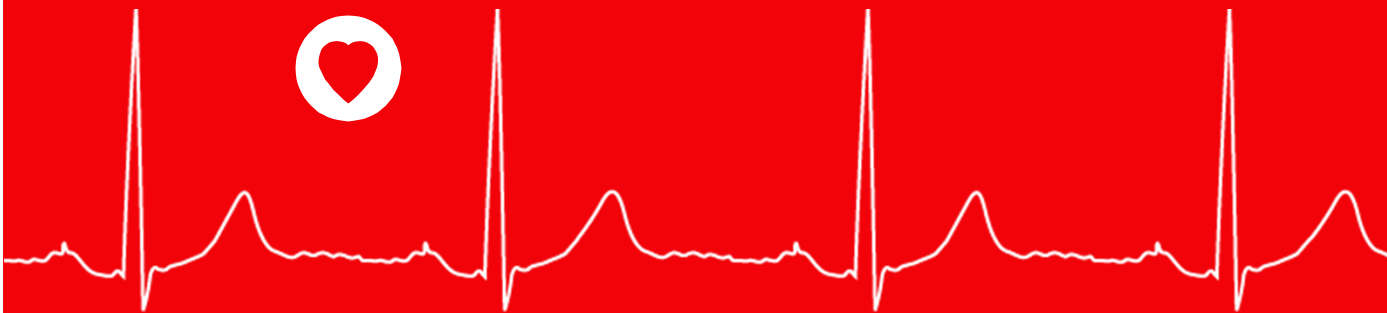


A Call to Action for the Number One Killer of Women

Jerri Anne Johnson, M. Ed.



Presentation Objectives



1

To increase awareness of the prevalence and economic burden of heart disease

2

To shed light on gender differences in heart disease

3

To describe a novel pilot program underway to drive awareness and action

Call to Action – This Cannot be Ignored

High Mortality Rates

- In 2007, ~1 woman died per minute in the US - **421,918** deaths - roughly 40,000 women died in 2010 of breast cancer - greater than **10 fold** difference (57% of the deaths from breast cancer are in women over 65 years)
- 42 million women in US are living with or at risk for heart disease
- CHD deaths appear to be rising in women 35-54 years of age
- Every year, 55,000 more women than men die from stroke before age 75
- Significantly more black women die than white women - **286.1/100,000 black** females vs. **205.7/100,000 white** females (roughly 24/100,000 die of breast cancer)

High Prevalence of Risk Factors

- Nearly 2 of every 3 women in the US >20 years is overweight or obese (BMI >25)
- Hispanic women have almost twice the rate of diabetes than non-Hispanic white women

Mosca, *Circulation*. 2011;123.
www.cancer.org

Why Should We Care About Women's Cardiovascular Health?



CHD is not just a “man’s disease”¹

52% of US population is female²

Life expectancy of US females expected to be 81 years by 2010²

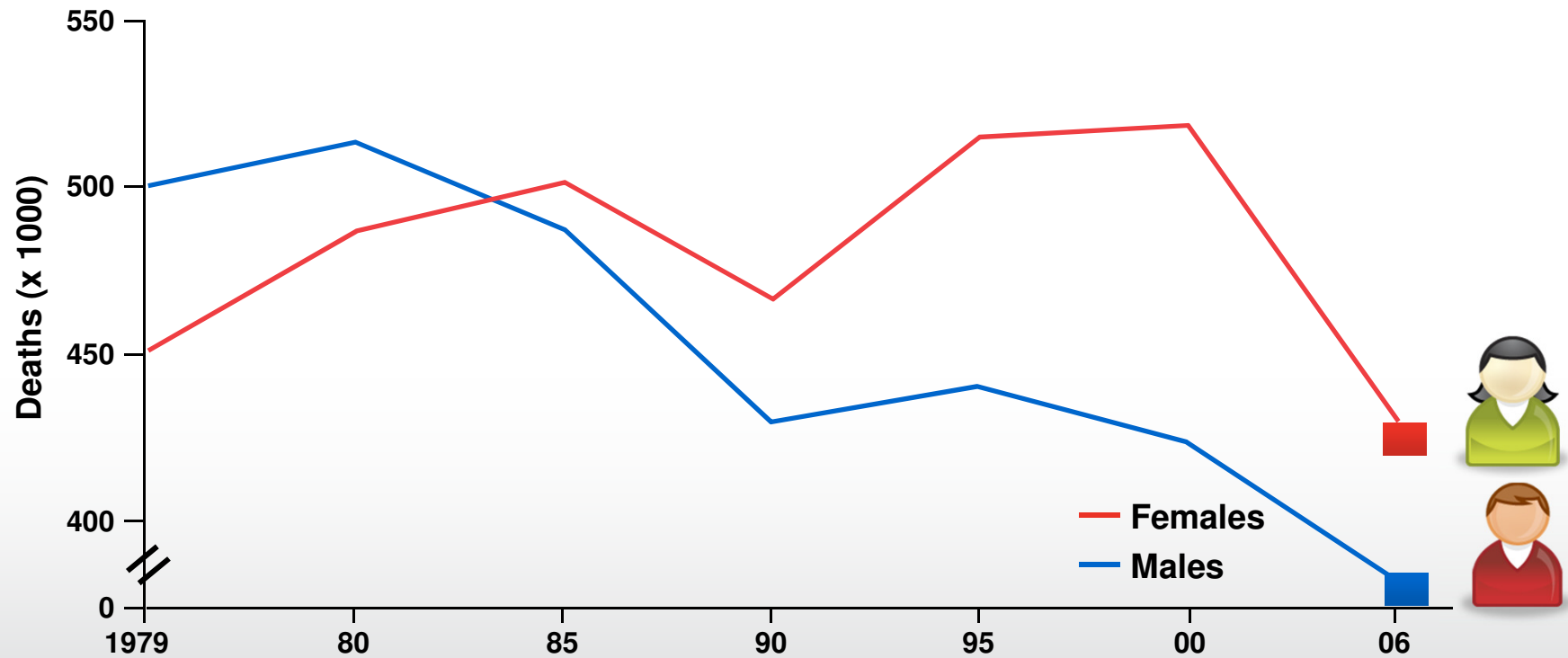
Post menopausal women are at greater risk of CHD and today 33 million U.S. women are over 55 years of age²

