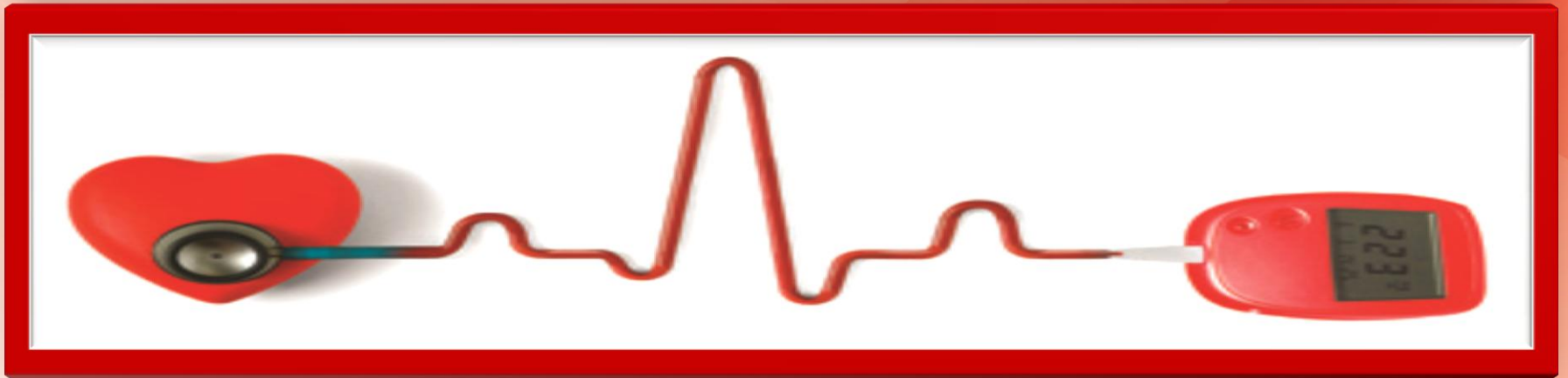


An Overview of Chronic Diseases in Alabama



Mary McIntyre, MD, MPH

November 18, 2016

BUREAU OF HEALTH PROMOTION AND CHRONIC DISEASE



Outline

- Public Health Issues and Minority Populations
- Social Ecological Model
- Overview of Chronic Diseases in the U.S and Alabama
 - Cardiovascular Diseases
 - Diabetes
 - Obesity
- Risk Factors and Consequences
- Cost
- Prevention/Management

The Public Health Issues

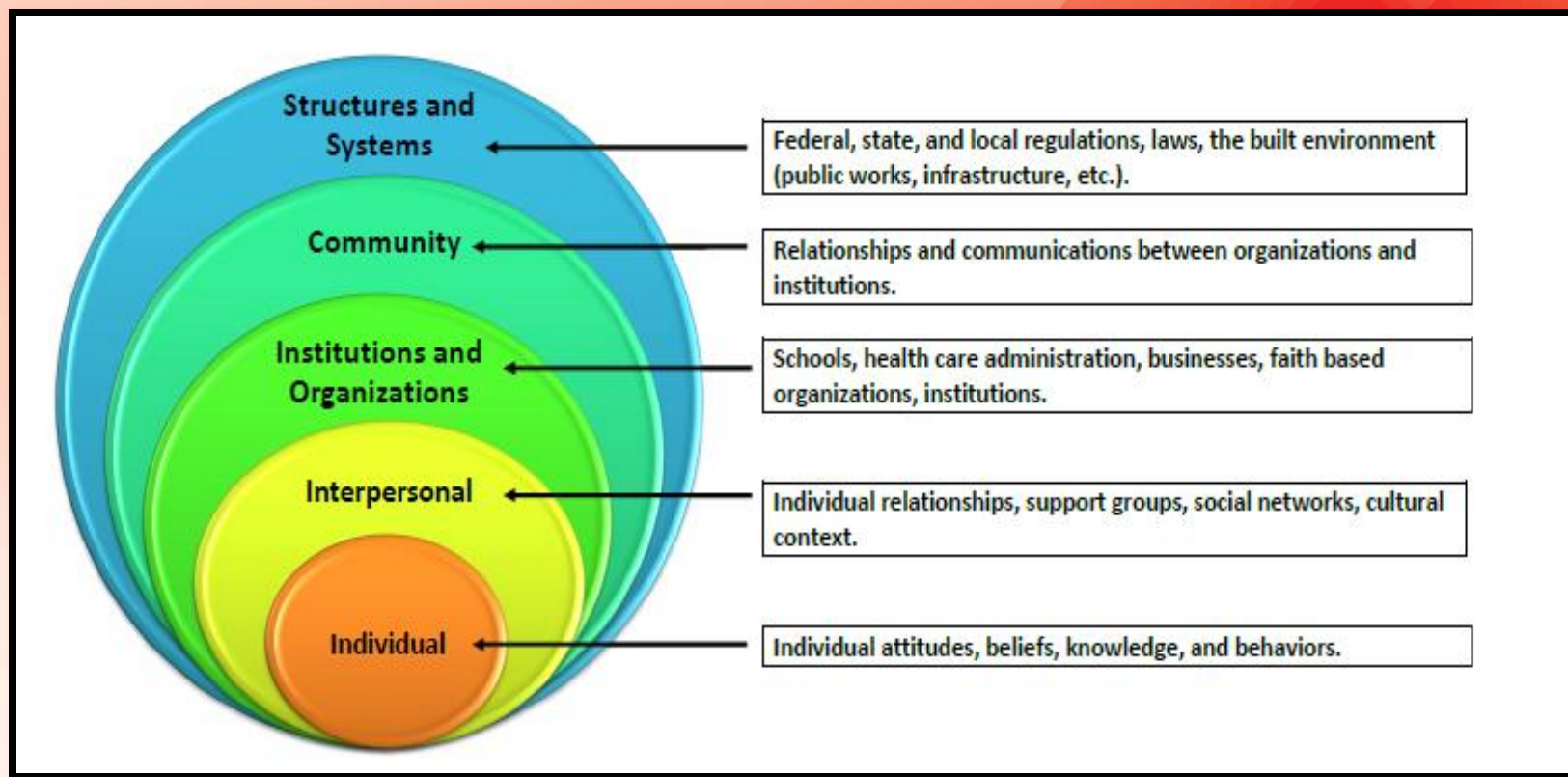
- **Heart disease, cancer, diabetes, and stroke** are among the most common causes of illness, disability, and death in the U.S.
- **Obesity**
 - More than one-third of adults
 - 12.7 million of children and adolescents

Minority Populations

- Non-Hispanic blacks are 40% more likely to have high blood pressure.
- Diabetes is;
 - 77% higher among non-Hispanic blacks
 - 66% higher among some Hispanics groups
 - 18% higher among Asians
- American Indians and Alaskan Natives are 60% more likely to be obese.
- Life expectancy for non-Hispanic blacks is 75.1 years.



