

**Cardiovascular Disease in Women:
Demographics, Statistics and Health Disparities**

CVD and Other Major Causes of Death for Women in the United States: 2007

Total CVD	CHD	Stroke	Cancer	Asthma + COPD
421,928	190,301	81,841	270,018	66689

SOURCE:

(1) Roger VL, Go AS, Lloyd-Jones DM, et al. (2011). Heart disease and stroke statistics--2011 update: A report from the American Heart Association. *Circulation*, 123(4), e18-209.

Note: "Total Cardiovascular Disease" includes high blood pressure, coronary heart disease, heart failure, and stroke.

Congestive Heart Failure: Gender Differences

- Compared to men, women with heart failure are:
 - Older
 - More likely to have hypertension
 - More likely to have diabetes
 - More likely to have diastolic dysfunction
- Knowledge of diastolic dysfunction prognosis and treatment is limited
- Trials of congestive heart failure treatments have included mainly men

SOURCE:

(1) Stromberg A and Martensson J. (2003). Gender differences in patients with heart failure. *European Journal of Cardiovascular Nursing*, 2(1), 7-18.

The chart below shows U.S. cardiovascular disease deaths from 1980-2007 for men and women. While, the number of deaths in males has been steadily declining over the past 15-20 years, cardiovascular deaths for women remained flat or increased slightly during the 1980s and 1990s. The number of deaths for women have exceeded those for men over the past 20 years.

	1985	1990	1995	2000	2007
Men	487,000	445,000	452,000	440,000	391,886
Women	495,000	475,000	503,000	506,000	421,918

SOURCES:

(1) Rosamond W, Flegal K, Furie K, Go A, Greenlund K, Haase N, Hailpern SM, Ho M, Howard V, Kissela B, Kittner S, Lloyd-Jones D, McDermott M, Meigs J, Moy C, Nichol G, O'Donnell C, Roger V, Sorlie P, Steinberger J, Thom T, Wilson M, Hong Y, for the American Heart Association Statistics Committee and Stroke Statistics Subcommittee (2008). AHA Statistical Update, Heart Disease and Stroke Statistics—2008 Update, A Report From the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*, 117, e25-e146.

(2) Roger VL, Go AS, Lloyd-Jones DM, et al. (2011). Heart disease and stroke statistics--2011 update: A report from the American Heart Association. *Circulation*, 123(4), e18-209.

The chart below shows the number of U.S. men and women diagnosed with myocardial infarction and fatal CHD by age (1987-2004). Although women in general present at later ages than men, over 10,000 reproductive age women per year are diagnosed with myocardial infarction or suffer fatal CHD.

	Age 35-44	Age 45-64	Age 65-74	Age 75+
Men	30,000	265,000	180,000	235,000
Women	10,000	95,000	95,000	290,000

SOURCE:

(1) Rosamond W, Flegal K, Furie K, Go A, Greenlund K, Haase N, Hailpern SM, Ho M, Howard V, Kissela B, Kittner S, Lloyd-Jones D, McDermott M, Meigs J, Moy C, Nichol G, O'Donnell C, Roger V, Sorlie P, Steinberger J, Thom T, Wilson M, Hong Y, for the American Heart Association Statistics Committee and Stroke Statistics Subcommittee (2008). AHA Statistical Update, Heart Disease and Stroke Statistics—2008 Update, A Report From the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*, 117, e25-e146.

Age-Adjusted Cardiovascular Death Rates for U.S. Men and Women, 2000 and 2007

The chart below shows U.S. cardiovascular disease death rates in 2000 and 2007 for U.S. men and women. Major cardiovascular diseases and other diseases of the circulatory system include ICD-10 codes I00-I99. Rates are per 100,000 population.

	2000	2007
Men	402.2	300.3
Women	292.9	211.6

SOURCES:

(1) Miniño AM, Arias E, Kochanek KD, Murphy SL, Smith BL. Deaths: Final Data for 2000. National vital statistics reports; vol 50 no 15. Hyattsville, Maryland: National Center for Health Statistics. 2002.

(2) Xu JQ, Kochanek KD, Murphy SL, Tejada-Vera B. Deaths: Final data for 2007. National vital statistics reports; vol 58 no 19. Hyattsville, MD: National Center for Health Statistics. 2010.

Acute MI Mortality by Age and Sex

Based on national registry data including 155,565 women and 229,313 men enrolled between June 1994 and January 1998, overall in-hospital mortality during hospitalization for myocardial infarction is 16.7% for women, compared to 11.5% for men. Among persons less than 50 years of age, the rate of mortality for women is twice the rate of mortality for men. In contrast, for persons over the age of 74 years, there is no statistically significant difference in mortality rates between women and men.