More challenging to diagnose coronary heart disease (CHD) in women¹

1. Adapted from American Heart Association, the Nurse's Health Study. WISE and Acute Coronary Syndromes Without Chest Pain: Insights from GRACE

2. AHA Heart and stroke Stats update 2009

CVD Disease Mortality Trends For Males And Females (United States: 1979-2006)



Source: AHA Heart Disease and Stroke Updates 2009

Heart Disease Mortality Rates Have Substantially Declined in the US



- U.S deaths from Heart Disease ↓ 25% 1999-2005; five years ahead of goals set by AHA
 - Translated into 160,000 fewer deaths in 2005
 - Included ↓ mortality for women beginning in 2000
- Factors contributing to substantial national progress:
 - Improved treatment of established disease
 - Widespread use of cholesterol-lowering statins
 - Aggressive management of high blood pressure
 - Anti-smoking legislation and tobacco excise taxes
- Gains lag behind national averages for following subgroups:
 - Women
 - African-Americans
 - People living in the south
 - People with lower income levels

Source: www.webmd.com/heart-disease/news/20080122/heart-stroke-deaths-decline-in-us downloaded on October 31st 2009

Pink Ribbon Campaign Successful Call to Action

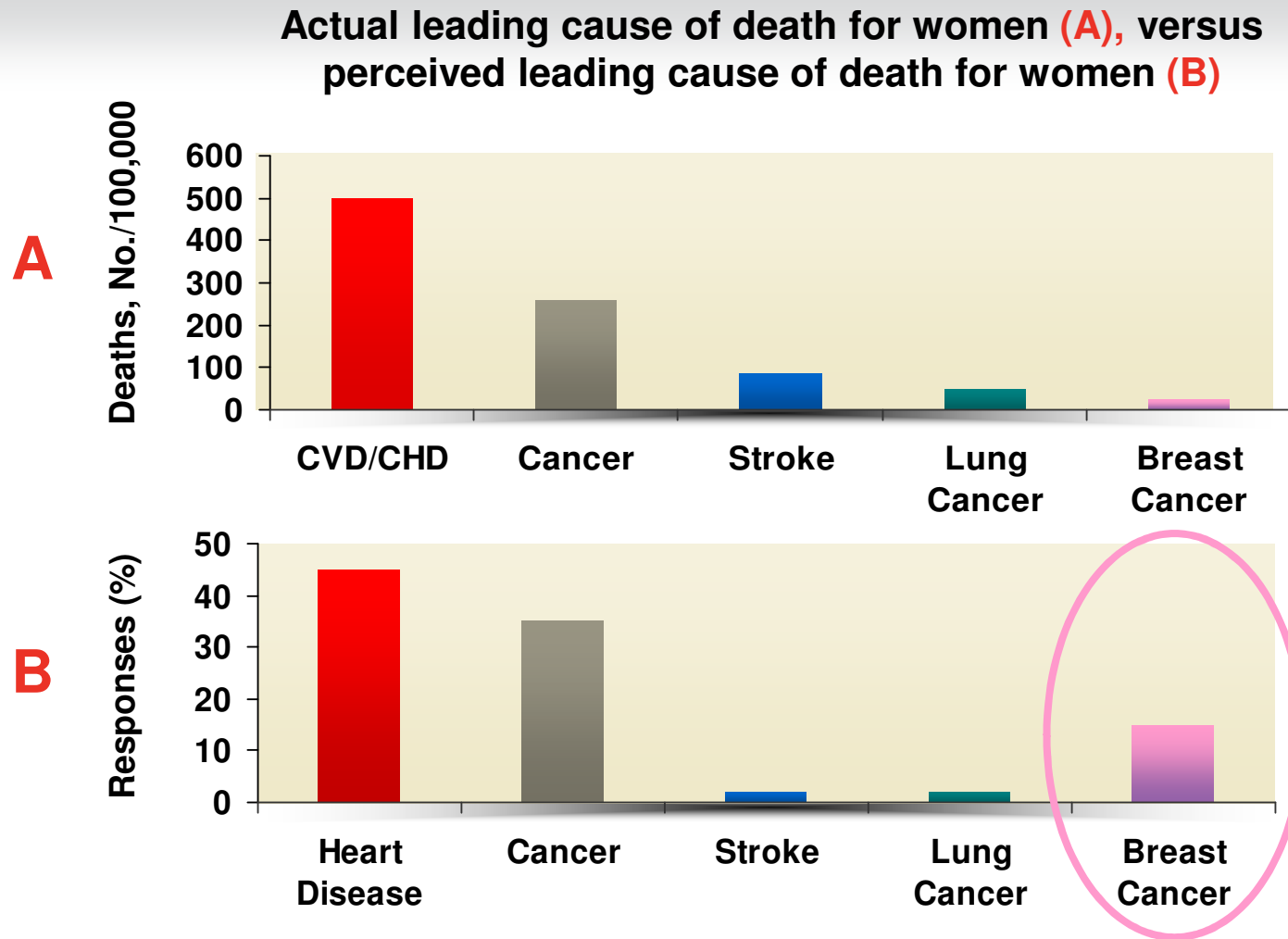


Susan Komen
Avon
Estee Lauder
Star spokespeople



AHA
NHLBI
WomenHeart

Women's Awareness of CHD – Perceived vs. Actual Risks



Mosca, L. et al. Circulation 2004;109:573-579

We have a LONG way to go!

