

FACTS

Cardiovascular Disease: Women's No. 1 Health Threat

OVERVIEW

The facts are both startling and alarming. Heart disease, stroke, and other cardiovascular diseases (CVD) are the No. 1 cause of death in American women, claiming over 400,000 lives each year, or nearly one death each minute.¹ CVD kills more women than the next three causes of death combined, including all forms of cancer.¹ In 2009, one in 30 female deaths was from breast cancer, but one in three was from cardiovascular disease.¹ Unfortunately, we may be losing ground in the fight against heart disease in younger women. Recent research suggests that the coronary heart disease death rate for women ages 35 to 44 actually increased annually between 1997 and 2002.² Women age 45 and older are less likely than men of that age group – 74% vs. 81% – to survive a year after their first heart attack.¹ In women, heart disease is too often a silent killer – nearly two-thirds of women who died suddenly had no previous symptoms.¹

CVD is largely preventable. One study found that if women adhere to five lifestyle choices involving diet, exercise, and non-smoking, 83% of coronary events may be prevented.³ In an analysis of more than 161,000 women participating in the Women's Health Initiative, 83% of the women were either classified as "high risk" or "at risk" for CVD and an additional 13% of the women lacked risk factors for CVD but did not adhere to a healthy lifestyle.⁴ But prevention is hindered by the fact that many women and their health care providers don't realize that CVD is a woman's No. 1 health threat. The American Heart Association (AHA) will work to close this knowledge gap through education and advocacy.

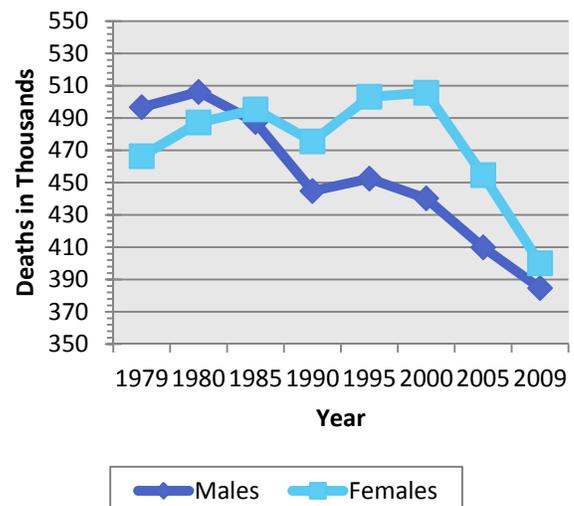
RAISING AWARENESS

A 2009 survey conducted by the AHA found that 46% of women were unaware that heart disease is the leading cause of death among women. In addition, women of color and of low socioeconomic status are disproportionately affected by coronary heart disease; the death rate was 41% higher for black women than for white women in 2009.¹

However, only 43% of black women and 44% of Hispanic women know that heart disease is their greatest health risk, compared to 60% of white women.⁵

Many women also do not recognize the warning signs or symptoms of heart disease, which may be subtler than those exhibited by men. In addition, only 53% of women said the first thing they would do if they thought they were having a heart attack was to call 9-1-1.⁵ Unfortunately, this lack of awareness extends to women's health care providers, often resulting in less aggressive and sophisticated diagnosis and treatment, with worse outcomes.⁶

Cardiovascular disease mortality trends for males and females (United States: 1979–2009).¹
Source: National Center for Health Statistics.



GENDER DIFFERENCES IN CVD

Researchers have learned that gender differences play an important role in the prevention, diagnosis, and treatment of CVD. Heart attack symptoms may be different in women than in men⁷ and women may also respond differently to cardiac medications.

- Although chest pain is the most common heart attack warning sign in both men and women, women may be less likely to report chest pain during a heart attack and more likely to report other symptoms, often resulting in misdiagnosis and delays in treatment.⁸
- Women tend to develop CVD later in life than men, and their outcomes are often worse.

- Women smokers die of a heart attack caused by smoking earlier than men. Women who smoke are nearly twice as likely to die of sudden cardiac death, compared to women who have never smoked.^{9,10}
- Women with acute coronary syndrome are more likely than men to have adverse outcomes, including death, heart attack, stroke, or re-hospitalization, even after adjusting for age differences.¹¹
- Previous studies and clinical trials have often been done with inadequate numbers of women in the study population, and thus, their conclusions do not always apply to women. In fact, three-fourths of cardiovascular clinical trials do not report sex-specific results, making it difficult for researchers and clinicians to draw conclusions about their effects on women.¹²
- Likewise, in an analysis of more than 120 studies of 78 FDA-approved medical devices between 2000 and 2007, women made up only one-third of the participants in the studies and 28% of the studies didn't provide the gender of the patients enrolled in the trials.¹³
- Researchers have identified gender differences in response to cardiac medications. Drugs that are beneficial for men may even be harmful to women. For example, the drug digoxin used to treat patients with heart failure was associated with an increased risk of death among women, but not men.¹⁴

DIAGNOSIS AND TREATMENT DISPARITIES

Women are less likely than men to receive aggressive diagnosis and treatment for CVD.