SOURCE:

(1) Vaccarino V et al. (1999). Sex-based differences in early mortality after myocardial infarction. National registry of myocardial infarction 2 participants. *New England Journal of Medicine*, 341(4), 217-225.

Based on national registry data including 155,565 women and 229,313 men enrolled between June 1994 and January 1998, overall in-hospital mortality during hospitalization for myocardial infarction is 16.7% for women, compared to 11.5% for men (1).

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Racial and Ethnic Groups

- Cardiovascular disease is the leading cause of death for African Americans, Latinos, Asian Americans, Pacific Islanders, American Indians, and Caucasians
- In 2007, African American women were at the highest risk for death from heart disease among all racial, ethnic, and gender groups

SOURCE:

(1) Roger VL, Go AS, Lloyd-Jones DM, et al. (2011). Heart disease and stroke statistics--2011 update: A report from the American Heart Association. *Circulation*, 123(4), e18-209.

Age-Adjusted Cardiovascular Disease Death Rates for U.S. Men and Women by Gender and Race/Ethnicity, 2000 and 2007

The chart below shows U.S. cardiovascular disease death rates in 2000 and 2007 for U.S. men and women by gender and race/ethnicity. Major cardiovascular diseases and other diseases of the circulatory system include ICD-10 codes I00-I99. Rates are per 100,000 population.

		2000	2007
White, Non-Hispanic	Men	402.1	299.5
	Women	288.3	208.7
Black, Non-Hispanic	Men	520.8	414.0
	Women	405.0	291.5
Hispanic	Men	259.7	214.1
	Women	186.2	154.7

SOURCES:

(1) Miniño AM, Arias E, Kochanek KD, Murphy SL, Smith BL. Deaths: Final Data for 2000. National vital statistics reports; vol 50 no 15. Hyattsville, Maryland: National Center for Health Statistics. 2002.

(2) Xu JQ, Kochanek KD, Murphy SL, Tejada-Vera B. Deaths: Final data for 2007. National vital statistics reports; vol 58 no 19. Hyattsville, MD: National Center for Health Statistics. 2010.

The following table shows deaths per 100,000 for women by race/ethnicity. African American women have higher death rates for CHD, stroke, and breast cancer than white, Hispanic or Asian women.

	CHD	Stroke	Lung Cancer	Breast Cancer
Black/African American	130.0	57.0	39.0	32.2
White	101.5	41.0	41.3	23.0
Hispanic	84.5	32.3	14.1	14.8
Asian	58.9	34.9	18.1	11.7

SOURCES:

(1) Lloyd-Jones D, Adams RJ, Brown TM, Carnethon M, Dai S, De Simone G, Ferguson TB, Ford E, Furie K, Gillespie C, Go A, Greenlund K, Haase N, Hailpern S, Ho PM, Howard V, Kissela B, Kittner S, Lackland D, Lisabeth L, Marelli A, McDermott MM, Meigs J, Mozaffarian D, Mussolino M, Nichol G, Roger VL, Rosamond W, Sacco R, Sorlie P, Stafford R, Thom T, Wasserthiel-Smoller S, Wong ND, Wylie-Rosett J; American Heart Association Statistics Committee and Stroke Statistics Subcommittee. (2010). Executive

summary: Heart disease and stroke statistics-2010 update. A report from the American Heart Association. *Circulation*, 121, 948-954.

(2) Centers for Disease Control and Prevention, National Center for Health Statistics, Health Data Interactive, 2005-2007. Available at: <http://www.cdc.gov/nchs/hdi.htm>.

Major Causes of Death for White Women: U.S. 2007

CVD (including Congenital CVD)	Cancer	Chronic Lower Respiratory Disease	Alzheimer's Disease
34.5%	21.9%	4.9%	4.6%

SOURCE:

(1) Roger VL, Go AS, Lloyd-Jones DM, et al. (2011). Heart disease and stroke statistics--2011 update: A report from the American Heart Association. *Circulation*, 123(4), e18-209.

African Americans

- In 2007, African American women were at highest risk for death from heart disease among all race, ethnic, and gender groups
- African Americans with established CHD are at high risk for cardiac death
- The risk of death and morbidity from CHD attributable to HTN is higher in African Americans

SOURCES:

Mosca L, et al. (2004). Evidence-based guidelines for cardiovascular disease prevention in women. *Circulation*, 109, 672-693.

National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). (2002). Third report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) final report. *Circulation*, 106, 3143–3421. Rosamond W, Flegal K, Furie K, Go A, Greenlund K, Haase N, Hailpern SM, Ho M, Howard V, Kissela B, Kittner S, Lloyd-Jones D, McDermott M, Meigs J, Moy C, Nichol G, O’Donnell C, Roger V, Sorlie P, Steinberger J, Thom T, Wilson M, Hong Y, for the American Heart Association Statistics Committee and Stroke Statistics Subcommittee (2008). AHA Statistical Update, Heart Disease and Stroke Statistics—2008 Update, A Report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*, 117, e25-e146.

