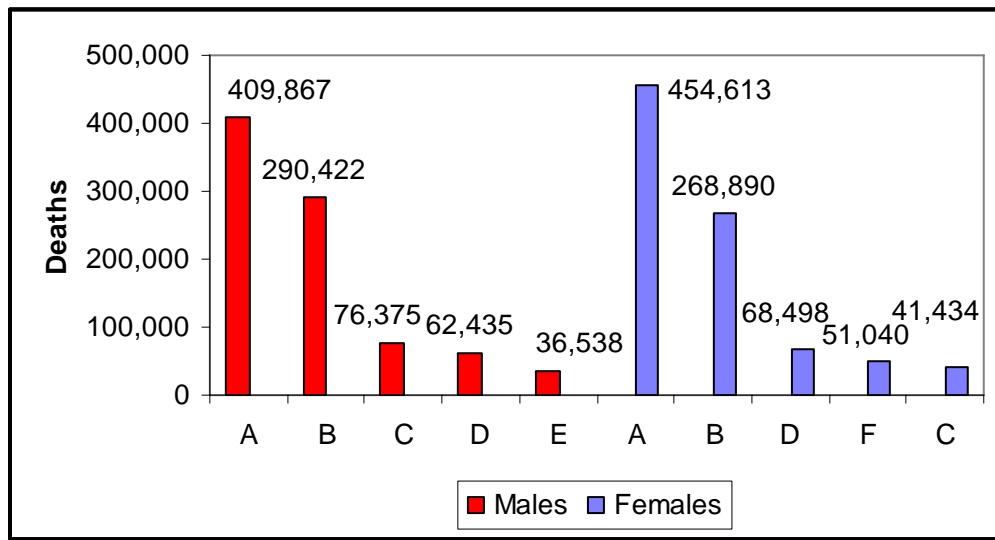


## Men and Cardiovascular Diseases 2009 Update

### CVD and Other Major Causes of Death for All Males and Females United States: 2005



Source: NCHS

### Cardiovascular Disease (CVD) (ICD/10 codes I00-I99, Q20-Q28)

- About one in three adult men has some form of cardiovascular disease.
- In 2005, cardiovascular disease caused the deaths of 409,867 males. Cancer killed 268,890 males in 2005.
- Males represent 47.4 percent of deaths from CVD.
- The 2005 overall death rate from CVD was 278.9. Death rates were
  - 324.7 for white males.
  - 438.4 for black males.
- In 2006, cardiovascular disease was the first listed diagnosis of 4,038,000 males discharged from short-stay hospitals. Discharges include people alive, dead and status unknown.
- Based on the NHLBI's Framingham Heart Study (FHS) original and offspring cohort data from 1980 to 2003...
  - The average annual rates of first major cardiovascular events rise from three per 1,000 men at ages 35–44 to 74 per 1,000 at ages 85–94. For women, comparable rates occur 10 years later in life. The gap narrows with advancing age.
  - Under age 75, a higher proportion of CVD events due to coronary heart disease (CHD) occur in men than in women, and a higher proportion of events due to stroke occur in women than in men.

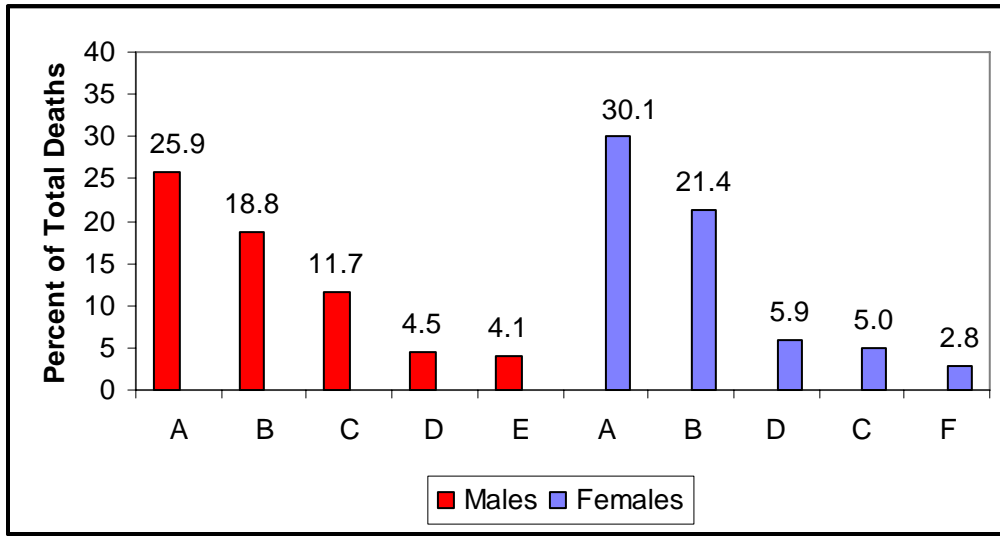
(NIH, NHLBI. *Incidence and Prevalence: 2006 Chart Book of Cardiovascular and Lung Diseases.*)



