposed distance, <400 μ m), and absence of major edge dissection.

In an accompanying editorial comment, **Fernando Alfonso, MD, PhD**, and **Francesco Prati, MD**, write that although "overwhelming evidence" supports the value of intracoronary imaging guidance ... to improve clinical outcomes after PCI, "systematically implementing" its use "to optimize stent implantation in routine clinical practice will represent a major sea change." ■



Lee SJ, Lee SJ, Hong SJ, et al. *Eur Heart J*. 2025;Nov. 19:doi:10.1093/eurheartj/ehaf884.



ACC: Your Trusted Source For Keeping Pace With Scientific Progress

Cardiology continues to evolve at an increasingly accelerated rate. A simple keyword search of PubMed produces more than 125,000 articles on "cardiovascular" science published in 2025. Given this evolution, timely clinical guidance that synthesizes the literature and translates new science into practical recommendations is critical to helping clinicians stay current and engage in informed decision-making with their patients.

To meet this need, the ACC has prioritized optimizing its clinical guideline process and accelerating the pace and types of other clinical guidance over the last several years. In the last year alone, the College published a wide array of documents, including three new Clinical Practice Guidelines, one Appropriate Use Criteria document (AUC), eight Concise Clinical Guidance (CCG) reports, seven ACC Scientific Statements, one Advanced Training Statement and one new set of Clinical Performance and Quality Measures. (See Table.) It's important to note that this list does not include a host of other multisociety policy documents formally endorsed by the ACC and/or developed in partnership with ACC Member Sections.

Looking ahead, the coming year is expected to bring four new

Clinical Practice Guidelines focused on acute pulmonary embolism, dyslipidemia, cardiovascular-kidney-metabolic syndrome, and primary prevention of cardiovascular disease. In addition, 17 new clinical documents are planned across a wide range of topics, including updates on heart failure with preserved ejection fraction, lipid management, and the treatment of resistant hypertension. Of course, this work will continue to unfold against the backdrop of newly released science, with the volume and velocity of new evidence showing no significant signs of slowing.

With this sheer volume of information, it is imperative that the College continues to deliver critical content in a succinct, accessible and clinically useful formats. For example, ACC.org featured more than 400 journals scans, news stories, trial summaries, and expert analyses in 2025, offering key takeaways and perspectives on practice-changing trials, emerging trends and late-breaking science from major cardiovascular meetings like ACC.25, ESC Congress 2025, AHA 2025 and TCT 2025.

Complementing this written content, ACC and JACC podcasts, on-demand webinars and the ACC Anywhere video library provided

OPTIMIZING CLINICAL GUIDANCE

The three new Clinical Practice Guidelines, developed in partnership with the AHA and in collaboration with other specialty societies and released in 2025, focused on acute coronary syndromes, high blood pressure and, most recently, adult congenital heart disease. While these guidelines are indispensable, there are times when specific guidance is needed to inform more nuanced decision-making or to address specific comorbidities or the management and treatment of specific patient populations. Other times, early guidance and best practices are necessary for informing the use of new or emerging technologies and/or treatments that do not have the corpus of necessary evidence required for a guideline.

To that end, other guidance developed by the College last year covered a wide variety of clinical topics including weight management and obesity in patients with cardiovascular disease, pericarditis, inflammation in cardiovascular disease, peripheral artery disease in patients with diabetes, and nutrition and food labeling, among others. Access the ACC's complete library of clinical guidance, including related resources, at ACC.org/Guidelines. ■

Topic	Content and Direct Links
ACC Clinical Documents Scan the QR code. 	<p>Clinical Practice Guidelines:</p> <ul style="list-style-type: none"> • <i>Acute Coronary Syndromes</i> • <i>High Blood Pressure</i> • <i>Adult Congenital Heart Disease</i> <p>Concise Clinical Guidance</p> <ul style="list-style-type: none"> • <i>Transthyretin Amyloidosis</i> • <i>Oncology Therapies</i> • <i>Nutrition and Food Labeling</i> • <i>Adult Immunization</i> • <i>Pericarditis</i> • <i>Weight Management</i> • <i>Cardiogenic Shock</i> <p>ACC Scientific Statements</p> <ul style="list-style-type: none"> • <i>Cardiovascular Concerns for Competitive Athletes</i> • <i>Obesity and Heart Failure</i> • <i>Risk Assessment for Blood Pressure Management</i> • <i>Inflammation and Cardiovascular Disease</i> • <i>Same Day Discharge for Catheter Ablation Procedures</i> • <i>Peripheral Artery Disease in Patients With Diabetes</i> • <i>Quantitative Coronary Artery Plaque Analysis</i> <p>Appropriate Use Criteria</p> <ul style="list-style-type: none"> • <i>Cardiovascular Implantable Electronic Devices</i> <p>Expert Consensus Decision Documents</p> <ul style="list-style-type: none"> • <i>Cardiac Computed Tomography for Prosthetic Heart Valve Assessment</i> • <i>Tricuspid Regurgitation Evaluation and Management</i> <p>Advanced Training Statements</p> <ul style="list-style-type: none"> • <i>Advanced Cardiovascular Imaging</i> <p>Clinical Performance and Quality Measures</p> <ul style="list-style-type: none"> • <i>Chronic Coronary Disease</i>
Most Popular Scan the QR code. 	<p>The most popular 2025 content on ACC.org, including Journal Scans, news stories, Expert Analyses, Podcasts, <i>Cardiology</i> magazine features, and more.</p>
Meeting Coverage	<p>2025 Meeting coverage in a variety of formats:</p> <ul style="list-style-type: none"> • ACC.25 (ACC.org/ACC2025) • ESC Congress 2025 (ACC.org/ESC2025) • TCT 2025 (ACC.org/TCT2025) • AHA 2025 (ACC.org/AHA2025)
Podcasts	<p>Listen to podcasts from JACC and members that provide perspectives in both shorter (5-10 minutes) and longer (20 minutes) formats. Access the library at ACC.org/Podcasts.</p>

additional context and commentary, often from ACC Member Sections, to help meet the various needs of busy clinicians. We extend our sincere thanks to the more than 250 ACC members who generously volunteered their time and expertise to contribute to developing this content last year – many of whom are also gearing up to contribute to ACC.26 in New Orleans in March.

As cardiovascular science continues to accelerate, the ACC remains committed to delivering clear, trusted and clinically actionable guidance to help you stay informed and translate the latest science into better patient care. We invite you to make the College part of your daily practice – whether through ACC.org, *Cardiology* magazine, ACC and JACC podcasts, ACC Anywhere and/or ACC

and JACC social media. Together, we can continue advancing care in a fast moving world. ■

This article was authored by ACC Clinical Content Editor-in-Chief Fred Kusumoto, MD, FACC. Have feedback on ACC's coverage? Share your thoughts with cardiologyeditor@acc.org.

HOT OFF THE PRESSES FOR 2026

New 2026 ACC/AHA Clinical Performance and Quality Measures for Patients With Peripheral Artery Disease (PAD), released in collaboration with nine other specialty societies, offer a comprehensive framework to assess and elevate PAD care across clinical settings.

"These measures will help patients, clinicians, researchers, quality assurance personnel, payers, and regulatory agencies evaluate PAD care similarly and properly focus attention toward ensuring that high-quality, high-value care is delivered to all patients," according to Writing Committee Chair **Philip P. Goodney, MD, MS**, and Vice Chair **Elsie G. Ross, MD, MS, RPVI**.

A total of 15 measures – seven performance measures and eight quality measures – are defined in the document and based on the 2024 ACC/AHA PAD Guideline. The measures span the continuum of PAD management, from initial evaluation and diagnostic testing to preventive medical therapies, lifestyle modification, procedural considerations and attention to populations at greatest risk for disparities. ■



Scan the QR code
to read more.



ICYMI! Scan this QR code to read the ACC Scientific Statement published in December on the management of PAD in patients with diabetes.

HHS AND USDA RELEASE NEW DIETARY GUIDELINES FOR AMERICANS

The U.S. Department of Health and Human Services (HHS) and U.S. Department of Agriculture (USDA) have released new Dietary Guidelines for Americans intended to guide federal nutrition policy for the next five years.

Specifically, the new guidelines include several

evidence-based recommendations that emphasize a focus on whole vegetables and fruits throughout the day; incorporation of healthy fats from whole foods like meats, seafood, eggs, nuts, seeds, olives and avocados; inclusion of whole grains, while sharply reducing refined carbohydrates; limitations

on alcohol and highly processed foods, added sugars and artificial additives; and drinking water and unsweetened beverages to support hydration.

According to ACC President **Christopher M. Kramer, MD, FACC**: "The ACC welcomes the science-based recommendations

DIVE DEEPER INTO THE NEWEST GUIDELINES - ACC.26 STYLE

Bring your toughest cases and your curiosity to ACC.26 in New Orleans. Start with Fireside Chats, intimate conversations that unpack what's new in the guidelines and why it matters in day-to-day practice. Then step into the Town Halls, where your questions drive the agenda – expect candid takes from guideline authors and frontline experts, plus pragmatic pearls you can use on Monday morning.

Ready to put knowledge to the test? Head to the Gameshow Room for fast-paced, high-yield competitions that turn guideline essentials into real-time decisions. Buzz in for lightning rounds, team challenges, and case scenarios that sharpen clinical reasoning under pressure - bragging rights included.

