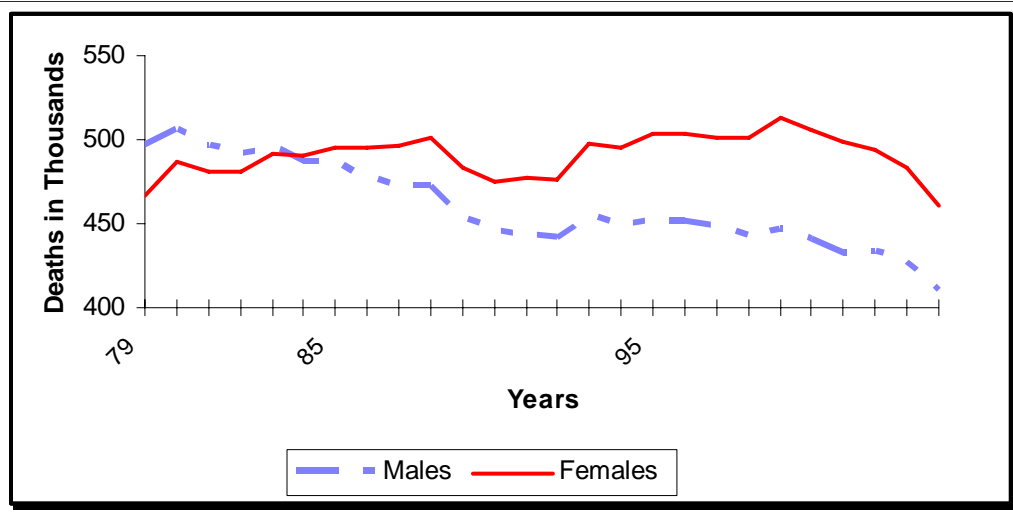


Cardiovascular Disease Mortality Trends for Males and Females

United States: 1979–2004



Source: NCHS and NHLBI. Note: The overall comparability for CVD between the ICD/9 (1979–98 and ICD/10 (1999–04) is 0.9962. No comparability ratios were applied.

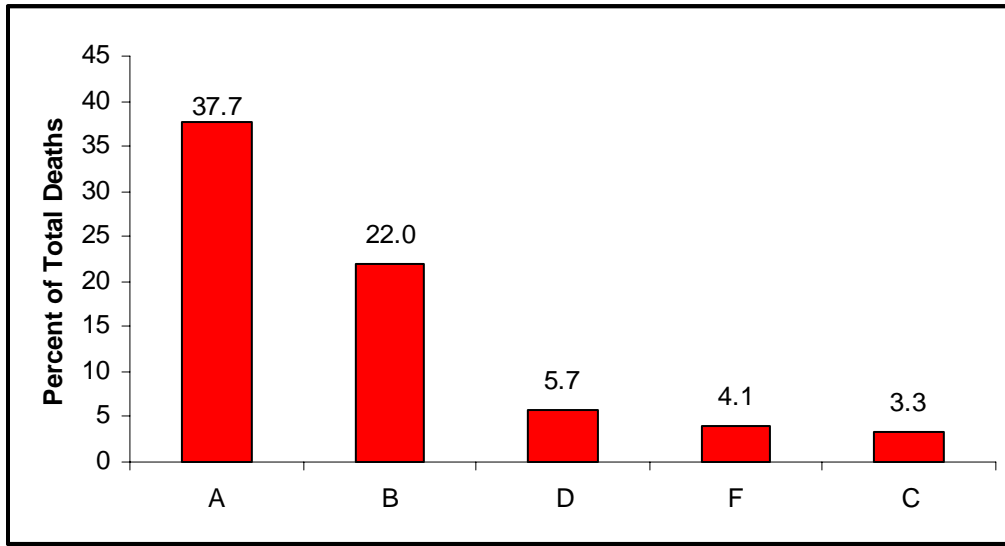
Death rates are age-adjusted per 100,000 population, based on the 2000 U.S. standard. Some data are reported according to ICD/9 codes and some use ICD/10 codes.