# Men and Cardiovascular Diseases 2009 Update

## Causes of Death for Hispanic or Latino Males

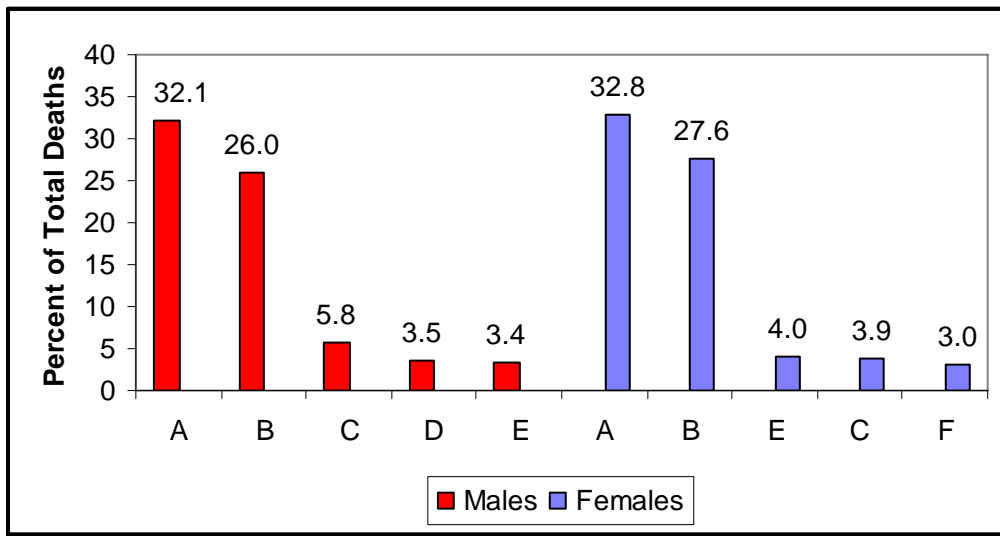
United States: 2005



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 CVD. A, diseases of the heart and stroke; B, cancer; C, accidents; D, diabetes; E, assault (homicide); and F, CLRD.  
Source: NCHS.

## Causes of Death for Asian/Pacific Islander Males and Females

United States: 2005



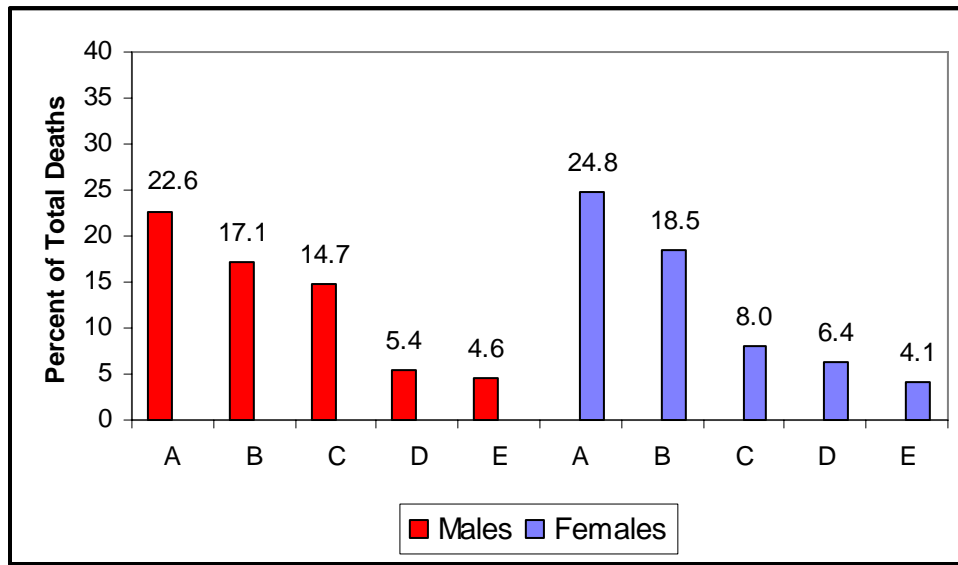
Note This Asian/Pacific Islander category includes people at high CVD risk (South Asian) and people at low CVD risk (Japanese). More specific data on these groups aren’t available. The combined “Diseases of the Heart” and “Stroke” category does not constitute total CVD. A, diseases of the heart and stroke; B, cancer; C, accidents; D, CLRD; E, diabetes; and F, influenza and pneumonia.

