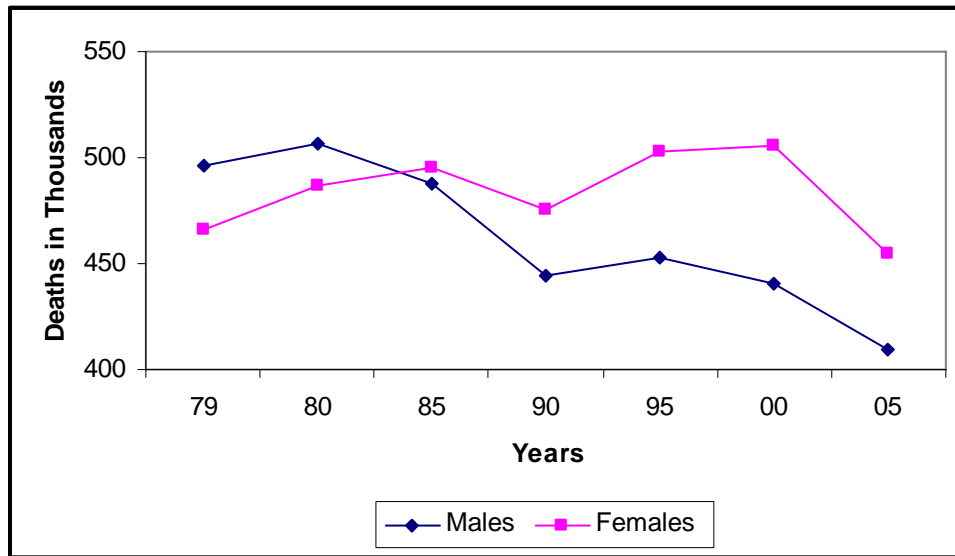


Women and Cardiovascular Diseases — Statistics 2009

Cardiovascular Disease Mortality Trends for Males and Females

United States: 1979–2005



Source: NCHS and NHLBI. Note: The overall comparability for CVD between the ICD/9 (1979–98) and ICD/10 (1999–05) is 0.9962. No comparability ratios were applied.

Death rates are age-adjusted per 100,000 population, based on the 2000 U.S. standard. Some data are reported according to ICD/9 codes and some use ICD/10 codes.

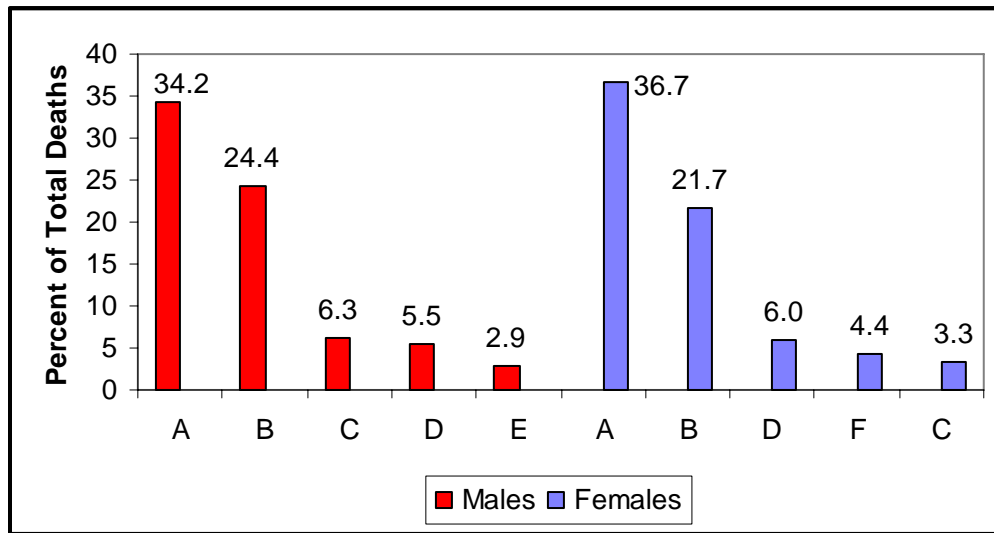
Cardiovascular Disease (CVD) (ICD/10 codes I00-I99, Q20-Q28) (ICD/9 codes 390-459, 745-747)