Social Ecological Model



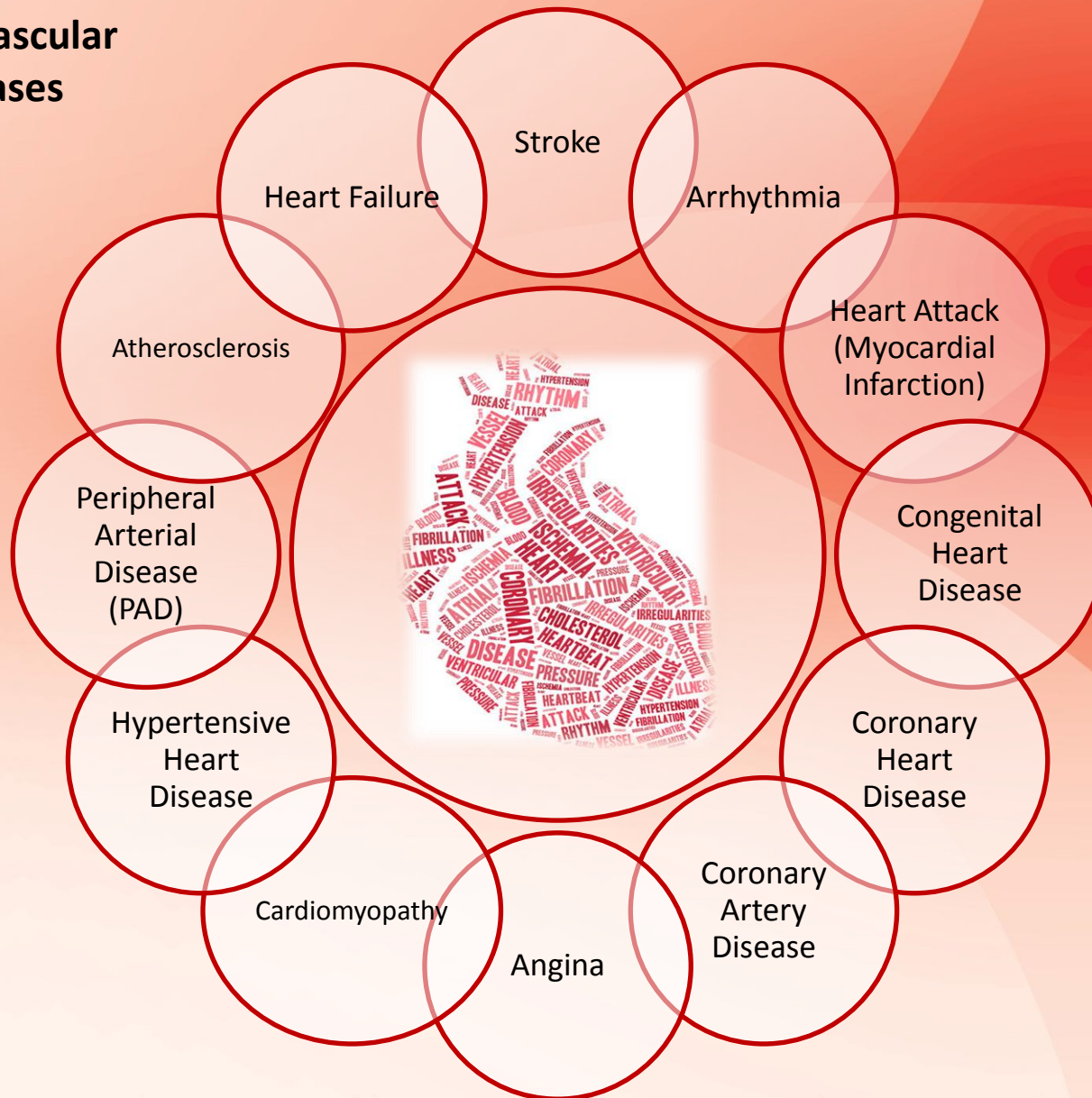
A close-up photograph of a person's hands, wearing a white lab coat, gently cupping a bright red, glossy heart. The heart is the central focus, symbolizing health and care. The background is a soft, out-of-focus light blue.

CARDIOVASCULAR DISEASES

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Cardiovascular Diseases



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Heart Disease

- Leading cause of **death** in the U.S.
- Most Common
 - Coronary Heart Disease
 - Hypertension
 - **African Americans** have a **higher rate**
 - Heart Attack
 - **1 in 4 women** will die within the 1st year

Stroke

- **5th** leading **cause of death** for U.S. adults
- Leading cause of long-term **disability**
- One American dies from a stroke **every 4 minutes.**
- Common Symptoms of Heart Attack and Stroke

RISK FACTORS



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Risk Factors

Medical Conditions

- High Blood Pressure (i.e. Silent Killer)
- High Cholesterol
- Diabetes Mellitus

Modifiable Behaviors

- Unhealthy Diet
- Physical Inactivity
- Obesity
- High levels of alcohol consumption
- Tobacco use

Non-modifiable Characteristics

- Family History
- Genetics
- Age
- Sex
- Race and Ethnicity

Smoking

- Smoking is a major cause of CVD.
 - Causes 1 of every 3 cardiovascular deaths
- Smoking can cause
 - Elevated triglycerides
 - Low HDL cholesterol
 - Blood clotting
 - Increased buildup of plaque in blood vessels
 - Thickening and narrowing of blood vessels



Risks from Smoking

Smoking can damage every part of the body

Cancers

Head or Neck

Lung

Leukemia

Stomach

Kidney

Pancreas

Colon

Bladder

Cervix

Chronic Diseases

Stroke

Blindness

Gum infection

Aortic rupture

Heart disease

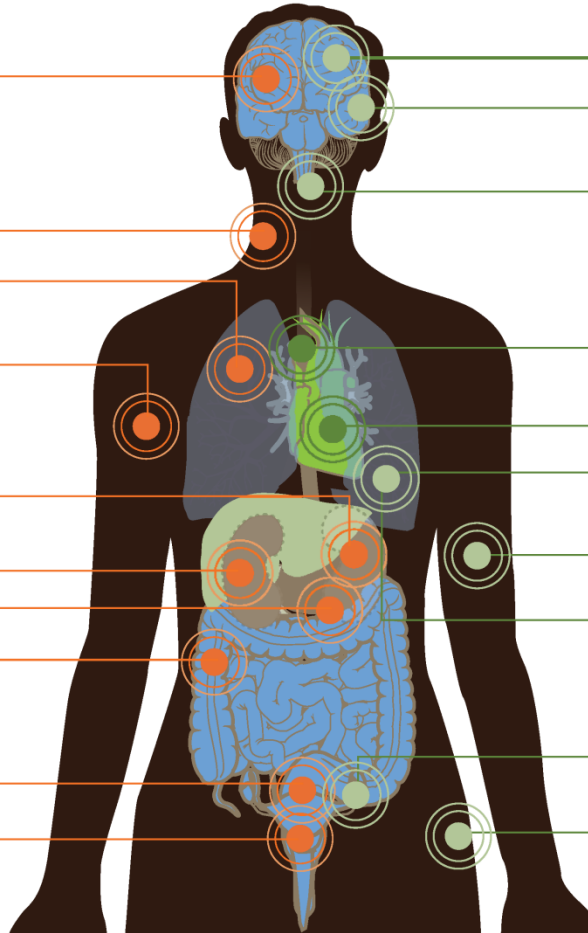
Pneumonia

Hardening of the arteries

Chronic lung disease & asthma

Reduced fertility

Hip fracture



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Consequences of High Blood Pressure



High blood pressure (HBP) can injure or kill you.
when high blood pressure is uncontrolled, it can lead to:

STROKE

HBP damages arteries that burst or clog more easily.

77% of people who have a first stroke have HBP.
HBP increases your stroke risk by four to six times.

HEART FAILURE

HBP can cause the heart to enlarge and fail to supply blood to the body.

75% of people with congestive heart failure have HBP.

ERECTILE DYSFUNCTION

HBP leads to erectile dysfunction because of reduced blood flow throughout the body.

VISION LOSS

HBP can strain the vessels in the eyes.

HEART ATTACK

HBP damages arteries that can become blocked.

69% of people who have a first heart attack have HBP.

KIDNEY DISEASE/FAILURE

HBP can cause arteries around the kidneys to narrow, weaken or harden so the kidneys lose their ability to filter blood.

HBP is the second-leading cause of kidney failure

These conditions can happen over several years, but they can be prevented by controlling blood pressure.

Did You Know?

- At 50, total life expectancy is five years longer for people with normal blood pressure.
- The estimated cost of HBP in 2010 (the most-recent statistics available) is \$46.4 billion.