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.
- Since 1984, the number of CVD deaths for females has exceeded those for males.
- In 2004, CVD was the cause of death in 459,096 females. Females represent 52.8 percent of deaths from CVD.
- In the United States in 2004, all cardiovascular diseases combined claimed the lives of 459,096 females while all forms of cancer combined to kill 267,058 females. Breast cancer claimed the lives of 40,954 females; lung cancer claimed 68,461.
- The 2004 death rate from CVD was 288.0. Death rates were
 - 238.0 for white females
 - 333.6 for black females.
- In 2005, CVD was the first listed diagnosis of 3,023,000 females discharged from short-stay hospitals. Discharges include people both alive, dead or of unknown status.

Causes of Death for White Females

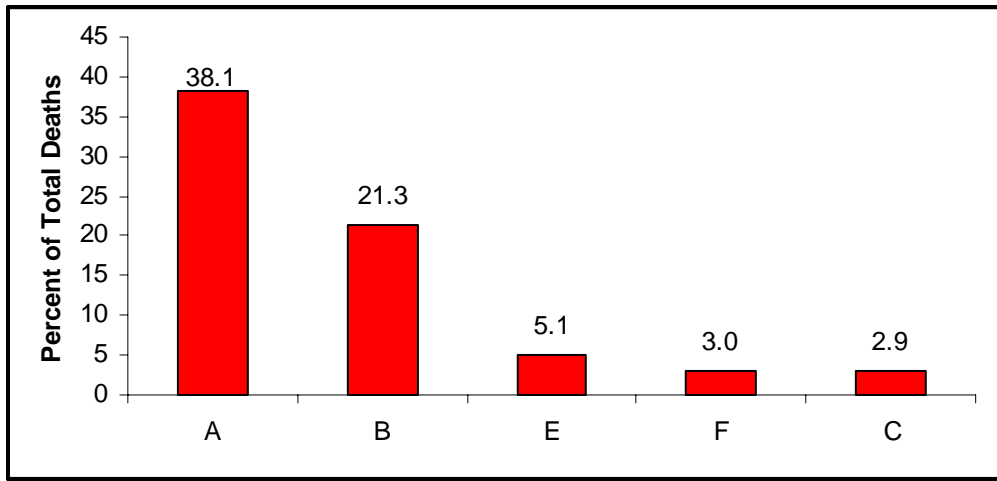
United States: 2004



A – Total CVD; B – cancer; D – chronic lower respiratory disease; F – Alzheimer’s; C – accidents.
 Note: In 2004, using the combined “Diseases of the Heart” and “Stroke” category, which does not constitute total CVD, the percentage was 34.8. *Source: NCHS and NHLBI.*

