



Facts about Women and Cardiovascular Disease

The Numbers

▲ Cardiovascular disease (including coronary heart disease, heart failure, stroke and other cardiovascular diseases) is the number one killer of women in the U.S.¹

▲ The American Heart Association (AHA) reported that more than 460,000 women died from cardiovascular disease in 2004. This equates to nearly one death every minute.¹

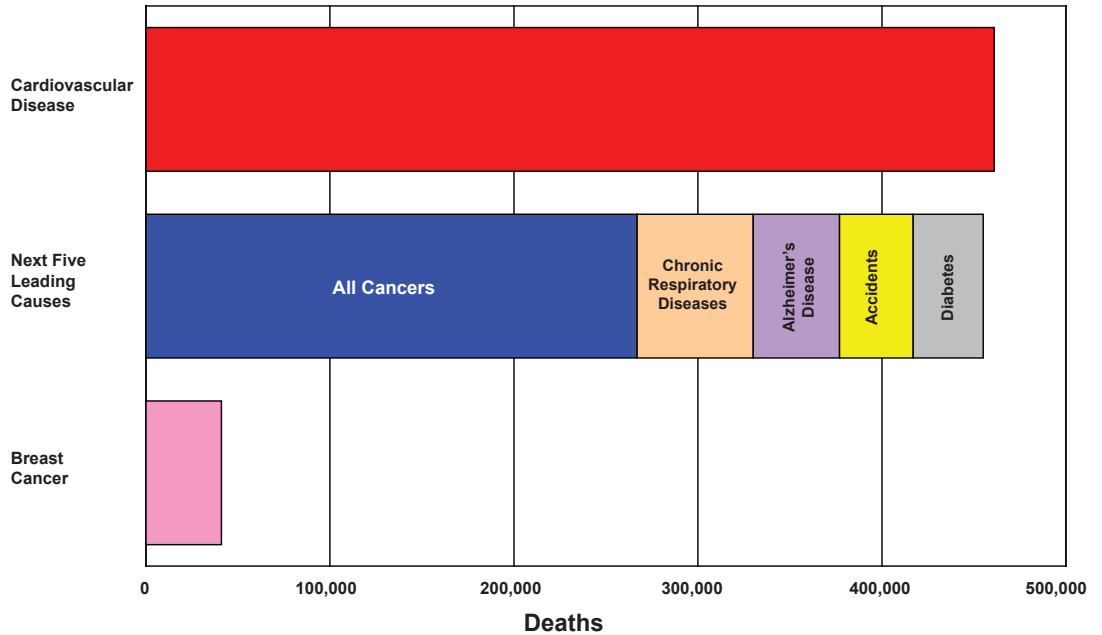
▲ More women die of cardiovascular disease than the next five causes combined: cancer (all types), chronic lower respiratory

disease, Alzheimer's disease, diabetes, and accidents.^{2,3}

▲ More than 10 times as many women die of heart disease each year as die of breast cancer. Approximately 1 in 3 women are living with cardiovascular disease while the likelihood of a woman being diagnosed with breast cancer some time during her life is about 1 in 8.^{1,4}

▲ Approximately 4.6 million women are living with angina pectoris (chest pain).¹

Major Causes of Death in Women (U.S. 2004)



Women at Risk

▲ Women are at greater risk for heart disease after age 55, in part because their estrogen levels drop significantly after menopause.⁵

▲ Heart disease in a woman may go undetected since atherosclerotic plaques in women are commonly distributed evenly throughout the arterial wall (not as discrete lesions) and an angiogram may be misinterpreted as normal.⁶

▲ Being a woman is a leading risk factor for the return of angina within the first year following an interventional procedure.⁷

▲ Results from the NIH-NHLBI sponsored WISE (Women's Ischemic Syndrome Evaluation) study showed that women with documented coronary heart disease and persistent angina symptoms had the lowest survival: 1 in 3 women died or had a heart attack during 5 years of follow-up.⁶

Compared to Men

▲ More women than men die of cardiovascular disease every year. In fact, this has been true in the U.S. every year since 1984.¹