- One in three female adults has some form of cardiovascular disease (CVD).
- Since 1984, the number of CVD deaths for females has exceeded those for males.
- In 2005, CVD was the cause of death in 454,613 females. Females represent 52.6 percent of deaths from CVD.
- In the United States in 2005, all cardiovascular diseases combined claimed the lives of 454,613 females while all forms of cancer combined to kill 268,890 females. Breast cancer claimed the lives of 41,116 females; lung cancer claimed 69,105.
- The 2005 death rate from CVD was 278.9. Death rates were
 - 230.4 for white females
 - 319.7 for black females.
- In 2006, CVD was the first listed diagnosis of 3,057,000 females discharged from short-stay hospitals. Discharges include people both alive, dead or of unknown status.

Women and Cardiovascular Diseases — Statistics 2009

Major Causes of Death for White Males and Females

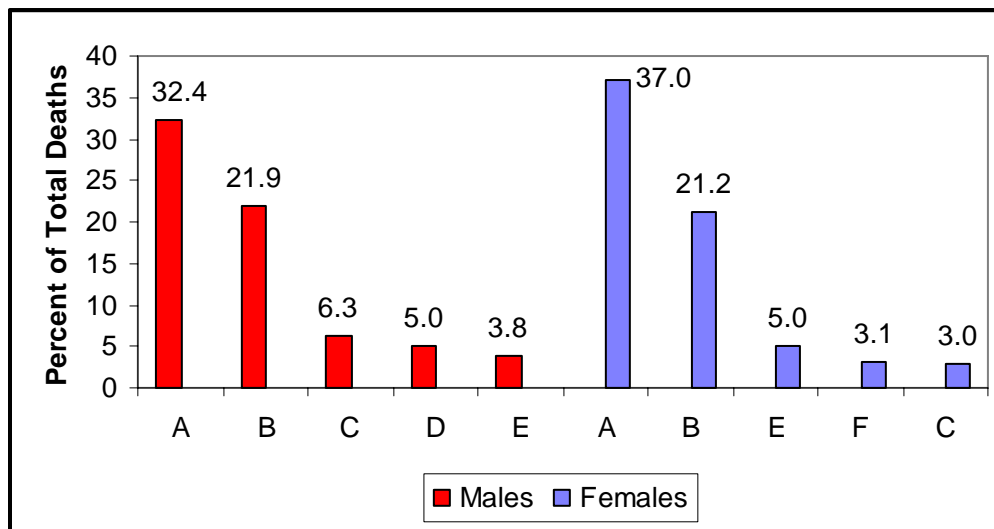
United States: 2005



A – Total CVD; B – cancer; C – accidents; D – chronic lower respiratory disease; E – diabetes; F – Alzheimer's. Note: In 2005, using the combined "Diseases of the Heart" and "Stroke" category, which does not constitute total CVD, the percentage was 33.7 for females. *Source: NCHS and NHLBI.*

