

Biostatistical Fact Sheet -- Populations

INTERNATIONAL CARDIOVASCULAR DISEASE STATISTICS

- The latest available data from the World Health Organization (WHO) MONICA Project indicate that the coronary event rate (per 100,000) in men was highest in Finland (North Karelia, 835) and lowest in China (Beijing, 81). For women the highest event rate was in the United Kingdom (UK) (Glasgow, Scotland, 265) and lowest in Spain (Catalonia, 35) and China (Beijing, 35). These data represent results from 35 MONICA Project populations collected during the mid-1980s until the mid-1990s.¹ (See "Death Rates for Total Cardiovascular Disease, Coronary Heart Disease, Stroke and Total Deaths in Selected Countries," from [2002 Heart and Stroke Statistical Update](#), American Heart Association, p. 10.)
- The average rates of hospital discharges in the European Union (EU) were 2,190,000 for cardiovascular diseases (CVD), 629,000 for coronary heart disease and 356,000 for stroke. These data are for the latest available year. (WHO [1999] European Health for All statistical database)¹
- According to WHO estimates, 17 million people around the globe die of CVD each year. In 1998 there were 7.3 million deaths from heart attack and 5.1 million from stroke. Another 15 million each year survive minor strokes. 600 million people with high blood pressure are at risk of heart attack, stroke and cardiac failure.²
- In 1999 CVD contributed to one-third of global deaths. Low- and middle-income countries contributed to 78 percent of CVD deaths. By 2010 CVD is estimated to be the leading cause of death in developing countries. Heart disease has no geographic, gender or socio-economic boundaries.³
- CVD is the leading cause of death in Europe, accounting for over 4 million deaths each year. Nearly half (49 percent) of all deaths are from CVD (55 percent of deaths in women and 43 percent of deaths in men). About half of all deaths from CVD are from CHD and nearly one-third are from stroke.⁴
- CVD is the leading cause of death in the European Union, accounting for over 1.5 million deaths each year. Nearly half (42 percent) of all deaths in the EU are from CVD (46 percent of deaths in women and 38 percent of deaths in men). Between one-third and one-half of deaths from CVD are from CHD and over one-fourth are from stroke.⁴

CVD IN DEVELOPING COUNTRIES

- Economic transition, urbanization, industrialization and globalization bring about lifestyle changes that promote heart disease. These risk factors include tobacco use, physical inactivity and unhealthy diet.
- Life expectancy in developing countries is rising sharply, and people are exposed to these risk factors for longer periods.
- Newly emerging CVD risk factors like low birth weight, folate deficiency and infestations are also more frequent among the poorest in low- and middle-income countries.

CORONARY HEART DISEASE (CHD), ANGINA PECTORIS AND HEART FAILURE

- According to data published in the CVD News section of the World Health Organization Web site, there were 7.1 million deaths from coronary heart disease globally. The WHO predicts that in 2020 this figure will have risen to 11.1 million.³
- CHD alone is the most common cause of death in Europe, accounting for nearly 2 million deaths each year. More than 1 in 5 women (22 percent) and men (21 percent) die from CHD.⁴
- CHD alone is the most common cause of death in the EU, accounting for over 600,000 deaths each year. One in six men (17 percent) and one in seven women (15 percent) in the EU die from CHD.⁴
- CHD alone is the most common cause of death in the United Kingdom, causing around 125,000 deaths in 2000. One in 4 men and 1 in 6 women die from CHD. Other forms of heart disease cause more than 33,000 deaths. In total there were more than 157,000 deaths from heart disease in the UK.¹
- Using 1999 CHD mortality data for the UK, it's estimated that about 149,000 heart attacks in men and 125,000 in women occur annually for a total of about 274,000. Using data from the Health Survey for England, about 850,000 men and 450,000 women living in the UK have had a heart attack, for a total of about 1.3 million. Overall, about 1.4 million men and 1.2 million women living in the UK have had CHD (either angina or heart attack).¹
- It's estimated that about 174,000 new cases of angina in men and about 158,000 in women occur in the UK annually for a total of about 330,000. Using data from the Health Survey for England, about 1.1 million men and 1 million women living in the UK have had angina for a total of about 2.1 million.¹
- About 33,000 new heart failure cases occur in the UK annually in men and about 30,000 in women for a total of about 63,000. Prevalence is estimated at 350,000 men and 410,000 women for a total of 760,000.¹
- In 1999-2000 there were 24,728 bypass procedures performed in the UK. In addition, 28,133 angioplasty and other coronary intervention procedures were performed.¹

RHEUMATIC FEVER/RHEUMATIC HEART DISEASE⁵

- In developing countries, rheumatic fever is the most frequent cause of heart disease in the 5-13-year-old group, causing 25-40 percent of all cardiovascular diseases and 33-50 percent of all hospital admissions.
- An estimated 12 million patients require further treatments to prevent disability and death due to rheumatic heart disease. 8 million are children of school age.²

SOCIAL AND ECONOMIC CONSEQUENCES OF CVD

- Clinical care of CVD is costly and prolonged. These direct costs divert the scarce family and societal resources to medical care.
- CVD affects individuals in their peak mid-life years, disrupting the future of the families dependent on them and undermining the development of nations by depriving them of workers in their most productive years.

