

*Women's
Cardiovascular,
Cerebro-vascular
Health, and
Prevention*

Zenaida. Feliciano, M.D.

Associate Professor of Medicine

David Geffen School of Medicine at UCLA

Myths vs. Facts

Myth: Men are more likely to have heart disease

Fact: Heart disease is the #1 killer of men AND women
~ 50,000 MORE women than men die of heart disease every year.

Myth: Cancer is more of a threat than heart disease

Fact: Nearly twice as many women in the U.S. die of heart disease and stroke (455K) as from all cancers put together (267K), including breast cancer.

In 2006 1 in 30 death was from Breast CA but > 1 in 3 was from CVD.

Myth: Doctors are aware of women's risk for heart disease & act accordingly

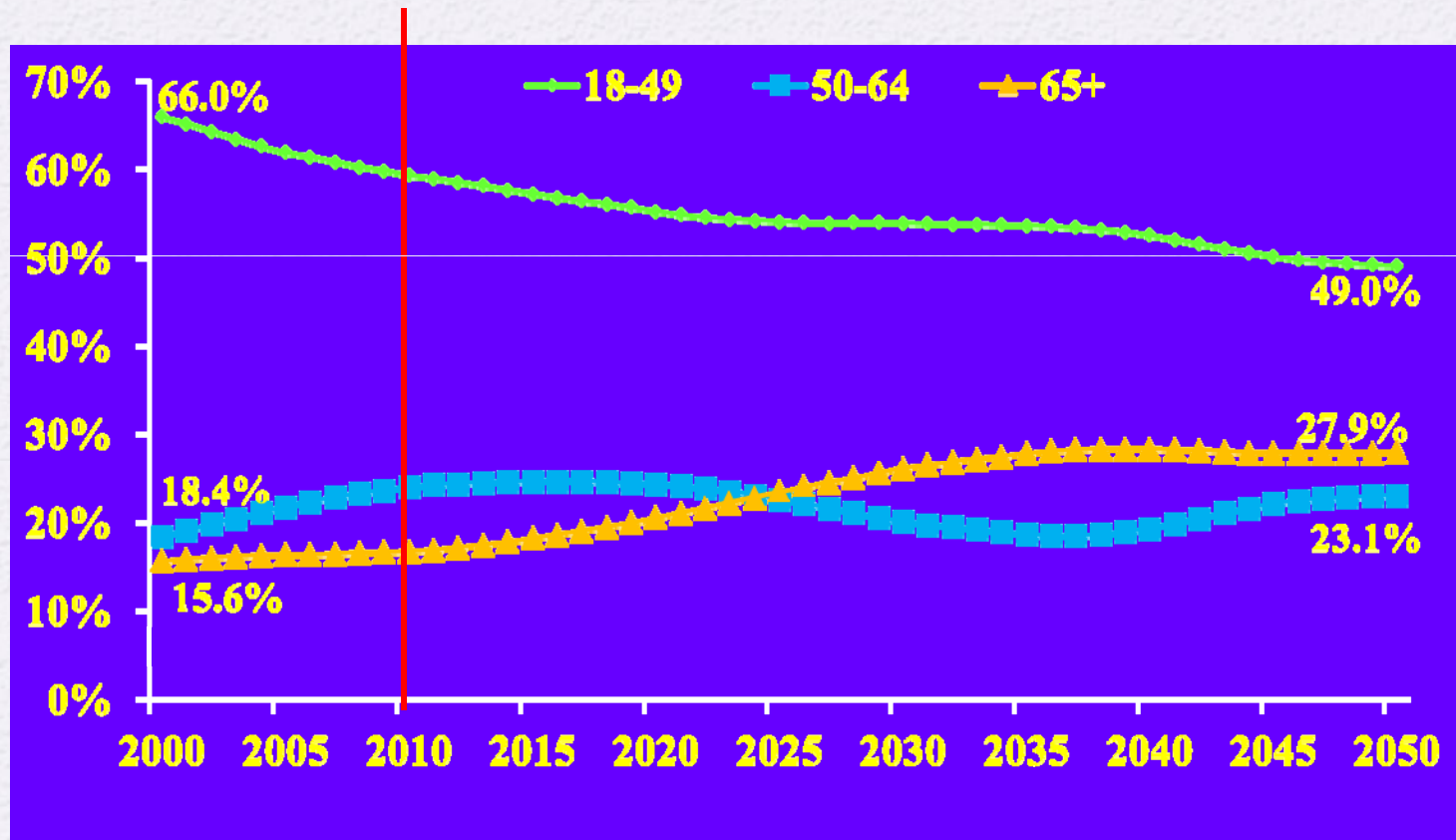
Fact: Under-treatment & under-diagnosis of heart disease in women has been reported, contributing to excess mortality in women.

2010 Statistics for Women

Alarming Facts

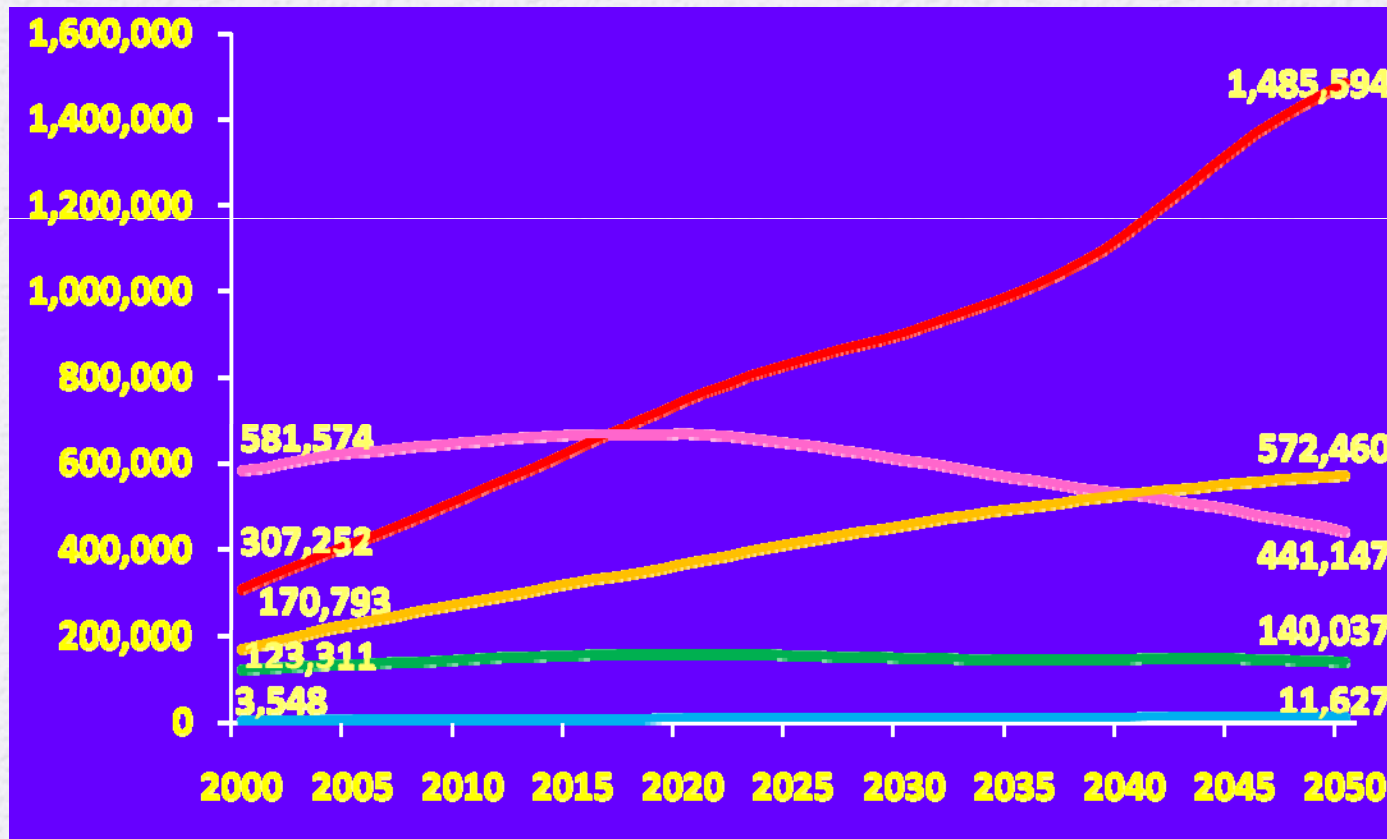
- ♥ Heart disease, stroke, and other cardiovascular diseases (CVD) are the **No. 1 cause of death** in American women
- ♥ 432,000 American women died yearly of cardiovascular diseases by 2010 Statistics- **nearly 1 death a minute**
- ♥ Risk of heart disease and stroke increases with age, and in the year 2006, more than 36 million American women were 55 and older.
- ♥ More women than men die of stroke and heart disease.
- ♥ Coronary Heart Disease **death rate for women ages 35 to 44 actually increased** annually between 1997 and 2002.
- ♥ Women age 40 and older are less likely than men of that age group – 77% vs. 82% – to survive a year after their 1st MI