Major Causes of Death for Black Males and Females

United States: 2005

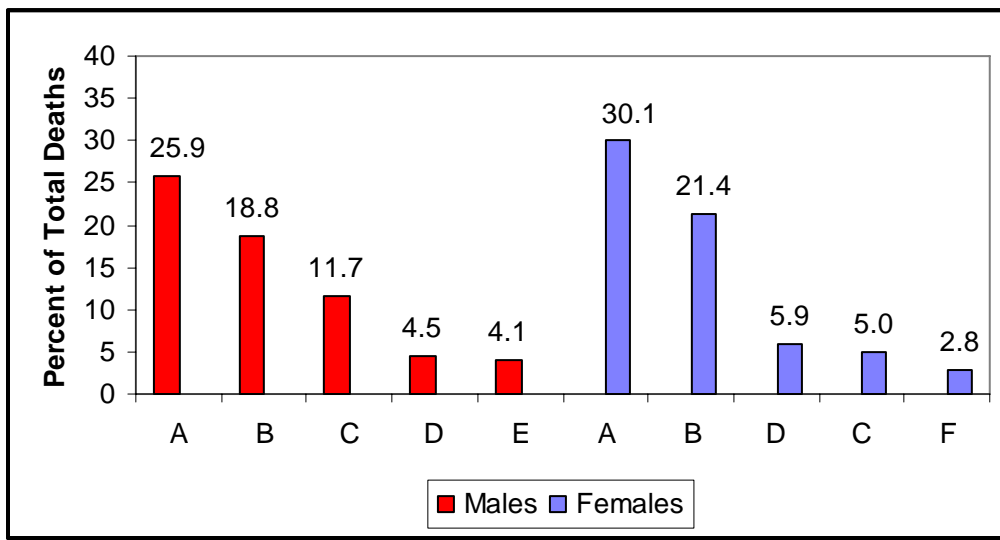


A – Total CVD; B – cancer; C – accidents; D – assault (homicide); E – diabetes; F – nephritis, et al. Note: In 2005, using the combined "Diseases of the Heart" and "Stroke" category, which does not constitute total CVD, the percentage was 33.3 for females. *Source: NCHS and NHLBI.*

Women and Cardiovascular Diseases — Statistics 2009

Major Causes of Death for Hispanic or Latino Females

United States: 2005



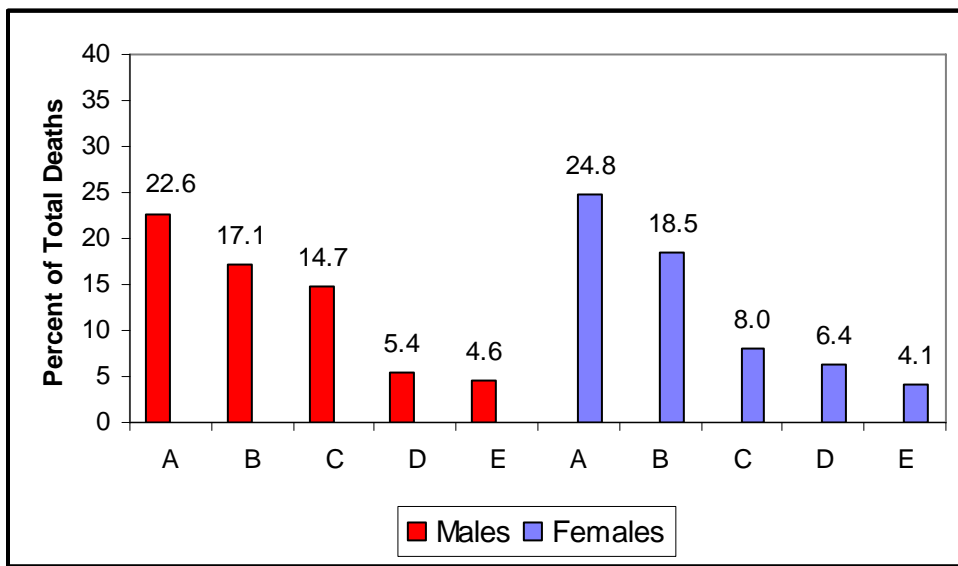
A – diseases of the heart; B – cancer; C – accidents; D – diabetes; E – assault(homicide); F – CLRD.

Note: Mortality data for Hispanics include all persons of Hispanic origin of any race. The combined “Diseases of the Heart” and “Stroke” category does not constitute total cardiovascular disease.

Source: NCHS.

Major Causes of Death for American Indian/Alaska Native Females

United States: 2005



A – diseases of the heart; B – cancer; C – accidents; D – diabetes; E – chronic liver disease and cirrhosis.

