

Changing the Cardiovascular profile for African American patients and other high risk minorities ISHIB-July,2009

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CVD FACTS

- **CVD, particularly heart disease and stroke, is the nation's #1 killer for both men and women among all racial and ethnic groups.**
- In 2005, 652,091 people died of heart disease (50.5% of them women). This was 27.1% of all U.S. deaths.
- **Nearly 2,600 Americans die each day of CVD. An average of 1 death every 34 seconds.**

AFRICAN AMERICANS AND CVD

- **CVD leading cause of death for African Americans in U.S. and claims more than 100,000 lives each year.**
- **African Americans and other ethnic minorities (i.e. hispanics) experience fewer years of healthy life than Caucasians due to CVD.**
- **African Americans are less likely to receive cardiovascular testing & appropriate treatment.**

African Americans and CVD(cont'd)

Black Americans are at greater risk for cardiovascular disease and stroke than white Americans.

- **The prevalence of hypertension in Black Americans in the United States is among the highest in the world.**
- **Black Americans have almost twice the risk of first-ever stroke compared with whites.**
- **Annual rate of first heart attacks is higher for black Americans than white Americans.**
- **The prevalence for Peripheral Artery Disease (PAD) increases dramatically with age and disproportionately affects blacks.**

Source: National Heart, Lung and Blood Institute. Infographics, Heart Disease Risk Factor "Multiplier Effect" in Midlife Women.
http://www.nhlbi.nih.gov/health/hearttruth/press/Multiplier_Infograph.pdf

African Americans and CVD(cont'd)

- **Black Americans are 2 times more likely than white Americans to be diagnosed with diabetes and 1.5 times more likely to be diagnosed with hypertension (high blood pressure)--important risk factors for heart disease.**
- **Based on data from the Census Bureau and Centers for Disease Control and Prevention, it is estimated that there are approximately 700,000 black Americans with heart failure in the United States, and this number is expected to grow to 900,000 by 2010.**
- **Black Americans between the ages of 45 and 64 are 2.5 times more likely to die from heart failure than white Americans in the same age range.**
- **Black Americans are more likely to have heart failure, get worse faster, and suffer more severely.**

Risk Factors for CHD

Modifiable risk factors

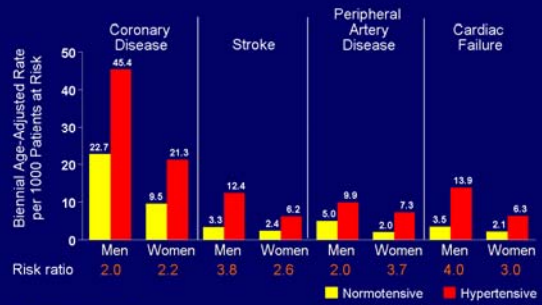
- High blood cholesterol (≥ 240 mg/dL)
- High blood pressure ($\geq 140/90$ mm Hg)
- Current cigarette smoking
- Physical inactivity
- Overweight/obesity
- Diabetes

Nonmodifiable risk factors

- Gender
- Heredity (family history of CHD)
- Age

Source: NHLBI, Third Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (ATPIII), 2001.

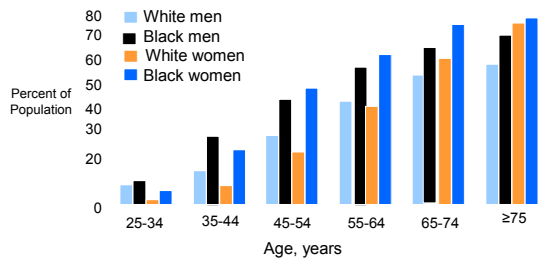
The Importance of Hypertension as a Risk Factor for CVD



CVD, cardiovascular disease.

Adapted from Kannel WB. JAMA. 1996;275:1571-1576.

Prevalence of Hypertension by Age, Gender, and Race



American Heart Association. 2002 Heart and Stroke Statistical Update.

Clinical Features of Hypertension in African Americans

- Earlier onset of disease
- Greater prevalence than white population—35% of black males; 34% black females
- Greater severity—higher rate of Stage 3
- More target organ damage
- Higher mortality from CV and non-CV diseases (32.4% in BM, 41.6% in BF)

www.americanheart.org. ASA/AHA Heart Disease and Stroke Statistics 2003 update.