Source: NCHS.

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### Causes of Death for American Indian/Alaska Native Males

United States: 2005



Note: The combined "Diseases of the Heart" and "Stroke" category does not constitute total CVD. A, diseases of the heart and stroke; B, cancer; C, accidents; D, diabetes; E, chronic liver disease and cirrhosis; and F, CLRD.

Source: NCHS.

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

- About 8.7 million males 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, about 4.7 million have a history of myocardial infarction (MI; heart attack).
- This year an estimated 740,000 men will have a new or recurrent coronary attack. Of these, about 565,000 will have a heart attack. (*ARIC and CHS, NHLBI*)
- The average age-adjusted incidence rates per 1,000 person-years in men ages 45 to 64 are
  - 12.5 for whites.
  - 10.6 for blacks.

Incidence rates excluding revascularization procedures are

- 7.9 for white men.
- 9.2 for black men.

(*Jones DW, et al. Risk factors for coronary heart disease in African Americans: the Atherosclerotic Risk in Communities Study 1987-1997. Arch Intern Med 2002;162:2565-71*)

- The annual age-adjusted rate per 1,000 population of first heart attack (MI) or CHD death in white men was 3.9. For black men the rate was 4.2  
(*ARIC [1987-2001], NHLBI; NHLBI Incidence & Prevalence: 2006 Chart Book on Cardiovascular and Lung Diseases.*)
- The average age of a person having a first heart attack is 64.5 for men and 70.3 for women.  
(*National Heart, Lung, and Blood Institute. Unpublished data from ARIC surveillance and CHS, extrapolated to the U.S. population*)
- Based on the NHLBI's FHS in its 44-year follow-up of participants and the 20-year follow-up of their offspring...

## Men and Cardiovascular Diseases

### 2009 Update

- CHD comprises more than half of all cardiovascular events in men and women under age 75. (*FHS/NHLBI*)
- The lifetime risk of developing CHD after age 40 is 49 percent for men and 32 percent for women. (*Lloyd-Jones DM, Larson MG, Beiser A, Levy D. Lifetime risk for developing coronary heart disease. Lancet. 1999;353:89-92.*)
- The incidence of CHD in women lags behind men by 10 years for total CHD and by 20 years for more serious clinical events such as MI and sudden death.  
(*FHS/NHLBI*)
- Among American Indian men ages 65–74, the rate per 1,000 population of incident heart attack is 7.6. (*SHS [1989-2002], NHLBI*)
- CHD is the single leading cause of death of American males, killing 232,115 in 2005. This represents 52.1 percent of deaths from CHD.
- The 2005 overall CHD death rate was 144.4. Death rates were 187.7 for white males and 213.9 for black males.
- 50 percent of men who died suddenly of CHD had no previous symptoms. (*FHS, NHLBI*)
- 1,056,000 males diagnosed with CHD were discharged from short-stay hospitals in 2006.

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

- Among men age 20 and older, the following have angina:
  - 4.1 percent of non-Hispanic whites.
  - 4.4 percent of non-Hispanic blacks.
  - 3.5 percent of Mexican Americans.(*NHANES [2005-2006], NCHS and NHLBI*)
- About 17,000 males diagnosed with angina were discharged from short-stay hospitals in 2006.

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

- The prevalence of stroke in men is an estimated 2.6 million. Among men age 20 and older, the following have had a stroke:
  - 2.3 percent of non-Hispanic whites.
  - 3.9 percent of non-Hispanic blacks.
  - 2.1 percent of Mexican Americans.(*NHANES [2005-2006] NCHS and NHLBI*)
- 2005 stroke mortality was 56,586 for males (39.4 percent of total stroke deaths).
- The 2005 overall death rate for stroke was 46.6. Death rates were 44.7 for white males and 70.5 for black males. In 2005, death rates for stroke were 38.0 for Hispanic or Latino males; 41.5 for Asian or Pacific Islander males; and 31.3 for American Indian/Alaska Native males. (*Health, United States, 2007, NCHS*).
- In 2006, 404,000 males were discharged from short-stay hospitals after having a stroke.