- In developed countries, lower socioeconomic groups have a greater prevalence of risk factors, higher incidence of disease and higher mortality. In developing countries, as the CVD epidemic matures, the burden will shift to the lower socioeconomic groups.

TOBACCO USE

- About 22 percent of CVD deaths in men and 4 percent of CVD deaths in women living in Europe are due to smoking. The equivalent figures for the EU are 16 percent and 4 percent respectively.⁴
- Analyses by the WHO have concluded that by 2030, current smoking patterns will produce about 500 million premature deaths from tobacco-related disease among people alive today.⁶ (WHO, 1999)
- The WHO further estimates that by 2030, tobacco is expected to be the single greatest cause of death worldwide, accounting for an estimated 10 million deaths per year.⁶
- Although the impact of tobacco-related disease and death has been until recently a problem primarily for developed countries, the WHO now estimates that by 2020, 7 of every 10 tobacco-related deaths will be in the developing world.⁶

GLOBAL BURDEN OF DIABETES, 1995-2025⁷

- The prevalence of diabetes in adults globally was estimated to be 4.0 percent in 1995 and was projected to rise to 5.4 percent by the year 2025. The number of adults with diabetes in the world is estimated to rise from 135 million in 1995 to 300 million in 2025.
- It's projected that the number of individuals with diabetes will rise 42 percent, from 51 million to 72 million, in developed countries and 170 percent, from 84 million to 228 million, in developing countries.
- The majority of people with diabetes in developing countries are projected to be younger, ages 45-64, while those in developed countries will be age 65.
- Diabetes will be increasingly concentrated in urban areas, with the greater burden of disease among women.

OVERWEIGHT AND OBESITY

- An expert group convened by the WHO in June 1997 found that overweight and obesity represent a rapidly growing threat to the health of populations in an increasing number of countries worldwide. The WHO recognized obesity as a disease that is prevalent in both developing and developed countries and that affects children and adults alike.⁸
- From 27 to 35 percent of adults in the EU are overweight, and from 7 to 12 percent are obese.⁴

RISK FACTORS -- UNITED KINGDOM¹

High Blood Pressure

- In England, 41 percent of men and 33 percent of women have high blood pressure (140/90 mmHg or higher). Nearly 80 percent of men and 70 percent of women with HBP are not being treated. Of those being treated, over two-thirds remain hypertensive.

Smoking

- In 1998, 28 percent of men and 26 percent of women in Great Britain smoked cigarettes.

Blood Cholesterol

- A level of less than 5.0 millimoles per liter (mmol/L) is suggested for both primary and secondary prevention of CHD. About 66 percent of men and 67 percent of women have blood cholesterol levels of 5.0 mmol/L and above.

Diet

- British adults derive about 38 percent of their food energy (calories) from total fat and about 14 percent from saturated fat. These percentages are significantly higher than the Committee on the Medical Aspects of Food and Nutrition Policy (COMA) targets.

Physical Activity

- Only 37 percent of men and 25 percent of women meet the government's current physical activity guidelines. In addition, over one-third of adults are currently inactive.

Overweight and Obesity

- Using a body mass index (BMI) of 25-30 kg/m² as overweight, 46 percent of men and 32 percent of women are overweight. An additional 17 percent of men and 21 percent of women are obese (BMI of more than 30 kg/m²).

Diabetes

- It's estimated that 1.3 million people in the UK have been diagnosed with diabetes.

Alcohol

- 38 percent of men and 21 percent of women consume more alcohol than the recommended daily benchmarks. 26 percent of men and 15 percent of women consume more than the weekly recommended levels.