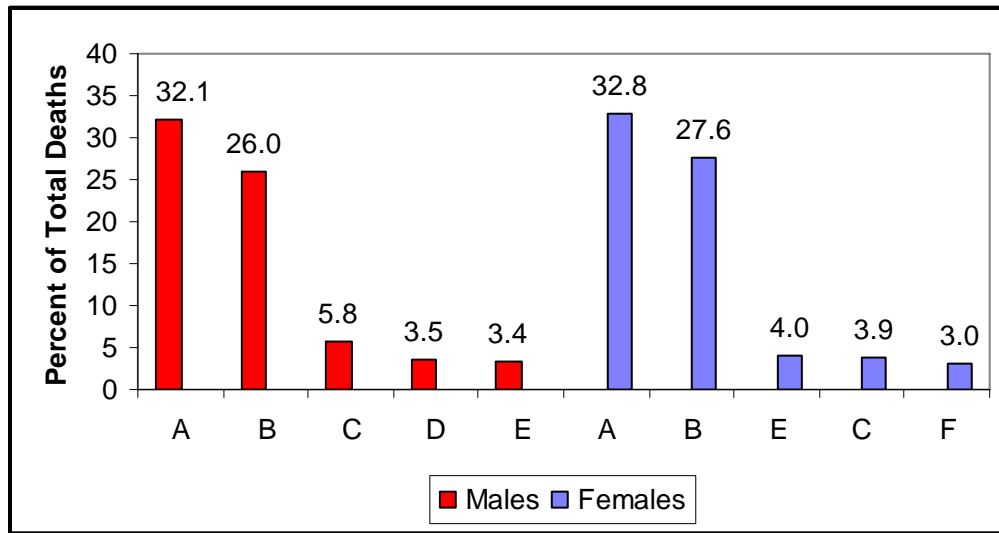
Note: The combined “Diseases of the Heart” and “Stroke” category does not constitute total cardiovascular disease.”

Source: NCHS.

Women and Cardiovascular Diseases — Statistics 2009

Diseases of the Heart and Stroke and Other Major Causes of Death for Asian/Pacific Islander Males and Females

United States: 2005



A – diseases of the heart; B – cancer; C – accidents; D – CLRD; E – diabetes; F – influenza & pneumonia.
Note: The combined “Diseases of the Heart” and “Stroke” category does not constitute total cardiovascular disease.”
Source: NCHS and NHLBI.

Coronary Heart Disease (CHD) (ICD/10 codes I20-I25) (ICD/9 codes 410-414, 429.2)

- About 8.1 million females alive today have a history of heart attack, angina pectoris (chest pain or discomfort caused by reduced blood supply to the heart muscle) or both. Of these, 3.2 million have a history of myocardial infarction (MI, or heart attack). (NHANES 2005-2006 [NCHS] and NHLBI)
- This year an estimated 515,000 women will have a new and recurrent MI and fatal CHD. About 370,000 will have a new and recurrent MI. (ARIC [1987–2004], NHLBI)
- The 2005 overall CHD death rate was 144.4. Death rates were
 - 110.0 for white females.
 - 140.9 for black females.
- 23 percent of women age 40 and older who have an initial recognized MI (heart attack) die within a year compared with 18 percent of men. In part because women have heart attacks at older ages than men do, they're more likely to die from them within a few weeks. (FHS, ARIC and CHS. NHLBI)
- 64 percent of women who died suddenly of CHD had no previous symptoms. (FHS, NHLBI)
- 704,000 females diagnosed with CHD were discharged from short-stay hospitals in 2006.

Angina Pectoris (ICD/10 code I20) (ICD/9 code 413)

- More women than men have angina in total numbers (5.5 million vs. 4.3 million). (NHANES [2005-2006], NCHS and NHLBI)
- Among non-Hispanic women age 20 and older, the following have angina:
 - 4.3 percent of non-Hispanic whites.

Women and Cardiovascular Diseases — Statistics 2009

- 6.7 percent of non-Hispanic blacks.
- 4.5 percent of Mexican Americans.

(NHANES [2005-2006], NCHS and NHLBI)

- The annual rates per 1,000 population of new and recurrent episodes of angina in non-black women are
 - 14.1 for ages 65–74.
 - 20.0 for ages 75–84.
 - 22.9 for age 85 and older.

For black women in these age groups the rates are

- 15.3 for ages 65–74.
- 23.6 for ages 75–84.
- 35.9 for age 85 and older.

(CHS, NHLBI)

- About 24,000 females diagnosed with angina pectoris were discharged from short-stay hospitals in 2006.

Stroke (ICD/10 codes I60-I69) (ICD/9 codes 430-438)

- An estimated 3.9 million female stroke survivors are alive today.
- Among women age 20 and older, the following have had a stroke:
 - 3.2 percent of non-Hispanic whites.
 - 4.1 percent of non-Hispanic blacks.
 - 3.8 percent of Mexican Americans.