For more information
heart.org/bloodpressure

Check.
Change.
Control.™

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1st

Diseases of the Heart
are the leading cause
of death in Alabama

Cerebrovascular diseases
are the fourth leading
cause of death in
Alabama

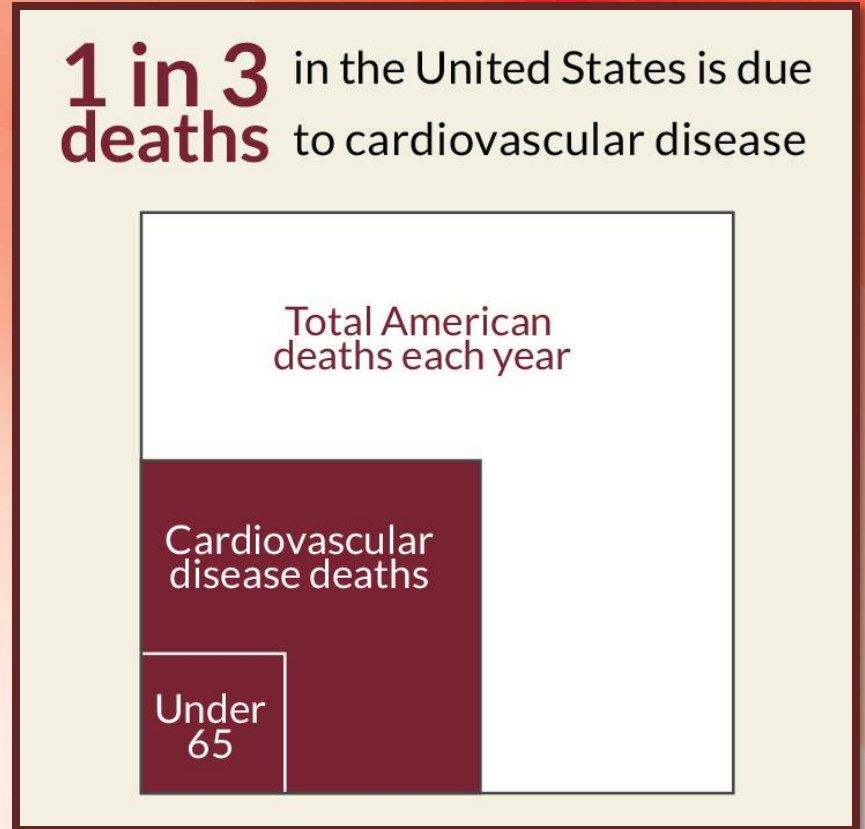
4th

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Mortality

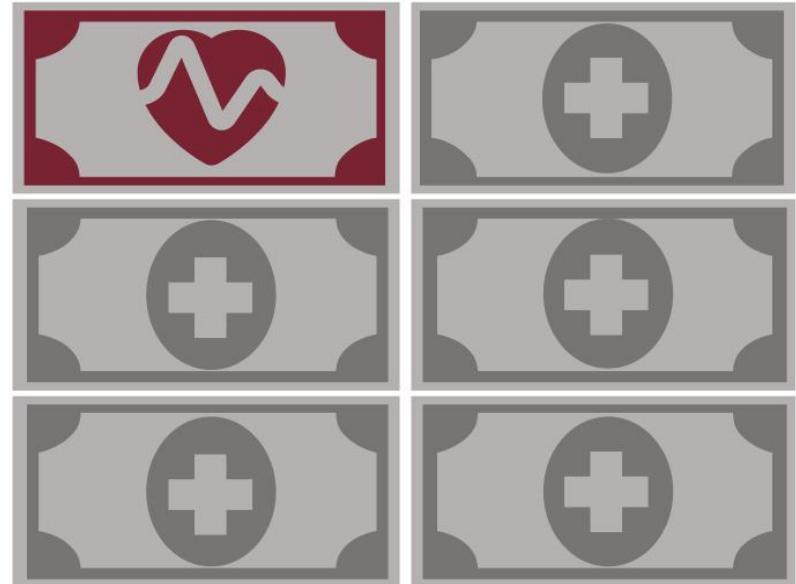
- **1.5 million** heart attacks and strokes occur **every year** in the U.S
- More than **800,000 die each year** from heart disease
 - 1 in every 3 deaths
 - Occur in individuals under age 65



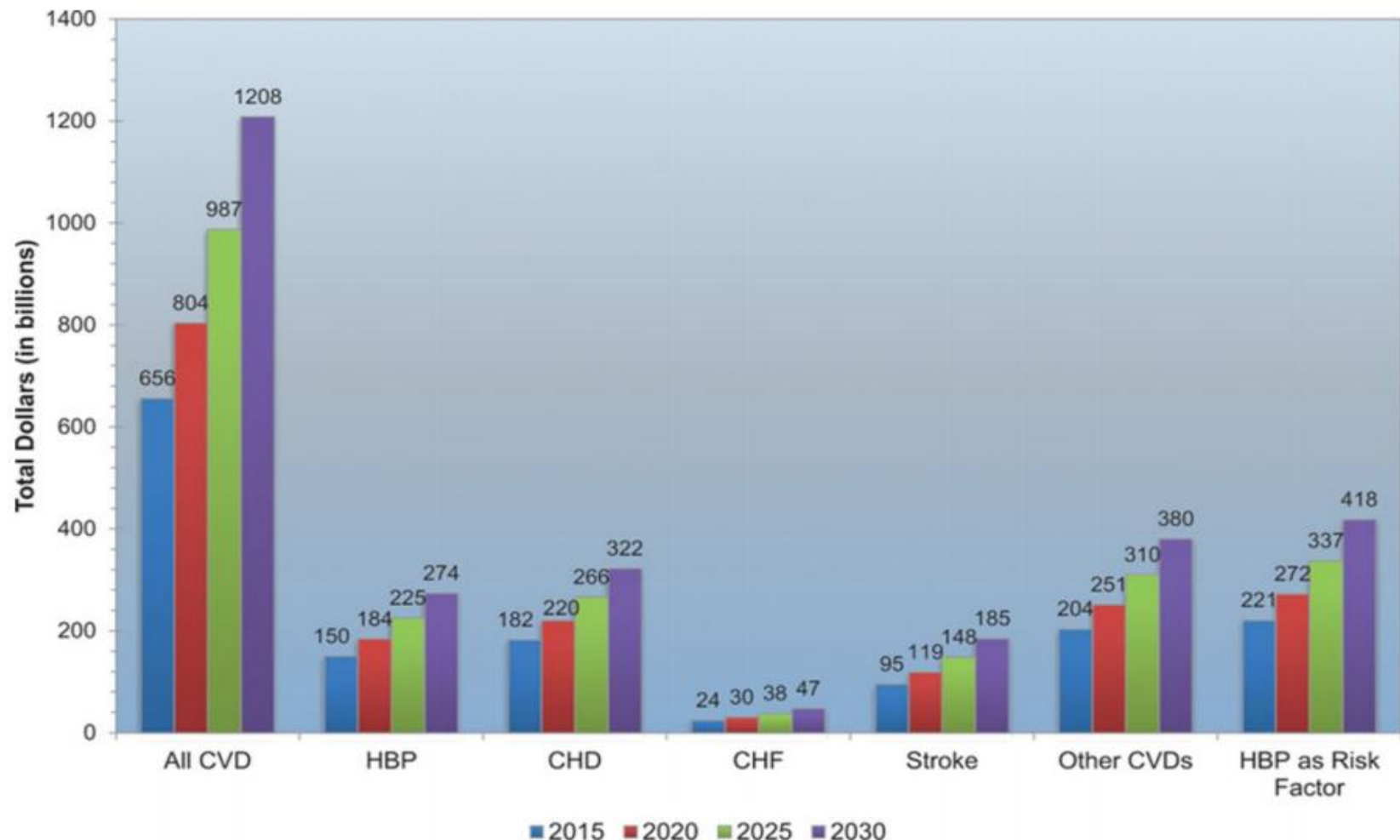
Cost

- 2011 Estimated National Cost (including healthcare costs and loss of productivity) of heart disease and stroke : **\$316.6 billion**

About **1 in every 6 health care dollars** is spent on cardiovascular disease



Projected total costs of cardiovascular disease (CVD), 2015 to 2030 (2012 \$ in billions) in the United States.



PREVENTION & MANAGEMENT

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Be one in a MILLION HEARTS™
Preventing 1 million heart attacks and strokes over 5 years.

Know Your ABCS

A = Aspirin Use / Alc. Ask your provider about:

- Taking one baby aspirin (81 mg) every day, or
- Taking one regular aspirin (325 mg) every other day.
- Most diabetics should have an A1c < 7%

B = Blood Pressure Treatment and Control. BP < 120/80

- Consume less than 2300 mg sodium daily
- BP < 130/80 if diabetic

C = Cholesterol. Ask your provider about how often to check your cholesterol.

- Total cholesterol < 200
- LDL (bad cholesterol) < 100
- Do not eat trans fats

S = Smoking Cessation. Research shows using a quitline with medication increase abstinence rates.

- Call 1-800-QUITNOW for more details or ask your provider.
(1-800-784-8669)
- www.alabamaquitnow.com

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HEALTH PROGRAM
Alabama Department of Public Health
ADPH.ORG/CVH



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MAKE CONTROL YOUR GOAL EVERY DAY



CHECK YOUR BLOOD PRESSURE regularly – at home, at a doctor's office, or at a pharmacy



QUIT SMOKING – or don't start
1-800-Quit-Now or 1-800-784-8669

Eat a more **HEALTHY DIET** with:

- More fruits, vegetables, potassium and whole grain
- Less salt, saturated fat, trans fat, and cholesterol



Adults should **LIMIT ALCOHOL** to no more than:



One drink per day for women



Two drinks per day for men



Read nutrition labels and **LOWER YOUR SALT** intake



These people need to keep salt less than 1500 mg/day:

- Older than 51 years
- Have High Blood Pressure
- Have Diabetes
- Have Chronic Kidney Disease
- African Americans



GET ACTIVE and maintain a healthy weight

Aim for 30 minutes 5x a week or 50 minutes 3x a week of moderate physical activity every week



SPOT A STROKE "F.A.S.T."⁴

F
A
S
T

FACE DROOPING – Does one side of the face droop? Ask the person to smile. Is the person's smile uneven?