Causes of Death for Black Females

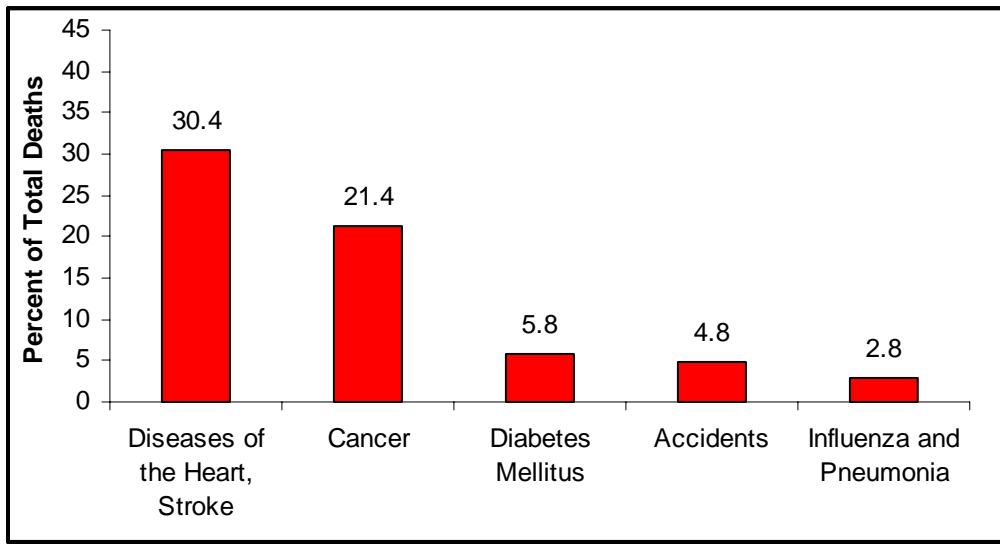
United States: 2004



A – Total CVD; B – cancer; E – Diabetes; F – Nephritis, et al., C – accidents.
 Note: In 2004, using the combined “Diseases of the Heart” and “Stroke” category, which represents about 90 percent of total CVD, the percentage was 34.3. *Source: NCHS and NHLBI.*

Causes of Death for Hispanic or Latino Females

United States: 2004

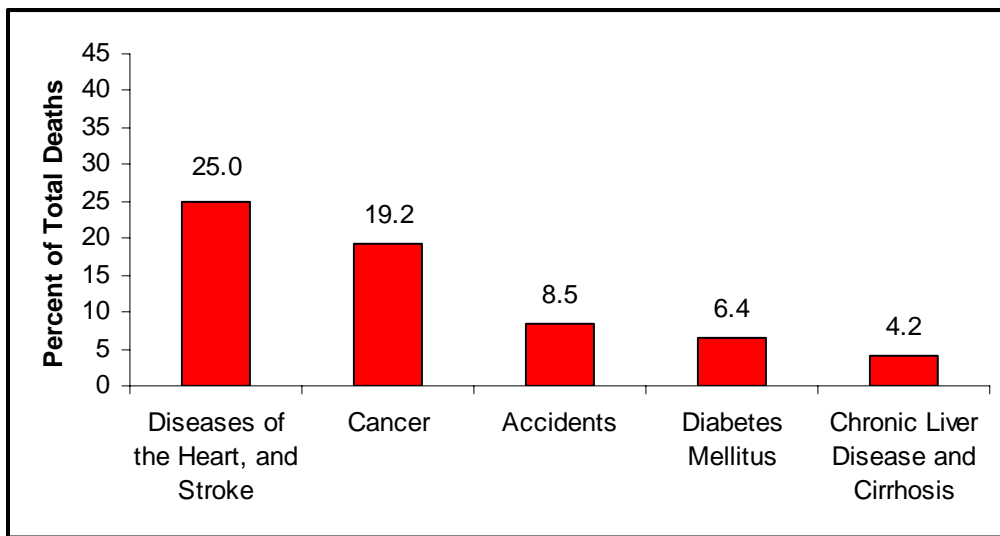


Note: Mortality data for Hispanics include all persons of Hispanic origin of any race. The combined “Diseases of the Heart” and “Stroke” category does not constitute total cardiovascular disease.

Source: NCHS.