Prefer a quick pivot between formats? Check the Engage and Heart2Heart stages for pop-up debates, mini-tutorials and faculty Q&A that keep the learning kinetic. **Scan the QR code** to find guideline-focused sessions, then build your plan: listen, challenge and play your way to mastery. At ACC.26, you won't just hear the latest guidance - you'll stress test it, debate it and own it. ■

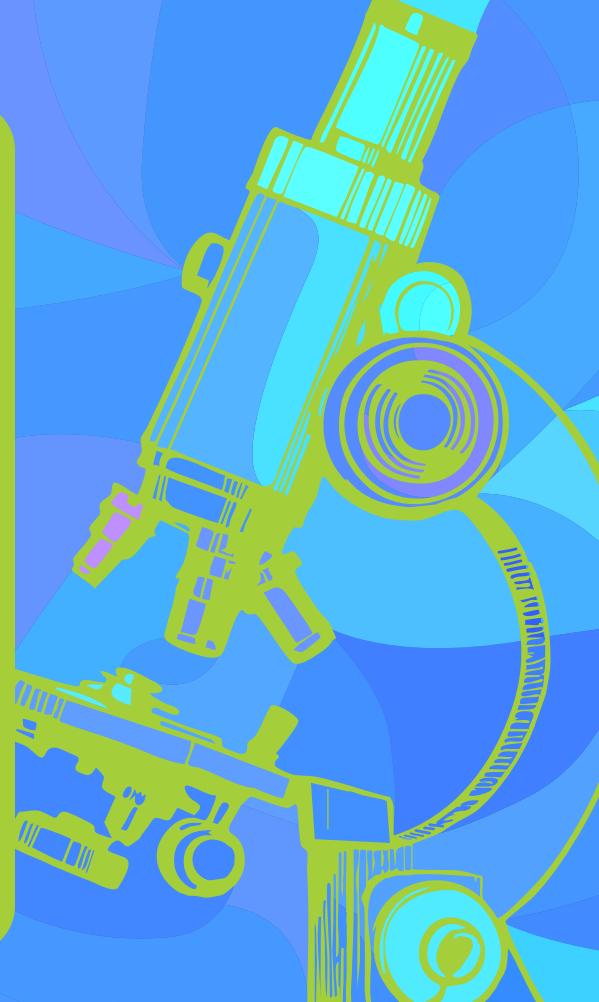


and also looks forward to providing additional evidence-based feedback regarding the impacts of high protein and high fat dairy products on heart health and opportunities for further research when updates to our 2019 Prevention Guideline are released later this year.”

The guidelines also encourage individuals to eat the right amount of food, based on age, sex, size and activity level. Tailored recommendations are also provided for infants and children, adolescents, pregnant and lactating women, older adults, individuals with chronic disease, and vegetarians and vegans, ensuring nutritional adequacy across every stage of life. Specifically, individuals with chronic disease are encouraged to talk with their health care professionals on

how to adapt the guidance to meet their specific needs.

"The ACC acknowledges and appreciates the release of new federal nutrition guidance and remains committed to helping clinicians and patients use it to support heart health," said Kramer. "We are closely reviewing the recommendations and encourage clinicians to discuss practical, culturally appropriate healthy eating options with their patients. Even the healthiest among us can benefit from heart healthy eating patterns. Adopting a healthy diet is especially helpful for people at risk for - or who already have - heart disease or related risk factors like high blood pressure, high cholesterol and diabetes." ■



Heart-healthy nutrition

To protect your heart, focus on ...

Mediterranean

- Light on dairy, meat and sweets
- Fish
- ✓ Olive oil
- ✓ Wine OK in moderation

Vegetarian

- Cuts out meat
- ✓ Vegetable proteins (soy products, legumes)

Vegan goes further with no meat, fish, eggs or dairy products

Whole food, plant-based eating avoids processed foods

DASH eating plan

Dietary approaches to stop hypertension (DASH)

- Limits salt to less than 1500 mg/day
- Lean meat, poultry, fish
- Fruits and vegetables rich in potassium (bananas and leafy greens)

More tips

Cut back on processed meats and saturated fats

Avoid trans fats

Drink water instead of sodas or juice!

For more information, visit CardioSmart.org/EatBetter

Information provided for educational purposes only. Please talk to your health care provider about your individual needs.



Scan the QR code to download this CardioSmart infographic to share with patients.

Front-of-Package Labeling: A New Tool For CV Prevention

With front of package (FOP) nutrition labeling gaining prominence as a practical strategy to support healthier eating patterns, new ACC Concise Clinical Guidance underscores its potential to help reduce cardiovascular disease risk. By drawing attention to key nutrients like sodium, saturated fat and added sugars, the report highlights how FOP labeling can serve as a catalyst for empowering consumers to make healthier, more informed dietary choices.

The report synthesizes current evidence on FOP effectiveness and outlines considerations for developing a transparent, science-based policy that centers around public health while offering clarity for food manufacturers. It also supports ongoing U.S. Food and Drug Administration (FDA) efforts to establish a standardized national FOP system, pointing to experiences in 44 countries where similar approaches have increased consumer awareness, improved purchasing behaviors and, in some cases, prompted reformulation of food products.

"Nutrition is foundational to cardiovascular health; however, the overabundance of food choices and inconsistent messaging have created confusion among the public," says Writing Committee Chair **Kim Allan Williams, MD, MACC**. "FOP labeling presents an opportunity to translate nutrition science into real-world consumer guidance and provide a rapid, visual cue at the point of purchase that highlights nutrients most relevant to chronic disease risk like saturated fat, sodium and added sugars."

According to the report, FOP labels would complement current "Nutrition Facts" on the back of packaging, not replace them, and would use illustrations, symbols and systems that are easy to understand. For example, the "traffic light approach," using red, yellow and green to indicate whether a product contains high, medium or low amounts of fats, sugar or sodium, is an approach to help individuals understand nutritional values and broaden nutrition education.

DON'T MISS THE PATHWAY TO PREVENTION AT ACC.26

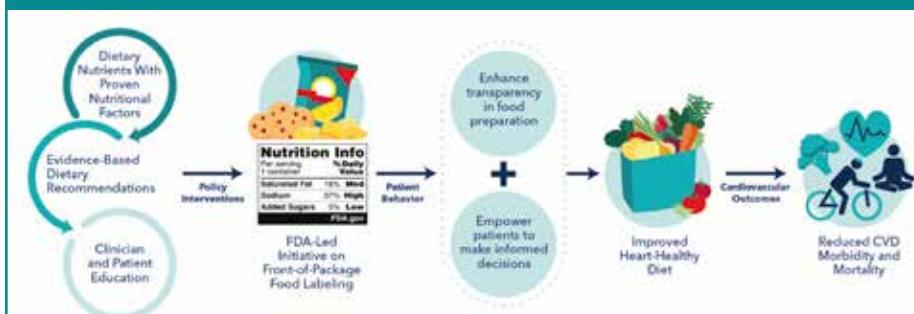
The Cardiovascular Disease Prevention Learning Pathway at ACC.26 will spotlight the rapidly evolving world of preventive strategies and gives clinicians practical tools to bring cutting-edge innovations into everyday care. **Scan the QR code** for pathway highlights.



The document also emphasizes the clinician's role in reinforcing dietary patterns that are lower in saturated fat, added sugars and sodium and higher in minimally processed foods, fiber, fruits, vegetables, legumes and whole grains. Guidance is provided on how to counsel patients on sustainability, food safety concerns and how to interpret nutrition labels, stressing the need for patience, empathy and cultural competence to meet patients "where they are."

"When coupled with clinician education and culturally sensitive counseling, FOP labeling helps overcome barriers related to health literacy, culture and socioeconomic constraints," the document states. "Integrating these approaches into practice empowers both clinicians and patients to make sustainable, informed food choices, ultimately improving cardiovascular outcomes at the individual and population levels."