# Men and Cardiovascular Diseases

## 2009 Update

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

- One in three U.S. adults has HBP. (*Fields LE, Burt VL, Cutler JA, Hughes J, Roccella EJ, Sorlie P. The burden of adult hypertension in the United States, 1999–2000: a rising tide. Hypertension. 2004; 44: 398–404*)
- A higher percentage of men than women have HBP until age 45. From 45 to 54 years of age and 55 to 64 years of age, the percentages of men and women with HBP are similar. After that, a much higher percentage of women have HBP than do men (*Health, United States, 2007. NCHS*)
- Among men age 20 and older, the following have HBP:
  - 34.1 percent of non-Hispanic whites.
  - 44.4 percent of non-Hispanic blacks.
  - 23.1 percent of Mexican Americans.(*NHANES [2005-2006], NCHS and NHLBI*)
- The 2005 overall death rate from HBP was 18.4. Death rates were
  - 15.8 for white males.
  - 52.1 for black males.
- 204,000 males 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
  - 1.3 for white males.
  - 1.4 for black males.
- Crude infant death rates (under the age of 1 year) were 39.0 for white infants and 47.7 for black infants. Some types of defects occur more commonly in females or males.
- 30,000 males were discharged from short-stay hospitals in 2006 with a diagnosis of congenital cardiovascular defects.

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

The estimated prevalence of heart failure in men is 3,200,000

- In 2005, the total mention mortality for heart failure in males was 126,163 (43.2 percent of total mention mortality from HF).
- The 2005 overall total mention death rate from HF was 52.3. Death rates were
  - 62.1 for white males.
  - 81.9 for black males.
- 523,000 males were discharged from short-stay hospitals in 2006 with a diagnosis of HF.

### Kawasaki Disease (ICD/10 code M30.3) (ICD/9 code 446.1)

- Kawasaki disease occurs more often among boys (63 percent) and among those of Asian ancestry.

## Men and Cardiovascular Diseases

### 2009 Update

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

- 2005 mortality showed 1,044 male deaths from rheumatic fever and rheumatic heart disease. This represents 31.0 percent of deaths from RF/RHD.
- The 2005 overall death rate for RF/RHD was 1.1. Death rates were
  - 0.8 for white males.
  - 0.7 for black males.

#### Tobacco

- Among Americans age 18 and older, 26.2 million men (23.5 percent) are smokers. Data are for 2006. (*Pleis JR, Lucas JW. Summary health statistics for U.S. adults: National Health Interview Survey, 2007. Vital Health Stat 10; No. 240 [in preparation]*)
- Among men age 18 and older, the following are smokers:
  - 23.5 percent of whites.
  - 26.1 percent of black or African Americans.
  - 20.1 percent of Hispanics.
  - 16.8 percent of non-Hispanic Asians only.
  - 35.6 percent of non-Hispanic American Indians/Alaska Natives.

#### High Blood Cholesterol and Other Lipids

- In 2005, 45.0 million adult men had total blood cholesterol levels of 200 mg/dL or higher and of these, 14.6 million had levels of 240/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 men age 20 and older, the following have total blood cholesterol levels over 200 mg/dL:
  - 42.1 percent of non-Hispanic whites.
  - 35.6 percent of non-Hispanic blacks.
  - 52.1 percent of Mexican Americans.

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

  - 14.3 percent of non-Hispanic whites .
  - 7.9 percent of non-Hispanic blacks
  - 17.5 percent of Mexican Americans

(*NHANES [2005-2006], NCHS and NHLBI*)
- Among men age 20 and older, the following have LDL cholesterol of 130 mg/dL or higher :
  - 31.0 percent of non-Hispanic whites.
  - 36.2 percent of non-Hispanic blacks.
  - 45.0 percent of Mexican Americans.

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. (*NHANES I [1999-2004], NCHS and NHLBI*)
- Among men age 20 and older, the prevalence with an HDL cholesterol less than 40 mg/dL are
  - 24.9 percent of non-Hispanic whites.