Projected LA County Adult Female Population, by Age Group, 2000-2050



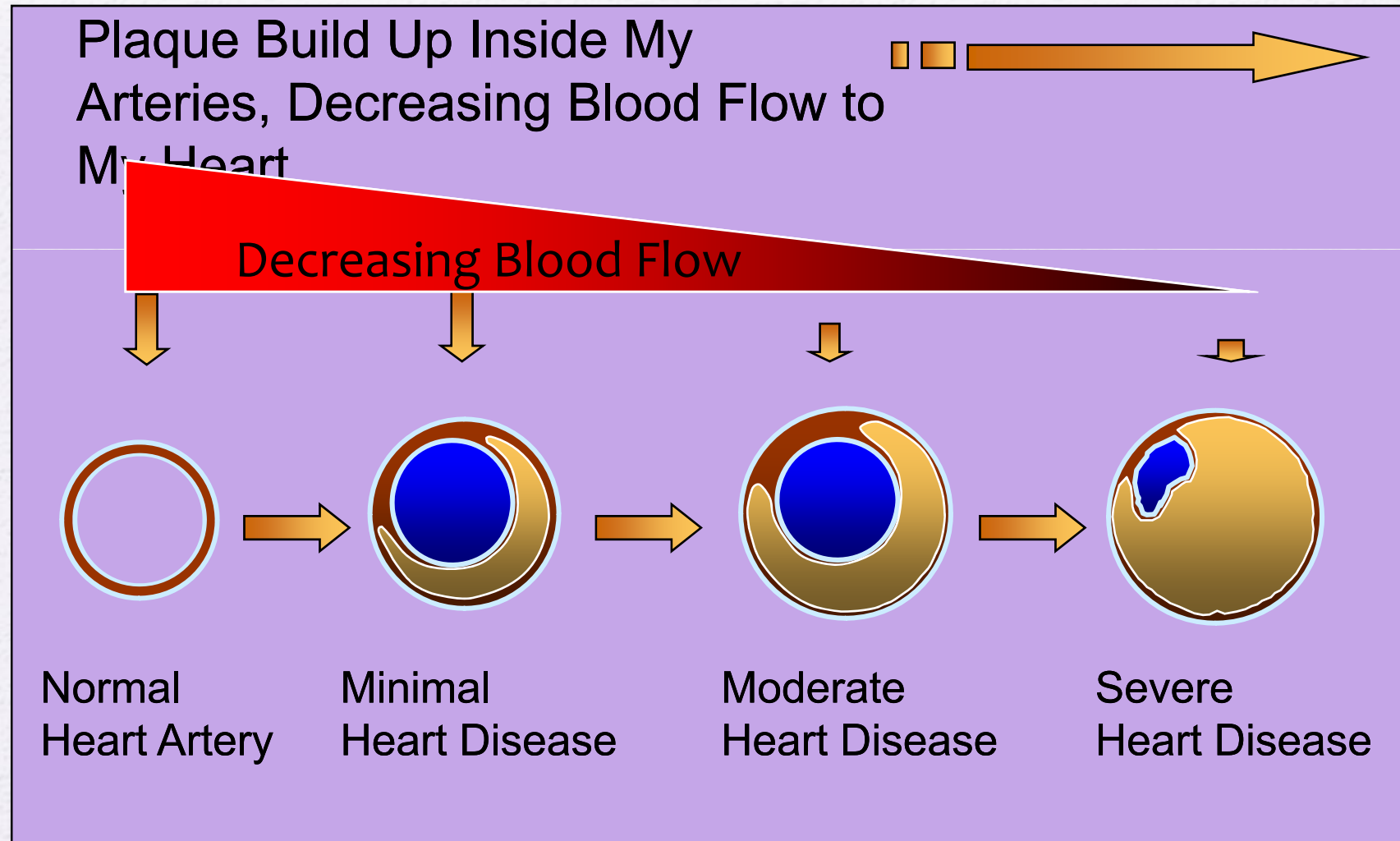
Projected Racial/Ethnic Composition of Females 50+ Years, LA County, 2000-2050

— Latina — White — African American — Asian/Pacific Islander — American Indian



California Department of Finance

What is Cardiovascular Disease?



Glagov S et al, *N Engl J Med*, 1987.

What is a Heart Attack?

♥ When blood supply to the heart muscle is severely reduced or stopped. The medical term is “myocardial infarction.”

♥ Caused by a build-up of plaque (or fatty deposits) in the heart’s arteries damaging the arteries causing clots to form and blocking the blood supply.

♥ If blood supply is cut off for more than a few minutes, a person can die or be disabled depending on how much heart muscle is damaged.

Blood
Supply is
Blocked



Part of the Heart
Muscle Dies

-Leaving the Heart Muscle
Weaker and Less Able to
Pump Blood to the Body

Heart Attack Symptoms for Women

Heart attack symptoms for women and men are NOT identical. There are signs exclusive to women.

Typical symptoms for both

sexes: ♥ Pain, pressure, a squeezing sensation, or stabbing pain in the chest.

- ♥ Pain radiating to neck, shoulder, back, arm, or jaw.
- ♥ Pounding heart or change in heart rhythm.
- ♥ Difficulty breathing
- ♥ Nausea, vomiting, abdominal pain
- ♥ Cold sweats or clammy skin
- ♥ Dizziness
- ♥ Heartburn

Typical symptoms in women:

Milder symptoms without accompanying chest pain

- ♥ Sudden onset of weakness, shortness of breath, fatigue, body aches, overall feeling of significant illness.
- ♥ Burning sensation in the chest, may be mistaken as heartburn.
- ♥ An “unusual” feeling or mild discomfort in the back chest, arm, neck, or jaw.

What is a Stroke?