Low Awareness of Action Steps

When asked what they would do if they thought they were having signs of a heart attack, 53% of women reported they would call 9-1-1

Low Awareness of Risk

African American and Hispanic women were significantly less aware of CVD risk than white women

High Barriers to Prevention

- Family/caretaking responsibilities
- Confusion in the media about what to do

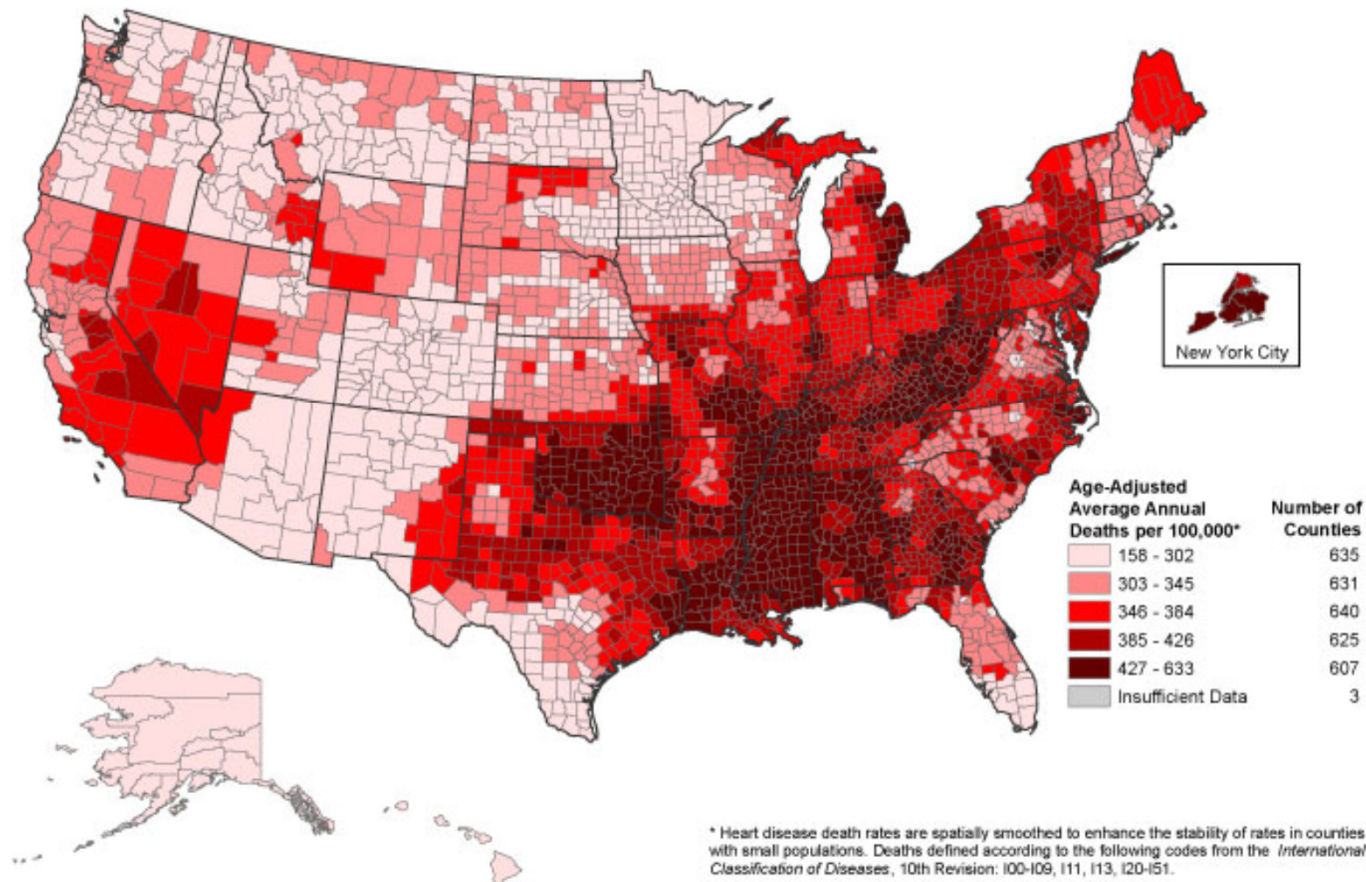
But, there is hope!

The WISEWOMAN project showed that an intervention to increase use of community resources could be helpful to overcome environmental barriers to a healthy lifestyle in low-income, underinsured women in midlife

Mosca. *Circ Cardiovasc Qual Outcomes* 2010;3;120-127.

Women and Heart Disease: US Prevalence

Heart Disease Death Rates, 2000-2006 - All Women
Adults Ages 35 Years and Older, by County



Data Source: National Vital Statistics System and the U.S. Census Bureau.