ARM WEAKNESS – Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?

SPEECH DIFFICULTY – Is speech slurred? Is the person unable to speak or hard to understand? Ask the person to repeat a simple sentence, like "The sky is blue." Is the sentence repeated correctly?

TIME TO CALL 9-1-1 – If someone shows any of these symptoms, even if the symptoms go away, call 9-1-1 and get the person to the hospital immediately. Check the time so you'll know when the first symptoms appeared.

BLOOD PRESSURE CATEGORY	TOP NUMBER SYSTOLIC mm Hg	BOTTOM NUMBER DIASTOLIC mm Hg
Normal	Less than 120	Less than 80
Prehypertension	120 - 139	80 - 89
High Blood Pressure (Hypertension) Stage 1	140 - 159	90 - 99
High Blood Pressure (Hypertension) Stage 2	160 or higher	100 or higher
Hypertensive Crisis (EMERGENCY CARE NEEDED)	Higher than 180	Higher than 110

- Cigarette Smoking
- Stress
- Sleep Apnea

WHAT DO THE NUMBERS MEAN?

120
80

The top number represents the pressure while the heart is beating.

The bottom number represents the pressure when the heart is resting between beats.

HALT THE SALT
(SODIUM)

Too much salt can raise blood pressure and lead to heart attack and stroke, Alabama's 1st and 4th leading causes of death.²

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Alabama Department of Public Health

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DASH Eating Plan

CARDIOVASCULAR HEALTH PROGRAM
VERMONT DEPARTMENT OF HEALTH

Dietary Approaches to Stop Hypertension

Eating nutritious foods will help you control your blood pressure. The DASH diet emphasizes fruits and vegetables, low fat milk products, and whole grains. It is a Mediterranean diet full of nutrients that are good for your heart and good for your health. This eating plan is for 1,800 calories per day. The sample menu on the following page is based on this plan.

Food Group	Servings	Serving Size	Examples
Vegetables	4-5 per Day	1 cup raw leafy greens 1/2 cup chopped raw or cooked vegetables 1/2 cup vegetable juice	Lettuce, kale, spinach, broccoli, carrots, green beans, squash, sweet potatoes, tomatoes, asparagus, green peppers, low sodium tomato juice
Fruits	4 per Day	1 medium fruit 1/2 cup cut fresh, frozen or canned fruit 1/4 cup dried fruit 1/2 cup 100% fruit juice	Apples, bananas, berries, oranges, pineapple, peaches, pears, grapes, melons, raisins, dried apricots <i>Limit juice to one serving a day</i>
Grains	6-7 per Day	1 slice of bread 1/2 - 1 cup dry cereal 1/2 cup cooked rice, pasta or grain	Whole wheat bread and rolls, whole wheat pasta, English muffin, brown rice, pita bread, popcorn, oatmeal, quinoa, unsalted pretzels
1% Fat or Non-Fat Milk and Dairy Products	2-3 per Day	1 cup milk or yogurt 1 1/2 ounce cheese	1% fat or non-fat milk, reduced fat cheese, fat free or low fat regular or frozen yogurt
Poultry, Fish, Lean Meats	4-6 ounces per Day	1 ounce cooked meat, poultry or fish 1 egg = 1 ounce serving	Choose lean meat and trim visible fat, remove skin from poultry. Bake, broil or poach
Beans, Nuts, Seeds	4 per Week	1/3 cup or 1 1/2 ounce nuts 2 tablespoons peanut butter 2 tablespoons or 1/2 ounce seeds 1/2 cup cooked beans or dry peas	Almonds, walnuts, sunflower seeds, peanuts, peanut butter, kidney beans, pinto beans, lentils, split peas
Oils, Fats	2 per Day	1 teaspoon soft margarine 1 teaspoon vegetable oil	Soft margarine, vegetable oils (canola, corn, olive or safflower), low fat mayonnaise, light salad dressing
Desserts, Sweets, Added Sugars	4 or less per Week	1 tablespoon jelly 1/2 cup sorbet 1 small cookie	Jams and jellies, fruit punch, hard candy, maple syrup, sorbet and ices, sugar

American Heart Association American Stroke Association

Life's Simple 7™

Seven Steps to a Healthier Heart

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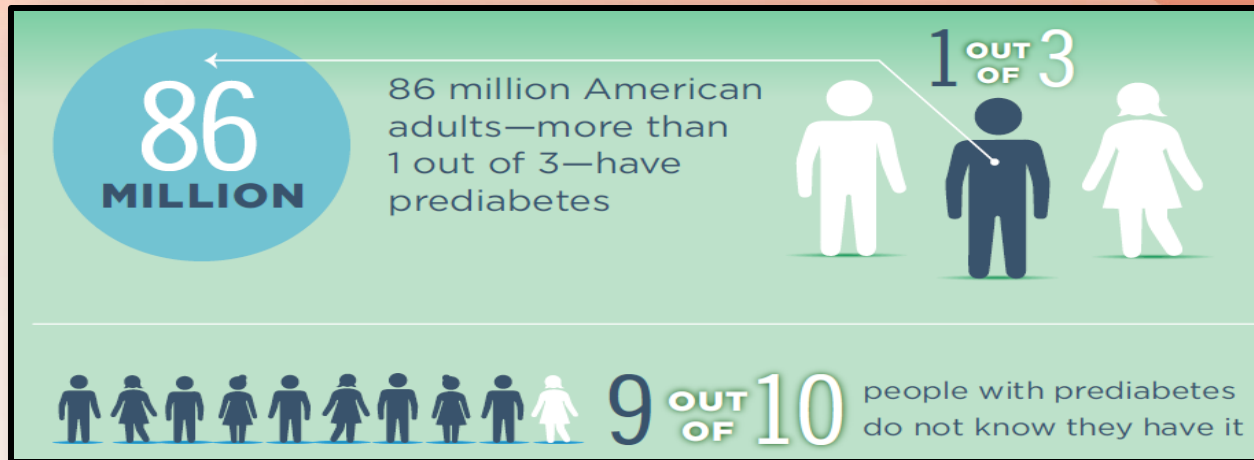


DIABETES

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Diabetes & Prediabetes



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Types of Diabetes

Type 1 DM

- Body does not produce insulin
- Can develop at any age
- No known way to prevent it

