**Recent Trends in Coronary Heart Disease (CHD) Deaths Among the Elderly in the United States**

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**Introduction**

Total mortality rates and coronary heart disease (CHD) mortality rates are declining in the USA. The oldest individuals (85+ years) comprise the fastest growing segment of the population. However, it is unclear whether reductions in CHD deaths have been similar across age groups and in specific gender and racial groups.

We examined trends in CHD mortality for the US population, focusing on changes occurring in older individuals (over 65 years of age).

**Methods**

We used data from the National Center for Health Statistics (NCHS) for the period between 1999 and 2006 for the entire US population. For each age group over 25 years of age, crude and adjusted changes in death rates were calculated in the overall population and in specific gender and racial groups: African American (AA) women and AA men, and Caucasian women and Caucasian men. For each age group of 10 years, we determined number of individuals, all cause-mortality, and deaths from CHD. CHD deaths were defined as deaths classified in subgroup I20-I25, encompassing more than 90% of all deaths in ICD-10 section, “Diseases of the circulatory system.”

Log link Poisson regression was used to derive race-and-gender-specific trends after adjusting for age. The effects of groups or exposure levels, were determined using the standardized mortality ratios (SMR). SMR of Male versus Female and African American versus Caucasian were calculated.

We created one model for all 8 years, 8 models for each year, and 16 models for 8 years and 2 races. This allowed us to estimate not only the time component but also gender difference by race.

**Results**

- CHD death rates between 1999 and 2006 among Caucasians and African Americans in the United States demonstrate a decline in all 4 groups.
- Over 8 years, the overall decline in mortality from CHD deaths was 25.2% in females and 19.5% in males.
- Multivariable analysis showed a significant decrease in CHD mortality across time (p<.001), race (p<.001) and gender (p<.001). SMR for gender was 1.67 indicating that rate for males was 67% higher than for females. SMR for race (AA versus Caucasian) was 1.23.
- In the 65-84 year age group, the decline was highest in AA females (33.1%), followed by Caucasian females (32.6%), and Caucasian males (31.1%), and least among AA males (24.1%). Among people of Hispanic ethnicity similar trends were observed, a decline of 27.9% in females and 30.3% in males. (not shown in the graph)
- The rate of mortality decline in older people (65 to 84 year age group) was larger than any in other groups.
- Compared to 1999, more than 104,000 additional Americans with CHD survived in 2006.
- More than 76,000 (73%) of the additional people surviving CHD annually are between 65 to 85 years old, a group located between the “baby boomers” and the “oldest old” but representing only 11% of the USA population.
- Improved survival rates in this group is the major determinant of the unprecedented decline in mortality from CHD in the USA. Mortality among the elderly contributed 50% to overall CHD deaths in 1999 but only 45% in 2006.
- The trend of decreasing mortality from CHD in US has apparently accelerated during the last 8 years. CHD death rates have declined almost twofold between 1999 and 2006 when compared to the previous 8 years. (Source: “Heart Disease and Stroke Statistics — 2009 Update”)

**Discussion**

- The trend of decreasing mortality from CHD in US has apparently accelerated during the last 8 years. CHD death rates have declined almost twofold between 1999 and 2006 when compared to the previous 8 years.
- Decline in CHD death rates in the older population (65 to 84 years) is an important contributor to the growing population aged 85 years and older and accounts for a large part of the overall decline in CHD death rates in the US population. Despite these encouraging trends toward greater longevity, substantial racial and gender differences persist.