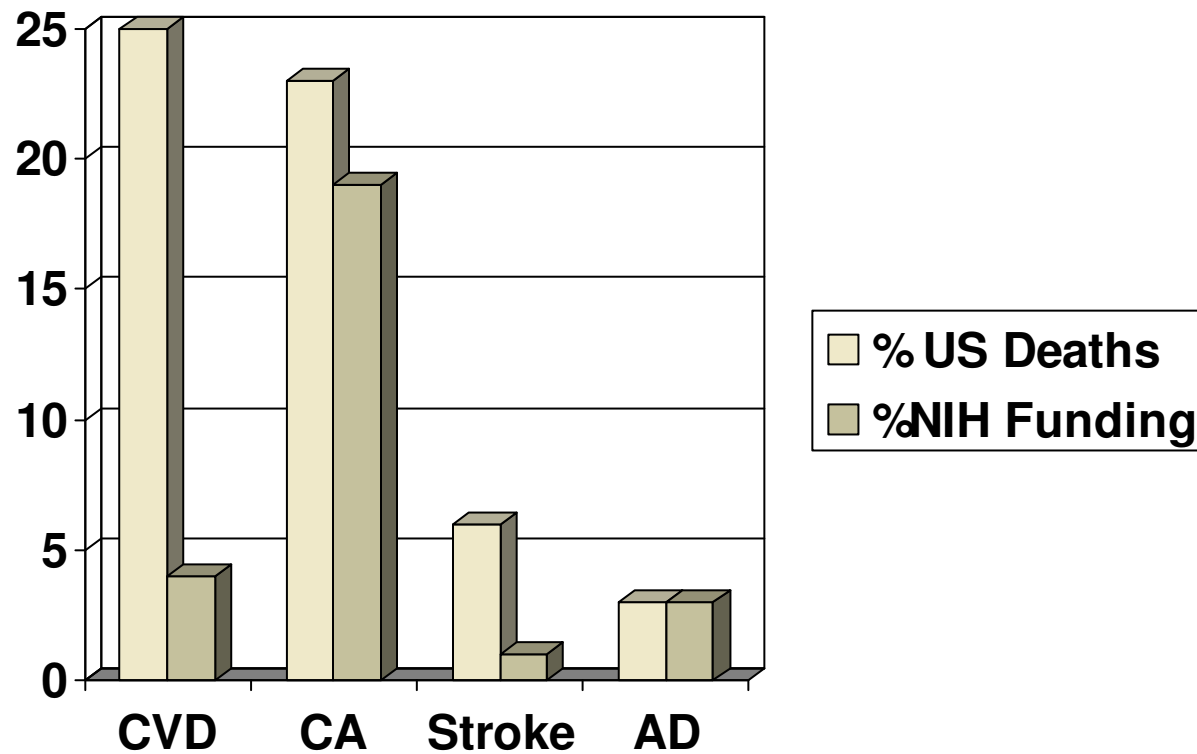
What is the cost of heart disease in the United States?

According to the American Heart Association, all cardiovascular diseases together were estimated to cost (including health care services, medications, and lost productivity)

\$475.3 billion

CDC Website, 2009 figures

Leading Causes of Death From Disease Compared to % NIH Funding



Source: NIH Funding totals FY2009; National Vital Statistics Reports (8/19/2009); Mortality in 2007

The prevalence of hypertension among African Americans in the United States is among the highest in the world

47.3%

Percentage of women age 20 and older that have **cardiovascular diseases**, according to the NHANES 2005-2008. (National Center for Health Statistics and the National Heart, Lung, and Blood Institute)

77.7%

Percentage of non-Hispanic black women who are **overweight**

51.0%

Percentage of non-Hispanic black women who are obese, 51.0 percent are **obese**

The prevalence of hypertension among African Americans in the United States is among the highest in the world:

43.0%

Percentage of non-Hispanic **black men** age 20 and over who have **high blood pressure**, a leading cause of stroke

45.7%

Percentage of non-Hispanic **black women** age 20 and over who have **high blood pressure**, a leading cause of stroke

Compared to Caucasians, African Americans develop high blood pressure at an earlier age, and their average blood pressure is much higher. As a result African Americans have:

1.5

Times greater risk of **heart disease deaths**

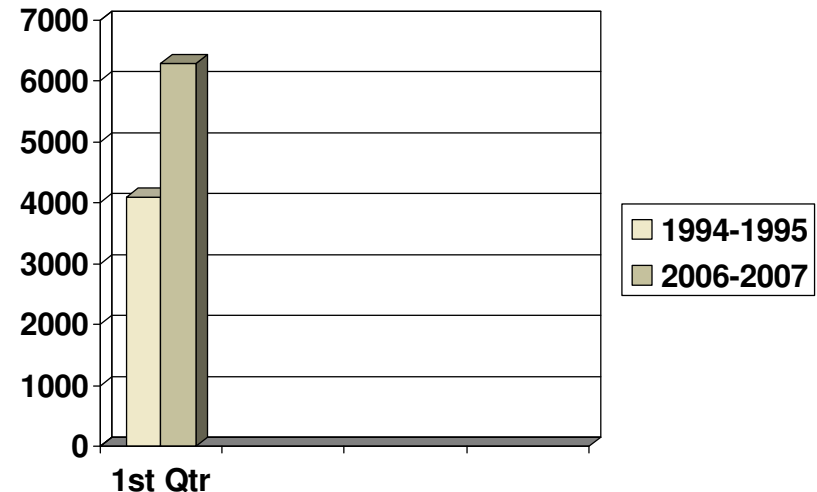
1.8

Times greater risk of **fatal stroke**

Pregnancy Related Stroke Hospitalizations Up

The number of pregnancy-related stroke hospitalizations grew by 54%— from 4085 in 1994-1995 to 6293 in 2006-2007.