Pathway From Nutrition to Food Labelling For Improved Cardiovascular Health



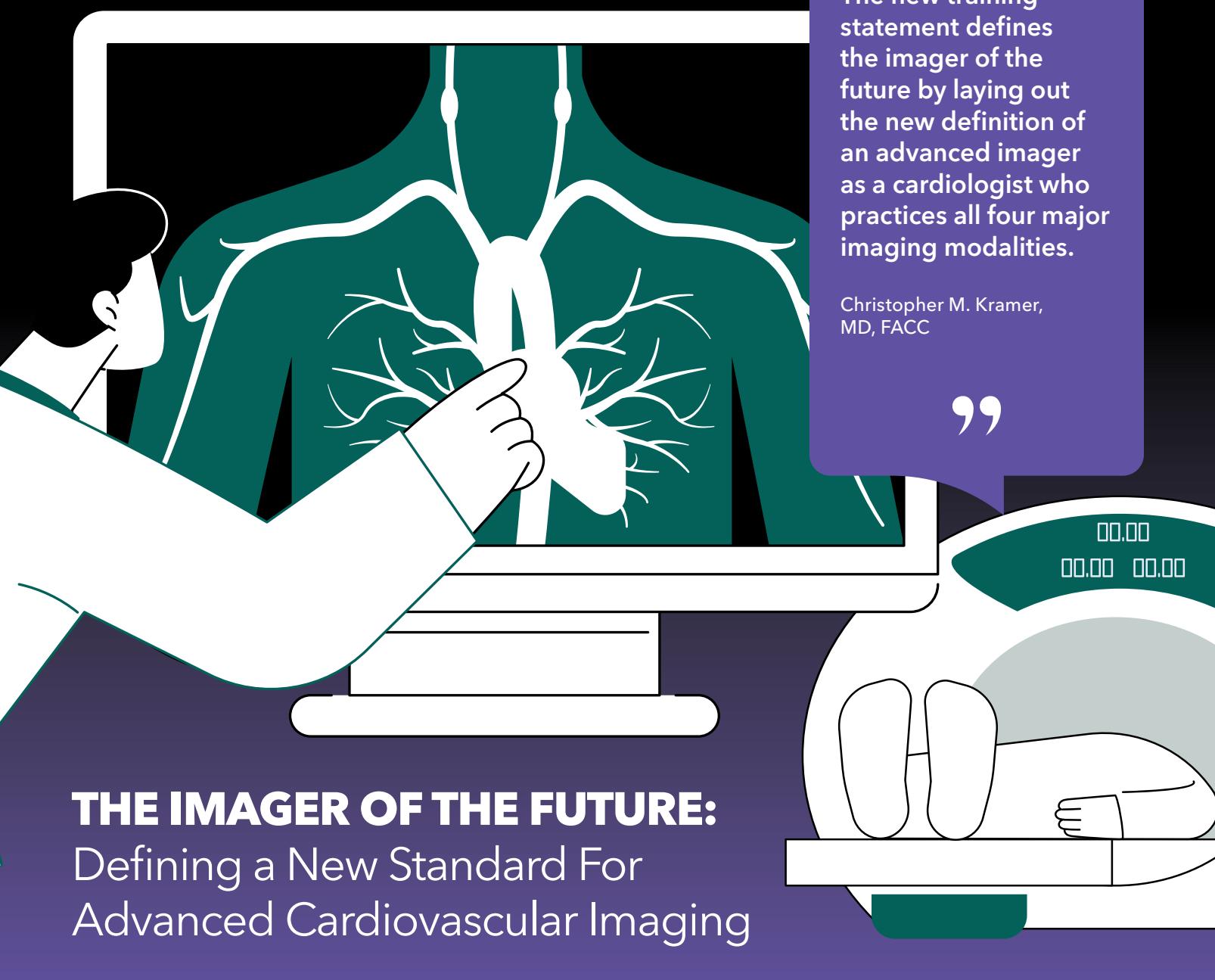
Clinician interaction with FOP labeling occurs at the point of consumer education, reinforcing behavior change and facilitating dietary adherence.

CVD = cardiovascular disease; FDA = U.S. Food and Drug Administration.

JACC 2025; Dec 5:S0735-1097(25)10156-3.

Scan the QR code
to read the new CCG
Report in JACC. ■





THE IMAGER OF THE FUTURE: Defining a New Standard For Advanced Cardiovascular Imaging

Cardiovascular imaging is undergoing a profound transformation. Advances in technology, the expansion of imaging modalities, and rising expectations for precision and patient-centered care have reshaped how imaging informs diagnosis and management across the cardiovascular continuum. In response, the new multisociety Advanced Training Statement on Advanced Cardiovascular Imaging, published in *JACC* late last year, sets forth a bold

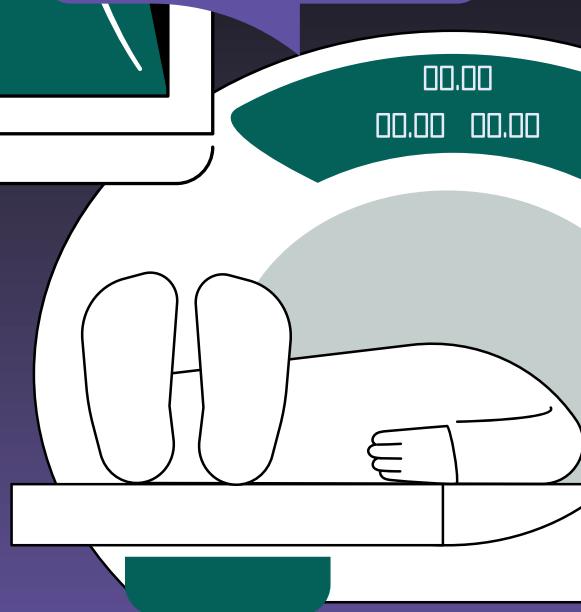
and comprehensive vision for the imager of the future – one that reflects both the complexity and the promise of modern cardiovascular care.

Co-chaired by **Lauren Anne Baldassarre, MD, FACC**, and **Lisa A. Mendes, MD, FACC**, the statement defines the core competencies and training requirements necessary for advanced cardiovascular imagers across all four major imaging modalities: echocardiography, cardiac computed tomography

The new training statement defines the imager of the future by laying out the new definition of an advanced imager as a cardiologist who practices all four major imaging modalities.

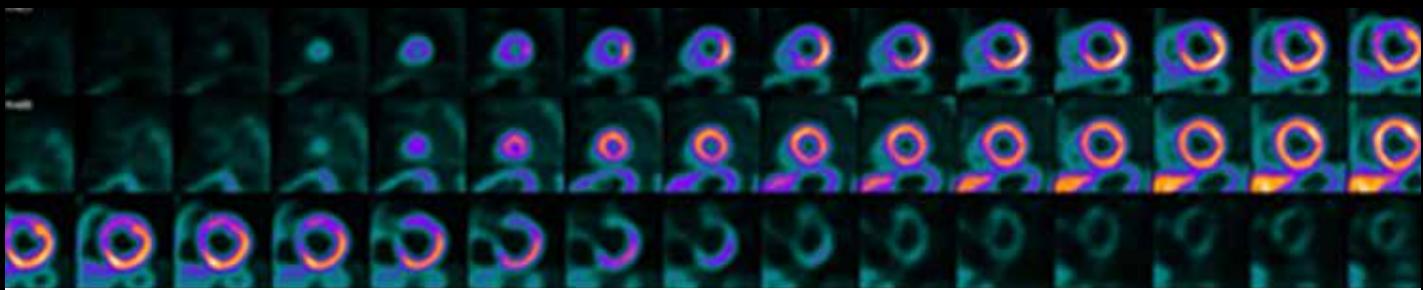
Christopher M. Kramer,
MD, FACC

”



(CCT), nuclear cardiology and cardiac magnetic resonance (CMR). Supported by 25 professional societies, including the ACC, the document underscores the central role of multimodality imaging in contemporary practice and the urgent need for training pathways that keep pace with innovation.

At the heart of the statement is a clear and ambitious definition. “The new training statement defines the imager of the future by laying out



the new definition of an advanced imager as a cardiologist who practices all four major imaging modalities," said ACC President **Christopher M. Kramer, MD, FACC**, in a *JACC* Leadership Page. "This is a bold definition that will push trainees to expand their horizons and search out programs that are able to train them in all of the modalities."

That boldness is intentional. As Kramer notes in his leadership commentary, "Gone are the days when it was sufficient to finish fellowship and be competent in one modality." While deep expertise in a single modality remains highly valued, today's clinical reality increasingly demands multimodality fluency guided by the principle of the *right test for the right patient*. To achieve this, imagers must understand not only how to perform and interpret studies, but also the strengths, limitations and optimal applications of each modality within a given clinical context.

The training statement reflects this evolution by

emphasizing integration as a foundational skill. Rather than viewing echocardiography, CCT, nuclear cardiology and CMR as siloed disciplines, the document calls for imagers who can synthesize findings across modalities and integrate imaging data with clinical information to guide patient management. As the authors write, the goal is to prepare trainees to become "consulting cardiovascular imaging specialists who can guide decision-making regarding the appropriate imaging test or series of tests that may be required to inform patient management and optimize patient outcomes."

To support this vision, the statement outlines comprehensive standards for faculty, facilities, equipment and multidisciplinary collaboration, as well as detailed guidance on training workflows. These include didactic education, modality selection, image acquisition and quality assessment, patient safety, occupational risk management, image interpretation and

reporting, and engagement in research and scholarly activity. Competency-based education is central, with defined milestones, procedural volume expectations, and attention to professional behaviors, leadership and administrative skills.

Importantly, the document recognizes that achieving competence across all modalities requires additional training beyond general cardiology fellowship. At the same time, it encourages programs to introduce imaging exposure early in fellowship to reduce the overall training burden. Where full multimodality training is not available at a single institution, which is often the case for newer modalities like CMR and CCT, the statement urges programs to facilitate training through visiting fellowships or external partnerships.

Kramer addresses this reality directly: "This begs the question: what happens to the trainee whose program does not offer one or more of the imaging modalities?" His answer is pragmatic, stressing the need to leverage existing visiting fellowships and cross-institutional collaborations to ensure equitable access to training opportunities.

Beyond structure and curriculum, the statement also looks ahead to the technological forces shaping imaging's future, particularly artificial intelligence (AI). AI is already transforming every modality, from automated

“

Understanding both the strengths of AI but also the limitations and being able to assess the output and whether it's valid or not is critically important.

Ron Blankstein, MD, FACC

image acquisition and segmentation to enhanced diagnostic accuracy and workflow efficiency. Kramer highlights its growing impact across echo, PET, CMR and CT angiography, while offering a critical reminder: "AI will not replace physicians, but those who do not embrace it will be replaced."

The imager of the future must be both technologically fluent and clinically grounded, capable of validating AI-assisted insights through expert review of primary images. "We need highly trained, advanced multimodality imaging specialists who will be able to select between the different tests and integrate all the information to improve patient care," says Writing Committee Vice Chair **Ron Blankstein, MD, FACC**. "Understanding both the strengths of AI but also the limitations and being able to assess the output and whether it's valid or not is critically important."

Another challenge on the horizon is certification. Currently, multimodality imagers often face the burden of maintaining separate certifications for each modality. While discussions are ongoing among imaging boards and societies to develop more integrated approaches, the statement reinforces the need for collaboration to align certification with the realities of modern practice.