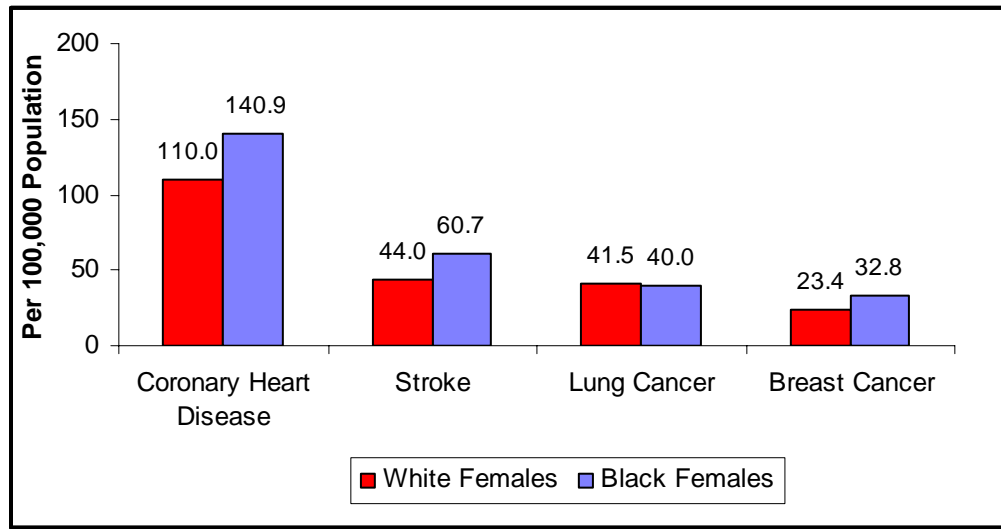
(NHANES [2005-2006], NCHS and NHLBI)

- Each year about 55,000 more women than men have a stroke. This is because the average life expectancy for women is greater than for men, and the highest rates for stroke are in the oldest age groups. *(GCNKSS)*
- 2005 stroke mortality was 86,993 for females (60.6 percent of total stroke deaths).
- The 2005 overall death rate for stroke was 46.6. Death rates were
 - 44.0 for white females.
 - 60.7 for black females.
- In 2006, 486,000 females were discharged from short-stay hospitals after having a stroke.

Women and Cardiovascular Diseases — Statistics 2009

Age-Adjusted Death Rates for Coronary Heart Disease, Stroke, and Lung and Breast Cancer for White and Black Females

United States: 2005



Source: NCHS and NHLBI.

High Blood Pressure (HBP) (ICD/10 codes I10-I15) (ICD/9 codes 401-404)

- One in three adults in the United States has HBP. (*Hypertension. 2004;44:398-404*)
- A higher percentage of men than women have HBP until age 45. From 45–64 the percentage for men and women are similar. After that a much higher percentage of women than men have HBP. (*Health, United States, 2007./NCHS*)
- Among women age 20 and older, the following have HBP:
 - 30.3 percent of non-Hispanic whites.
 - 43.9 percent of non-Hispanic blacks.
 - 30.4 percent of Mexican Americans.(*NHANES [2005-2006], NCHS and NHLBI*)
- In 2005, 33,310 females died from HBP. They represented 58.1 percent of the deaths from HBP. The 2005 overall death rate from HBP was 18.4. Death rates were
 - 15.1 for white females.
 - 40.3 for black females.
- 309,000 females diagnosed with HBP were discharged from short-stay hospitals in 2006.

Congenital Cardiovascular Defects (ICD/10 codes Q20-Q28) (ICD/9 codes 745-747)

- The 2005 overall death rate for congenital cardiovascular defects was 1.2. Death rates were
 - 1.1 for white females.
 - 1.4 for black females.
- 40,000 females were discharged from short-stay hospitals in 2006 with a diagnosis of congenital cardiovascular defects.

Women and Cardiovascular Diseases — Statistics 2009

Heart Failure (HF) (ICD/10 code I50.0) (ICD/9 code 428.0)

- About 2.5 million females alive today have HF.
- The annual rates per 1,000 population of new HF events in white women are
 - 8.2 for ages 65–74.
 - 19.8 for ages 75–84.
 - 45.6 for age 85 and older.