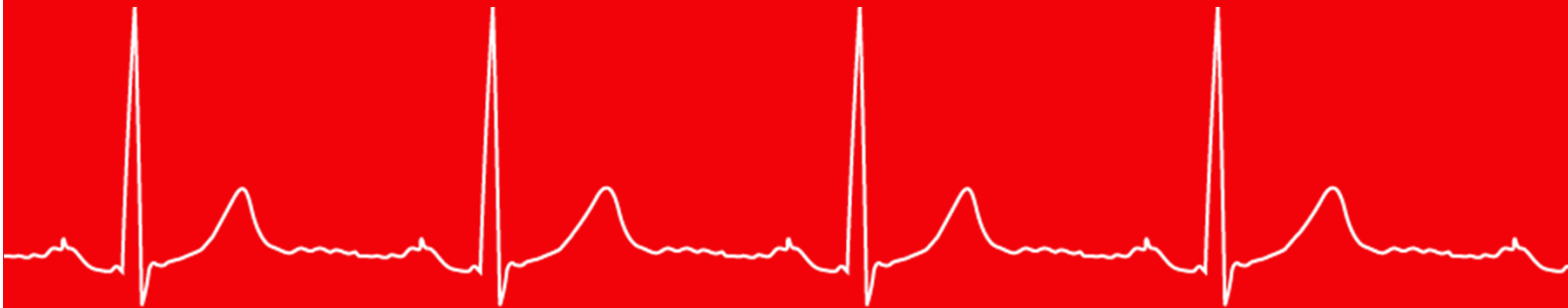
They say this trend is due in large part to an increasing number of women with stroke risk factors such as heart disease and hypertensive disorders.



July 28, 2011 in *Stroke* – on line version ahead of October print



Is Heart Disease Different in Women?



Risk Factors & Comorbidities

Traditional Risk Factors (Both Men & Women)

- Age
- Family history of CAD
- Smoking
- Hypertension
- Dyslipidemia
- Diabetes mellitus
- Obesity
- Physical inactivity

Unique Risk Factors for Women

- Inflammation (rheumatoid arthritis, etc.)
- Estrogen deficiency
- Insulin resistance
- Polycystic ovary syndrome
- Metabolic syndrome
- Depression

Source: Vaccarino V.; et. al, *Cardiovascular Research* (Dec. 14, 2010 [e-pub]); Shaw, L. J.; et al *J Am Coll Cardiol* (2009) 54:1561-1575

So – What Are the Differences?

1

Women are generally older when they present to a doctor

- Estrogen protection
- Ignore their symptoms – take care of everyone but themselves

2

Women have more co-morbid conditions

3

Women have smaller, more tortuous blood vessels

4

Women have more bleeding complications

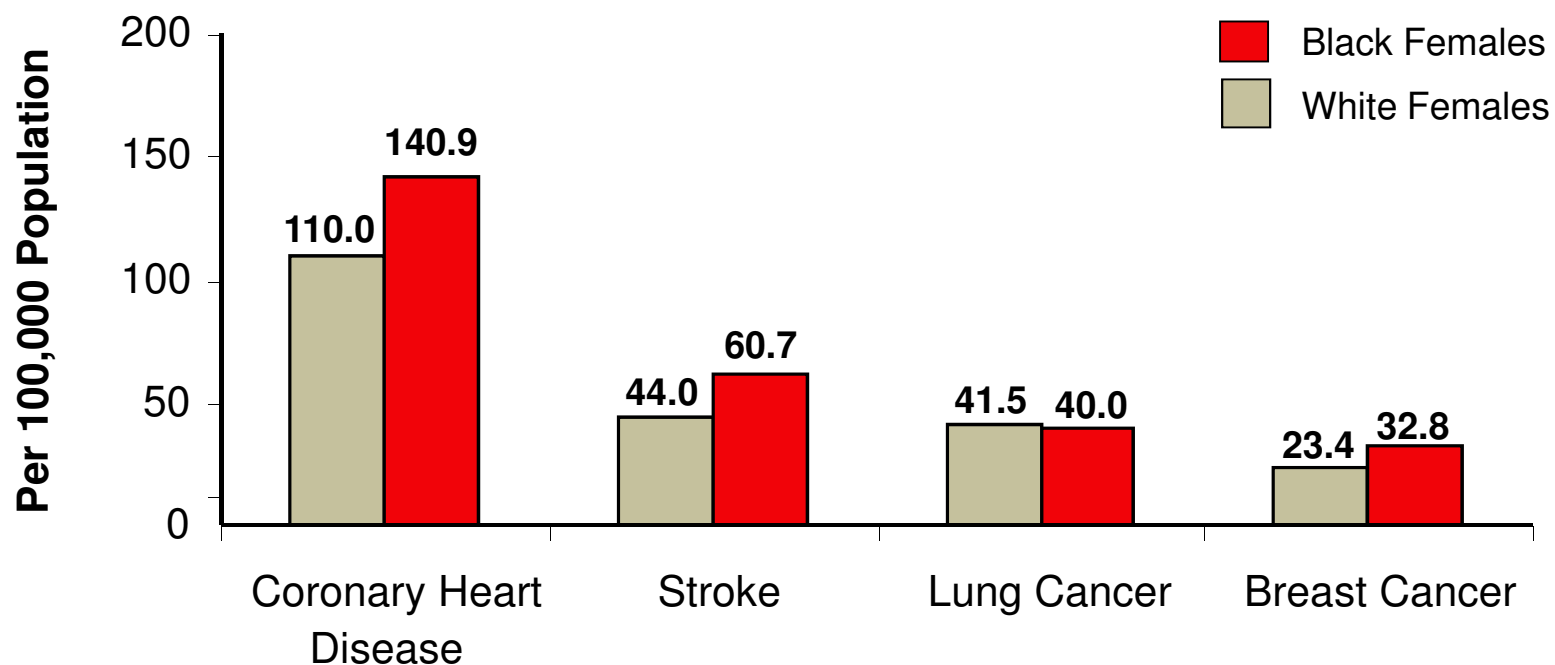
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Women receive fewer guideline driven therapies