One potential path forward is the formation of a multisociety task force (including the ACC and the American College of Radiology) to establish a pathway toward joint fellowship accreditation in advanced cardiac imaging for both cardiologists and radiologists, write **Naman**

Today's clinical reality increasingly demands multimodality fluency guided by the principle of *the right test for the right patient*.

Upadhyay, MD; Paco E. Bravo, MD; and Vivek T. Kulkarni, MD, FACC, in a JACC viewpoint article. ACGME accreditation can further standardize the application cycle, training experiences and access to funding. "...In combination with existing COCATS guidance, board certification examinations, and this training statement, formalized accreditation would help propel advanced cardiac imaging education to the same high-level standardized education that we expect from other cardiac specialties. The road may be long, but the destination is worth the effort."

Ultimately, the Advanced Imaging Training Statement is more than a set of requirements. It is a call to action, challenging

trainees to broaden their skill sets, challenging programs to rethink training models, and challenging the cardiovascular community to embrace a more integrated, patient-centered approach to imaging. As cardiovascular disease grows ever more complex, so too must the expertise of those who image it, ensuring that advanced imaging remains not just a diagnostic tool, but a cornerstone of better outcomes for patients everywhere. ■



LOOKING FOR MORE?

LISTEN to an ACC CardiaCast "Heart Vision" podcast from the ACC Cardiovascular Imaging Section Leadership Council discussing why the statement was needed and practical takeaways for trainees, educators and clinicians.



READ "Key Points" from the Advanced Training Statement authored by the Writing Committee co-chairs.



SCAN the QR code for Kramer's Leadership Page in JACC.



ACCESS the complete Advanced CV Imaging Training Statement.

THE FUTURE OF IMAGING: WHY YOU SHOULD ATTEND

ACC.26

MARCH
28 - 30, 2026
NEW ORLEANS

With cardiovascular imaging at the heart of precision medicine, ACC.26 will offer clinicians opportunities to elevate their expertise, connect with global leaders and be at the forefront of late-breaking science. This year's Multimodal Imaging Learning Pathway spans the full spectrum of imaging - from foundational applications in structural and coronary disease to cutting-edge technologies shaping tomorrow's practice. Through case-based discussions, interactive debates and real-time audience engagement, recent guidelines and training statements clinicians will come away with actionable knowledge on how to:

- **Master Complex Diagnoses:** Learn how imaging informs challenging conditions such as sarcoidosis and amyloidosis.
- **Enhance Procedural Planning:** Discover strategies for valvular and structural interventions.
- **Explore Innovation:** Dive into AI-driven imaging, evolving training standards and workforce solutions.

SESSION HIGHLIGHTS:

Don't miss dynamic sessions, groundbreaking science, and collaborative discussions that will redefine how imaging drives diagnosis, management and innovation. Examples include:

- *Parade of Patients: Cardiovascular Testing Before Non-Cardiac Surgery and Sports Participation* (Session 230)
- *From Code to Clinic: AI Transforming Cardiac Imaging* (Session 304)
- *Demystifying Diastole: Guideline-Based Insights and Challenging Cases* (Session 244)
- *Icons and Impactful Innovations in Imaging* (Session 379)
- *Jeopardy: Ultimate Imaging Face-Off* (Session 262)



Join us at ACC.26 and be part of the conversation that's changing cardiovascular medicine. **Scan the QR code** to learn more and register. ■

ACC.26

MARCH
28 - 30, 2026
NEW ORLEANS

START STRONG WITH ACC.26 PRE-CONFERENCE SESSIONS!

Kick off your ACC.26 experience in New Orleans with a full day of immersive learning on Friday, March 27 from 10 a.m. to 6 p.m. CT.

Choose from five focused pre-conference sessions that offer deep dives into key areas of cardiovascular care. Led by world-renowned experts in an intimate, interactive setting, sessions will focus on the following topics: the cardiovascular care of oncology patients, care of the athletic heart and critical care cardiology essentials.

Plus, don't miss an NP/PA CCK Exam Review and a JACC Educational Workshop. Add a pre-conference to your registration with the ACC.26 PLUS Package and make the most of your experience! Advance Registration is open through Feb. 11. **Scan the QR code** to register now. ■



Elevating CV Competency in Peripheral Vascular Care

Peripheral artery disease (PAD) affects the lives of an estimated 21 to 27 million Americans.¹ It is a misconception that PAD comes in isolation; in fact, most patients (>60-70%) also have concomitant coronary artery disease and/or cerebrovascular disease.² Additionally, chronic venous diseases are far more prevalent than PAD, with estimates suggesting it affects five- to seven-times more individuals.^{3,4} Beyond the sheer numbers, the profound impact on outcomes and quality of life underscores the need for our specialty to expand the “vascular” component of cardiovascular disease training - and think more broadly in terms of peripheral vascular disease (PWD).

Current fellowship training provides the knowledge to reduce cardiovascular risk and board certification demands expertise in evidence-based cardiovascular risk-reduction strategies. Yet, clinical awareness of PWD remains limited across many cardiovascular disease training programs.

Implementing a more holistic approach on rounds - listening to the heart along with examining the limbs - could dramatically improve patient outcomes. Diminished ankle-brachial indices have long been known to be an independent predictor for cardiovascular mortality.⁵ We can easily palpate a pedal pulse - an action that may help avert major adverse cardiovascular events.

For many patients, access to vascular care remains a major barrier. In many regions of the U.S., there are vascular care deserts where patients must travel hours to see a qualified vascular specialist such as a vascular

surgeon or interventional radiologist. In contrast, cardiologists are far more accessible due to widespread availability of PCI-capable facilities. What is lacking, however, are interventional cardiologists with dedicated training in chronic limb threatening ischemia (CLTI) or venous disorders.

Interventional cardiology programs increasingly emphasize invasive therapies for pulmonary embolism. Likewise, a substantial need exists to deepen our fellows' understanding of acute and chronic deep vein thrombosis and management of venous ulcers. Post-thrombotic syndrome is widely underappreciated, despite substantial morbidity and impact on quality of life.⁶

Interventional cardiology has played a foundational role in the development of modern endovascular techniques. The cornerstone of every peripheral intervention, balloon angioplasty, was invented by the German cardiologist **Andreas R. Gruentzig, MD, FACC**. Notably, in 1974 he first used his single-lumen peripheral balloon angioplasty catheter to dilate a patient's superficial femoral artery,⁷ preceding his creation of the field of percutaneous transluminal coronary angioplasty.

Atherectomy is another tool that has a cardiology footprint. Commonly employed today in peripheral interventions to debulk or modify atherosomatous plaque in peripheral arteries, it received its first approval to treat peripheral arteries after its development in 1985 by interventional cardiologist **John B. Simpson, MD, PhD**.



Recognizing the prevalence of PWD, there is very high demand for skilled endovascular specialists. Interventional cardiologists are uniquely geared for a career as a PWD specialist given their background in cardiovascular disease prevention and interventional skill set. It is mandatory that interventional cardiologists have “good hands,” wire skills and clinical judgment during PCI. These baseline skills provide an excellent foundation to perform CLTI interventions that often require below-the-knee or even below-the-ankle intervention for limb salvage.

While many interventional cardiology programs may lack dedicated PWD training, there are several avenues for acquiring expertise. Trainees must commit to becoming true specialists rather than clinicians who “dabble” in peripheral intervention. Mastery leads to better patient outcomes and reduces scrutiny from non-cardiology vascular specialists. Although turf battles among vascular specialists remain an unfortunate reality, the greatest asset in such environments is unquestioned technical expertise backed by comprehensive training.

Surgery will always remain essential to vascular care, but so too will interventional and cardiovascular management. Over time, if the sincerity and dedication to improve vascular care is present, the hope is that collegiality and cooperation will win out for the betterment of patients.

Becoming an Expert in PWD Intervention

How, then, does a cardiologist become an expert in PWD intervention? While PWD-focused

training is not accredited by the Accreditation Council for Graduate Medical Education (ACGME), multiple cardiology programs offer dedicated PVD fellowships, housed either at major academic centers or led by prominent interventional cardiologists in private practice.

Another viable path involves joining a practice with established endovascular specialists willing to train motivated early-career providers. During such non-ACGME training, safeguards to ensure income stability are essential;

voluntary or unpaid roles should be considered only as a last resort, given the level of training these applicants already possess. If immediate training opportunities are not available, continued engagement through networking at PVD-focused conferences can significantly increase the likelihood of securing advanced instruction. Industry sponsored courses provide useful exposure but should supplement - not replace - formal fellowship or structured on-the-job training.

In essence, this is a call to action for cardiology fellowship program directors, fellows and early-career interventional cardiologists. By expanding our focus more deliberately into the realm of PVD, our specialty can profoundly influence disease progression and improve the lives of millions of patients. ■

References available with the online version of this article at ACC.org/Cardiology.

Editors' Note: This is the second article in a two-part series on PVD. Visit ACC.org/Cardiology to read the first article in the December 2025 issue.

TIPS FOR NAVIGATING "TURF WARS" IN VASCULAR DISEASE

1. Get to know vascular providers in the community. Host a guest speaker with dinner at a local venue. Meeting your "competition" outside of a work environment establishes the bedrock of a collaborative relationship.
2. Invite a vascular provider from another specialty to join you in starting a multidisciplinary program, working together with a local hospital. Examples include PERT, renal denervation or limb salvage program.
3. Refer patients to a vascular provider from a different practice. Understanding the local expertise as well as treatment gaps existing within your current scope of practice, highlights having specific providers to whom you refer consistently for certain problems. This builds trust and is often eventually reciprocated, as the field of vascular disease is vast and there will never be one single proceduralist proficient in treating all pathologies.
4. Identify a local vascular provider who has academic interests. Invite them to participate in a research study, quality project or in writing a case report or review article.
5. If you are part of a training program, offer to involve another vascular practice.
6. Organize a monthly or quarterly case conference. Invite vascular providers from other groups or specialties to attend.