For black women in these age groups the rates are

- 14.2 for ages 65–74.
- 25.5 for ages 75–84.
- 44.0* for age 85 and older.

(CHS, NHLBI) * - Unreliable estimate.

- In 2005, there were 166,051 female total mention deaths from HF (56.8 percent of total mention deaths from HF).
- The 2005 overall total mention death rate from HF was 52.3. Death rates were
 - 43.2 for white females.
 - 58.7 for black females.
- 583,000 females diagnosed with HF were discharged from short-stay hospitals in 2006.

Rheumatic Fever/Rheumatic Heart Disease (RF/RHD) (ICD/10 codes I00-I09) (ICD/9 codes 390-398)

- 2005 mortality showed 2,321 female deaths from rheumatic fever (RF) and rheumatic heart disease (RHD). This represents 69.0 percent of deaths from RF/RHD.
- The 2005 overall death rate for RF/RHD was 1.1. Death rates were
 - 1.3 for white females.
 - 0.8 for black females.

Tobacco

- Among Americans age 18 and older, 20.9 million women (18.1 percent) are smokers. (Pleis JR, Lucus JW. Summary health statistics for U.S. adults: National Health Interview Survey, 2007. Vital Health Stat 10; No. 240 [in preparation])
- Among women age 18 and older, the following are smokers:
 - 18.8 percent of whites.
 - 18.5 percent of blacks.
 - 10.1 percent of Hispanics.
 - 4.6 percent of Asians only
 - 29.0 percent of American Indians/Alaska Natives.

(Pleis JR, Lucus JW. Summary health statistics for U.S. adults: National Health Interview Survey, 2007. Vital Health Stat 10; No. 240 [in preparation])

Women and Cardiovascular Diseases — Statistics 2009

High Blood Cholesterol and Other Lipids

- In 2006, 53.6 million adult women had total blood cholesterol levels of 200 mg/dL or higher. In adults, total cholesterol levels of 240 mg/dL or higher are considered high risk. Levels from 200 to 239 mg/dL are considered borderline-high risk. (*NHANES [2005-2006, NCHS and NHLBI]*)
- Among women age 20 and older, the following have total blood cholesterol levels over 200 mg/dL:
 - 47.7 percent of non-Hispanic whites.
 - 41.4 percent of non-Hispanic blacks.
 - 48.0 percent of Mexican Americans.

Of these, the following have levels of 240 mg/dL or higher:

- 18.1 percent of non-Hispanic whites.
- 13.4 percent of non-Hispanic blacks.
- 14.5 percent of Mexican Americans.

(*NHANES [2005-2006 NCHS and NHLBI]*)

- Among women age 20 and older, the following have an LDL cholesterol of 130 mg/dL or higher:
 - 33.7 percent of non-Hispanic whites.
 - 27.4 percent of non-Hispanic blacks.
 - 30.3 percent of Mexican Americans.

(*NHANES [2005-2006], NCHS and NHLBI*)

Low-density lipoprotein (LDL) or “bad” cholesterol levels of 130–159 mg/dL are considered borderline high. Levels of 160–189 mg/dL are classified as high, and levels of 190 mg/dL or higher are very high. Estimates are age-adjusted. (*Carroll MD, et al. Trends in serum lipids and lipoproteins of adults, 1960-2002. JAMA 2005;294:1773-1781.*)

- Among women age 20 and older, the prevalences with an HDL cholesterol less than 40 mg/dL are
 - 6.5 percent of non-Hispanic whites.
 - 6.1 percent of non-Hispanic blacks.
 - 10.5 percent of Mexican Americans.

(*NHANES [2005-2006], NCHS and NHLBI*)

High-density lipoprotein (HDL) or “good” cholesterol levels of less than 40 mg/dL are associated with a higher risk of coronary heart disease.