6

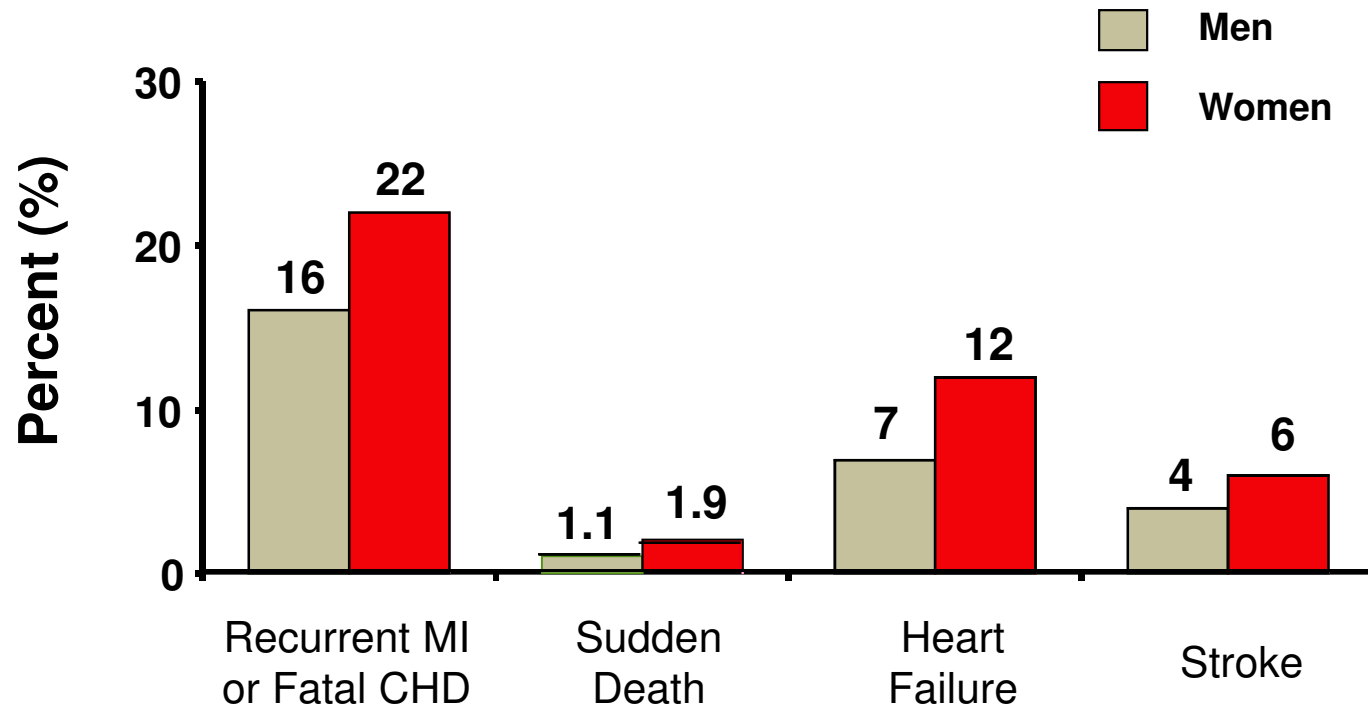
Women are underrepresented in clinical trials

Age-adjusted Death Rates for CVD, Lung, and Breast Cancer for White and Black Women



Circulation. 2007;115:e86.
National Center for Health Statistics and National Heart, Lung and Blood Institute.

