

Cardiovascular disease 2005 — the global picture

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Abstract

Although the past twenty years have seen a remarkable decline in the death rates of heart disease and stroke in the United States and several countries of western Europe, a reverse trend is occurring in other parts of the world. This is especially true in sub-Saharan Africa, India, China and Russia.

World-wide, deaths from cardiovascular disease exceed those caused by cancer, infectious disease and trauma, constituting a deadly epidemic. Yet, in 1996 the Victoria Declaration stated that the world has the knowledge to eliminate cardiovascular disease as a major illness. Defeating such an initiative are other priorities such as education, housing, transportation, defense, as well as ignorance. The Earth Institute has labeled the needed effort, “A Race Against Time”.

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1. Introduction

The original title for this presentation was “Cardiovascular Disease in the United States, Europe and Latin America”. As data were accumulated it became apparent that a consideration of Cardiovascular Disease (CVD) would be grossly incomplete without inclusion of the remaining world, mainly developing nations in Africa, Malaysia, the Middle East and the small island states. The developing nations, as a group, are experiencing a near explosion of cases of CVD. The clinical situation is reminiscent of the experience of nations of the industrialized western nations some thirty years ago. Atherosclerotic cardiovascular disease was being seen in increasing numbers. The number of sudden cardiac deaths was on the increase, and frightening was the word commonly used to describe the situation. Among western nations, the incidence of CVD, while still a major problem, has reached a plateau. Sudden cardiac deaths among apparently healthy middle aged white males are decreasing. Life expectancy is on a modest rise.

These favorable trends are not occurring in most developing countries.

2. CVD in the United States

The cardiovascular epidemic will continue due to ageing of the population and unattended risk factors in younger generations (Tables 1 and 2).

Table 1

Statistics for the United States — prevalence: how many have a disease at a given time

Coronary heart disease	12,900,000
Myocardial infarction	7,600,000
Angina pectoris	6,600,000
Congestive heart disease	4,900,000
Hypertension (140 mm Hg/90 mm Hg or >)	50,000,000
Stroke	4,700,000
Congenital heart defects	1,000,000
1 in 5 males and females has some form of CVD	

Table 2

Statistics for the United States — incidence: number of new cases that develop in a one-year period

Average annual rates of first major CV event	
Males: age 35–44	7 per 1000
Males: age 85–94	68 per 1000
Females: comparable rates occur 10 years later	

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¹ Dr. Callow serves as an unpaid consultant to AVANT Immunotherapeutics, Inc., and holds stock in this and other companies that develop and/or sell medicines and/or devices that address cardiovascular disease.

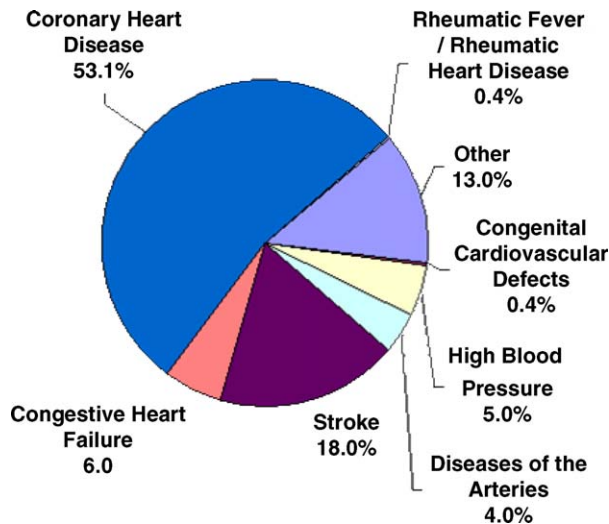


Fig. 1. Percentage breakdown of deaths from cardiovascular diseases — United States, 2002 Preliminary (adapted from AHA, source: CDC/NCHS).