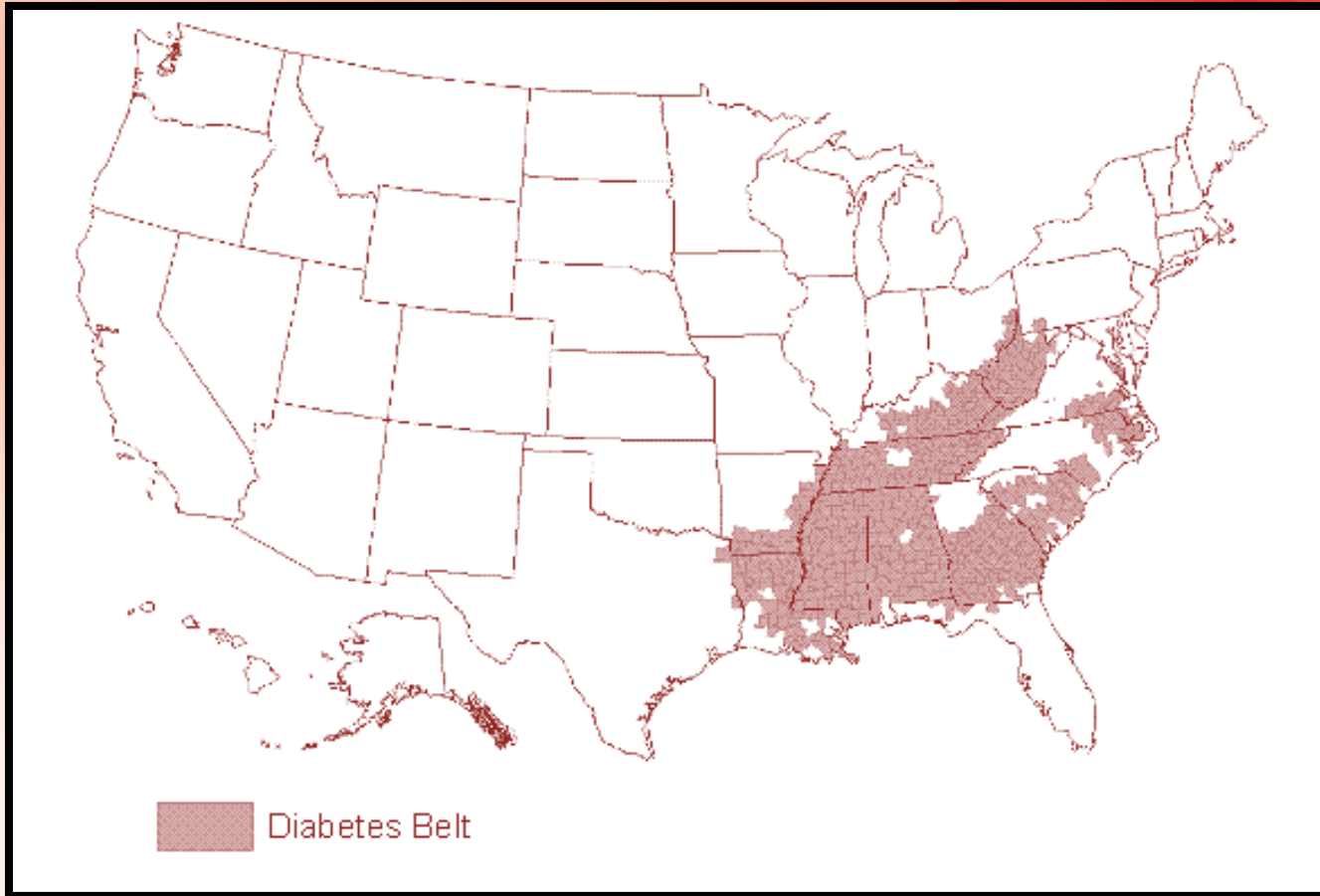
Type 2 DM

- Body cannot use insulin properly
- Can develop at any age
- Most cases can be prevented

Gestational

- Body of a pregnant woman does not secrete excess insulin required during pregnancy

Prevalence of Diabetes in the United States



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Prevalence of Diabetes in Alabama Adults by Demographic Categories (2015)

Ever told you had diabetes?	Alabama (2015)
	Yes
Total	13.5% (12.5-14.5)
Male	12.9% (11.5-14.3)
Female	14.0% (12.8-15.2)
White/Non-Hispanic	12.7% (11.5-13.9)
Black/Non-Hispanic	16.8% (14.8-18.8)
45-54	12.2% (10.0-14.4)
55-64	23.6% (20.9-26.3)
65+	27.1% (24.9-29.3)
Less Than High School	22.4% (19.1-25.7)
High School/GED	12.5% (10.9-14.1)
Some Post High School	11.6% (10.0-13.2)
College Graduate	10.4% (8.8-12.0)

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Detection: Screening Recommendations

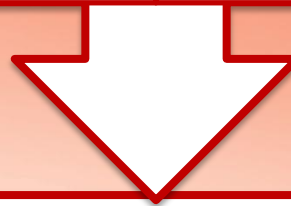
(Updated 2015) United States Preventive Task Force (USPSTF) recommends screening for:

Adults ages 40 to 70 who are overweight or obese

Family History of Diabetes

History of gestational diabetes or polycystic ovarian syndrome

A member of certain racial/ethnic groups



ADA recommends screening for:

Age 45 or older

Any overweight or obese adult that has at least 1 diabetes risk factor *

*Other risk factors: physical inactivity, first-degree relative with diabetes, hypertension, CVD History, women who delivered a baby more than 9lbs or prior to GDM diagnosis