THE AMERICAS⁹

- Cardiovascular disease is the leading cause of death in 31 of 35 countries reporting mortality statistics.
- The highest total cardiovascular disease mortality rates for both males and females were in the English-speaking Caribbean, North American and Southern Cone subregions (Argentina, Chile and Uruguay). The lowest were in the Latin Caribbean and Central America. Countries of the Andean subregion had intermediate levels.
- All selected countries showed a declining trend for both males and females with the exception of Guatemala, El Salvador and the Dominican Republic, which are still experiencing an increase.
- The highest rates of ischemic heart disease were in Argentina, Canada, the United States, Trinidad and Tobago, and Uruguay. The lowest were found initially in Barbados, the Dominican Republic, Mexico and Central America. In the latter group, the rates are still increasing for both sexes.
- Looking at data for two three-year periods around 1969 and 1986, respectively, the highest stroke mortality rates were found in the English-speaking Caribbean and the Southern Cone sub-regions. The lowest rates were found in Guatemala for males and initially for females. In recent years, female rates in Guatemala increased; male rates in Colombia and rates for

both sexes increased in the Dominican Republic and El Salvador. Canada and the United States had the lowest mortality rates for females and one of the lowest for males in the second period; these countries also showed the greatest declines.

- Mortality rates attributed to hypertensive disease (high blood pressure) have declined markedly except in Guatemala, Mexico and Venezuela. Costa Rica and the Dominican Republic have experienced an increase only among males. Declines have been slightly higher for females, most notably in Argentina, Chile, Canada, the United States, and Trinidad and Tobago.
- Mortality rates for rheumatic fever and chronic rheumatic heart disease underwent a larger decline than rates for coronary heart disease, stroke, total cardiovascular disease and high blood pressure. However, rheumatic fever and rheumatic heart disease are still regarded as major causes of morbidity and use of healthcare services.
- In Latin America, data indicate about 800,000 deaths a year from cardiovascular diseases. These represent about 25 percent of all deaths, with roughly as many males as females dying from cardiovascular disease.

LINKS TO WEB SOURCES

Note: These links are provided as a helpful reference tool for finding information. The American Heart Association has NOT evaluated, made any determination about quality or efficacy, and does not endorse any information, service, product or company represented by these hyperlinks. The list is not complete and will not be updated.

British Heart Foundation -- Coronary Heart Disease Statistics

<http://www.bhf.org.uk/professionals/index.asp?secondlevel=519>

This site includes European cardiovascular disease statistics.

Centers for Disease Control (CDC) -- Cardiovascular Health -- International Information

<http://www.cdc.gov/nccdphp/cvd/international.htm>

This page includes links to CDC affiliated publications and international cardiovascular disease projects.

G8 Promoting Heart Health

<http://www.med.mun.ca/q8hearthealth/pages/enter.htm>

The G8 Promoting Heart Health initiative aims at disseminating best practices for implementing cardiovascular disease preventive interventions. The site is searchable and provides summary descriptions of projects.

Global Cardiovascular Infobase

<http://cvdinfobase.ic.gc.ca/>

This site includes epidemiological data and statistics for cardiovascular diseases for countries throughout the world. However, the focus is on developing nations. The data are not complete and may not be consistent as to the type of data and years available. Please note that more complete data from more developed nations (like the United States) can be found on government health sites for those countries.

International Burden of Disease Network

<http://www.ibdn.net/>

The International Burden of Disease Network was launched in 1998 to promote development, collaboration and understanding between everyone involved in using, and wishing to use, data on burden of disease.

Morbidity and Mortality Weekly Report (MMWR) International Bulletins

<http://www.cdc.gov/mmwr/international/world.html>

These reports are not available for all countries. Most data are for Europe, North America and Australia.

ProCOR Conference on Cardiovascular Health -- Community Cardiovascular Studies

<http://procor.org/cardstud.php>

This site includes a list of over 50 epidemiological studies. Each list provides a brief description of the study along with a bibliography.

World Health Organization (WHO) Publications -- Cardiovascular Diseases

<http://www.who.int/dsa/cat98/card8.htm>

This page includes links to WHO MONICA Project information.

Source Footnotes

¹ *Coronary Heart Disease Statistics*, 2002 Edition, British Heart Foundation.

² Cardiovascular Diseases -- Prevention and Control. WHO CVD Strategy, 2001/2002.

³ World Health Organization Web site, www.who.int/ncd/cvd.

⁴ *European Cardiovascular Disease Statistics*, 2000 Edition, British Heart Foundation.

⁵ Hurst W. *The Heart, Arteries and Veins*. 9th ed. New York, NY: McGraw-Hill; 1998.

⁶ Reducing Tobacco Use. A Report of the Surgeon General. Executive Summary. *MMWR*. Vol. 49, No. RR-16, Dec. 22, 2000.

⁷ King H, et al., Global burden of diabetes, *Diabetes Care*. 1998;21:1414-1431.

⁸ Obesity: Preventing and managing the global epidemic. June, 1997. WHO Web site, www.who.int/ncd/cvd.

⁹ *World Health Statistics Quarterly*, Vol. 46, No.2, 1993.