This article was authored by **Pradeep K. Nair, MD, FACC**, Interventional Cardiology, Cardiovascular Institute of the South, Houma, LA, and **Cameron W. Donaldson, MD, FACC**, Interventional Cardiology, Maine Medical Center, Scarborough, ME.





A Long Road With Many Opportunities For Prevention

Despite breakthroughs in pharmacologic therapy, device-based treatment, and advanced circulatory and surgical support that have revolutionized heart failure (HF) management, the prevalence of HF continues to rise.¹ Globally, there has been more than a doubling between 1990 and 2021 in the number of individuals living with HF.² In the U.S., over 6.7 million adults live with HF, a number expected to surpass 8.7 million by 2030.³

These trends reveal a breaking reality: the traditional symptom-based approach is insufficient. Preventing HF earlier in the cardiovascular lifespan is now essential.

Prevention was placed at the forefront of HF care in a Joint Scientific Statement released in August 2025 by the Heart Failure Society of America and the American Society for Preventive Cardiology.⁴ In the document, HF prevention was defined not as a separate goal but as an essential component of longitudinal cardiovascular care.

This framework highlights that HF begins years before

symptoms emerge, through the silent accumulation of structural, biochemical and hemodynamic changes. This prevention perspective is increasingly recognized globally and was reinforced by a three-part Heart Failure Prevention Series published the same month in *The Lancet*, which collectively demonstrate that HF evolves over decades.⁵⁻⁷

Before Symptoms Start: The Critical Window of Pre-Clinical HF

HF is best understood along a four-stage continuum, A through D, that reflects progressive changes in risk, structure and clinical presentation.⁸ Stage A includes individuals with common cardiometabolic and renal conditions that elevate HF risk despite normal cardiac structure and no symptoms. In practice, this stage should trigger routine HF risk assessment and aggressive risk factor treatment such as blood pressure control, early metabolic therapies (SGLT2 inhibitors, GLP-1/

CHANGING FACE OF HEART FAILURE

The profile of patients with HF has shifted dramatically over the last 35 years, with most now likely battling obesity, diabetes and kidney disease. This transformation, documented in a new study published in *JACC*, reveals both progress and a warning. While cardiology advances have reduced traditional risk factors, new metabolic issues have emerged. This reshaping of HF has important implications for patient care today and the design of clinical trials that will shape care tomorrow. **Scan the QR code** to read more about these HF trends in the U.S. in a *Cardiology* online-extra article. ■



GIP agents), weight-loss strategies and lipid optimization.⁴

Stage B ("pre-HF") identifies asymptomatic patients who already show early cardiac involvement, typically mild structural changes or elevated cardiac biomarkers.⁹ These findings indicate that myocardial stress has begun, and clinicians should escalate therapy rather than wait for symptoms. Evidence supports early use of guideline-directed medical therapy, metabolic optimization and evaluation for subclinical ischemia or valvular disease when appropriate.

For clinicians, Stages A and B should be approached as active phases of HF treatment, not passive descriptors. Embedding this prevention-first mindset by treating HF before it becomes apparent is the most effective way to change its lifelong trajectory.

A Cardiovascular-Kidney-Metabolic Framework

Emerging work highlights that HF is the clinical expression of deeply interconnected cardiovascular, kidney and metabolic (CKM) dysfunction.¹⁰ CKM diseases frequently coexist, accumulate across the lifespan, and follow interrelated and often sequential pathobiology, creating a shared substrate for HF development. Contemporary epidemiological and therapeutic evidence demonstrates that CKM conditions are major, underrecognized drivers of HF onset, with risk magnitudes that often exceed that of traditional cardiac factors alone.⁷

CKM biology helps explain why HF

develops even when traditional cardiac parameters look normal. Long before changes in LVEF, chamber size or natriuretic peptides are detectable, CKM conditions such as excess adiposity, dysglycemia, insulin resistance, hypertension, albuminuria and microvascular dysfunction generate energetic stress, inflammatory signaling and diastolic stiffening that quietly remodel the myocardium.¹¹

This CKM lens reframes HF prevention as a multisystem intervention opportunity. Pharmacotherapies that exert parallel CKM benefits, including SGLT2 inhibitors, GLP-1 receptor agonists and GIP/GLP-1 co-agonists, underscore the shared biology linking these organ systems and highlight unprecedented opportunities for upstream HF prevention.⁷

For example, a 52-year-old woman with clinical obesity, prediabetes, microalbuminuria and mild hypertension with a normal LVEF and no symptoms. Historically, the risk of HF had not been considered as significant in this setting, however, within a CKM framework, her metabolic dysfunction and renal injury signal high susceptibility to HF with preserved ejection fraction (HFpEF), prompting early deployment of weight-modifying therapies, SGLT2 inhibition, blood pressure optimization and lifestyle strategies, even before any cardiac abnormalities appear.

Expanding the HF Prevention Lens

Additional to the CKM framework, a range of nontraditional factors also meaningfully shape HF trajectories and broaden the scope of prevention. Genetic predisposition plays a role for a small subset of individuals, with rare pathogenic variants associated with cardiomyopathy present in a minority of the general population.¹² Also, sex-specific determinants are

Clinically, prevention is strengthened by systematically identifying at-risk individuals using validated HF risk scores and integrating routine risk stratification into standard encounters.

increasingly recognized as major drivers of HF risk.¹³

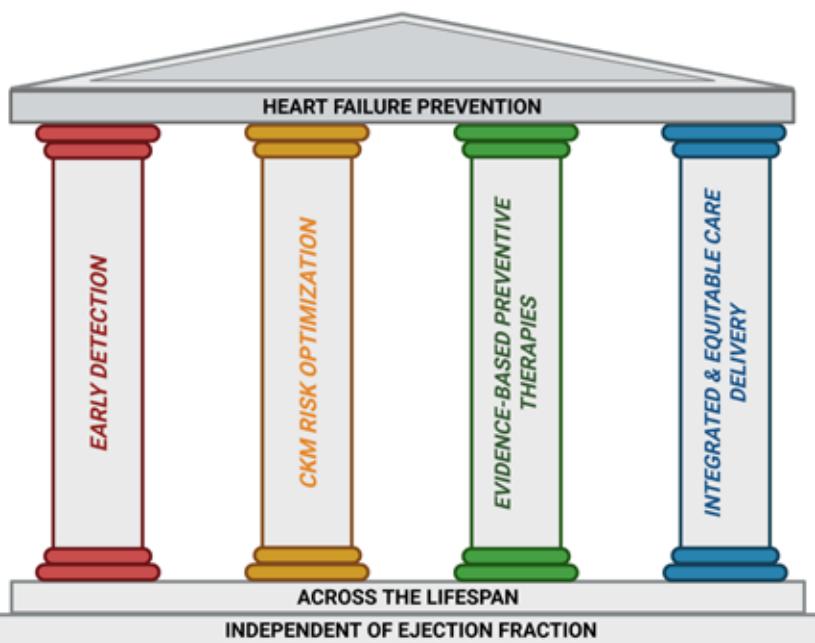
Women experience a disproportionate burden of HFpEF and demonstrate higher vulnerability to the adverse cardiovascular effects of diabetes, obesity and hypertension.^{14,15} Pregnancy-related complications, such as preeclampsia, gestational hypertension and diabetes, pregnancy loss and peripartum cardiomyopathy, serve as powerful markers of future HF and cardiometabolic disease.¹⁵ Despite their strong predictive value, these reproductive and obstetric histories are often overlooked in routine cardiovascular assessments, representing a missed opportunity for early prevention.

Other nontraditional contributors include cancer therapies (anthracyclines, HER2-targeted agents, radiation), chronic psychosocial stress, depression, sleep disorders, and social and structural determinants such as limited access to nutritious foods, transportation barriers, financial hardship and environmental exposures.⁴

Collectively, these factors expand the preventive lens, emphasizing the need for a more comprehensive and individualized approach to HF risk assessment.



Figure. Pillars of Comprehensive HF Prevention Across the Lifespan



Created in BioRender. De Oliveira-Gomes, D. (2025)
<https://BioRender.com/w9ncbcd>.

From Framework to Clinical Practice

Translating a prevention-first HF vision into practice requires coordinated action across all levels of care (**Figure**). Clinically, prevention is strengthened by systematically identifying at-risk individuals using validated HF risk scores and integrating routine risk stratification into standard encounters. When risk is elevated, or when clinical suspicion persists, targeted use of biomarkers (natriuretic peptides, high-sensitivity troponin) and focused cardiac imaging can uncover early myocardial stress or subclinical dysfunction. Applying evidence-based therapies at this stage, before structural disease becomes established, enables intervention when it is most likely to modify trajectory and prevent progression.

Health systems have a critical role in operationalizing HF prevention. Integrated care pathways,

multidisciplinary clinics, standardized HF risk tools within the electronic health record and expanded access to cardiac rehabilitation can help ensure that prevention strategies are consistently implemented. These models also bridge existing gaps between multiple specialties that should play an active role to prevent HF: preventive cardiology, primary care, nephrology, endocrinology and HF specialty practice.

At a population level, sustained progress in HF prevention depends on equitable access to

HF should no longer be viewed solely as an advanced clinical syndrome requiring complex therapy.

preventive therapies and supportive services. Limitations in insurance coverage, medication affordability, transportation and community resources can hinder risk reduction efforts, particularly in populations disproportionately affected by cardiovascular disease. Addressing these social and structural barriers is essential to ensure that HF-prevention strategies translate into measurable improvements in public health.