- Among Medicare patients, men are two to three times more likely than women to receive an implantable cardioverter-defibrillator for the prevention of sudden cardiac death.¹⁵
- Only about 33% of all percutaneous coronary interventions were performed on women in 2010.¹
- One in 5 women (about 19 million women) between the ages of 18 and 64 are uninsured.¹⁶ Uninsured women are more likely to have inadequate access to care, get a lower standard of care when they are in the health system, and have poorer health outcomes.
- Women are more likely than men to have forgone needed health care due to cost.¹⁷

THE AHA ADVOCATES

Our nation has made remarkable progress in reducing the overall rates of death and disability from CVD in men. Realizing a comparable level of improvement for women requires the concerted efforts of everyone.

- The AHA applauds enactment of a provision in the Food and Drug Administration Safety and Innovation Act that requires the FDA to report on how new prescription drugs and medical devices work in women and minorities. AHA is now working with FDA to implement this provision.
- The AHA supports expanding to all 50 states the WISEWOMAN program, which provides free CVD screening and lifestyle counseling to low-income uninsured or under-insured women.
- AHA supports improved reporting of health care data by sex, race, and ethnicity.
- AHA is working to implement provisions of the Affordable Care Act that will make health insurance more accessible and affordable for women as well as men.

¹ Go AS, Mozaffarian D, Roger VL, et al. Heart disease and stroke statistics—2013 update: a report from the American Heart Association. *Circulation*. 2013;127:e6-e245

² Ford, Earl S. and Capewell, Simon. Coronary Heart Disease Mortality Among Young Adults in the U.S. From 1980 through 2002: Concealed Leveling of Mortality Rates. *J Am Coll Cardiol* 2007. (Published online Nov 12, 2007).

³ Stampfer MJ, Hu FB, Manson JE, et al. Primary prevention of coronary heart disease in women through diet and lifestyle. *New Engl J Med* 2000; 343:16-22.

⁴ Hsia, J, et al. "Evaluation of the American Heart Association CVD Prevention Guideline for Women. *Circ Cardiovasc Qual Outcomes*. 2010;3:128-134.

⁵ Mosca L, Mochari-Greenberger, H., Dolor, R., Newby, K., and Robb, K. Twelve-Year Follow Up of American Women's Awareness of Cardiovascular Disease (CVD) Risk and Barriers: *Circulation: Cardiovascular Quality and Outcomes*, Published online February 10, 2010.

⁶ Mosca L, Linfante AH, Benjamin EJ et al. National study of physician awareness and adherence to cardiovascular disease prevention guidelines. *Circulation* 2005; 111: 499-510.

⁷ McSweeney JC, Cody M, O'Sullivan P, Elbersson K, Moser DK, Garvin BJ. Women's early warning symptoms of acute myocardial infarction. *Circulation* 2003; 108:2619-2623.

⁸ Canto JG, et al. Symptom presentation of women with acute coronary syndromes: myth vs. reality. *Arch Intern Med* 2007; 167:2405-2413.

⁹ Grundtvig M, Hagen TP, Reikvam A. Sex-based differences in effect of smoking: first acute myocardial infarction occurs more prematurely in women than in men. European Society of Cardiology Congress Poster Session. September 2008.

¹⁰ Sandhu RK, et al. Smoking, Smoking Cessation, and Risk of Sudden Cardiac Death in Women. *CircEP*. Dec. 2012.

¹¹ Dey S, Flather MD, Devlin GP, et al. Sex-related differences in the presentation, treatment and outcomes among patients with acute coronary syndromes. *Heart* 2009;95:20-26.

¹² Blauwet LA, et al., Low rate of sex-specific result reporting in cardiovascular trials. *Mayo Clin Proc*. 2007;82:166-170.

¹³ Dhruva, SS, Bero, L, and Redberg, R. "Gender Bias in Studies for Food and Drug Administration Premarket Approval of Cardiovascular Devices." *Circ Cardiovasc Qual Outcomes*. Published online ahead of print March 1, 2011.

¹⁴ Rathore SS, Wang Y, Krumholz HM. Sex-based differences in the effect of digoxin for the treatment of heart failure. *New England Journal of Medicine* 2002; 347(18): 1403-1411.

¹⁵ Curtis, et al. Sex differences in the use of implantable cardioverter-defibrillators for primary and secondary prevention of sudden cardiac death. *JAMA* 2007; 298:1517-1524.

¹⁶ U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2009.

¹⁷ Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, 2007-2009. Analysis conducted by the Maternal and Child Health Information Resource Center.