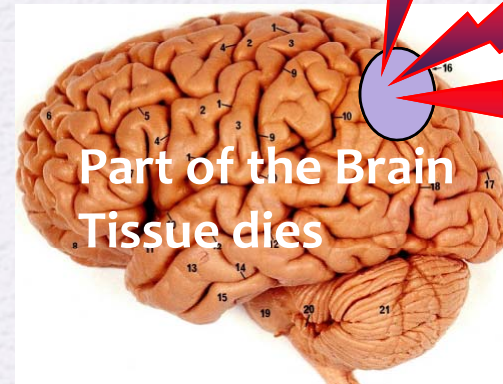
♥ When blood supply to the brain muscle is severely reduced or stopped. The medical term is “ischemic stroke.”

♥ If the blood supply is disrupted and burst is called a hemorrhagic stroke

♥ Caused by a build-up of plaque (or fatty deposits) in the arteries that supply the brain, damaging the arteries causes clots to form and block the blood supply.

♥ If blood supply is cut off for more than a few minutes, a person can die or be disabled depending on how much the brain tissue is damaged.

Blood
Supply is
Blocked



-Leaving the Person with a deficit determined by the function of the damaged brain tissue

Risk Factors for Heart Disease and Stroke

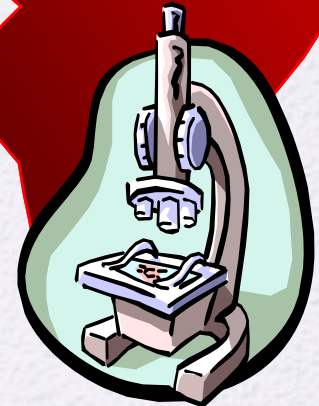
- ♥ A “risk factor” is a habit or trait that makes a person more likely to develop a disease.
- ♥ The American Heart Association has identified several factors that increase your risk of heart attack or stroke. More risk factors = greater chance of heart attack or stroke. (Framingham)
- ♥ Some factors cannot be controlled but can be treated, modified, or controlled to lower a woman’s risk.

Risk Factors for Heart Disease

- ♥ Increasing Age
- ♥ Heredity-Heart Disease in Close Family Member at a Young Age
- ♥ Gender
- ♥ Previous MI/Stroke-TIA
- ♥ High Cholesterol
- ♥ High Blood Pressure
- ♥ Diabetes
- ♥ Smoking
- ♥ Obesity
- ♥ Physical Inactivity

Explain ½ of Your Risk

*Other ½ Unknown
More Research*



♥ Novel risk factors

C reactive protein level > 3 mg/dl

♥ Novel Screening technologies

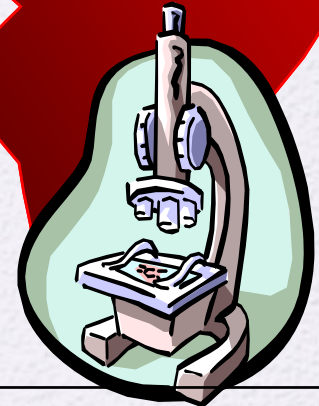
Coronary Calcium Score

Risk Factors for Heart Disease

- ~~♥ Increasing Age~~
- ~~♥ Heredity Heart Disease in Close Family Member at a Young Age~~
- ~~♥ Gender~~
- ~~♥ Previous MI/Stroke/TIA~~
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- ♥ High Blood Pressure
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- ♥ Physical Inactivity

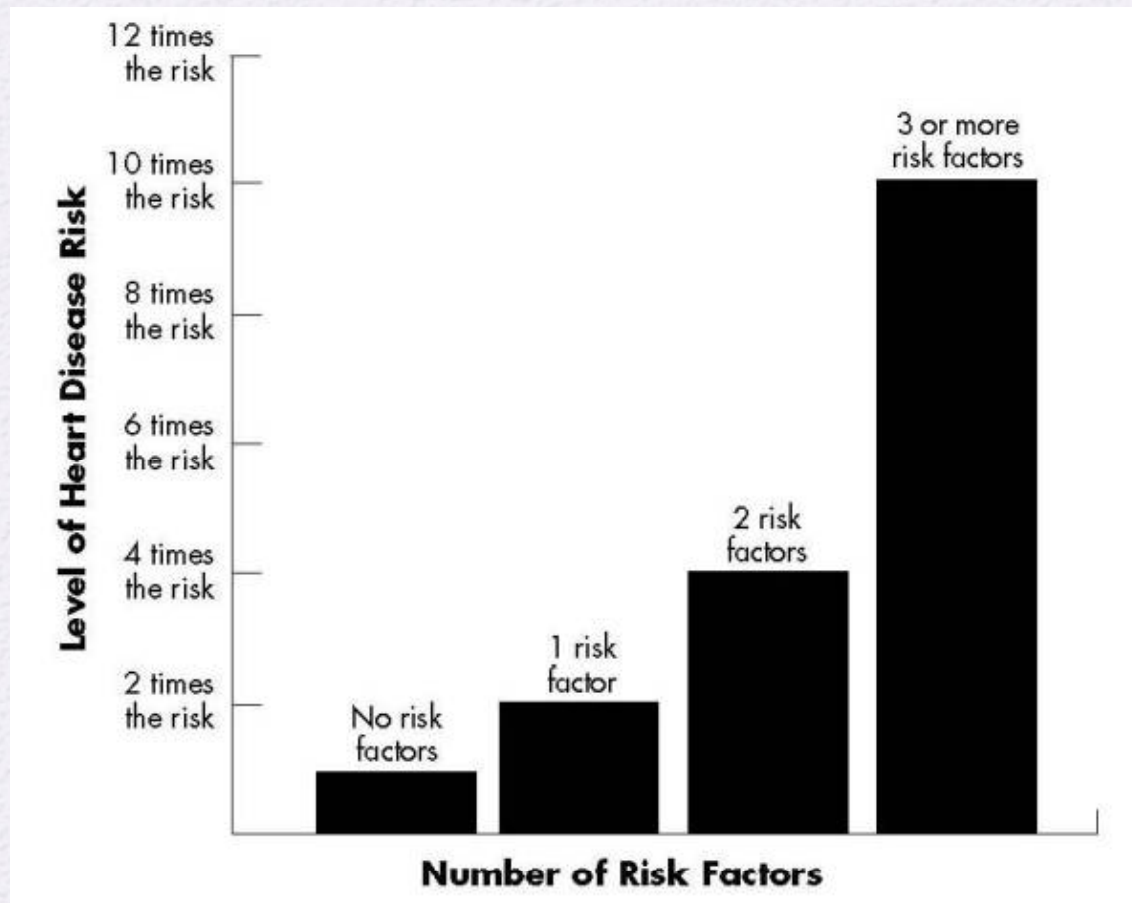
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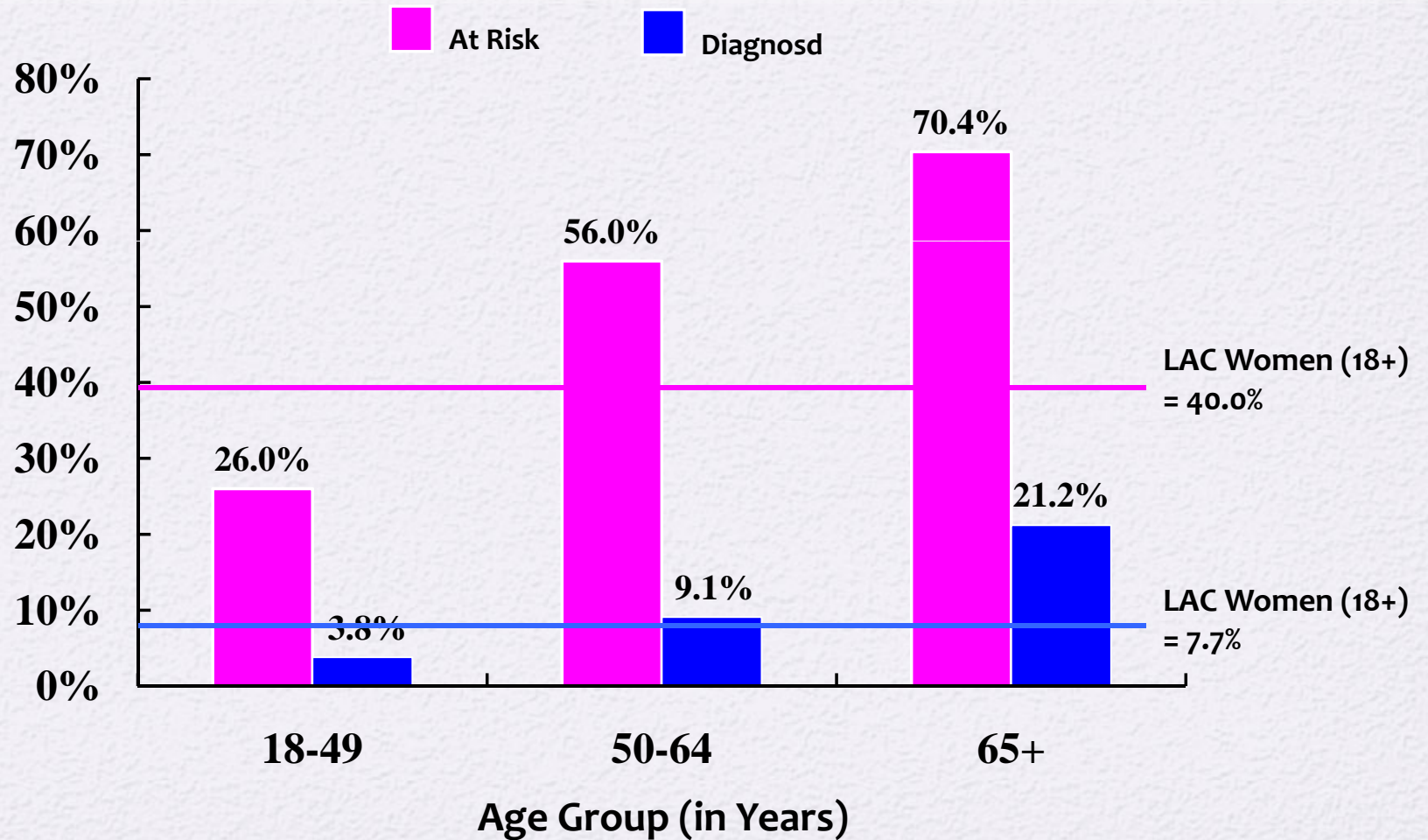
Risk of Heart Disease- Risk Factors