In summary, a growing body of contemporary work converges on a clear conclusion: HF should no longer be viewed solely as an advanced clinical syndrome requiring complex therapy, but as a preventable condition shaped by cardiometabolic, renal and structural factors that accumulate across decades. Effective prevention depends on recognizing vulnerability early, treating risk factors aggressively and implementing therapies before irreversible myocardial injury develops. Adopting a prevention-first mindset and treating HF risk long before HF itself offers the strongest path to changing the future burden of the disease. ■

References available with the online version of this article at ACC.org/Cardiology.

This article was authored by **Diana De Oliveira Gomes, MD**, Brigham and Women's Hospital, Harvard Medical School, Boston, MA; **Christian Guilliod, MD**, University of Miami/Jackson Health System, Miami, FL; and **Vanessa Blumer, MD, FACC**, Inova Schar Heart and Vascular Institute, Falls Church, VA, a member of ACC's Heart Failure and Transplant Member Section.

Scan the QR code to learn more and join this Section.





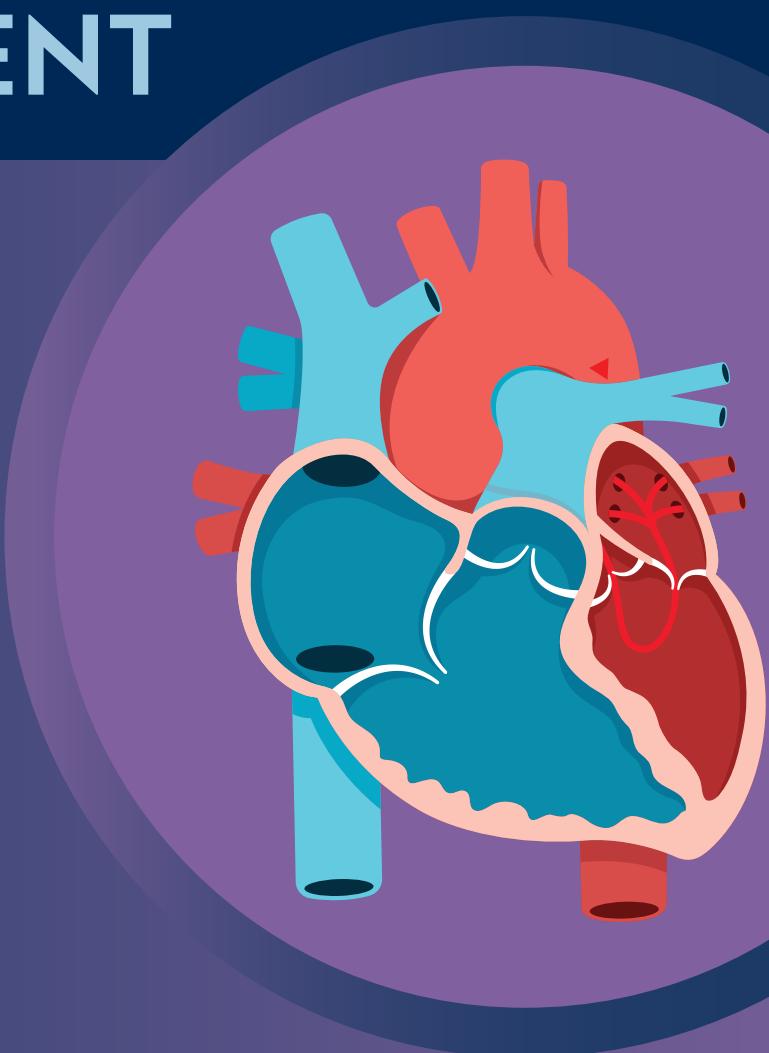
TRANSFORM HF CARE: NEW HORIZONS IN TREATMENT

Bridging knowledge gaps with tools and resources to help clinicians confidently adopt emerging treatments for HFpEF and HFmrEF into everyday practice.



Find out more at
ACC.org/TransformHFCare

The Transform HF Care Initiative is supported by Bayer.



FINERENONE: Expanding Heart Failure Treatment

By Debra L. Beck, MSc

Heat failure with preserved ejection fraction was until recently considered the greatest unmet need in cardiovascular medicine. The FINEARTS-HF trial, published in 2024, represents a significant advancement in this field, establishing finerenone as an effective treatment for patients with heart failure and mildly reduced or preserved ejection fraction (HFmrEF/PFpEF).¹

The Need in HFpEF Management

HFpEF accounts for approximately half of all HF cases, yet therapeutic options remain limited. Steroidal mineralocorticoid receptor antagonists (MRAs) like spironolactone and eplerenone have demonstrated efficacy in heart failure with reduced ejection fraction (HFrEF); however, their effectiveness in HFpEF has been debated. The mixed results of the TOPCAT trial with spironolactone left clinicians uncertain about the role of MRAs in this context. Furthermore, concerns regarding hyperkalemia, renal dysfunction and hormonal side effects have restricted their widespread use.

Enter finerenone – a chemically distinct, nonsteroidal MRA with unique pharmacological properties. Unlike its steroidal predecessors, finerenone shows greater selectivity for the mineralocorticoid receptor and a more balanced distribution between the heart and kidneys, potentially providing cardiovascular benefits with a lower risk of hyperkalemia and worsening kidney function.²

The FINEARTS-HF Trial

The FINEARTS-HF trial was a multinational, double-blind, randomized controlled study that enrolled 6,001 participants across 37 countries. The study population included adults aged 40 years or older with symptomatic heart failure (NYHA class II-IV) and an LVEF $\geq 40\%$.

Key inclusion criteria were elevated natriuretic peptides, evidence of structural heart disease and recent diuretic use for at least 30 days.

Participants were randomized to finerenone or a placebo, with dosing determined by kidney function (10 mg titrated to 20 mg daily for an estimated glomerular filtration rate (eGFR) $< 60 \text{ mL/min/1.73 m}^2$ and 20 mg or 40 mg for those with higher eGFR).

Primary Results

Over a median follow-up of 2.6 years, finerenone demonstrated a statistically significant 16% reduction in the primary composite outcome of total worsening HF

events and cardiovascular death (rate ratio, 0.84; 95% CI, 0.74-0.95; $p=0.007$). This translated to 14.9 events per 100 patient-years in the finerenone group vs. 17.7 in the placebo group.

Breaking down the components, finerenone reduced worsening HF events by 18% (842 vs. 1,024 events), with no significant difference in cardiovascular death (8.1% vs. 8.7% with finerenone and placebo respectively; hazard ratio [HR], 0.93; $p=\text{NS}$). All-cause mortality did not differ between groups.

Patient-reported symptom scores improved with finerenone compared to placebo ($p<0.001$), but no significant difference was observed in the improvement in NYHA class at 12 months.

Since the main results were published, the FINEARTS-HF investigators have refined those findings into no fewer than 30 publications, analyzing subpopulations and outcomes to determine in whom the drug is safe and offers the most benefit.

Metabolic Benefits: New-Onset Diabetes Prevention

A particularly noteworthy finding from FINEARTS-HF was finerenone's effect on glucose metabolism. In a prespecified analysis of 3,222 participants without type 2 diabetes (T2D) at baseline, finerenone reduced the risk of new-onset T2D by 24% (95% CI, 0.59-0.97; $p=0.026$).³ During the median follow-up of 31.3 months, 7.2% of participants taking finerenone developed T2D compared to 9.1% taking placebo.

This metabolic benefit appears unique among MRAs, as spironolactone has been associated with elevations in HbA1c levels in individuals with and without T2D. The mechanism may relate to finerenone's distinct pharmacological profile, including its nonsteroidal structure and more selective mineralocorticoid receptor binding.

Safety Profile and Tolerability

Safety considerations have historically limited MRA use. In FINEARTS-HF, while hyperkalemia (potassium $> 5.5 \text{ mmol/L}$) occurred more frequently with finerenone (14.6% vs. 7.1%), severe hyperkalemia requiring hospitalization remained rare (0.8% vs. 0.2%). Importantly, finerenone reduced the risk of hypokalemia by half ($< 3.5 \text{ mmol/L}$: 5% vs. 10.3%), a clinically relevant finding given the prognostic implications of low potassium in HF.

HEART FAILURE LEARNING PATHWAY AT ACC.26

Plan now to attend ACC.26 from March 28-30 in New Orleans and dive into this informative and interactive Learning Pathway. Visit ACCScientificSession.org to register today!

An initial “acute” decline in eGFR was observed with finerenone (-2.9 mL/min/1.73 m² at three months), which did not translate into progressive kidney dysfunction.⁴ In fact, chronic eGFR slope from three months onward showed no significant difference from placebo and finerenone demonstrated sustained reductions in both micro- and macro-albuminuria throughout follow-up.

Special Populations and Consistent Benefits

Subgroup analyses from FINEARTS-HF demonstrated consistent benefits across key populations, including those with and without T2D, varying degrees of kidney dysfunction and different baseline medication regimens. Notably, the treatment effect was maintained in patients already receiving SGLT2 inhibitors (13.6% at baseline), suggesting complementary mechanisms of action.⁵

In the CONFIDENCE trial, published in June 2025, combination therapy with finerenone plus empagliflozin leads to a greater reduction in the urinary albumin-to-creatinine ratio than either drug alone, among persons with chronic kidney disease (CKD) and T2D.⁶

The trial randomized 800 patients (mean age, 66 years, 25% women) to receive 10 or 20 mg of finerenone once daily (with empagliflozin-matching placebo), 10 mg of empagliflozin once daily (with finerenone-matching placebo), or a combination of finerenone plus empagliflozin. All patients were also taking a renin-angiotensin system inhibitor.