Diabetes Testing



Glycated Hemoglobin

Fasting Plasma Glucose

Glucose Tolerance
Test

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RISK FACTORS



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Risk Factors

Modifiable



Physical activity



High body fat or weight



High cholesterol



High blood pressure

Non-modifiable



Family history



Age



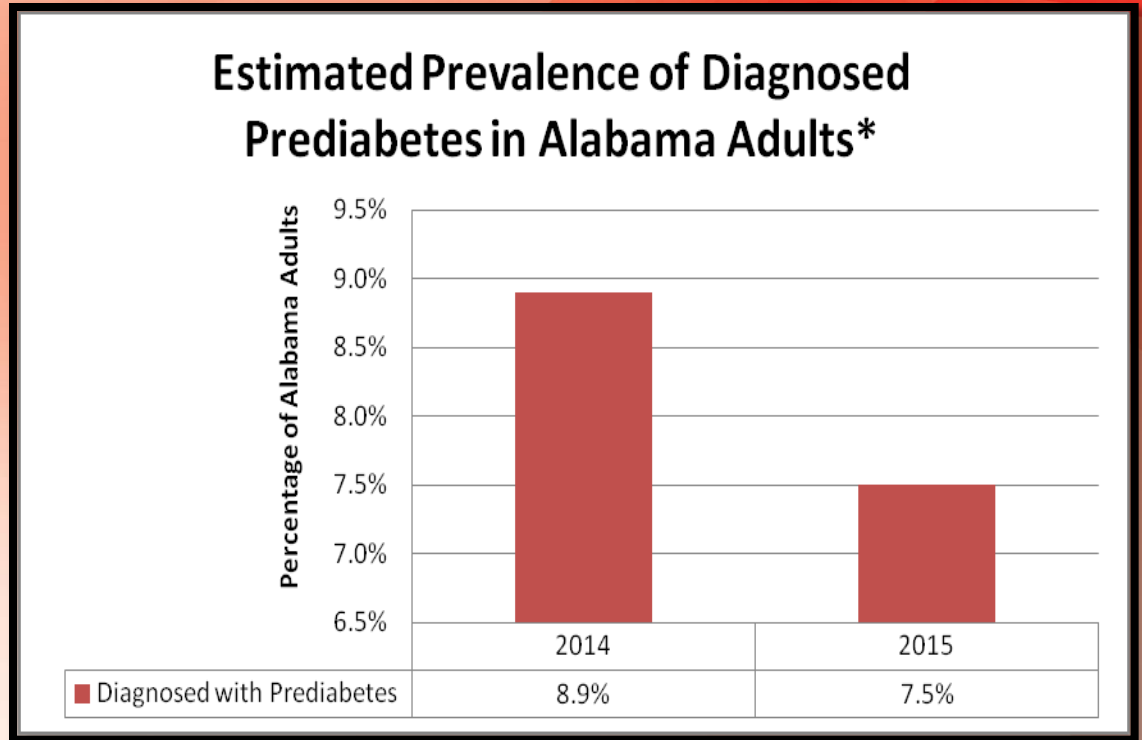
Race/Ethnicity



History of gestational diabetes

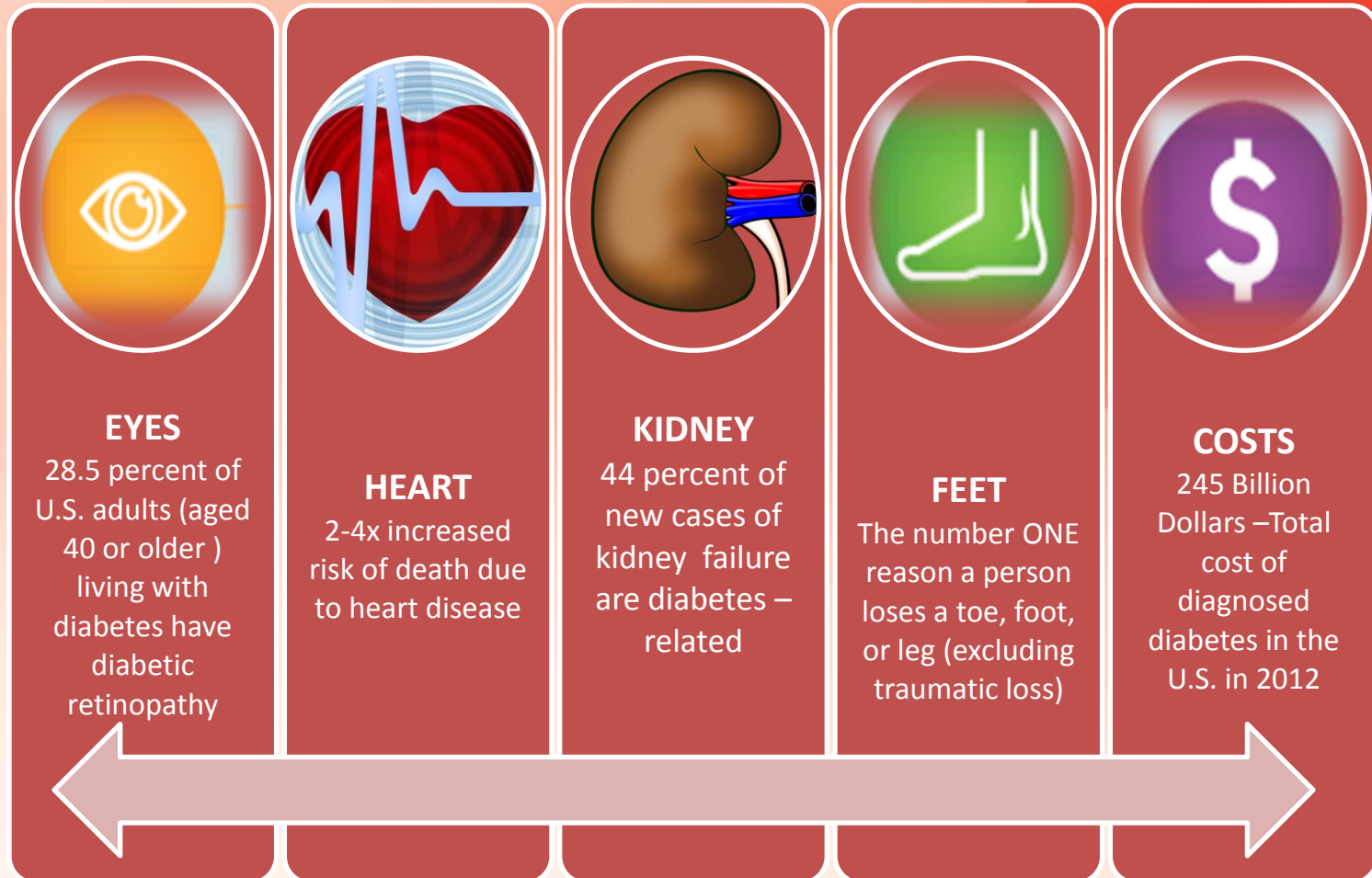
Prediabetes

- According to the CDC, **15-30%** of people with prediabetes will develop type 2 diabetes **within 5** years (CDC 2016).



Data Source: ADPH- Alabama BRFSS. (2016). BRFSS 2015 Core Questions Data Report Request- Diabetes.

Diabetes Related Complications



How Diabetes Affects Your Heart

Smoking doubles the risk of heart disease in people with diabetes.²



ABCs of Diabetes

- A** **for the A1C test.** The A1C test shows you what your blood sugar (glucose) has been over the last three months. High blood sugar levels can harm your heart and blood vessels, kidneys, feet, and eyes.
- B** **for blood pressure.** High blood pressure makes your heart work too hard. It can cause heart attack, stroke, and kidney disease.
- C** **for cholesterol.** One kind of cholesterol, called LDL, can build up and clog your blood vessels. It can cause heart attack or stroke.
- S** **for stop smoking.** Ask for help or call 1-800-QUIT-NOW

Ask your health care team:

What your A1C, blood pressure, and cholesterol numbers are;
What your ABC numbers should be; and
What you can do to reach your ABC goals.

IF YOU HAVE **DIABETES**, YOU ARE NEARLY
2X MORE LIKELY
TO DIE FROM **HEART DISEASE** OR **STROKE**¹

Tips to reduce your risk for heart disease.



Maintain a Healthy Weight



Make Healthy Food Choices



Stay Active



Stop Smoking



Know Your Diabetes ABCs Talk to your health care team about how to manage your A1C, blood pressure, and cholesterol. This will help lower your chances of having a heart attack, a stroke, or other diabetes problems.

Diabetes Mortality

Know the diabetes disease process and treatment options

Healthy Eating

7th

Being Physically Active

Taking Medications

Monitoring Blood Glucose

Problem Solving and Healthy Coping

Reducing Risks of Acute and Chronic Complications

Diabetes is the 7th leading cause of death in Alabama¹ and in the United States.²

If you are living with diabetes, your local DSME program can help you make these lifestyle changes today!

AD
Alabama Diabetes
PROGRAM

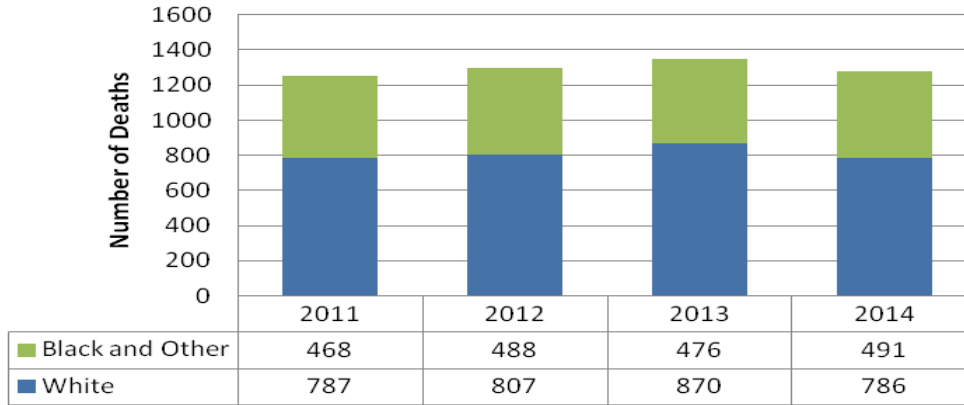
- According to the World Health Organization, diabetes directly caused an estimated **1.5 million deaths globally** in 2012.
- Diabetes is the **7th** leading cause of death in the United States and in Alabama

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Diabetes Mortality In Alabama

Diabetes Deaths in Alabama by Race (2011-2014)



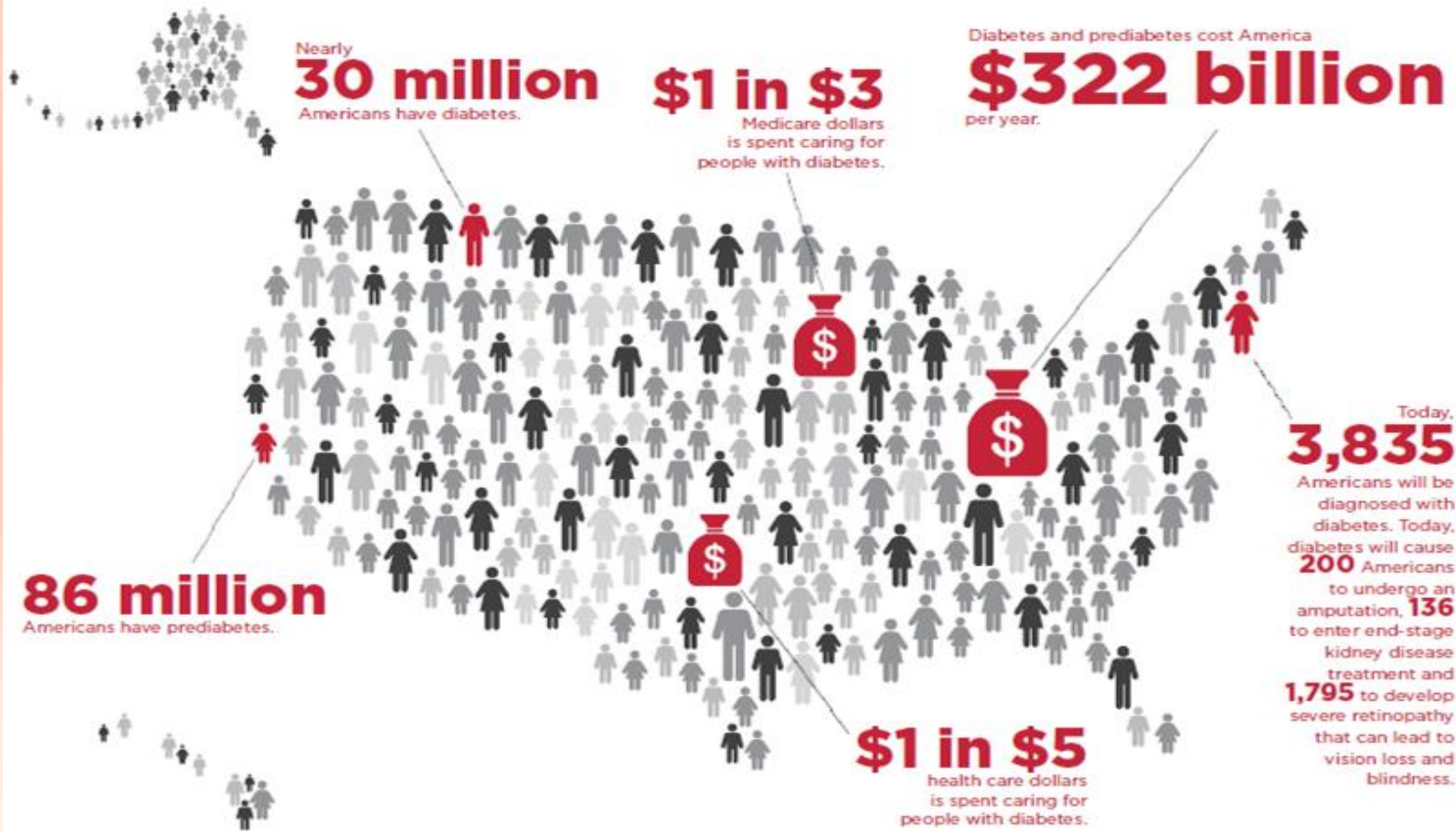
Diabetes Deaths in Alabama by Sex (2011-2014)