Gender Disparities in CV Care

- ♥ **Atypical Symptoms** in females- milder symptoms; many women do not recognize the warning signs or symptoms of heart disease, which may be subtler than those exhibited by men.
- ♥ **Patient awareness**-In a 2003 study a mere 13 % of women in America believe that heart disease and stroke are the greatest health threat to women.
- ♥ Females have a **Decrease Access** to care- insurance, time, other factors
- ♥ **Physician awareness**- Physicians recognizing that more women than men die of CVD yearly in USA- PCP 8%, 13% OB-GYN, 17% Cardiologist
- ♥ Women **are less likely to receive evidence base care**- Despite high risk factors and symptoms such as PCI, stents and ICD's
- ♥ Females have **Worse Outcomes- Higher Mortality**

LA County Adult Women at Risk for Heart Disease[‡] and Diagnosed with Heart Disease, By Age Group (LACHS 2007)



[‡]Risk for heart disease is defined as having 2 or more of the following conditions: diabetes, hypertension, high cholesterol, obesity, minimal to no physical activity, current cigarette smoker.

Understanding Cholesterol levels

- ♥ Desirable total cholesterol level is <200.
- ♥ 240 or above is considered “high” blood cholesterol. “Borderline-high” (200-239) increases risk of heart disease.
- ♥ An HDL level of 60 or higher is protective against heart disease.
- ♥ An HDL level of 40 or lower is a major risk for heart disease.

Cholesterol

♥ Cholesterol is made up of “low density lipoproteins” (LDL) and “high density lipoproteins” (HDL)

♥ LDL - “bad cholesterol” - too much LDL in the blood can lead to cholesterol build up and blockage in the arteries.

- Generally, the lower your LDL level the better
< 100 mg/dl with CVD; < 130 mg/dl if 2 or more RF

♥ HDL - “good cholesterol” - it helps remove cholesterol from the blood

- The higher your HDL level the better
HDL >40 mg/dl for males and > 50mg/dl for females

Blood Pressure

Measured in terms of systolic and diastolic pressures.

Systolic- measurement taken when the heart contract and pumps blood to the body.

Diastolic- measurement taken when the heart is relaxed and the chambers are open and filling with blood.

Category	Systolic	Diastolic
Optimal	<120	<80
Normal	<130	<85
High-Normal	130-139	85-89

High Blood Pressure



♥ High blood pressure, also known as hypertension, is the most important risk factor for stroke and heart failure.

♥ High blood pressure **causes 3 of every 5 cases of heart failure in women.**

♥ Older women have a higher risk of high blood pressure, with **more than half of all women over the age of 55** suffering from this condition.

♥ High blood pressure is called the “silent killer” because most people who have it never feel sick.

Diabetes

- ♥ Diabetes is an abnormally high level of blood sugar (or glucose) indicating the body's inability to process glucose
- ♥ At least 65 percent of people with diabetes die from some form of heart disease or stroke.
- ♥ Pt with diabetes are 2-4 times more likely to have heart disease or a stroke than adults without diabetes.
- ♥ Diabetes doubles the risk of a second heart attack in women but not in men.

Recommended Glucose Levels for Diabetics

Normal

Goal

Whole blood values

Average fasting glucose <100

80-120

Average bedtime glucose <110

100-140

HbA_{1c} (Measure of Longstanding
Glucose Control) <6 <7

Smoking

- ♥ Smoking is the single most preventable cause of death in the US.
- ♥ Smoking by women causes 150% more deaths from heart disease than lung cancer.
- ♥ Women who smoke are 2-6 times more likely to suffer a heart attack early in life.
- ♥ Smoking increases the risk of stroke.
- ♥ Women who use birth control pills increase their risk even more.

Obesity

♥ Obesity - > 30% body fat.

♥ In 2007 145 million people in USA are obese or overweight, 77 million men and 68 million women

♥ Obesity contributes to heart disease by increasing blood pressure, blood sugar, and high cholesterol.

♥ Obese or overweight.

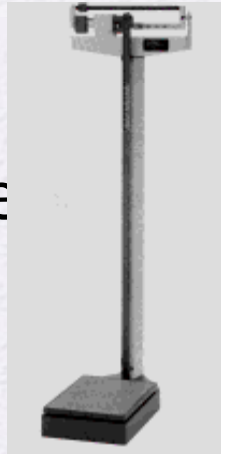
~ Non-hispanic white 72% men and 58% of women

~ Non-Hispanic blacks, 74 % of men and 78 % of women.

