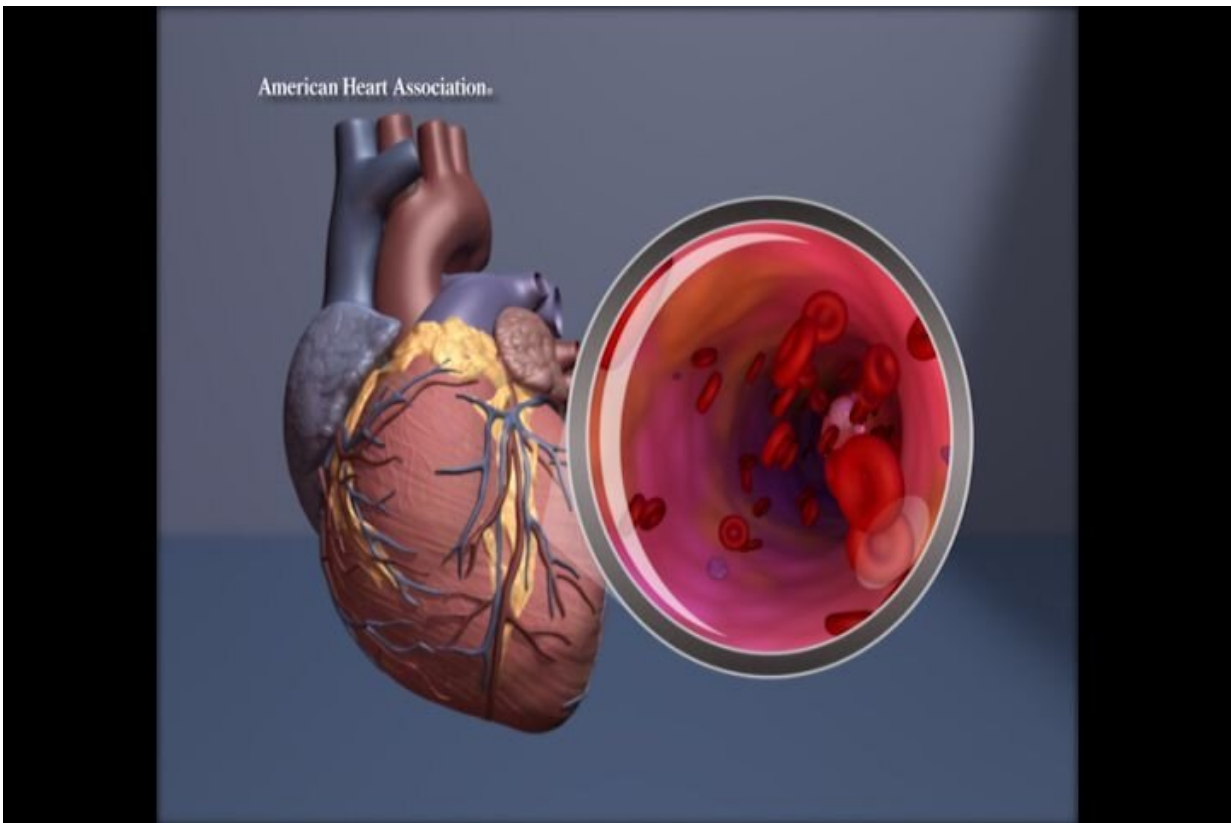


Maternal/child health, new ways to use old meds top 2022 list of heart disease research

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Heart illustration with magnification of the artery. Credit: American Heart Association

Identifying early risks and treatments among children and mothers, continued health disparities and finding new ways to use medications

already on the market are among some of the significant scientific research developments in the fight against heart disease and stroke that emerged in 2022. The American Heart Association, the largest non-governmental funder of heart and stroke related research in the United States, has been compiling an annual list of major advances in heart disease and stroke science since 1996.

"Scientific research is key to lowering the global burden of [heart disease](#) and stroke. The more we learn about the causes and treatments for cardiovascular disease, the better we can translate these findings into meaningful practice for health care clinicians to support healthier communities and individuals," said Mariell Jessup, M.D., FAHA, chief science and medical officer of the American Heart Association. "This past year brought us some very rich scientific findings that I think will make a real impact."

A complete review of the Association's top picks for leading cardiovascular-related research accomplishments published in 2022 can be found [here](#). A brief summary of the research highlights selected by the volunteer medical experts of the American Heart Association, a global force for longer, healthier lives for all, includes the following items.

Heart disease can take hold early in life

Researchers now have scientific evidence that [heart disease risk factors](#) identified even in childhood are linked to later heart trouble. In an [analysis of data](#) on nearly 40,000 people enrolled in seven different studies in the 1970s and 1980s, researchers found that [risk factors](#) identified among study participants when they were 3 to 19 years old were associated with cardiovascular (CVD) events more than 30 years later. Analysis of a risk score based on the presence of five risk factors: high body mass index, high systolic blood pressure, smoking, and high

total cholesterol and triglyceride levels during youth showed an increase in the risk for having a cardiovascular event beginning as early as age 40. For each step up in risk score, the risk for having a cardiovascular event in adulthood nearly tripled.