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- 13.5 percent of non-Hispanic blacks.
- 30.6 percent of Mexican Americans.

High-density lipoprotein (HDL or good) cholesterol levels of less than 40 mg/dL are associated with a higher risk of coronary heart disease. (NHANES [2005-2006], NCHS and NHLBI)

### Physical Inactivity

- Among men age 18 and older, 32.9 percent get regular leisure-time physical activity. (NHIS 2007)

### Overweight and Obesity

- Among men age 20 and older, the following are overweight or obese (BMI of 25.0 kg/m<sup>2</sup> and higher):
  - 72.4 percent of non-Hispanic whites.
  - 73.7 percent of non-Hispanic blacks.
  - 74.8 percent of Mexican Americans.

Of these, the following are obese (BMI of 30.0 kg/m<sup>2</sup> and higher):

- 32.3 percent of non-Hispanic whites.
- 36.8 percent of non-Hispanic blacks.
- 26.8 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 7.5 million are male. (NHANES [2003-2006], NCHS)
- In the total population age 20 and older, 7.4 percent of men have physician-diagnosed diabetes. The prevalences are
  - 5.8 percent of non-Hispanic whites.
  - 14.9 percent of non-Hispanic blacks.
  - 11.3 percent of Mexican Americans.

(NHANES [2005-2006], NCHS)

- An estimated 6.4 million Americans age 20 and older have undiagnosed diabetes.
- Of those with undiagnosed diabetes, 3.9 percent are men, using American Diabetes Association criteria of fasting plasma glucose of 126 mg/dL or more. The prevalences are
  - 3.6 percent of non-Hispanic whites.
  - 4.7 percent of non-Hispanic blacks.
  - 6.0 percent of Mexican Americans.

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

- Of the estimated 57.0 million Americans age 20 and older with pre-diabetes, about 34.0 million (31.7 percent) are male.
- 31.7 percent of men age 20 and older have pre-diabetes, using American Diabetes Association criteria of fasting plasma glucose of 100 to less than 126 mg/dL. The prevalences are

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- 32.0 percent of non-Hispanic whites.
- 22.9 percent of non-Hispanic blacks.
- 28.5 percent of Mexican Americans.

(NHANES [2003-2006], NCHS and NHLBI )

- In 2005, mortality data showed that diabetes killed 36,538 males (48.6 percent of deaths from diabetes).
- The 2005 overall death rate from diabetes was 24.6. Death rates were
  - 26.5 for white males.
  - 50.8 for black males.
- 283,000 males diagnosed with diabetes mellitus were discharged from short-stay hospitals in 2006.

### Metabolic Syndrome

- Applying the unadjusted prevalence of 34.5 percent to 2007 population estimates for U.S. adults age 20 and older yields an estimated 76 million U.S. residents with MetS. (Ford ES. *Prevalence of the metabolic syndrome defined by the International Diabetes Federation among adults in the U.S. Diabetes Care. 2005;28:2745-9*)
- The age-adjusted prevalence was similar for men (34.4 percent) and women (34.5 percent). (Ford ES. *Prevalence of the metabolic syndrome defined by the International Diabetes Federation among adults in the U.S. Diabetes Care. 2005;28:2745-9*)
- The age-adjusted prevalences of people with MetS were 35.4 percent, 24.5 percent, and 40.3 percent for white, black, and Mexican-American men, respectively. (Ford ES. *Prevalence of the metabolic syndrome defined by the International Diabetes Federation among adults in the U.S. Diabetes Care. 2005;28:2745-9*)

### Surgery

- In 2006, 72 percent of bypass and 65 percent of PCI procedures were performed on men. Bypass data represent a combination of code and vessel data, so it's impossible to determine the average number of vessels per patient.
- In 2007 in the United States, 73.7 percent of heart transplant patients were male.

#### Abbreviations Used:

ARIC – Atherosclerosis Risk in Communities, NHLBI  
BMI – body mass index  
CHS – Cardiovascular Health Study, NHLBI  
FHS – Framingham Heart Study, NHLBI  
JAMA – *Journal of the American Medical Association*  
Kg/m<sup>2</sup> – kilograms/meter<sup>2</sup>  
Kcal – kilocalories  
Mg – milligrams.  
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  
NHLBI – National Heart, Lung, and Blood Institute  
PCI – percutaneous coronary intervention  
SHS – Strong Heart Study, NCHS

## **Men and Cardiovascular Diseases 2009 Update**

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