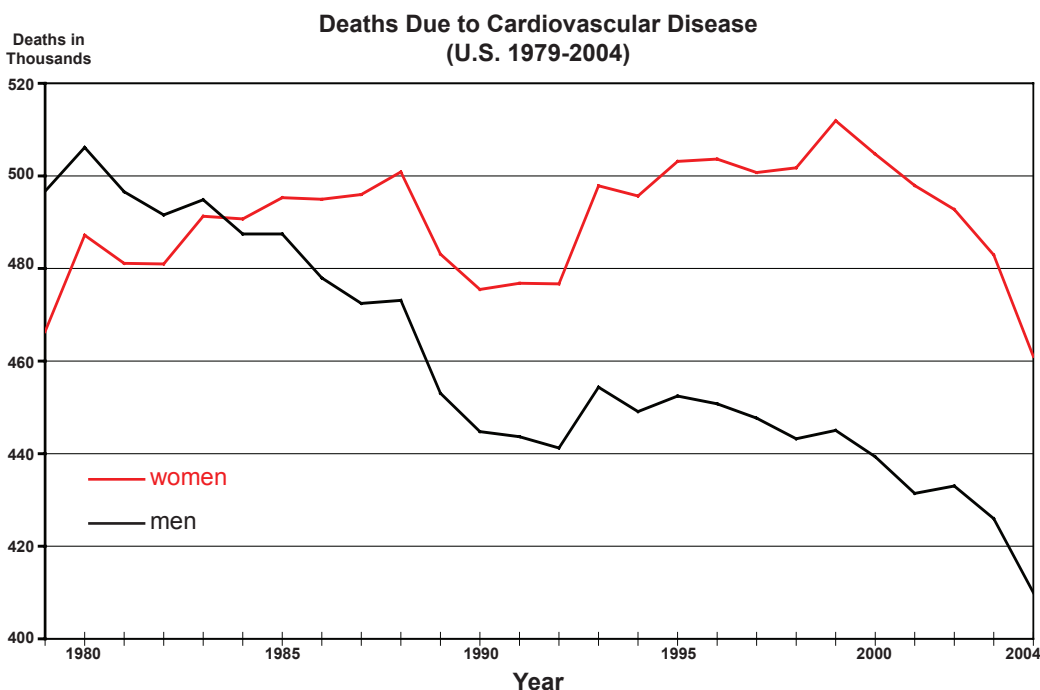
▲ The number of deaths due to cardiovascular disease have remained essentially unchanged for women in the U.S. over the last 25 years while the number of cardiovascular-related deaths in men declined during this period.²

▲ On average, women develop heart disease about 10 to 15 years later than men.

▲ Women with documented coronary heart disease frequently have different symptoms than men. Instead of typical sub-sternal chest pain, women are more likely to experience unusual fatigue, sleep disturbances, gastrointestinal symptoms or shortness of breath.⁸

▲ A recently published multinational study of the management and outcomes of patients with chronic stable angina indicated that healthcare resources were not utilized similarly between men and women during one year of follow-up.⁹ Women were less likely to be:

- Referred for further evaluation (exercise ECG) if they had symptoms suggestive of cardiovascular disease,
- Prescribed typical drugs such as statins and aspirin at the time of diagnosis and during follow-up,



**Women develop heart disease
about 10 to 15 years later than men**

- Referred for an invasive procedure (coronary angiography) even if a non-invasive test was positive for coronary artery disease, and
- Referred for revascularization (PCI or surgery), even with confirmed coronary artery disease and symptoms.

▲ Women are under-represented in clinical trials for heart disease, accounting for approximately one-third of the participants in most trials.¹⁰

The AWARE Study

Recruiting women with recurrent symptoms of angina despite medication or angioplasty/bypass surgery. The Phase 3 AWARE study represents one of very few women-only cardiovascular clinical studies ever undertaken and reflects a growing awareness that heart disease in women is underserved even though it is a major health issue.

Clinical Study Protocol: CT-3-001

For More Information Contact:

Tony Andrasfay
Vice President - Clinical Operations
Cardium Therapeutics Inc.

Tel: 858-436-1014

Email:
tandrasfay@cardiumthx.com

Website:
<http://www.clinicaltrials.gov/ct/show/NCT00438867>

Website:
www.cardiumthx.com



References

1. American Heart Association. *2007 Heart and Stroke Statistical Update*. Dallas, TX: American Heart Association 2007.
2. Rosamond W, Flegal K, Friday G, Furie K, Go A, Greenlund K, et al. Heart disease and stroke statistics--2007 update: a report from the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. *Circulation* 2007;115:e69-e171.
3. Miniño AM, Heron MP, Murphy SL, Kochanek, KD. Deaths: Final Data for 2004. *National Vital Statistics Reports* 2007;55(19). Hyattsville, MD: National Center for Health Statistics.
4. American Cancer Society. Breast Cancer. Available at: <http://documents.cancer.org/104.00/104.00.pdf>. Accessed October 1, 2007.
5. Rexrode KM, Manson JE, Lee I, et al. Sex hormone levels and risk of cardiovascular events in postmenopausal women. *Circulation* 2003;108:1688-93.
6. Shaw LJ, Bairey Merz CN, Pepine CJ, Reis SE, Bittner V, Kip KE, et al. The economic burden of angina in women with suspected ischemic heart disease: Results from the NHLBI-sponsored Women's Ischemia Syndrome Evaluation (WISE). *Circulation* 2006;114:894-904.
7. Holubkov R, Laskey WK, Haviland A, Slater JC, Bourassa MG, Vlachos HA, et al. Angina 1 year after percutaneous coronary intervention: a report from the NHLBI Dynamic Registry. *Am Heart J* 2002;144:826-33.
8. McSweeney JC, Cody M, O'Sullivan P, Elbertson K, Moser DK, Garvin BJ. Women's early warning symptoms of acute myocardial infarction. *Circulation* 2003;108:2619-23.
9. Daly C, Clemens F, Lopez Sendon JL, Tavazzi L, Boersma E, Danchin N, et al. Gender differences in the management and clinical outcome of stable angina. *Circulation* 2006;113:490-8.
10. Harris DJ, Douglas PS. Enrollment of women in cardiovascular clinical trials funded by the National Heart, Lung, and Blood Institute. *N Engl J Med* 2000;343:475-80.