FINEARTS-HF also included a substantial proportion of patients enrolled during or shortly after worsening HF events, with 20.3% enrolled within seven days of an event.⁷ Finerenone’s benefits appeared particularly pronounced in this high-risk population, addressing an important evidence gap for intensified treatment in the vulnerable post-hospitalization period.

Broader Evidence Base: Meta-Analyses and Pooled Data

The evidence for finerenone extends beyond FINEARTS-HF. An individual patient-level meta-analysis combined data from the RALES, EMPHASIS-HF, TOPCAT and FINEARTS-HF trials, encompassing 13,846 participants.⁸ This analysis

revealed important distinctions between steroidal and nonsteroidal MRAs across the HF spectrum.

The investigators pooled analysis demonstrated that overall MRAs reduced the risk of the primary endpoint of cardiovascular death or HF hospitalization (HR, 0.77; 95% CI, 0.72-0.83). But there were significant interactions by trials and treatment: treatment with an MRA significantly reduced the primary endpoint and the individual endpoint of HF hospitalization across all HF groups, but the effect was stronger in the HFrEF population than in the HFmrEF/HFpEF population. Cardiovascular death was significantly reduced in the HFrEF trials (HR, 0.73) but not in the HFmrEF/HFpEF trials (HR, 0.94).

The FINE-HEART pooled analysis, incorporating FIDELIO-DKD, FIGARO-DKD and FINEARTS-HF trials (18,991 participants), further strengthened the evidence base by looking at patients with cardiovascular-kidney-metabolic syndrome.² This analysis showed finerenone nonsignificantly reduced the relative risk of cardiovascular death by 11% in this emerging patient population (95% CI, 0.78-1.01; p=0.076), but reduced all-cause mortality by 9% (95% CI, 0.84-0.99), HF hospitalizations by 17% (95% CI, 0.75-0.92) and kidney composite outcomes by 20% (95% CI, 0.72-0.90).

Subsequent analyses from FINE-HEART and the FIDELIO pooled analysis have shown that treatment with finerenone is associated with a reduction in adverse cardiovascular outcomes in diabetes across a range of glycemia and glycemia-lowering regimens, and in patients across a wide range of abdominal adiposity.^{9,10} The investigators also found treatment reduced the risk of new onset atrial fibrillation/atrial flutter across the spectrum of patients with T2D and CKD.¹¹

Clinical Implications and Future Directions

The FINEARTS-HF trial and supporting meta-analyses establish finerenone as an important therapeutic option for patients with HFmrEF and HFpEF. Its unique profile – combining cardiovascular benefits, kidney protection, metabolic advantages and acceptable safety – positions it as a valuable addition to contemporary HF management.

Questions remain regarding optimal sequencing with other foundational therapies, particularly SGLT2 inhibitors and longer-term outcomes. However, the consistency of benefits across diverse populations and the novel metabolic effects suggest finerenone addresses multiple pathophysiological pathways in HF, offering hope for improved outcomes in this challenging patient population. ■

References available with the online version of this article at ACC.org/Cardiology.

AI and the Changing Landscape of Clinical Trials

By Debra L. Beck, MSc

Clinical trials are expensive, resource-heavy, time-consuming and insufficiently diverse. And it's not unlikely that the result doesn't answer the question or drive change or improvement in clinical practice or is outdated or no longer relevant.

Artificial intelligence (AI) offers potential solutions to these longstanding challenges, promising to revolutionize how we design, conduct and analyze cardiovascular research. From identifying eligible patients to adjudicating clinical outcomes, AI-augmented tools are beginning to reshape the clinical trials landscape in dramatic and exciting ways.

The current system is ripe for transformation, according to **Sneha S. Jain, MD, MBA**, a cardiologist and health AI researcher at Stanford University who works with the Stanford Health Care Data Science team to build, deploy and evaluate AI applications in medicine. With pivotal cardiovascular trials costing on average over \$35,000 per participant and taking upwards of a decade to complete, the need for innovation has never been more urgent.¹

Patient Screening in Seconds

One of the most promising applications of AI in clinical trials is automated patient identification. Traditionally, recruiting participants has been labor-intensive and inefficient, with research coordinators manually reviewing charts to find eligible patients. Now, AI-powered tools can screen thousands of patient records in minutes.

At Stanford, researchers have developed ChatEHR, an AI system

that allows clinicians to query patient electronic health records (EHRs) using natural language.

The system could work bidirectionally. There are ongoing initiatives to help clinicians start with a patient and find appropriate trials or start with a trial and identify eligible patients from their entire patient population. It works also for pure clinical assistance: "I can query the chart and ask for the patient's health care journey over the last six

months since I last saw them in clinic. Usually that requires over 20 clicks to review their other clinical visits and care. Now it's all summarized in bullet form in seconds," explains Jain.

The RECTIFIER tool, recently validated in the COPILOT-HF trial, demonstrates similar capabilities for clinical trials.² Using GPT-4 and Retrieval-Augmented Generation, RECTIFIER assessed complex eligibility criteria in potential participants' EHRs with 98-100%

NEWFANGLED TRIALS

Sometimes running a clinical trial is just not feasible. In a recent NEJM AI article, three Harvard trial experts led by **Issa J. Dahabreh, MD, ScD**, from CAUSALab, review the ins and outs of target trial emulation, simulation and augmentation.⁵

Target trial emulation is a methodological framework for designing observational studies that mimics a hypothetical randomized controlled trial (RCT). Researchers explicitly specify the ideal trial they would conduct and then use real-world data to emulate it as closely as possible. This approach helps avoid common pitfalls like biases related to timing misalignments.

Target trial simulation extends this framework by using observational data to inform the design of future actual trials. Before committing resources to an RCT, researchers can run simulations exploring how different design choices, such as eligibility criteria or sample size requirements, might affect trial outcomes and feasibility.

Augmentation combines the gold standard of randomization with large-scale observational data. This hybrid approach leverages the strengths of both types of evidence to improve statistical power and generalizability.

While computational tools and AI can automate much of the data extraction and analysis in these methods, they cannot eliminate fundamental issues inherent in the data like unmeasured confounding. Hence, endowing the results of target trial emulations with a causal interpretation rests on assumptions, which are untestable using the data. Nevertheless, emulation becomes particularly valuable for designing better trials via data-driven simulation and determining when augmentation with real-world evidence is appropriate. ■

JUST DROPPED: ACC.26 LATE-BREAKING CLINICAL TRIALS!

Late-Breaking Clinical Trial sessions are the heart of ACC's Annual Scientific Session – and this year's line-up is packed with practice-changing research you won't want to miss. Check out what's coming at ACCScientificSession.org, then join us in New Orleans or virtually with ACC.26@Home to be among the first to hear the results! Plus, don't miss this year's AI Intensive Sessions, starting Saturday, March 28.

agreement with expert clinicians – at a cost of just \$0.10 per patient screened. This represents a dramatic improvement in both efficiency and cost-effectiveness compared to traditional manual screening.

The AI Trial Coordinator

AI has the potential to transform not just the logistics of trial operations, but the participant experience itself. Informed consent conversations are often ineffective and may bias towards enrollment. Already large language models have been successful in reducing the complexity and reading time of surgical consent forms and their use is being considered for clinical trials.

"The chatbot isn't time constrained, doesn't get impatient, and can speak any language you need and explain things at every grade level required," notes Jain. To boot, it may reduce barriers to enrollment by reducing patient visits.

AI is enhancing the collection and refinement of continuous monitoring data from wearable devices. This "digital biomarker data" may include metrics derived from vital sign measurements, skin temperature, arrhythmia monitoring, accelerometry, GPS data to identify potential health care encounters, and even speech analysis to detect pulmonary congestion.¹ This decentralized approach reduces the burden on participants but also

has the potential to expand trial participation to patients living far from academic medical centers.

Automated Outcome Adjudication

Perhaps one of the most currently impactful applications of AI in cardiovascular trials is automated clinical event adjudication. Currently, outcomes like heart failure (HF) hospitalizations are adjudicated by clinical events committees – a process that is labor-intensive, expensive and time-consuming.

Natural language processing (NLP) models can now perform these tasks automatically. In the INVESTED trial, an NLP model for adjudicating HF hospitalizations demonstrated 87% agreement with human clinical events committees, with performance improving to match human-level reproducibility after fine tuning.³ Such tools could dramatically reduce costs while providing more consistent and rapid outcome assessment.

Business Model Disruption

While the technical capabilities of AI are impressive, realizing this vision requires more than just better algorithms. "I don't think we're going to get there unless we advance efforts across digital infrastructure, business model innovation and regulatory frameworks," says Jain.

Current clinical trial business models are built around labor-intensive

processes managed by contract research organizations. Noting it can be hard to innovate within that infrastructure, Jain argues that organizations must create "direct lines to leadership to incubate and innovate and advance efforts like this."

Regulatory modernization presents another critical challenge. The current Food and Drug Administration (FDA) clearance process for AI tools differs fundamentally from drug approval, requiring only that a tool performs as claimed. "There's a chasm between FDA clearance and actual proven benefit and deployment in health care systems and clinical trials," Jain explains. She emphasizes the need for academic and industry stakeholders to develop robust evaluation frameworks.

The Path Forward

The vision of AI-transformed clinical trials is already beginning to materialize. Tools like ChatEHR at Stanford, RECTIFIER for patient screening, and NLP-based outcome adjudication are demonstrating proof of concept today.