Causes of Death for American Indian/Alaska Native Females

United States: 2004

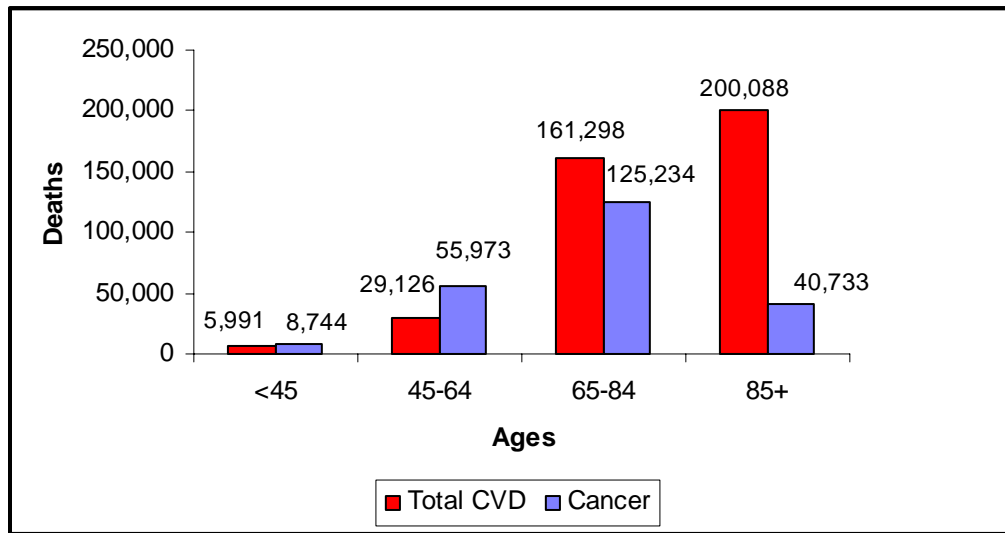


Note: The combined “Diseases of the Heart” and “Stroke” category does not constitute total cardiovascular disease.”

Source: NCHS.

Deaths From Cardiovascular Diseases and Cancer for White Females by Age

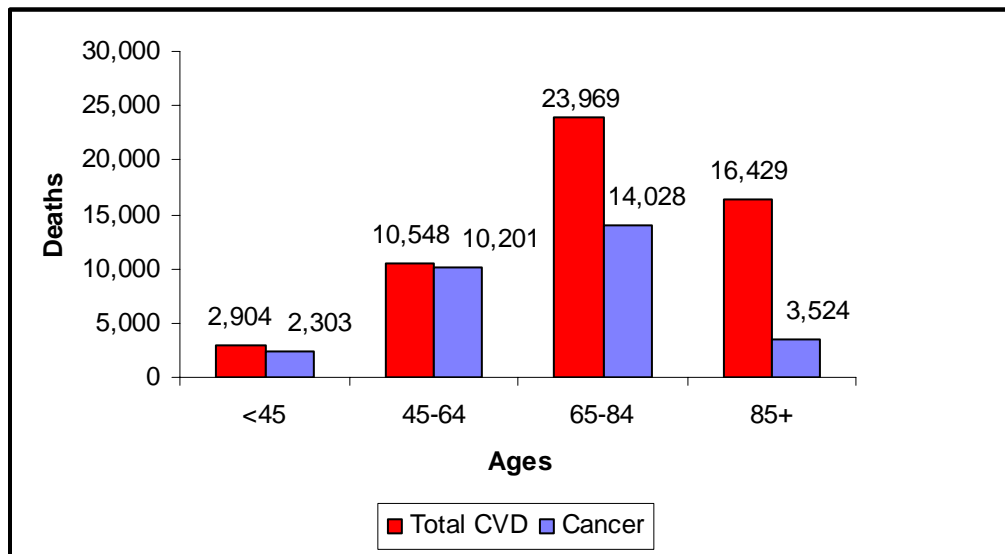
United States: 2004



Source: NCHS.

Deaths From Cardiovascular Diseases and Cancer for Black Females by Age

United States: 2004



Source: NCHS.

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

- About 7.3 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, 3.0 million have a history of myocardial infarction (MI, or heart attack).
- This year an estimated 490,000 women will have a new and recurrent MI and fatal CHD. About 365,000 will have a new and recurrent MI. (NHANES 1999–2004 [NCHS] and NHLBI)
- The 2004 overall CHD death rate was 150.2. Death rates were
 - 114.7 for white females.
 - 148.7 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*)
- Within five years after a first MI, 43 percent of women age 40 and older will die; 6 percent ages 40–69 will have a stroke, 1.9 percent of white women and 1.4 percent of black women ages 40–69 and 3.5 percent of white women, 4.8 percent of black women age 70+ will experience sudden cardiac death; and 12 percent of women ages 40–69 will have heart failure. (*FHS, ARIC, CHS. NHLBI*)
- 711,000 females diagnosed with CHD were discharged from short-stay hospitals in 2005.