~ For Mexican Americans, 75 % of men and 73 % of women.

♥ Weight gain around the waist increases your risk of heart disease (104% increase in risk of CHF).

- Weight gained around the hips & thighs is less of a risk.

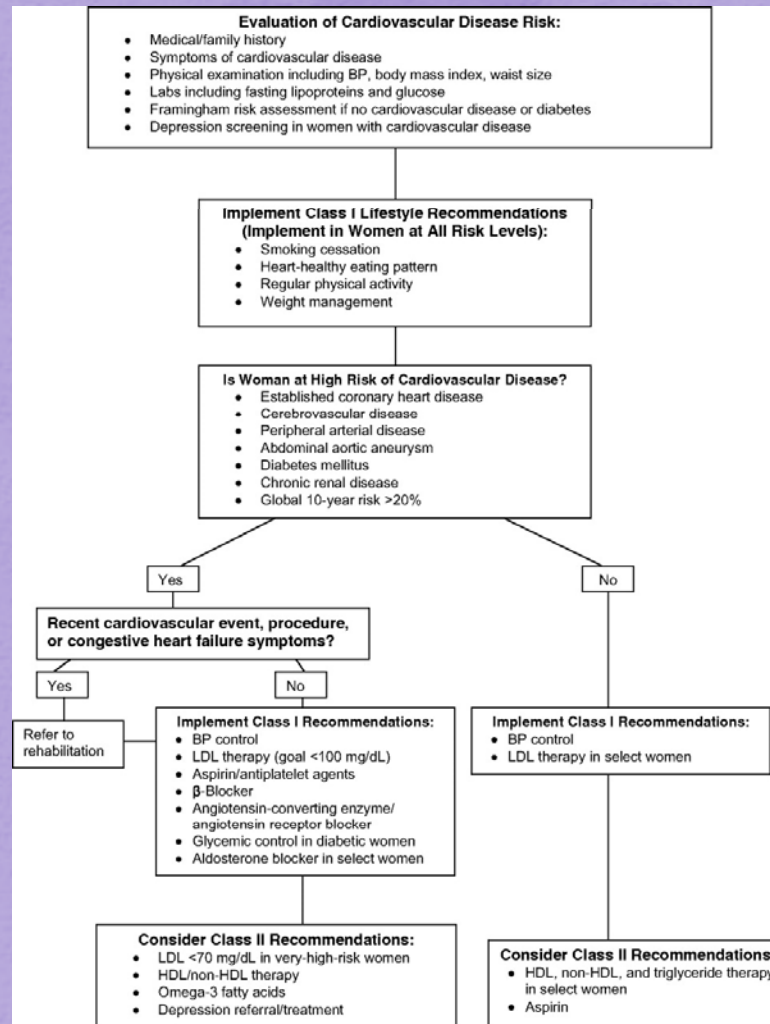


Physical Inactivity

- ♥ Lack of exercise is a proven risk factor for heart disease.
 - A lack of regular physical exercise is a growing epidemic in the US.
- ♥ Heart disease is twice as likely to develop in inactive people than in those who are more active
- ♥ Physical activity helps maintain weight, blood pressure, and diabetes.
- ♥ A woman should exercise at her target heart rate for 30 minutes a day, 3-5 x per week.




Algorithm for CVD preventive care in women



Mosca, L. et al. *Circulation* 2007;115:1481-1501

Circulation

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American Heart Association 
Learn and Live

Small Changes Make a Big Difference

- ♥ **In patients with hypercholesterolemia/dyslipidemia**
 - Every 1 % decrease in total cholesterol results in a 2% reduction in heart disease complications.
- ♥ **In patients with hypertension**
 - Every 1 mm Hg reduction in systolic blood pressure results in a 2% reduction in the risk of death.
- ♥ **In patients with diabetes**
 - Every 1% drop in HbA_{1c} (a special form of hemoglobin) results in a 14% reduction in absolute risk of having a heart attack.