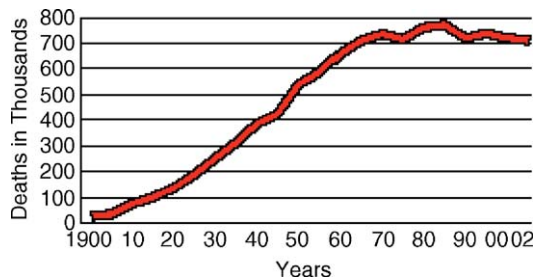


Fig. 2. Deaths from diseases of the heart, United States: 1900–2002.

2.1. Statistics for the United States — mortality

- In 2000: 39% of all deaths or 1 of every 2.5 among 2,400,000 deaths from all causes, CVD was listed as primary or contributing cause.
- Since 1918, CVD has been the leading cause of mortality every year but 1918.
- CVD claims more lives each year than the next 5 leading causes combined: cancer, influenza, COPD, accidents and diabetes mellitus.
- Almost 150,000 CVD deaths each year occur in individuals under age 65

From Fig. 1 it can be seen that Coronary Heart Disease (CHD) at 53% leads all other causes of CVD deaths. Stroke deaths are 18% among all causes, the second most common CVD disorder. Rheumatic Fever/Rheumatic Heart Disease,

Table 3

Death rates per 100,000 population

2000 overall death rate from CVD was 343.1

White males: 397.6 White females: 285.8

Black males: 509.6 Black females: 397.1

1 in 29 females deaths is from breast cancer, 1 in 2.4 from CVD from 1990 to 2000, CVD death rates declined 17.0%

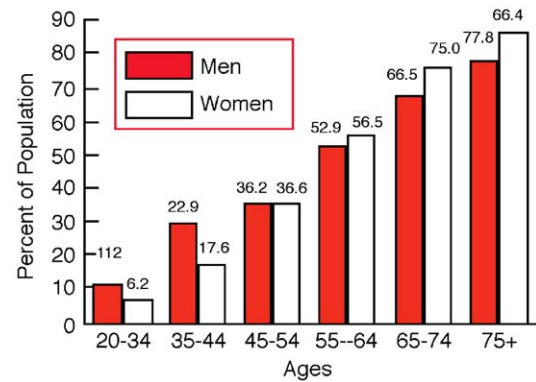


Fig. 3. Prevalence of cardiovascular diseases in Americans age 20 and older by age and sex: NHANES: 1999–2002.

once a scourge of industrialized nations, has been virtually eliminated as a threat. With an ageing population, the incidence of congestive heart failure will very likely increase (Fig. 2).

The improvement in overall death rates from CVD for white males and females has not been seen among black men and women. In these two groups the figures are a cause for shame, for the rates for African Americans living in the United States are the highest in the world. Declines in CVD death rates have been largely responsible for recent major improvements in life expectancy (Table 3).

Prevalence of CVD among all Americans is shown in Fig. 3. It can be seen that women, experiencing a lower prevalence in their early years, equal and then exceed men by midlife.

Leading causes of death for all males and females in the United States for the year 2002 are shown in Fig. 4. Total CVDs are far and away the leaders.

3. Stroke

The second leading cause of CVD death is stroke. Among stroke victims death following the initial stroke occurs in 25%–30% of victims. Nearly 50% of the survivors will suffer a second stroke within 5 years. And approximately 50% of all stroke victims will eventually succumb to stroke. Equally fear-some in the stroke category is the disability which accompanies so many “brain attacks”. Disability, from mild to major, limits

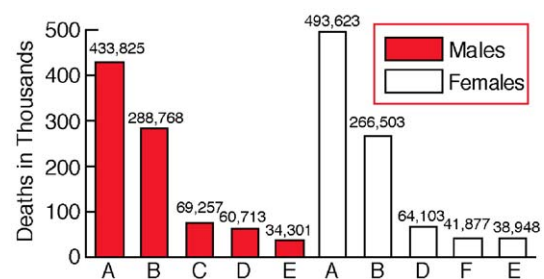


Fig. 4. Leading causes of death for all males and females, United States: 2002 (A: Total CVD (Preliminary), B: Cancer, C: Accidents, D: Chronic lower respiratory diseases, E: Diabetes mellitus, F: Alzheimer's disease).

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