High blood pressure can be treated safely during pregnancy, improves outcomes

High blood pressure during pregnancy can lead to complications for the baby and the mother and there's been concern that the medications used to treat this condition may also be harmful. However, a new [study](#) found that treatment with high blood pressure medications, specifically in women who have mild chronic hypertension (with readings lower than 160/100 mmHg) and are less than six months pregnant, led to better pregnancy outcomes without harming fetal growth.

Baby's placenta may hold clues to mom's CVD risk

In a [study](#) of the medical records of nearly 500 women who experienced poor pregnancy outcomes in 2008 and 2009, researchers analyzed information on a subset of the women whose placentas displayed lesions indicating blood vessel damage. They found that nearly 10 years after giving birth, these women were more likely to have increased cardiovascular risks like higher blood pressure and cholesterol levels, compared to women who did not have the same placenta damage. More than one in four pregnancy-related deaths (26.5%) in the U.S. are tied to poor heart health and these findings may offer future clues to help improve pregnancy outcomes.

Clinical risk factors, likely influenced by socioeconomic disadvantages, may drive overall CVD

health disparities

It's long been known that people of color are disproportionately impacted by cardiovascular disease. In a [study](#) analyzing more than 30 years of data for roughly 5,000 Black and white participants in the CARDIA study (Coronary Artery Risk Development in Young Adults), researchers looked at the impact of socioeconomic, neighborhood, clinical and lifestyle factors on cardiovascular disease disparities. They found clinical risk factors such as [high blood pressure](#) and body weight may be the main drivers of racial disparities in premature heart disease. While social and economic factors such as neighborhood environment and socioeconomic disadvantages have a smaller impact on overall CVD health, they may contribute to the differences in clinical risk factors among Black and white adults.

One pill to treat multiple CVD conditions improved medication adherence

Getting people who have a medical condition to stick to their medication regimen can be challenging. In a new [study](#) of nearly 2,500 people who had had heart attacks within the past six months, those prescribed one pill containing three different medications had better treatment adherence and a 27% lower risk for cardiovascular events, compared to people who received standard care with multiple medications. The combo polypill included aspirin (to prevent blood clots), an angiotensin-converting-enzyme, or ACE, inhibitor called ramipril (to lower blood pressure) and atorvastatin (to lower cholesterol).

Diabetes medication may help even more people with heart failure and kidney disease

Sodium-glucose cotransporter 2, or SGLT2 inhibitors, originally

developed as glucose-lowering drugs, have also been found to help people with severe heart failure and chronic kidney disease, whether they had diabetes or not. New research from three separate analyses, a [study](#) on people with mild heart failure, a [meta-analysis](#) of five randomized controlled trials on heart failure and a [study](#) on people with chronic kidney disease, found that even people with milder [heart failure](#) or kidney disease may benefit from these medications. That means the medication may reduce hospitalizations and death in a broader patient population than originally thought.

Two medications may be better than one for people with Marfan syndrome

Marfan syndrome is an inherited connective tissue disorder that can affect the cardiovascular system, including enlarging the aorta, the main artery carrying blood away from the [heart](#), which can be life-threatening. Two types of medications—angiotensin receptor blockers, or ARBs, and beta blockers—are widely used to treat the condition. New [research analysis](#) found that, while both medications are separately effective, combining them works even better at slowing the aortic enlargement and could substantially delay a need for aortic surgery.

There's new hope in treating stroke, a leading cause of disability

Quickly clearing blocked arteries to restore blood flow following a stroke can make a big difference in reducing the impact of disability. Several studies report substantial improvements in stroke treatment, including a new clot-busting medication and expanded uses for current standard of care medication and non-surgical clot removal treatments.

In a head-to-head [comparison](#) of alteplase and tenecteplase, both

medications were similarly safe and effective at preventing further disability 90 days after a stroke. Tenecteplase is a genetically modified version of the current standard of care, alteplase (tPA), and is easier to use and faster to inject. Another [study](#) found that using alteplase after a thrombectomy, a surgical procedure used to remove [blood clots](#) in large arteries of the brain, could further reduce neurological disability after a stroke. And a third [study](#) found that endovascular therapy, non-surgical removal of clots which has commonly been used for small and medium strokes, may also be effective in improving function in people after larger strokes, although there is an increased risk of bleeding that must be considered.

Cutting back on sodium may improve CVD health and lower health care costs

It's known that too much sodium may increase blood pressure and [cardiovascular disease](#), and most people consume much more sodium than recommended. A large [study](#) in China found that reducing sodium intake by using a lower-sodium table salt substitute containing 25% potassium chloride not only lowered stroke risk, it also saved people money by cutting health care costs.

New weight-loss medication is as effective in reducing obesity as bariatric surgery

There's a new medication in the fight against obesity. Tirzepatide is a once-weekly injection initially developed to treat people with Type 2 diabetes. Like similar medications introduced in the last year or so, it contains a glucagon-like peptide-1 (GLP-1) receptor agonist, however, it combines that nutrient-stimulated hormone with a second one, glucose-dependent insulinotropic polypeptide, or GIP. The medication helps people eat less by making the stomach empty more slowly, so they feel

fuller longer. A new [study](#) found people may potentially lose substantially more weight with this [medication](#) (15%-21% of [body weight](#)) than with medications already on the market, and that weight loss is comparable to what is found among people having bariatric surgery.

Provided by American Heart Association

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