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

- More women than men have angina in total numbers (4.6 million vs. 4.4 million). (*NHANES [1999-2004], NCHS and NHLBI*)
 - Among women age 20 and older, the following have angina:
 - 3.9 percent of non-Hispanic whites.
 - 4.3 percent of non-Hispanic blacks.
 - 3.3 percent of Mexican Americans.
- (*NHANES [1999-2004], 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 25,000 females diagnosed with angina pectoris were discharged from short-stay hospitals in 2005.

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

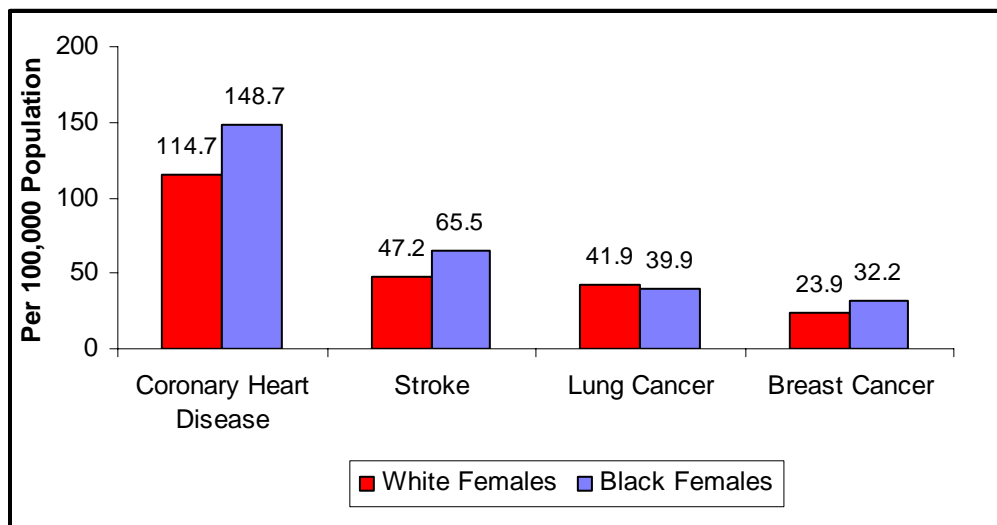
- An estimated 3.4 million female stroke survivors are alive today.
- Among women age 20 and older, the following have had a stroke:
 - 2.7 percent of non-Hispanic whites.
 - 4.1 percent of non-Hispanic blacks.
 - 1.9 percent of Mexican Americans.

(*NHANES [1999-2004], NCHS and NHLBI*)

- The prevalence of transient ischemic attack (TIA or mini-stroke) in women is estimated to be:
 - 1.6 percent for ages 65–69.
 - 4.1 percent for ages 75–79.
 (CHS, NHLBI)
- Each year about 60,000 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)
- The annual rate per 1,000 population of new and recurrent strokes in American Indian women ages 65–74 is 6.6. (SHS [1989-2002], NHLBI)
- 2004 stroke mortality was 91,274 for females (60.8 percent of total stroke deaths).
- The 2004 overall death rate for stroke was 50.0. Death rates were
 - 47.2 for white females.
 - 65.5 for black females.
- In 2005, 477,000 females were discharged from short-stay hospitals after having a stroke.

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

United States: 2004



Source: NCHS and NHLBI.