By 2030, Jain predicts, many of the innovations discussed will be standard practice: AI agents explaining protocols in personalized language, wearable devices providing continuous monitoring, automated outcome adjudication, and seamless integration of trial data with EHRs. The challenge now is not whether these technologies can work, but whether health care institutions and regulatory bodies can adapt quickly enough to realize their full potential. ■

References available with the online version of this article at ACC.org/Cardiology.

**TOP
10**

Advocacy Top 10: Shaping CV Care Through Action

ACC's advocacy efforts in 2025 focused on advancing solutions that enhance the access, quality and value of cardiovascular care and promote heart health nationwide. Thanks to the collective efforts of members, the ACC achieved significant policy wins and made meaningful progress on key issues. Explore the top 10 highlights from this work below.

★ Fighting For Medicare Payment Reform

In 2025, the Centers for Medicare and Medicaid Services introduced several structural changes and reductions in the Medicare Physician Fee Schedule that will negatively impact the financial viability of practices and access to high-quality patient care. The College continues to advocate for legislative solutions to add an annual inflationary update to Medicare payments and increase the budget neutrality threshold, creating a more stable system for clinicians and patients.

400+ CV Clinicians on Capitol Hill

ACC Legislative Conference 2025 was a huge success, with more than 400 clinicians advocating for their patients and practices on Capitol Hill. More than 100 medical students, residents, fellows and early career members and 50 cardiovascular team members were in attendance, showcasing how advocacy is a team effort. Members participated in nearly 300 meetings with lawmakers, garnering support for several ACC priority bills.

★ HeartPAC: Supporting CV Champions

ACC Advocacy participated in more than 200 events with lawmakers in 2025 through HeartPAC. HeartPAC's crucial work allows the ACC to connect with emerging candidates, educate lawmakers on the issues impacting cardiovascular care, and ensure that topics like clinician workforce and well-being, prior authorization reform and telehealth flexibilities are prioritized. Learn more at HeartPAC.org.

★ Funding For CV Awareness and Science

ACC President **Christopher M. Kramer, MD, FACC**, testified before the U.S. House Appropriations Subcommittee on Labor, Health and Human Services, Education and Related Agencies, urging Congress to authorize funding for the previously passed **Cardiomyopathy Health Education, Awareness, Research, and Training in Schools Act**.

The ACC also emphasized the importance of funding for the National Institutes of Health and Centers for Disease Control and Prevention.





Advocating in Statehouses Across the US

ACC State Chapters held 11 lobby days in 2025, pushing for reforms to noncompete laws, expanding access to AEDs and more. This year, five states passed noncompete laws, eight states successfully advocated for bills to promote cardiac emergency preparedness, and ACC's Illinois Chapter spearheaded legislation to secure coverage for annual peripheral artery disease screening in at-risk patients.



ACC Members in Action

ACC members sent thousands of messages through ACC's Action Alert system, urging their lawmakers to act on key issues and explaining the impact health policies can have on both patients and clinicians. Many members also opened their practice doors to give legislators an up-close look at how the cardiovascular care team delivers high-quality care.



Improving Maternal Health Outcomes

Several bills to improve maternal health have been introduced in Congress, aimed at providing coverage for remote monitoring devices, reauthorizing federal support for state-based maternal mortality review committees, and expanding federal grant programs to provide emergency obstetric care in rural areas. The ACC made maternal health a key topic at Legislative Conference, where bills like the **Connected Maternal Online Monitoring Act** gained traction.



Championing Timely Access to Care

After advocating for the **Improving Seniors' Timely Access to Care Act** at Legislative Conference, this bill to reform prior authorization processes secured majority bipartisan support in both chambers of Congress. Meanwhile, prior authorization reform bills have passed in states like Oregon, Virginia, Hawaii, Indiana and North Dakota.



Supporting Specialists in Mandatory Models

Value-based care in cardiology has made significant progress in the past year with the introduction of the Ambulatory Specialty Model for heart failure and the Transforming Episode Accountability Model for CABG. The ACC is committed to educating members, practices and other stakeholders to ensure model success and overall care improvement.



Expanding Payer Coverage

The ACC helped expand payer coverage through payer statements on appropriate indications. These coverage victories were for artificial intelligence-based quantitative coronary topography/coronary plaque analysis, renal denervation and drug-coated balloon.

Scan the QR code for more 2025 highlights and visit ACC.org/Advocacy for the latest advocacy and health policy updates.



ACC MISSION IN ACTION

Message From the President: Momentum, Innovation and What's Ahead For 2026

Happy New Year! As we kick off 2026, I want to provide a quick recap of our December Board of Trustees (BOT) meeting, which served as a great springboard for reflecting on 2025 accomplishments and looking ahead to the new year. Membership, education, innovation and advocacy were key topics on the agenda, and we were privileged to hear from staff and leaders about recent successes, strengths and opportunities for growth. In addition, we reviewed the College's 2025 financial performance and approved the College's proposed budget for 2026.

On the membership front, we discussed insights from recent listening sessions with ACC members and institutional leaders, respectively, and shared feedback on member strategies to both attract new members and deepen engagement with those already in our community. These conversations reinforced that ACC members highly value the College's networking opportunities, advocacy efforts, personal connections, and career and leadership development offerings. At the same time, clinicians are navigating significant challenges related to workforce pressures, financial constraints, limited research funding and evolving training requirements. Addressing these realities requires a shared commitment to sustain and expand meaningful efforts, both large and small, that support members where they need it most.

Encouragingly, membership momentum remains strong, with more than 1,300 new FACCs joining the College in 2025. In addition, we saw an 87% increase in the number of members contributing philanthropic gifts to the ACC Foundation. This extraordinary response reflects the strength of our community and affirms our collective work to ensure the College remains the professional home for cardiovascular professionals around the world. You can learn more about giving back to the ACC Foundation at ACC.org/Support.

We heard from the BOT Revenue Security Task Force on early progress on potential new revenue concepts. We are hopeful to begin moving from concept to product development and testing on several options in the New Year, so stay tuned!

Education at ACC continues to evolve to prepare members to lead in a rapidly changing scientific and clinical landscape. ACC is redefining education by moving beyond content delivery to provide personalized, adaptive learning experiences that integrate human expertise with digital intelligence and empower members to discern, apply and lead with confidence. Current initiatives reflect this approach, including five new topic-focused pre-conferences launching at ACC.26, an enhanced



Personalized Skills Zone, as well as the JACC Peer Review Certificate Program. By modernizing live education to focus on cultivating mastery and strengthening clinical judgment – alongside expanded AI-enabled online learning and more flexible, on-demand offerings – ACC remains committed to supporting lifelong professional growth for cardiovascular professionals.

The BOT also heard about ways ACC continues to lead in digital health and AI innovation. Recent efforts include the new partnership with OpenEvidence, the ACC/MedAxion Care Transformation workbooks and resources, the CardiaCast Innovation in Action podcast series and a new tool to help clinicians leverage Apple Watch data as part of patient care. The Health Care Innovation Member Section and the AI Resource Center also continue to position the College at the forefront of transforming cardiovascular care through technology.

The past year was a busy one for ACC Advocacy. The ACC drove major wins to advance cardiovascular care, including pushing for Medicare payment reform, securing funding for CV awareness and research, and mobilizing 400+ clinicians on Capitol Hill. Key victories included bipartisan support for prior authorization reform, state-level progress on noncompete laws and AED access, as well as expanded payer coverage for innovative therapies. ACC also championed maternal health legislation and supported specialists in new value-based care models, ensuring patient access and clinician well-being remain top priorities. Many of these issues will remain hot topics in 2026 and it will be critical that we actively engage at state and national levels. More information on Advocacy priorities and opportunities to get involved is available at ACC.org/Advocacy.

Hope your 2026 is off to a great start! Thank you for your continued commitment to the College's Mission.

Christopher Kramer, MD, FACC
ACC President



MAY THE NEW YEAR
BE THE
Best One Yet!



THE POWER TO TRANSFORM YOUR CV CARE

ACC's NCDR registries and Accreditation Services provide hospitals, health systems and ambulatory centers with data-driven insights, tools and proven solutions to transform cardiovascular care. Together, they help optimize patient outcomes, connect quality with cost and improve heart health.



Visit **CVQuality.ACC.org**
to learn more!

SHOWCASE YOUR IMPACT!

Submit your abstract for **ACC Quality Summit**, taking place **Sept. 16-18** in **Orlando, FL**, to share your work, gain recognition and connect with leaders in cardiovascular quality improvement.



ACC
ACCREDITATION
SERVICES®

THE TRANSFORMATION
OF CV CARE BEGINS AT

ACC.26

MARCH
28 - 30, 2026
NEW ORLEANS

Experience the meeting that brings the **entire cardiovascular community together** to shape the future of care.

At ACC.26, you'll **connect with peers** from around the world, **explore the latest advances** in CV medicine, and bring home practical insights to **improve your daily practice**.

Choose your ACC.26 Experience:

- **ACC.26:** Full in-person access to an immersive, in-depth educational experience PLUS extended on-demand learning with ACC Anywhere
- **ACC.26 PLUS:** Maximize your time by adding a pre-conference deep dive on Friday, March 27 – choose from five expert-led courses
- **ACC.26@Home:** Can't make it to New Orleans? Get a front-row seat to all the late-breaking science from anywhere in the world



Register Now to **SAVE** up to \$200 –
Advanced Registration ends Feb. 12!

ACCScientificSession.org/Ad



AMERICAN
COLLEGE OF
CARDIOLOGY®