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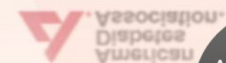
THE STAGGERING COSTS OF DIABETES IN AMERICA



Learn how to fight this costly disease at diabetes.org/congress



Learn how to fight this costly disease at diabetes.org/congress



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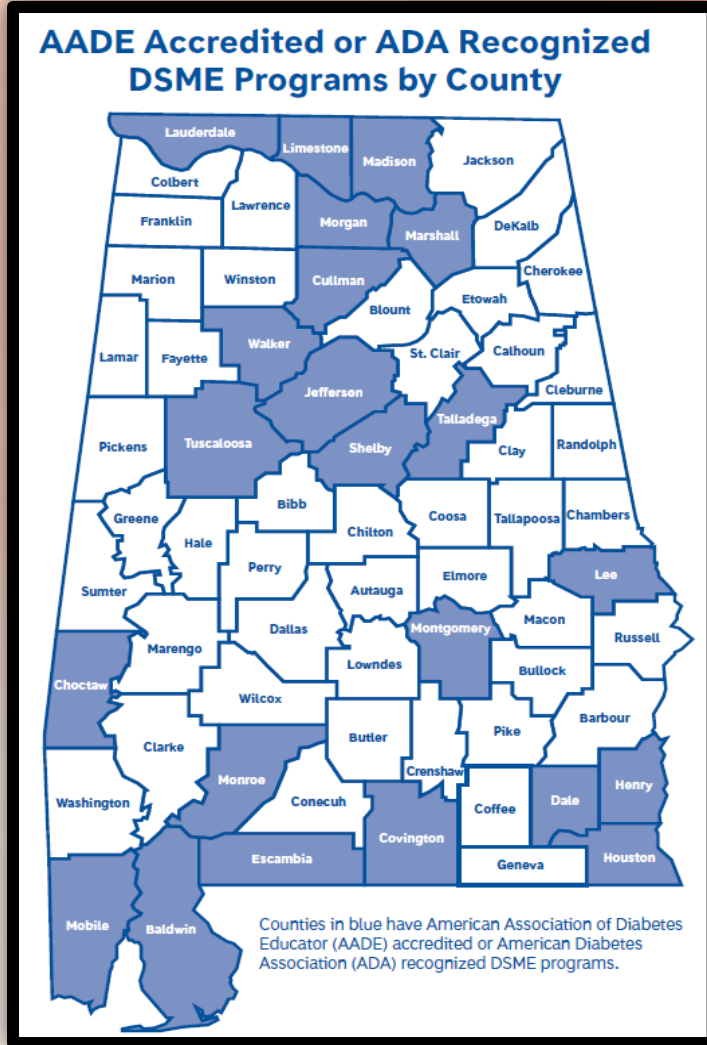
PREVENTION & MANAGEMENT

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A black circular logo with the text "ALABAMA PUBLIC HEALTH" in white, stacked vertically.

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Diabetes Self-Management Education (DSME)



- There are over 40 recognized or accredited programs in Alabama.
- 24 of Alabama's counties have an accredited or recognized DSME program

Diabetes Prevention Program (DPP)



Goal

- to make it easier for people with prediabetes to participate in evidence-based, affordable, and high-quality lifestyle change programs to reduce their risk of type 2 diabetes and improve their overall health.
- 1 year program
 - 7% body weight loss
 - Moderate physical activity of 150 min per week

Recognized DPP Organizations in Alabama

- Family Medical Services Pharmacy-Bessemer, AL
- Pack Health-Birmingham, AL
- Poarch Creek Indian Health Department-Atmore, AL
- Providence Hospital Diabetes Center-Mobile, AL
- The YMCA of Greater Birmingham-Birmingham, AL

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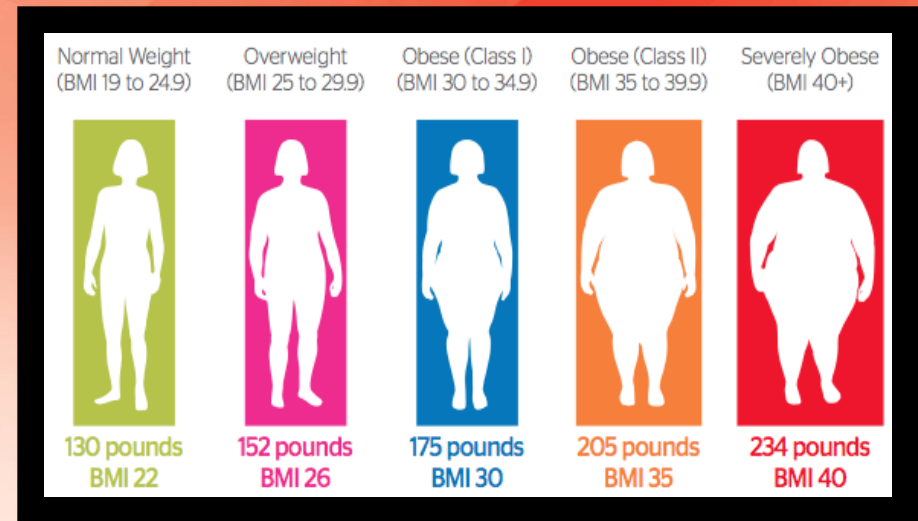


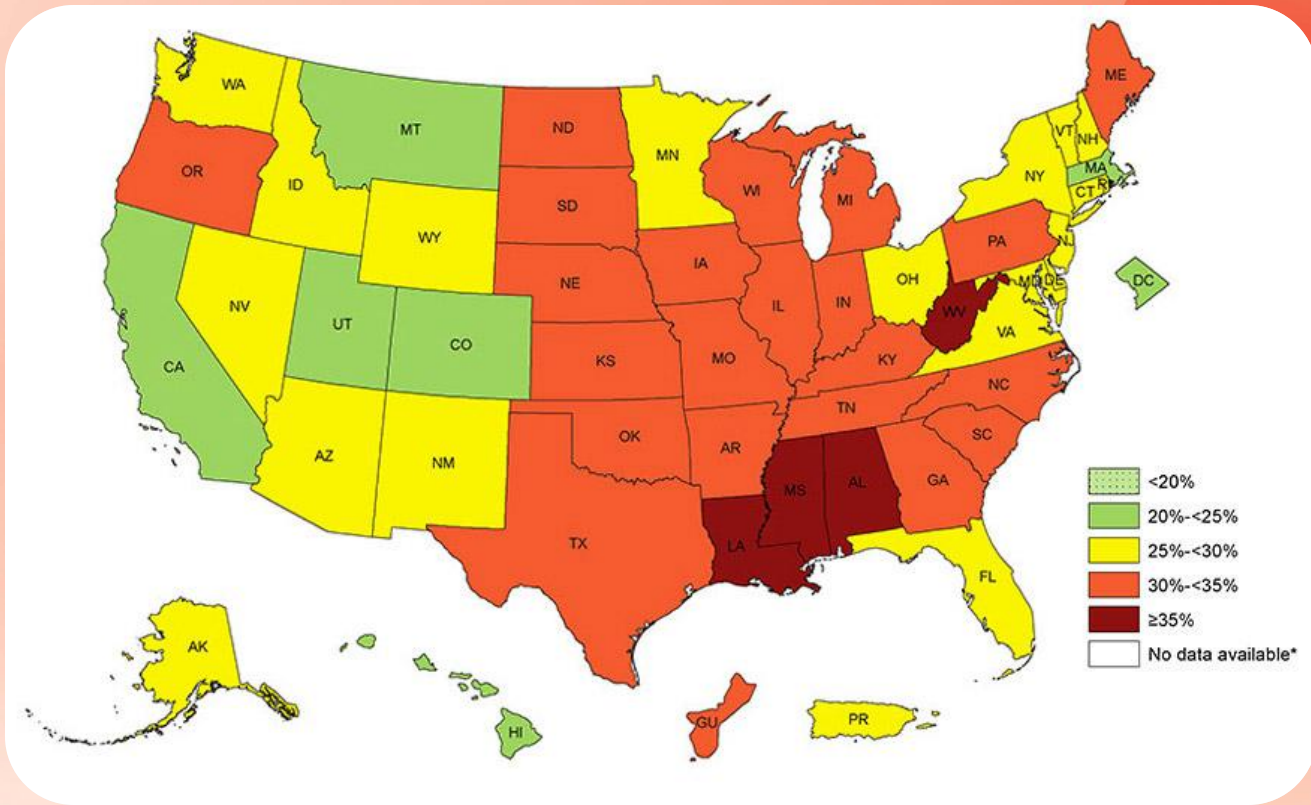
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Obesity