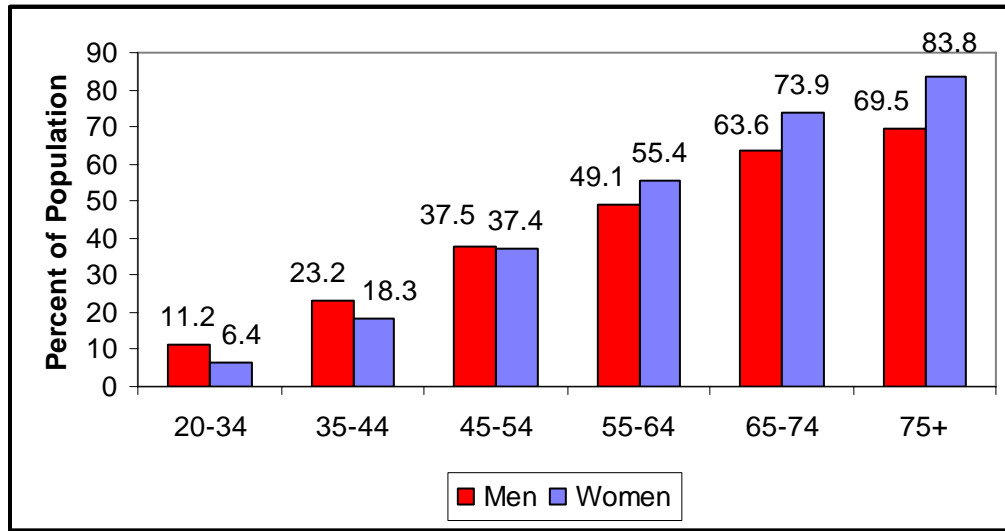
High Blood Pressure (HBP) (ICD/10 codes I10-I15) (ICD/9 codes 401-404)

- Nearly one in three adults in the United States has HBP. (*Hypertension. 2004;44:1-7*)
- A higher percentage of men than women have HBP until age 45. From 45–54 the percentage for men and women are similar. After that a much higher percentage of women than men have HBP. (*Health, United States, 2006./NCHS*)
- Among women age 20 and older, the following have HBP:
 - 31.9 percent of non-Hispanic whites.

- 46.6 percent of non-Hispanic blacks.
- 31.4 percent of Mexican Americans.

(NHANES [1999-2004], NCHS and NHLBI)

Prevalence of High Blood Pressure in Adults Age 20 and Older by Age and Sex
 NHANES: 1999–2004



Source: NCHS and NHLBI.

- In 2004, 31,608 females died from HBP. They represented 57.8 percent of the deaths from HBP. The 2004 overall death rate from HBP was 18.1. Death rates were
 - 14.5 for white females.
 - 40.9 for black females.
- 284,000 females diagnosed with HBP were discharged from short-stay hospitals in 2005.

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

- The 2004 overall death rate for congenital cardiovascular defects was 1.3. Death rates were
 - 1.2 for white females.
 - 1.4 for black females.
- Crude infant death rates (under one year) were 38.3 for white infants and 56.0 for black infants. Some types of defects occur more commonly in females or males.
- 30,000 females were discharged from short-stay hospitals in 2005 with a diagnosis of congenital cardiovascular defects.

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

- About 2.7 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 2004, there were 161,616 female total mention deaths from HF (56.8 percent of total mention deaths from HF).
- The 2004 overall total mention death rate from HF was 52.0. Death rates were
 - 43.5 for white females.
 - 58.7 for black females.
- 590,000 females diagnosed with HF were discharged from short-stay hospitals in 2005.

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

(ICD/9 codes 390-398)

- 2004 mortality showed 2,245 female deaths from rheumatic fever (RF) and rheumatic heart disease (RHD). This represents 69.0 percent of deaths from RF/RHD.
- The 2004 overall death rate for RF/RHD was 1.1. Death rates were
 - 1.3 for white females.
 - 1.0 for black females.

Tobacco

- Among Americans age 18 and older, 20.7 million women (18.1 percent) are smokers. (Centers for Disease Control and Prevention (CDC). *Tobacco use among adults: United States, 2005. MMWR Morb Mortal Wkly Rep. 2006; 55: 1145–1148.*)
- Among women age 18 and older, the following are smokers:
 - 20.0 percent of non-Hispanic whites.
 - 17.3 percent of non-Hispanic blacks.
 - 11.1 percent of Hispanics.
 - 6.1 percent of Asians only
 - 26.8 percent of American Indians/Alaska Natives.