Source: Neaton JD et al, *Arch Intern Med*, 1992; Stratton IM et al, *BMJ*, 2000

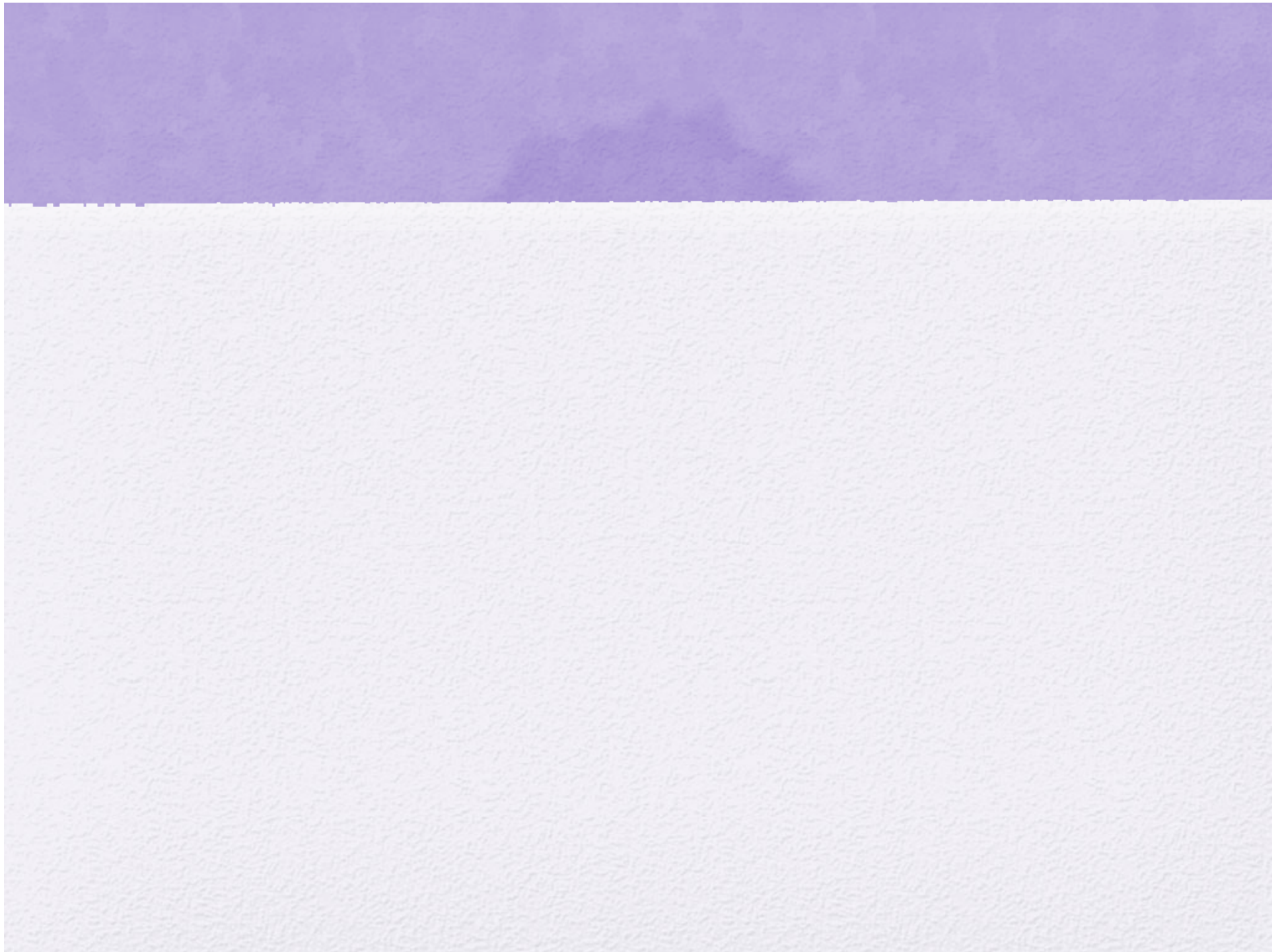
Life's Simple 7

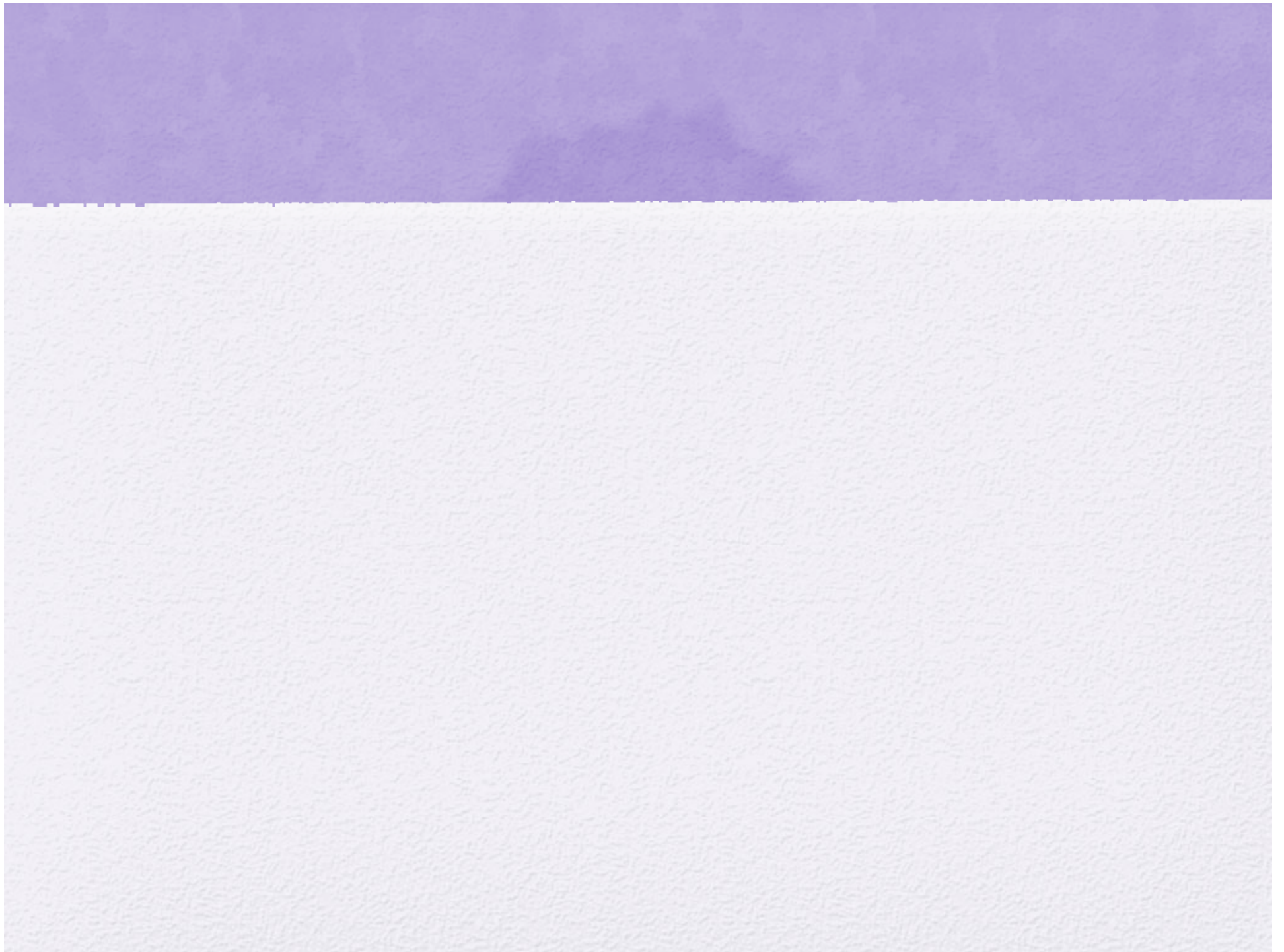
- ♥ **Get Active**- 30 min of moderate 20 minutes of strenuous 3-5 x wk
- ♥ **Control Cholesterol** - statin for high LDL and niacin or fibrate for lo HDL
- ♥ **Eat Better** <7% saturated fat and < 200g/d of cholesterol
- ♥ **Manage Blood Pressure** -Initial treatment of high-risk women should be with β -blockers and/or ACE inhibitors/ARBs,
- ♥ **Lose weight**
- ♥ **Reduce Blood Sugar** < 7 Hgb A1c
- ♥ **Stop Smoking**

2007 Update Evidence-Based Guidelines for Cardiovascular Disease Prevention in Women

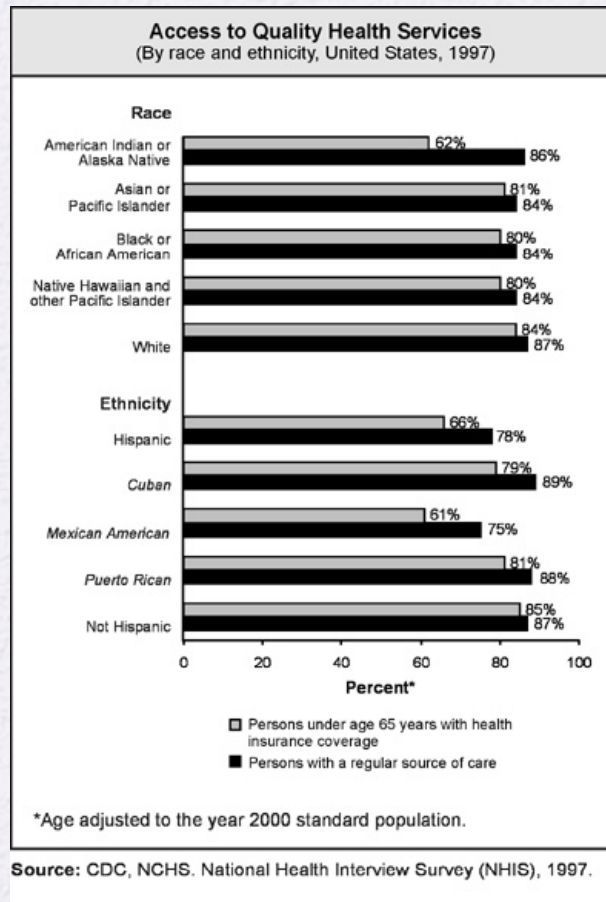
2007 Update Evidence-Based Guidelines for
Cardiovascular Disease Prevention in Women

**In this Guidelines the focus of the Risk
stratification is estimation of lifelong risk not just
short term risk**





Access to CV Care



Summary

Primary prevention is essential to reducing the risk for heart disease and stroke.

- ♥ Know the Risk Factors for Heart Disease.
- ♥ Engage their physician to evaluate your risk of heart disease and understand how to live a heart healthy life.
- ♥ Calculate Risk Using a Combination of ALL the Cardiac Risk Factors.