Post-MI CVD Risks are Substantial for Women

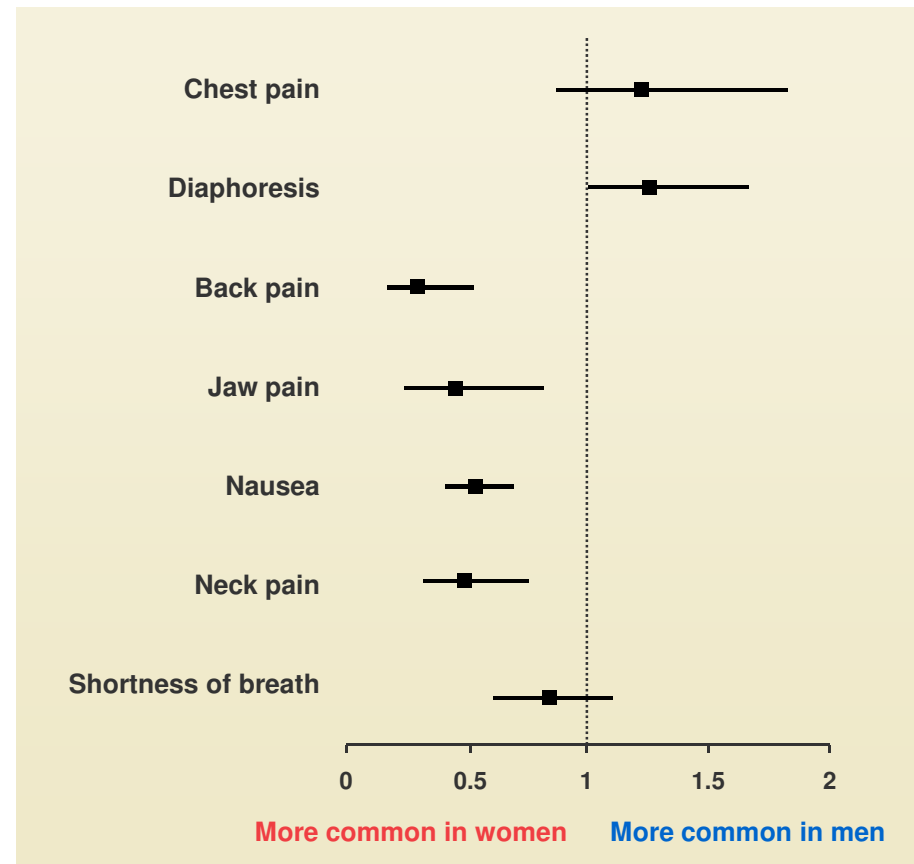


Nearly two-thirds of women who died suddenly of CHD have no previous symptoms¹

Circulation. 2007;115:e69–e171.

Gender Bias or Missed Diagnosis - AMI?

- Chest pain, diaphoresis more common in men ¹
- Back pain, jaw pain, nausea, neck pain shortness of breath more common in women ¹
- Women delay seeking treatments for cardiac related events ²
- Chest pain per se is not adequate predictor of significant coronary disease in women ³



1. Goldberg AHJ 1998;136:189

2. Damon M.Seils, Joelle Y Friedmann, Kevin Schulmann JAMWA.2001;56:151-154

3. Shaw et al J Am Coll Cardiol 2006;47:4S-20S)

Goldberg, AHJ 1998; 135:189

Significant Economic Burden with Microvascular Coronary Ischemia



More than half of women with chest pain and non-obstructive CAD continue to have signs and symptoms of ischemia

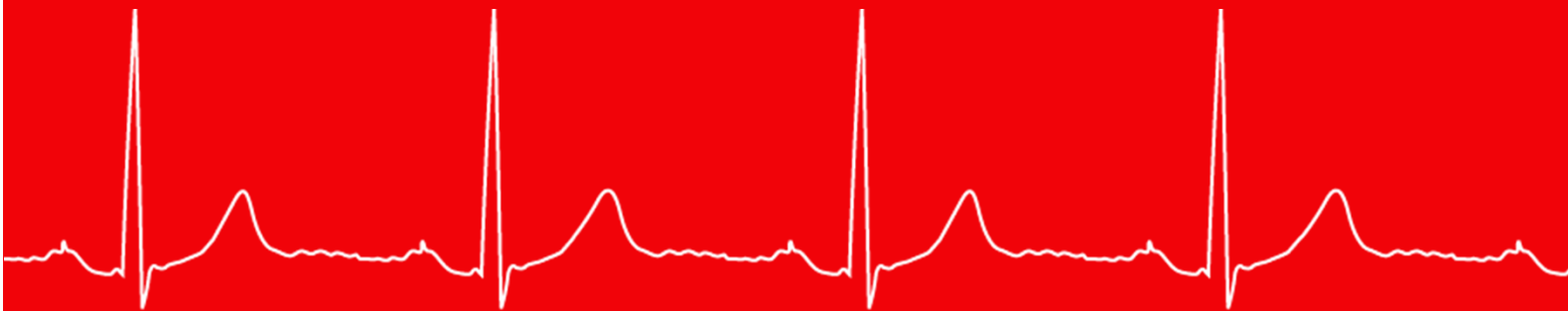
- 1 in 5 women with non-obstructive CAD hospitalized for chest pain over 5 years
 - Repeat angiography or angina hospitalization 1.8x higher than for women with 1-vessel disease after one year follow-up
- Women with non-obstructive CAD had more frequent visits to internists (average 2.7 visits per year) and fewer visits to cardiologists (0.3 per year)
- Heavy economic burden of symptoms and cardiovascular care for women with non-obstructive CAD
 - Estimated lifetime costs more than **\$767,000**
 - Over \$1 million estimated lifetime costs for women with 1-3 vessel disease

Source: Shaw, L. J.; et al *Circulation* (2006)114:894-904



OBGYN

**📍 Cardiovascular Risk
Screening Pilot**



Rationale



More and more women are choosing to use their OB/GYN as their PCP

OB/GYNs deliver excellent preventive care and are doing a lot of screening already

- Paps
- Mammograms
- Screening for HPV, chlamydia, colo-rectal cancer

OB/GYNs instill tremendous loyalty and trust in their patients

Heart disease is the #1 killer of women – let's build a bridge or partnership with the cardiology and OB/GYN community to offer optimal management of this major health care issue

Abbott Vascular is committed to improving awareness, diagnosis, and treatment in women with heart disease through research, collaboration with key societies, and novel pilot (proof of concept) programs

The Teachable Moments Across Decades of Life

When is a woman more willing to make lifestyle changes than when she is expecting a baby?

- A great opportunity for education about healthy lifestyles, getting 30 minutes of activity every day, modeling good eating behaviors for their children and families

Pregnancy complications such as gestational diabetes and hypertension provide an opportunity to discuss possible longer term risks associated with these problems

- A great springboard for discussion about family history and risk factors for heart disease
- A woman who was preeclamptic, pre-term, and had a small birth weight baby may have a 16x greater risk for developing CVD
- Rates of preeclampsia have increased by 33%

Office visits for menopausal care

Gestational Diabetes, Hypertension



Gestational diabetes is associated with significant increased risk of Type 2 diabetes

5% develop Type 2 DM within 6 months

Long term risk of type 2 DM is at least seven-fold

7% of all pregnancies – 200,000 cases annually

A woman who was preeclamptic, pre-term, and had a small birth weight baby may have a 16x greater risk for developing CVD

Bellamy L. et al. Type 2 Diabetes Mellitus after Gestational

Diabetes: a systematic review and meta-analysis. Lancet 2009;373:1773-1779.