(MMWR, Vol. 55, 1145-1148. 2006)

High Blood Cholesterol and Other Lipids

- In 2005, 55.9 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 [1999-2004], NCHS and NHLBI)
- Among women ages 20 and older, the following have total blood cholesterol levels over 200 mg/dL:
 - 49.7 percent of non-Hispanic whites.
 - 42.1 percent of non-Hispanic blacks.
 - 50.0 percent of Mexican Americans.

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

- 18.2 percent of non-Hispanic whites.
- 12.5 percent of non-Hispanic blacks.
- 14.2 percent of Mexican Americans.

(NHANES [1999-2004] NCHS and NHLBI)

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

(NHANES [1999-2004], 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
 - 8.8 percent of non-Hispanic whites.
 - 6.9 percent of non-Hispanic blacks.
 - 13.0 percent of Mexican Americans.

(NHANES [1999-2004], 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 no regular leisure-time physical activity):
 - 28.9 percent of all women

(CDC. Early Release of Selected Estimates Based on Data from the 2006 NHIS.)

Overweight and Obesity

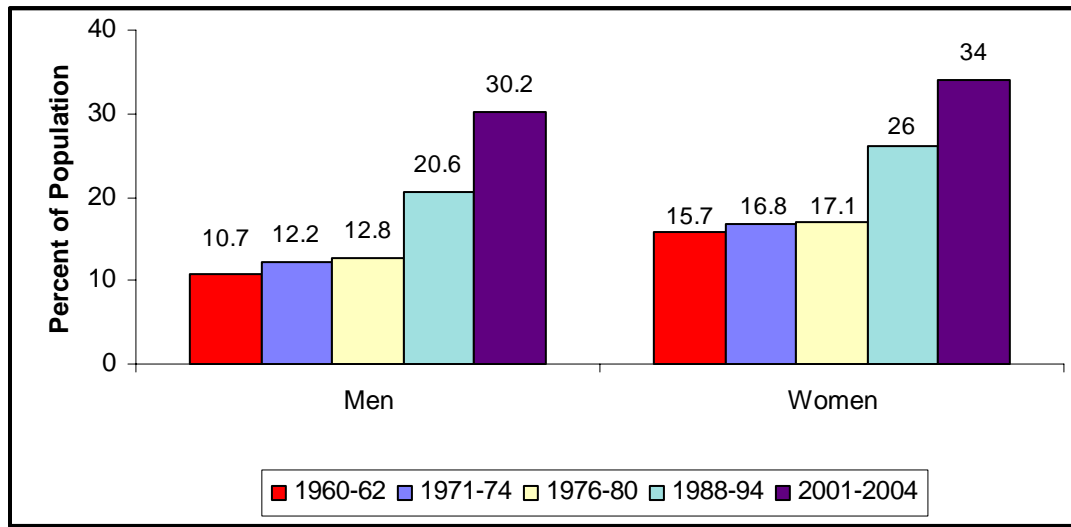
- Among women age 20 and older, the following are overweight or obese (BMI of 25.0 kg/m² and higher):
 - 57.6 percent of non-Hispanic whites.
 - 79.6 percent of non-Hispanic blacks.
 - 73.0 percent of Mexican Americans.

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

- 30.7 percent of non-Hispanic whites.
- 51.1 percent of non-Hispanic blacks.
- 39.4 percent of Mexican Americans.

(NHANES [2001-2004], NCHS;

Age-Adjusted Prevalence of Obesity in Adults Ages 20–74 by Sex and Survey
NHES 1960–62 and NHANES: 1971–74, 1976–80, 1988–94 and 2001–04



Note: Obesity is defined as a BMI (body mass index) of 30.0 and higher.

Source: Health, United States, 2006. NCHS).