- Defined as excessively high amounts of body fat or adipose tissue as it relates to lean body mass
- Body Mass Index (BMI)
 - Measure expressing the relationship (or ratio) of weight-to-height.
 - Commonly used to classify overweight and obesity in adults



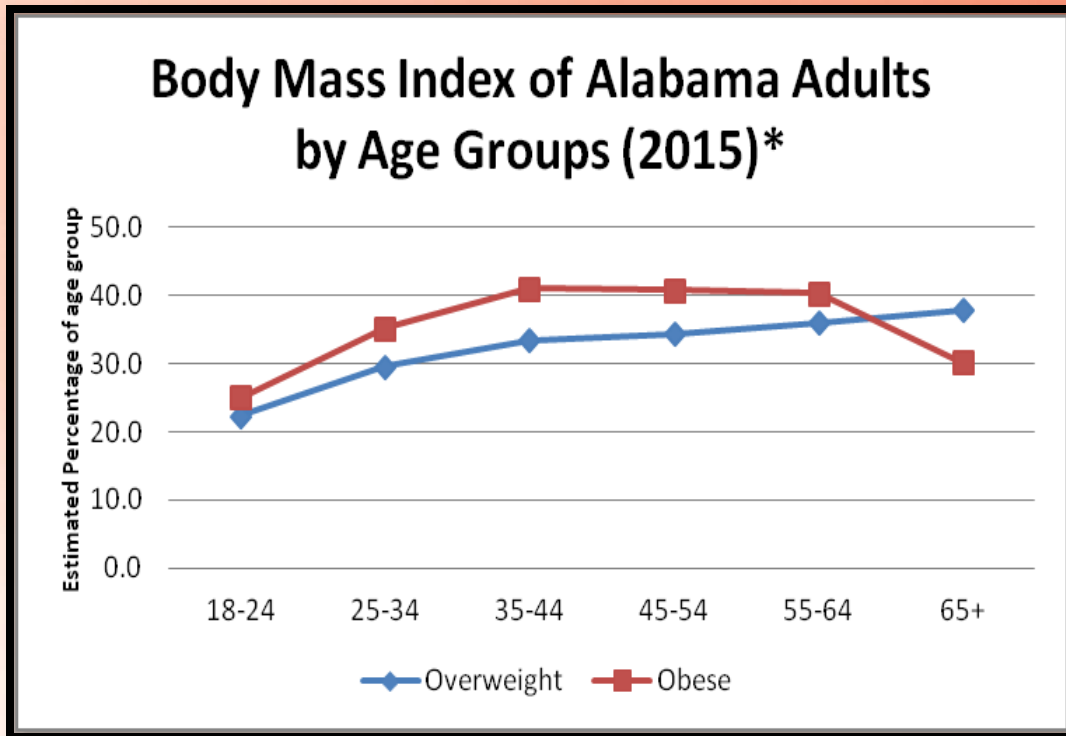


Adult Obesity Prevalence Map

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Alabama Statistics by Demographics



Data Source: ADPH- Alabama BRFSS (2016). BRFSS 2015 Core Questions Data Report Summary
Request- BMI5CAT

Alabama Body Mass Index Estimates for Overweight and Obese		
	Overweight	Obese
Total	33.0% (31.4-34.6)	35.6% (34.0-37.2)
Male	37.8% (35.4-40.2)	34.9% (32.5-37.3)
Female	28.4% (26.6-30.2)	36.4% (34.4-38.4)

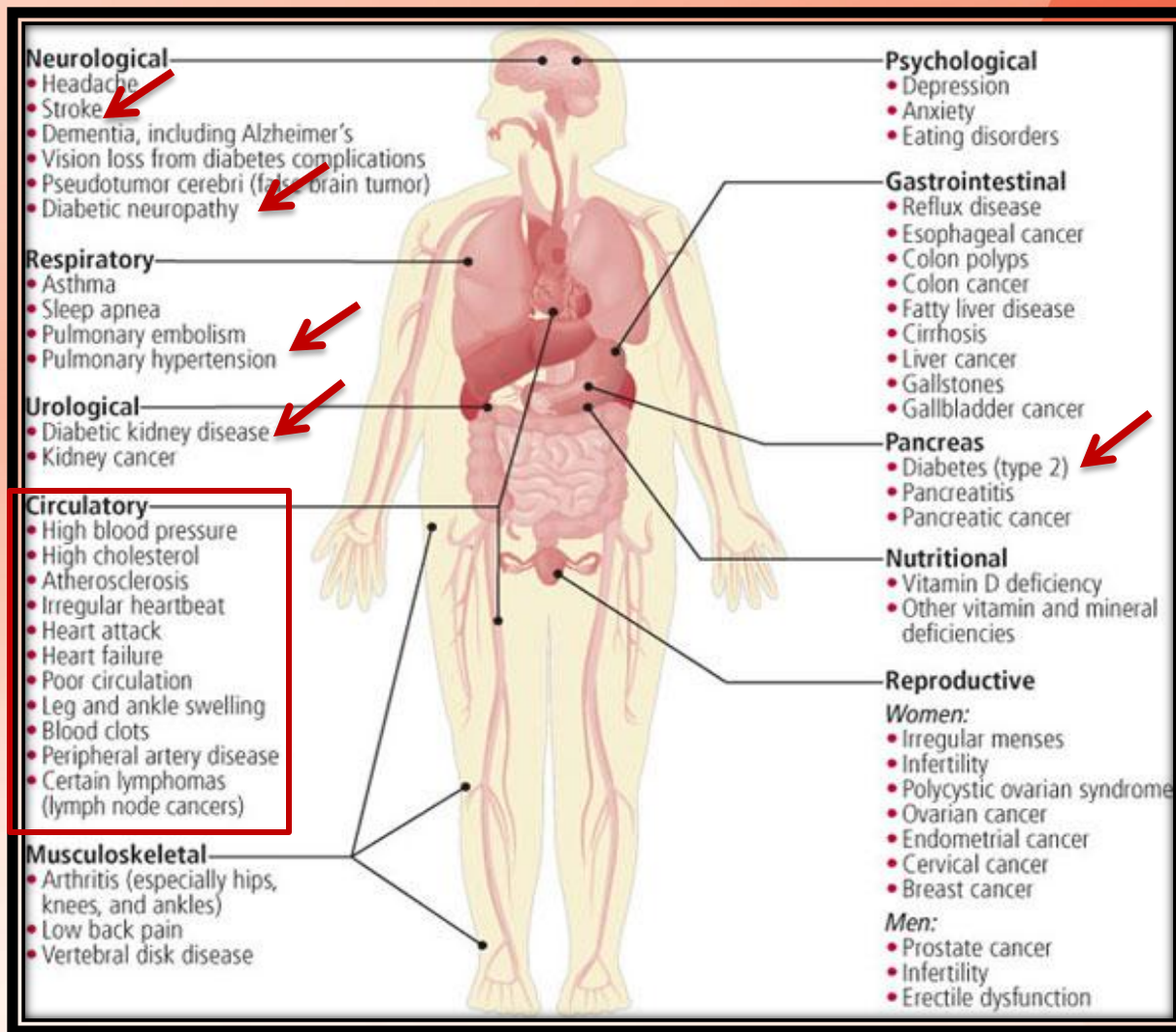


RISK FACTORS



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Medical Complications of Obesity

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Cost

- Economic impact on the U.S health care system
- Medical costs involve
 - Direct cost
 - Preventive, diagnostic, and treatment services
 - Indirect Cost
 - Morbidity and mortality costs
 - Productivity
 - » Absenteeism
 - » Presenteeism
- The estimated annual medical cost of obesity in the U.S. was \$147 billion in 2008.
- Annual productive costs
 - Absenteeism cost \$3.38 - \$6.38 billion



PREVENTION & MANAGEMENT

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Prevention/Management

- Exercise



- Healthy eating



- Focus on portion size



- Reduce screen time



- Keep track of your weight



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