Morbidity and Mortality in African American Hypertensives

- More associated risk factors and concomitant diseases—higher BMIs, more physical inactivity, cigarette smoking, and dyslipidemia (underdiagnosed)
- More cardiac and vascular hypertrophy
- More type 2 diabetes and insulin resistance

www.americanheart.org. ASA/AHA Heart Disease and Stroke Statistics 2003 update.

Morbidity and Mortality (cont'd)

- Mortality in African American males—30% hypertension-related
- Mortality in African American females—20% hypertension-related
- Non-fatal strokes—1.3 x greater than whites
- Fatal strokes—1.8 x greater than whites
- Heart disease deaths—1.5 x greater than whites
- End-stage renal disease—5 x greater than whites

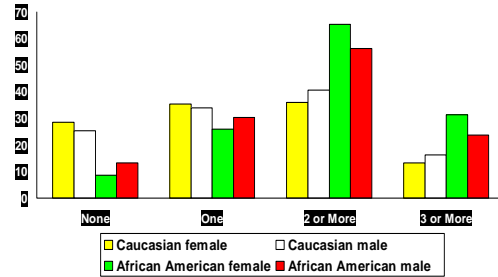
www.americanheart.org. ASA/AHA Heart Disease and Stroke Statistics 2003 update.

Morbidity and Mortality

- Equal rates of CAD in black men and white men; higher rates in black women than white women
- Higher CAD mortality in blacks than whites, particularly in the younger age groups
- Higher rates of hospitalization for heart failure

www.americanheart.org, ASA/AHA Heart Disease and Stroke Statistics 2003 update.

A Changing Profile- Risk factor Clustering



Stone et. al. JAMA 1996; 275:1104-1112

Physiological Features of Hypertension in African American Patients

- Black patients with hypertension have suppressed plasma renin activity and angiotensin II levels, consistent with sodium retention and "corrected" volume expansion
- Black patients excrete a sodium load more slowly and less completely than white patients
- In the majority, blood pressure is more salt sensitive
- *Nitric oxide may be less bioavailable*

Baker EH, et al. *Hypertension*. 2001;38:76.

In African Americans, Some Barriers to Hypertension Control Are Patient-Related

- Lack of awareness of disease and consequences
- Lack of access to patient education
- Delayed diagnosis
- Living in disadvantaged community
- Inadequate resources to support healthful lifestyle
- Poor diet
- Overweight, obesity
- Distrust of medical professionals
- Adverse view of medications

Douglas et. al. *Postgrad Med online*. 2002;112.

Professional Action: Patients' Activities

- Provide **minority-serving** physicians with practical educational tools for their practices
- *Get with the Guidelines*
- Providing Healthcare Resource Guides

Professional Action: Researchers and Scientists

- Support in funding **minority researches** and ensuring minorities are participating in **clinical trials**
- Support in advocating **studies that target minorities**

Representation of African Americans in Randomized Clinical Trials

Trial	Yr	# AAs (%)	Trial	Year	# AAs (%)
ALLHAT	2002	15,133 (35.6%)	CARE	1996	312 (7.5%)
HDFP	1979	4,846 (44.3%)	VALUE ¹	2004	639 (4.2%)
CONVINCE	2003	1,212 (7.3%)	TONE	1998	234 (24.0%)
AASK	2002	1,094 (100.0%)	RENAAL ²	2001	230 (15.2%)
MRFIT	1985	926 (7.2%)	TOMHS	1993	177 (19.6%)
SHEP	1991	657 (13.9%)	UKPDS	1998	87 (7.6%)
VA (Mono)	1993	620 (48.0%)	MDRD	1995	66 (7.9%)
HOT	1998	582 (3.1%)	ABCD/ HBP	1998	65 (13.8%)
LIFE	2002	533 (5.8%)	DCCT	1993	51 (3.5%)
EXCEL	1991	462 (8.0%)	ELITE	1997	34 (4.7%)
SOLVD/Rx	1991	394 (15.3%)	CAPT-DM	1993	30 (7.3%)
A-HeFT ³	2004	1,050 (100%)			

Taylor AL, et al. *N Engl J Med.* 2004;351:2049-2057.

Six Major Public Health Settings

1. Communities, cities, regions, states,
2. Schools and colleges
3. Work sites
4. Hospital Clinics doctor's offices emergency departments
5. Faith-based settings
6. Centers for training health professionals

Mensah, GA. Eliminating Disparities in Cardiovascular Health: six strategic imperatives and a framework for action. *Circulation.* 2005;111:1332-1336

Disparities in Health and Medical Care

“Of all the forms of inequality injustice in health is the most shocking and inhumane”

Dr. Martin Luther King, Jr.