Best Prevention Strategy- Change of Lifestyle
– Make it Heart Healthy

- ♥ Walk whenever possible– Even at Work.
- ♥ Cut Fatty Foods a Little Every Week.
- ♥ Get Help to Quit Smoking. Get Your Cholesterol, Blood Pressure, and Blood Sugar Tested.

Cholesterol

- ♥ ~ 50 million adult women (1 in every 3 to 5 women) have borderline-high (Total chol 200-239; LDL 130-160 mg/dl) to high cholesterol levels (Total Chol \geq 240; LDL >160 mg/dl)
- ♥ Studies show that women's cholesterol values are higher than men's from age 55 and older.
- ♥ About 1/3 of all blood cholesterol comes from food, thus, low cholesterol diets reduce risk of heart disease.

Healthy Diet

- ♥ **Fish**— Contains Omega 3 fatty acids - are not produced by the body and can only be obtained from food.
Albacore tuna, salmon, trout, anchovies.
- ♥ **Oatmeal** — Contains fiber that blocks the body from absorbing fat and cholesterol from food. Prevents plaque formation.
- ♥ **Red Wine**— Contains flavonoids - thought to have especially potent antioxidant effects.
- ♥ **Wheat germ**— Contains Vitamin E which, at levels of 100-400 IU per day, may protect against heart disease.

Keys to Reducing Your Risk of Heart Disease

- ♥ You are the **captain** of your ship, and are responsible for your **HEART'S** health.
- ♥ Empower yourself to make changes in your lifestyle.
 - ♥ Your changes will reinforce a **HEART** healthy lifestyle for you and your family.
 - ♥ Encourage family members to support you and make changes in their lives as well.
- ♥ If you have not done so, set-up an appointment with your doctor to talk about **HEART** health.
- ♥ Get **YEARLY** Checkups
 - ♥ **Know Your Cholesterol, Glucose, and Triglycerides Levels**
 - ♥ **Get Your Blood Pressure Checked**
 - ♥ **Also Get Regular Breast & Gynecological exams**

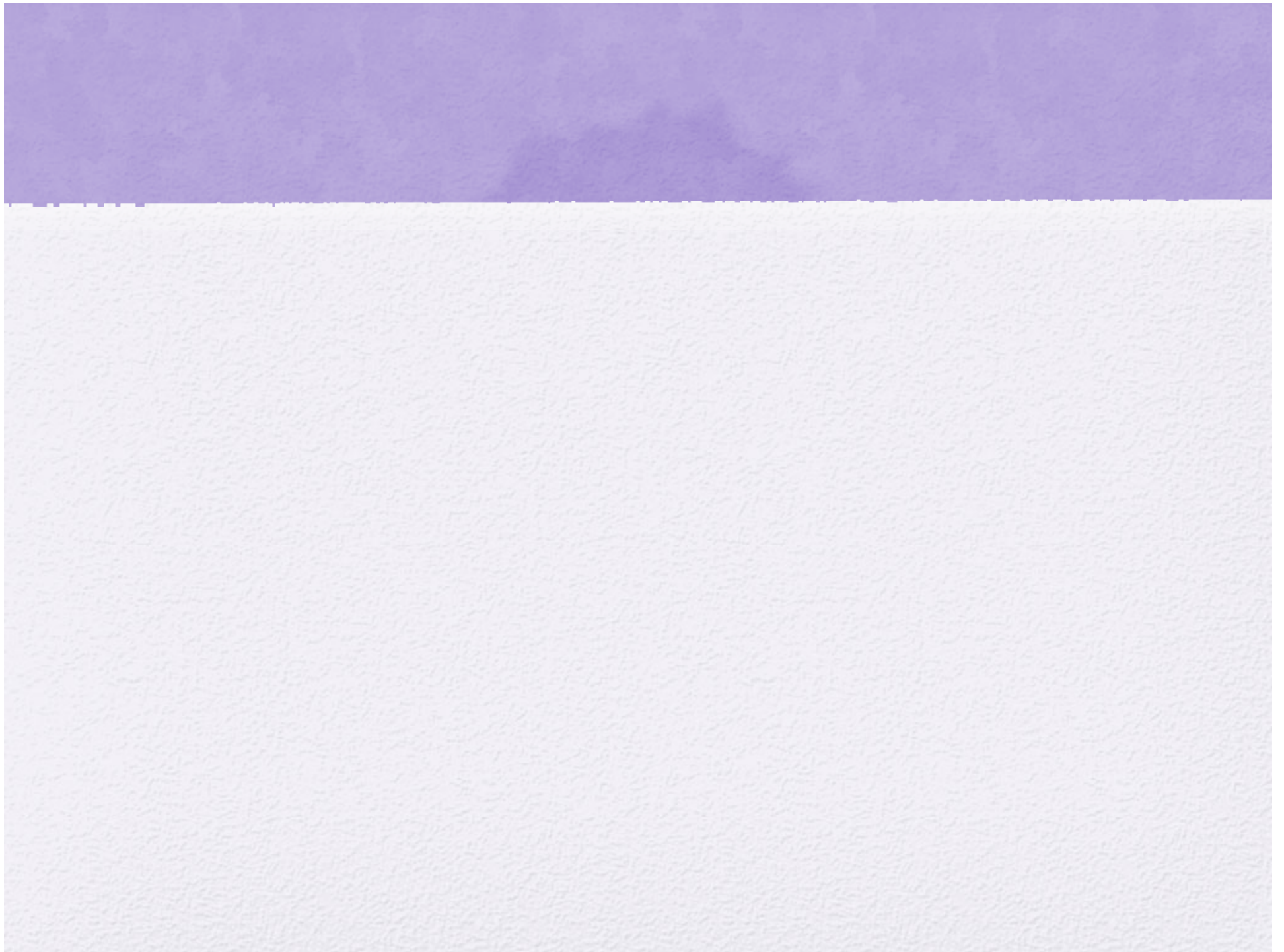


Hormone Replacement Therapy

- ♥ Estrogen levels are sufficiently high up until the 4th decade of life.
- ♥ As women approach menopause (average age=51 years), there is a gradual loss of estrogen.
- ♥ Post-menopausal women are frequently prescribed hormone replacement therapy (or HRT) to increase circulating blood levels.
- ♥ Although HRT is helpful in osteoporosis and symptoms related to menopause, research indicates that HRT may be harmful in women who have established heart disease.
- ♥ Deciding to use HRT is an Individual Decision:
 - ♥ Women should have a discussion with their Gynecologist and Primary Care Doctor about the risk and benefits of HRT given their current health condition.

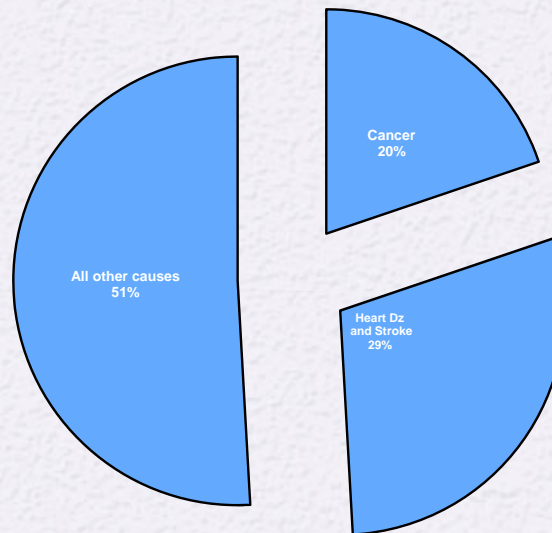
Questions to Ask Your Physician

- ♥ What risk factors do I have for heart disease?
 - ♥ Should I be concerned about my risk for heart disease?
 - ♥ Should I have a stress test? Or some other test that tell whether I have heart disease?
- ♥ What are the symptoms of heart disease? Are there any differences in symptoms between women and men?
- ♥ What educational programs are available in our community to help me understand heart disease?
 - ♥ Do these programs give specific information about women?
- ♥ Are there any other programs to help me quit smoking, become more physically fit, or improve my nutrition?



