

## HEART DISEASE IN WOMEN

Joel A. Halverson, MA  
Office for Social Environment and Health Research, West Virginia University  
(*Ethn Dis.* 2003;13[suppl3]:S3-46–S3-47)

### INTRODUCTION

*Women and Heart Disease: An Atlas of Racial and Ethnic Disparities in Mortality*—known simply as “the atlas”—contains critical data on geographic, racial, and ethnic inequalities in women’s heart disease death rates for the 5 major racial and ethnic groups in the United States. The “*Atlas*” features more than 200 national and state maps to assist health professionals in tailoring heart-healthy programs and policies to benefit women in their communities.

The “*Atlas*” was a product of an on-going collaboration between the Cardiovascular Health Branch of the Centers for Disease Control and Prevention (CDC) and the Office for Social Environment and Health Research at West Virginia University.

“Heart disease is the leading cause of death in the United States,” Halverson said. “Approximately 520,000 people die from heart disease annually. This is approximately one in every 5 deaths. More than 12.5 million people alive today have suffered a heart attack or angina pectoris.”

### NATIONAL, STATE, AND COUNTY DEATH PATTERNS

The atlas contains national and state maps of heart disease death rates, population distributions, local economic resources, information about the social isolation of elderly women, and availability of medical care.

“We gathered data from more than 3,100 counties across the United States,” Halverson said. “We looked at death certificates and population estimates for women ages 35 and older in five racial and ethnic groups—White, African American, Hispanic, American Indian/Alaska Native and Asian Pacific Islanders.”

Heart disease deaths were classified as being those for which the underlying cause of death fell into the category “Diseases of the Heart.” This includes ICD-9 codes 390–398, 402, and 404–429.

“Not only did we find disparities in the death rates for women in various racial and ethnic groups, but we found that these disparities have existed for decades,” Halverson said. “African-American women have had higher death rates from car-

---

*. . . African-American women have had higher death rates from cardiovascular disease than White women and the other racial groups since we began keeping data in 1950 for Whites and African Americans . . .*

---

diovascular disease than White women and the other racial groups since we began keeping data in 1950 for Whites and African Americans and in 1980 for American Indians/Alaska Natives and Asian Pacific Islanders.” [Note: The atlas does not have a historical perspective. This observation is outside the scope of the atlas.]

“The death rate for White and African-American women with diseases of the heart has declined steadily in the past 50 years, but African-American women still outpace White women in deaths per 100,000,” Halverson said.

The “*Atlas*” also shows that African-American women have a higher percentage of deaths from hypertensive disease than the other racial and ethnic groups in the study.

The researchers used a process known as “spatial smoothing” to produce county-level findings that appear on maps in the atlas. This technique reduces the likelihood of generating spurious mortality rates in areas that have small populations and numbers of deaths. “The rate for a county represents an average of the mortality experience for that county and all of its neighboring counties,” Halverson said.

Health professionals using the atlas will find county-by-county maps on local economic resources, including median family income, unemployment rate, and occupational structure (the percentage of white-collar employees). The “*Atlas*” also contains information on medical care resources, such as cardio-

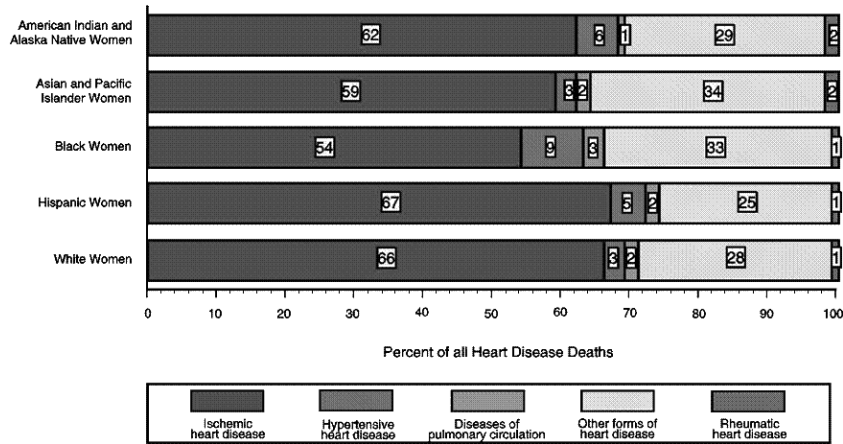


Fig 1. Heart disease deaths per 100,000 women, ages 35 and older, 1991–1995

vascular disease specialty physicians, coronary care unit beds, and cardiac rehabilitation units.

“We found some areas of the nation where medical care resources are non-existent,” Halverson said. “Cardiovascular disease patients from these areas have a hard time obtaining care.”

The social isolation of elderly women is another topic addressed in the atlas. The researchers looked at women ages 60 and older living alone and women in that age group who have mobility or self-care limitations. They found concentrations of elderly women living alone throughout the central United States. Elderly women with mobility or self-care limitations showed up more heavily in the south and in the Appalachian states.

**Key findings from the atlas on heart disease death rates among women:**

- Women ages 35 and older had higher rates in the eastern states than in the western states. Mississippi had the highest rate.
- White women in the Appalachian and Mississippi Delta regions had higher rates than White women in other parts of the nation.
- African-American women in Mississippi, Louisiana, and other pockets in the nation had higher rates than their counterparts in other parts of the United States.
- Hispanic women in the American Southwest, New York, and eastern Pennsylvania had higher heart disease death rates than Hispanic women elsewhere in the nation.
- American Indian and Alaska Native women in the north-central United States had higher heart disease death rates than American Indian and Alaska Native women in other states.
- The rates for Asian and Pacific Islander women in New York and the southwest were higher than for similar women living elsewhere in the nation.

**NEW PROJECT**

“To understand geographic disparities in health outcomes, we need to know about local social environments,” Halverson said. He listed the components of “social environment” as physical environment, population, economy, social relationships, politics and government, social educational and health services, health promotion and health status. “All of these things impact the health of a community,” Halverson said.

The atlas project has given rise to a new venture known as the Social Environment and Rural Community Health (SEARCH) project. It was funded by CDC’s Cardiovascular Health Branch for 2000–2003.

The SEARCH project is a community case study of the social environment and cardiovascular health in non-metropolitan labor market areas. It will feature a comparison between a community with high rates of mortality and one with low rates of mortality.

**FOR MORE INFORMATION**

The women’s heart disease atlas is available online at <http://gis.cdc.gov/cvd/>. The website contains interactive state maps, state fact sheets for women and for the total population, and methodological and technical notes. You may download the entire atlas or order a copy of the publication online from the CDC. A companion atlas entitled *Heart Disease in Men: An Atlas of Racial and Ethnic Disparities in Mortality* is also available on the CDC website.