Questions?

Jerri Anne Johnson, M. Ed.
Jerri.johnson@av.abbott.com



Heart Disease Screening Tool

Survey Date: / / 2010



The Society for Cardiovascular Angiography and Interventions



1. What is your age?

2. Do you smoke?
 Yes No, Never No, Quit

3. Is your blood pressure over 120/80?
 Yes No Don't Know

* 4. What is your blood pressure?
 Self Reported by Patient /

5. Has your cholesterol ever been checked?
 Yes No Don't Know

6. Is your cholesterol more than 200 mg/dL?
 Yes No Don't Know

* 7. What is your cholesterol?
 Self Reported by Patient

8. Is your HDL (good cholesterol) less than 45 mg/dL?
 Yes No Don't Know

* 9. What is your good cholesterol?
 Self Reported by Patient

10. Are you currently taking medicines for high cholesterol?
 Yes No Don't Know

11. Which of these medicines are you currently taking for high cholesterol?
 Statin Fibrate Niacin I don't know
 Other

12. Has your father/brother had a heart attack, stroke, or other heart problem before age 55?
 Yes No Don't Know

13. Has your mother/sister had a heart attack, stroke, or other heart problem before age 55?
 Yes No Don't Know

14. Have you ever had your blood sugar checked?
 Yes No Don't Know

15. Do you have diabetes OR a fasting blood sugar of 126 mg/dL or higher?
 Yes No Don't Know

16. Are you currently taking medicine to control blood sugar?
 Yes No Don't Know

17. Is your BMI greater than 25?
 Yes No Don't Know

18. Do you get less than 30 minutes of exercise on most days?
 Yes No

19. Have you had a heart attack or have you been told that you have angina?
 Yes No Don't Know

20. Do you experience any of the following?
 Chest, jaw, shoulder or neck discomfort w/ activity Palpitations
 Chest, jaw, shoulder or neck discomfort at rest Fatigue
 Shortness of breath Leg Pain w/ walking
 Fainting without explanation Stroke or mini-stroke

21. Are you currently pregnant?
 Yes No Don't Know

22. Did you have high blood sugar during your pregnancy (gestational diabetes)?
 Yes No Don't Know Not Applicable

23. Did you have high blood pressure during your pregnancy?
 Yes No Don't Know Not Applicable

24. Did you have preeclampsia during your pregnancy?
 Yes No Don't Know Not Applicable

25. Are you menopausal?
 Yes No Don't Know If so, at what age?

26. Was your uterus removed?
 Yes No Don't Know If so, at what age?

27. Were your ovaries removed?
 Yes No Don't Know

28. Are you on hormone replacement treatment?
 Yes No Don't Know If so, for how long in years?

29. Is this your primary care physician/provider?
 Yes No

30. If No, do you have a primary care physician/provider?
 Yes No

For Completion by Healthcare Professional Only

* Enter the patient's BP, Cholesterol and HDL if incomplete.
 Was referral recommended?
 Yes No
 If yes, referred to whom?
 PCP Cardiologist Endocrinologist NP PA
 Other
 Referral Date:
 / / 2010

Peoria is Site #3



***MEN*strual Cramps**

***MEN*opause**

***MEN*tal Anxiety**

***MEN*tal Breakdown**

***Ever notice how all problems
begin with MEN ? ! ? ! ? ! ?***

Heart Disease is the No.1 Killer of American Women



CVD : The #1 Killer in Women¹

- One third of all deaths in women due to CVD
- One woman dies of heart disease every minute
- CVD kills more women than men every year (since 1984)
- More women die of heart disease each year than all types of cancer plus other diseases combined
- Heart disease deaths 11 times more than breast cancer deaths

Poorer Outcomes in Women Following a Myocardial Infarction¹

- Women are more likely to die within a year of myocardial infarction than their male counterparts
- Of women who survive myocardial infarction nearly half will be disabled by heart failure within six years
- Older age at onset, comorbidities and lack of awareness may contribute to poorer outcomes than men

1. AHA Heart and Stroke statistical 2009 update

Physician Perception of Women's CV Risk Status: Guideline Awareness

Gender bias in the context of stress:

- Study of 87 Internists and 143 general practitioners
- In the context of stress, CHD symptoms in women such as:
 - Chest pain
 - Shortness of breath
 - Irregular heart rate
- Were attributed to a psychogenic cause, rather than a physical cause, with the following results:
 - 15% of women were given a CHD diagnosis compared to 56% of men;
 - 30% of women were offered cardiologist referrals compared to 62% of men; and
 - 12% of women were prescribed cardiac medication compared to 47% of men

**Are we saying:
WOMEN'S heart disease is "all in the mind?"**

Source: <http://www.consultmagazine.net/storyview.asp?storyid=271095§ionsource=s2837> downloaded on 11/03/09 Chiramonte et al

Challenges Due to Provider Access/Choice (U.S.)

- Men more likely to have private insurance than women
 - Women tend to work in smaller companies, at lower ranks, with fewer fringe benefits
- Women more likely to be underinsured
- Women use more outpatient services and such partial coverage may be inadequate
- One in five women over age 50 loses her health insurance coverage when her spouse becomes eligible for Medicare
- Women more likely to visit OB/GYN specialists than PCPs or cardiologists

Damon M.Seils, Joelle Y Friedmann, Kevin Schulmann JAMWA.2001;56:151-154