Cause of Death for Latinos in USA

2002 Data

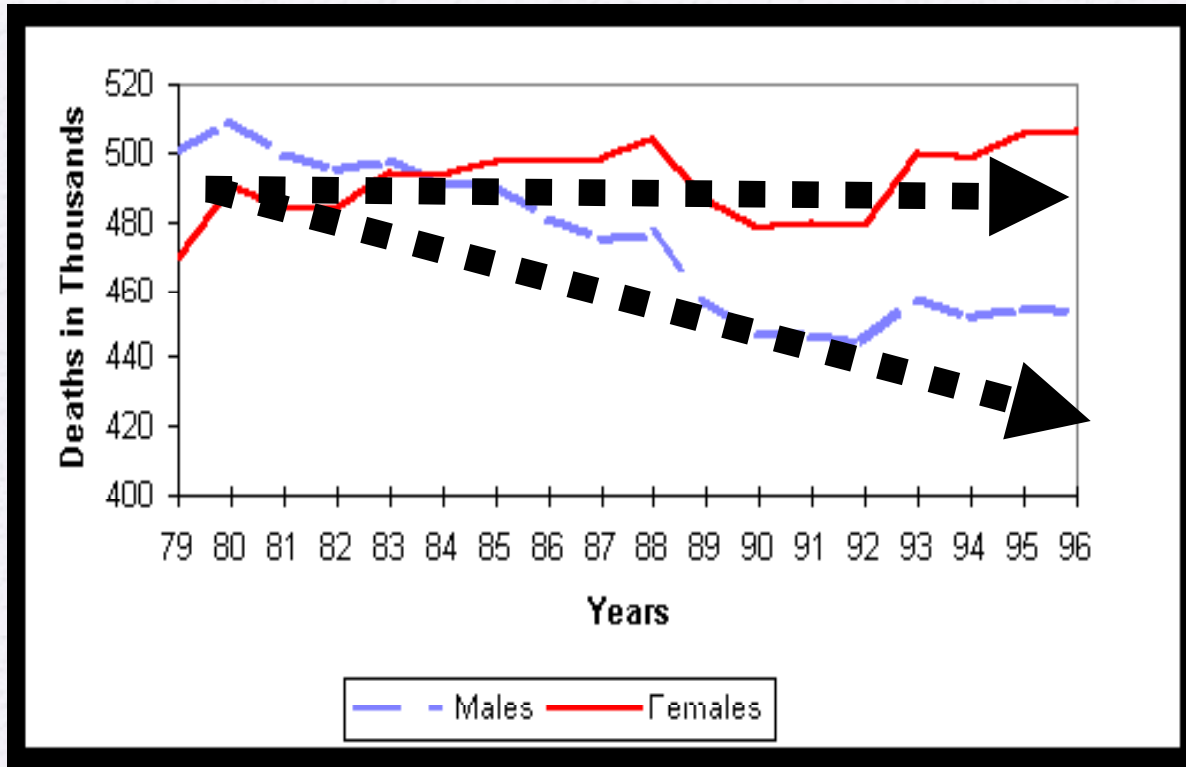


Am I at Risk For A Major Health Problem?

<i>Major Diseases</i>	<i>Perceived Ranking</i>	<i>What are the Medical Facts?</i>
<i>Breast Cancer</i>	1	3
<i>Other Cancers</i>	2	2
<i>Heart Disease</i>	4	1
<i>Osteoporosis</i>	3	4

Cardiovascular Disease Mortality

Trends



Not the Same Benefit For Women

35% to 50% Decline for Men

Aggressive treatment and risk factor modification in men

Dramatic Declines in Death Associated with Heart Disease, Stroke, & All Other Forms of Cardiovascular Disease

Source: Health United States 1998, CDC/NCHS

Typical Heart Attack Symptoms in Women

Milder symptoms without accompanying chest pain

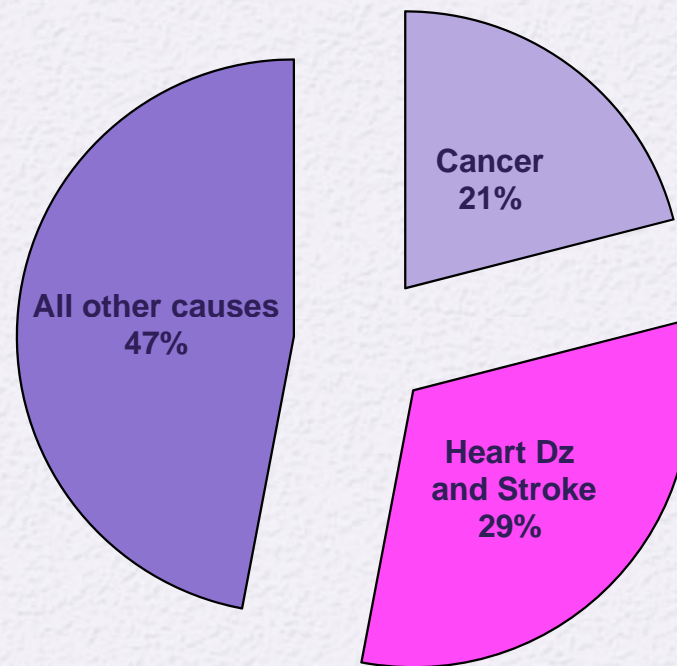
- ♥ Sudden onset of weakness, shortness of breath, fatigue, body aches, overall feeling of significant illness.
- ♥ Burning sensation in the chest, may be mistaken as heartburn.
- ♥ An “unusual” feeling or mild discomfort in the back chest, arm, neck, or jaw.

Call 911 if you think you are having a heart attack. Time is critical!

Medical conditions that increase Latina/Hispanic women risks of Heart disease and stroke.

- ♥ 22 percent of Hispanic women ages 20-74 have high blood pressure;
- ♥ Hispanic women are more likely to smoke than non-Hispanic whites - about 12.5 percent of women ages 18 and older;
- ♥ Nearly half (48 percent) of U.S. Hispanic women ages 20-74 have total blood cholesterol of 200 mg/dL or higher (LDL cholesterol should be below 100)
- ♥ the risk of diabetes for Hispanic men and women is almost twice that for non-Hispanic whites.
 - ♥ The American Heart Association estimates that among U.S. Hispanics ages 20 and older, 8.1 percent of men and 11.4 percent of women have physician-diagnosed diabetes — compared to 5.5 percent of non-Hispanic white men and women.

Cause of Death for Hispanic Women in USA- 2002 Data



Statistics for Women

Alarming Facts

♥ 503,927 women died of cardiovascular diseases in 1998

~ 226,467 from heart attack & other coronary events

~ 97,303 from stroke

♥ 1 in 5 women has some form of heart or blood vessel disease

♥ ~ 38% of women who have a heart attack die within a year

♥ ~ 40% of all coronary events in women are fatal, most occur without prior warning

♥ ~ 29% of mexicanamerican women have cardiovascular disease