African-American women have higher rates of many risk factors for heart disease, including obesity, physical inactivity, metabolic syndrome, diabetes, and hypertension than white women (1).

Among women of various racial and ethnic groups, African American women are less aware that smoking, high cholesterol, and family history increase their risk of cardiovascular disease (2).

Major Causes of Death for Black Women: U.S. 2007

CVD (including Congenital CVD)	Cancer	Diabetes Mellitus	Nephritis
34.5%	21.9%	4.9%	3.3%

SOURCE:

(1) Roger VL, Go AS, Lloyd-Jones DM, et al. (2011). Heart disease and stroke statistics--2011 update: A report from the American Heart Association. *Circulation*, 123(4), e18-209.

Latinas

- Compared with white women, Latinas have higher rates of many risk factors for heart disease, including obesity, physical inactivity, metabolic syndrome, diabetes, and hypertension, than white women
- It is estimated that over 50% of Latinas born in the year 2000 will develop diabetes. CHD is the leading cause of death in diabetics.

SOURCES:

(1) Mosca L, et al. (2004). Evidence-based guidelines for cardiovascular disease prevention in women. *Circulation*, 109, 672-693.

(2) Narayan KM et al. (2003). Lifetime risk for diabetes mellitus in the United States. *Journal of the American Medical Association*, 290, 1884-1890.

Major Causes of Death for Hispanic/Latina Women: U.S. 2007

CVD (including Congenital CVD)	Cancer	Diabetes Mellitus	Accidents
31.1%	22%	5.4%	4.8%

SOURCE:

(1) Roger VL, Go AS, Lloyd-Jones DM, et al. (2011). Heart disease and stroke statistics--2011 update: A report from the American Heart Association. *Circulation*, 123(4), e18-209.

Asian Americans and Pacific Islanders

- There is limited information on the prevention and treatment of heart disease in Asian Americans and Pacific Islanders
- The risk of heart disease varies between different ethnic groups within the Asian American community
- South Asians have been reported to have a high prevalence of heart disease at young ages, in part because of a high prevalence of metabolic syndrome

SOURCE:

(1) National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). (2002). Third report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) final report. *Circulation*, 106, 3143-3421.

Major Causes of Death for Asian American and Pacific Islander Women: U.S. 2007

CVD (including Congenital CVD)	Cancer	Diabetes Mellitus	Accidents
34.4%	27.2%	4.1%	3.8%

SOURCE:

(1) Roger VL, Go AS, Lloyd-Jones DM, et al. (2011). Heart disease and stroke statistics--2011 update: A report from the American Heart Association. *Circulation*, 123(4), e18-209.

American Indians

- Cardiovascular disease rates vary among American Indian communities
- Unlike other ethnic groups, the incidence of CHD is increasing among American Indians

SOURCE:

(1) National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). (2002). Third report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) final report. *Circulation*, 106, 3143–3421.

Major Causes of Death for American Indian or Alaska Native Women: U.S. 2007

CVD (including Congenital CVD)	Cancer	Accidents	Diabetes Mellitus
24.4%	18.8%	8.8%	6.3%

SOURCE:

(1) Roger VL, Go AS, Lloyd-Jones DM, et al. (2011). Heart disease and stroke statistics--2011 update: A report from the American Heart Association. *Circulation*, 123(4), e18-209.

Summary

- Among U.S. women, cardiovascular disease is the leading cause of death among all racial and ethnic groups
- Mortality from CVD has decreased more for men in the past 20 years than for women
- Over 10,000 women under age 45 suffer an acute myocardial infarction every year

SOURCE:

(1) Rosamond W, Flegal K, Furie K, Go A, Greenlund K, Haase N, Hailpern SM, Ho M, Howard V, Kissela B, Kittner S, Lloyd-Jones D, McDermott M, Meigs J, Moy C, Nichol G, O’Donnell C, Roger V, Sorlie P, Steinberger J, Thom T, Wilson M, Hong Y, for the American Heart Association Statistics Committee and Stroke Statistics Subcommittee (2008). AHA Statistical Update, Heart Disease and Stroke Statistics—2008 Update, A Report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation*, 117, e25-e146.

The Heart Truth Professional Education Campaign Website

www.womenshealth.gov/heart-truth

Million Hearts Campaign Website

millionhearts.hhs.gov

“Get involved and share your commitment to help prevent 1 million heart attacks and strokes in the next five years.”