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

- Of the estimated 15.1 million Americans with physician-diagnosed diabetes, about 7.5 million are female. (NHANES [1999-2004], NCHS and NHLBI)
- In the total population age 20 and older, 6.8 percent of women have physician-diagnosed diabetes. The prevalences are
 - 5.6 percent of non-Hispanic whites.
 - 13.2 percent of non-Hispanic blacks.
 - 10.9 percent of Mexican Americans.
 (NHANES [1999-2004], NCHS and NHLBI)
- Of the estimated 6.0 million Americans with undiagnosed diabetes, about 2.3 million are female.
- In the total population age 20 and older, 2.0 percent of women have undiagnosed diabetes, using American Diabetes Association criteria of fasting plasma glucose of 126 mg/dL or more. The prevalences are
 - 1.7 percent of non-Hispanic whites.
 - 2.3 percent of non-Hispanic blacks.
 - 3.1 percent of Mexican Americans.

Estimates are based on glucose tests of persons not previously diagnosed by a physician. (NHANES [1999-2004], NCHS and NHLBI)

- Of the estimated 59.7 million Americans with pre-diabetes, about 24.9 million are female.
- In the total population age 20 and older, 22.6 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
 - 21.6 percent of non-Hispanic whites.
 - 20.5 percent of non-Hispanic blacks.
 - 22.6 percent of Mexican Americans.

(NHANES [1999-2004] NCHS and NHLBI)

- In 2004 diabetes killed 37,871 females (51.8 percent of deaths from diabetes).
- The 2004 the overall death rate from diabetes was 24.5. Death rates were
 - 19.2 for white females.
 - 45.3 for black females.
- 302,000 females diagnosed with diabetes mellitus were discharged from short-stay hospitals in 2005

Metabolic Syndrome

- The age-adjusted prevalence of the metabolic syndrome for adults is 23.7 percent.
 - Among African Americans, women have about a 57 percent higher prevalence than men. Among Mexican Americans, women have a 26 percent higher prevalence than men.

(Ford ES, et al. Prevalence of the metabolic syndrome among US adults: findings from the Third National Health and Examination Survey. JAMA 2002;287:356–9)

Nutrition

- In 1999–2000 the mean dietary intakes of energy and 10 key nutrients for women were:
 - Calories: 1,874* kcal
 - Protein: 14.6 percent of calories
 - Carbohydrate: 51.5* percent of calories
 - Total fat: 33.2* percent of calories
 - Saturated fat: 10.8* percent of calories
 - Cholesterol: 225 mg
 - Calcium: 765 mg
 - Folate: 319 micrograms (mcg)
 - Iron: 13.4 mg
 - Zinc: 9.7 mg
 - Sodium: 2,896 mg

* NHANES (1999-2002), NCHS. *Health, United States, 2006.*

- The average daily intake of total fat in the United States is 79 grams (g). For females the average was 67 grams overall. *(NHANES [1999-2000], NCHS)*
- The average daily intake of saturated fat in the United States is 27 grams. For females the overall average was 23 grams. *(NHANES [1999-2000], NCHS)*
- The average daily percentage of calories from fat in the United States:⁶
 - Non-Latino white: female: 32.0 percent.
 - Non-Latino black: female: 33.5 percent.
 - Other non-Latino: female: 31.7 percent.
 - Latino: female: 32.1 percent.

(J Am Diet Assoc. 2005;105:352-363.)

- The recommended daily intake of dietary cholesterol for adults is less than 300 milligrams (mg). The average daily intake of dietary cholesterol in the United States is 265 mg. For females the average was:
 - 225 mg overall.*(NHANES [1999-2000], NCHS)*

Abbreviations Used:

ARIC – Atherosclerosis Risk in Communities, NHLBI

BMI – Body mass index.

CHS – Cardiovascular Health Study, NHLBI

FHS – Framingham Heart Study, NHLBI

GCKSS – Greater Cincinnati Northern Kentucky Stroke Study

Kg/m² – kilograms/meter²

NCHS – National Center for Health Statistics

NH – non-Hispanic

NHANES – National Health and Nutrition Examination Survey, NCHS

NHES – National Health Examination Survey

NHIS – National Health Interview Survey, NCHS

NHLBI – National Heart, Lung, and Blood Institute

SHS – Strong Heart Study, NHLBI

For additional information see the Heart Disease and Stroke Statistics – 2008 Update, published in Circulation, available on our Web site.