Fulfilling the Promise

AAMC

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February is a natural time to think about matters of the heart. In addition to Valentine's Day, this month is also home to American Heart Month. Heart disease remains the leading cause of death in the United States.

But with funding from the National Institutes of Health (NIH), the nation's medical schools and teaching hospitals are conducting research that could provide new treatments for heart disease.

The number of people age 65 or older who have been hospitalized for heart failure more than doubled between 1980 and 2006, and this number is likely to keep climbing unless prevention measures are adopted more quickly, according to a recent study. The U.S. Centers for Disease Control and Prevention estimates the cost of heart disease and stroke in the United States at more than $448 billion in 2008.

Here are some examples of NIH-funded research being conducted by the nation's medical schools and teaching hospitals to fight heart disease:

Breakthroughs past and present

Scientists at **Boston University School of Medicine** serve as primary investigators in the Framingham Heart Study, a 60-year-old, ongoing NIH-funded health project examining the underlying causes of and risk factors for heart attacks, stroke, and other cardiovascular diseases. In the 1960s, Framingham scientists found that high blood pressure and cholesterol levels could increase the risk of heart disease, and that physical activity could reduce that risk.

More recently, Framingham scientists found that cigarette smokers—who are generally at much higher risk for heart disease—were more likely to quit in groups than as isolated individuals. This discovery could play a role in developing clinical and public health interventions to reduce and prevent smoking.

Today, the Framingham Genetic Research Study is analyzing the DNA of 9,000 study participants across three generations to identify genes underlying cardiovascular and other chronic diseases.

Genetic factors in heart health

Last year, an international consortium of researches from several medical schools and other institutions discovered, with support from the NIH, 25 genetic variants that are connected to cholesterol and lipid levels, which are key risk factors for heart disease. The researchers used an approach known as a genome-wide association study, in which entire human genomes are examined for genetic variants. These

To view the Webcasts of previous Capitol Hill briefings from the Fulfilling the Promise campaign, go to **www.aamc.org/research/ftp/briefings.htm**

See How the NIH Supports Medical Research
www.aamc.org/ftp/nih.htm

Learn More:

Heart Disease: A Special Challenge for Women *(PDF, 3 pages)*

Medical Firsts: Advances Pioneered at America's Medical Schools and Teaching Hospitals *(PDF, 2 pages)*

Teaming Up to Improve Health *(PDF, 3 pages)*

"Fulfilling the Promise" is a special AAMC initiative highlighting the collaboration between the National Institutes of Health (NIH) and academic medicine. As research engines of the U.S. health system, the nation's medical schools and major teaching hospitals are awarded more than half of all NIH grants to scientists through its extramural research program.

www.aamc.org/ftp

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studies will help better identify someone who is at risk for developing heart disease, and could ultimately help pave the way for personalized treatments.

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Drug treatments less expensive, just as effective as stents

Patients receiving delayed treatment for a heart attack do just as well with drug treatment as they do with drug treatment plus the insertion of a stent that props open blocked arteries, according to a new study led by investigators at **Duke University School of Medicine**. Hospital stays were 1.2 days shorter and almost $10,000 cheaper for patients in the study who received only drug treatments as opposed to those for whom stents or balloons were also used to open arteries.

New formula for safely prescribing anti-clot medicine

Using information from thousands of genetically and geographically diverse patients, a group led by investigators from **Stanford University School of Medicine** developed a mathematical formula that could help doctors better determine optimal warfarin doses. Two million patients each year start taking warfarin, which is used to prevent dangerous blood clots that can lead to heart attacks or strokes. The drug is challenging for doctors to prescribe because the ideal dosage for each person varies widely and is hard to predict, yet is crucial for the patient's safety.

Music may affect heart health

Scientists at the **University of Maryland School of Medicine** revealed in November that listening to your favorite music may benefit your cardiovascular system. Music selected by study participants because it made them feel good caused blood vessel tissue to expand in order to increase blood flow. On the other hand, when study volunteers listened to music they perceived as stressful, their blood vessels narrowed, producing a potentially unhealthy reduction in blood flow.

More NIH-funded research advances from U.S. medical schools and teaching hospitals:

Health IT project could expedite treatments

The NIH announced that it will provide an estimated $4 million for three collaborative pilot projects designed to improve informatics support for researchers conducting small- to medium-sized clinical studies. The initiative is designed to more quickly "translate" biomedical research findings into viable health treatments and strategies. The pilot projects will be led by **Case Western Reserve University** in Cleveland; the **University of Washington** in Seattle; and **Vanderbilt University** in Nashville, Tenn.
www.ncrr.nih.gov/ctsa/informatics

A better marriage means better sleep

A **University of Pittsburgh Medical Center** study shows that a happy marriage can lead to a better night's sleep for women. Women who participated in the study and believed they had happy marriages reported less difficulty falling asleep, less likelihood of waking up during the night, and less restless sleep compared to women who report less happiness in their marriages.
www.upmc.com/MediaRelations/NewsReleases/2008/Pages/marriage-happiness.aspx