Physical Inactivity

- Among women age 18 and older, the following have regular leisure-time physical activity):
 - 28.9 percent of all women

(*CDC. Early Release of Selected Estimates Based on Data from the 2007 NHIS.*)

Women and Cardiovascular Diseases — Statistics 2009

Overweight and Obesity

- Among women age 20 and older, the following are overweight or obese (BMI of 25.0 kg/m² and higher):
 - 57.5 percent of non-Hispanic whites.
 - 77.7 percent of non-Hispanic blacks.
 - 73.0 percent of Mexican Americans.

Of these, the following are obese (BMI of 30.0 kg/m² and higher):

- 32.7 percent of non-Hispanic whites.
- 52.9 percent of non-Hispanic blacks.
- 41.9 percent of Mexican Americans.

(NHANES [2005-2006], NCHS)

Diabetes Mellitus (ICD/10 codes E10-E14) (ICD/9 code 250)

- Of the estimated 17.0 million Americans with physician-diagnosed diabetes, about 9.5 million are female. *(NHANES [2003-2006], NCHS and NHLBI)*
- In the total population age 20 and older, 8.0 percent of women have physician-diagnosed diabetes. The prevalences are
 - 6.1 percent of non-Hispanic whites.
 - 13.1 percent of non-Hispanic blacks.
 - 14.2 percent of Mexican Americans.*(NHANES [2003-2006], NCHS and NHLBI)*
- Of the estimated 6.4 million Americans with undiagnosed diabetes, about 2.5 million are female.
- In the total population age 20 and older, 2.1 percent of women have undiagnosed diabetes, using American Diabetes Association criteria of fasting plasma glucose of 126 mg/dL or more. The prevalences are
 - 2.2 percent of non-Hispanic whites.
 - 3.1 percent of non-Hispanic blacks.
 - 1.9 percent of Mexican Americans.

Estimates are based on glucose tests of persons not previously diagnosed by a physician.
(NHANES [2003-2006], NCHS and NHLBI)

- Of the estimated 59.0 million Americans with pre-diabetes, about 23.0 million are female.
- In the total population age 20 and older, 23.0 percent of women have pre-diabetes, using American Diabetes Association criteria of fasting plasma glucose of 100 to less than 126 mg/dL. The prevalences are
 - 18.7 percent of non-Hispanic whites.
 - 19.0 percent of non-Hispanic blacks.
 - 23.6 percent of Mexican Americans.

(NHANES [2003-2006] NCHS and NHLBI)

- In 2005 diabetes killed 38,581 females (51.4 percent of deaths from diabetes).
- The 2005 the overall death rate from diabetes was 24.6. Death rates were
 - 19.3 for white females.

Women and Cardiovascular Diseases — Statistics 2009

— 43.8 for black females.

- 301,000 females diagnosed with diabetes mellitus were discharged from short-stay hospitals in 2006

Metabolic Syndrome

- The age-adjusted prevalence of the metabolic syndrome for adults is 34.6 percent.
 - For women, the percentages are 31.5 percent, 36.4 percent, and 44.0 percent, respectively for white, black, and Mexican-American women.
 - Among African Americans, women have about a 49 percent higher prevalence than men. Among Mexican Americans, women have a 9 percent higher prevalence than men.

(Circulation. 2004;109:433-8; Diabetes Care. 2005;28:2745-9)

Abbreviations Used:

ARIC – Atherosclerosis Risk in Communities, NHLBI
BMI – body mass index
CDC – Centers for Disease Control and Prevention
CHS – Cardiovascular Health Study, NHLBI
CLRD – Chronic Lower Respiratory Disease
FHS – Framingham Heart Study, NHLBI
GCNKSS – Greater Cincinnati Northern Kentucky Stroke Study
HDL – high-density lipoprotein
ICD – International Classification of Diseases
Kg/m² – kilograms/meter²
LDL – low-density lipoprotein
Mg/dL – milligrams per deciliter
MI – myocardial infarction
NCHS – National Center for Health Statistics
NH – non-Hispanic
NHANES – National Health and Nutrition Examination Survey, NCHS
NHIS – National Health Interview Survey, NCHS
NHLBI – National Heart, Lung, and Blood Institute
SHS – Strong Heart Study, NHLBI

For additional information, charts and tables, see the Heart Disease and Stroke Statistics – 2009 Update, published in Circulation and available on our Web site.