



Calories Count - - - Small Changes Big Results

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Center

Obesity Definition

Obesity is defined by body mass index (BMI)

$$\text{BMI} = \frac{\text{Body weight (Kgs)}}{(\text{Height in Meters})^2}$$

OR
$$\text{Wt (pounds)} \times 704 \div \text{ht (inches)} \div \text{ht (inches)}$$

Body Mass Index (BMI)

- Desirable range: 18.5 to 24.9 BMI
 - Overweight: 25 to 29.9 BMI
 - Obese: 30 to 39.9 BMI
 - Morbidly Obese/Clinically Severe: BMI of 40 or greater or BMI of 35 to 39.9 with two co-morbidities
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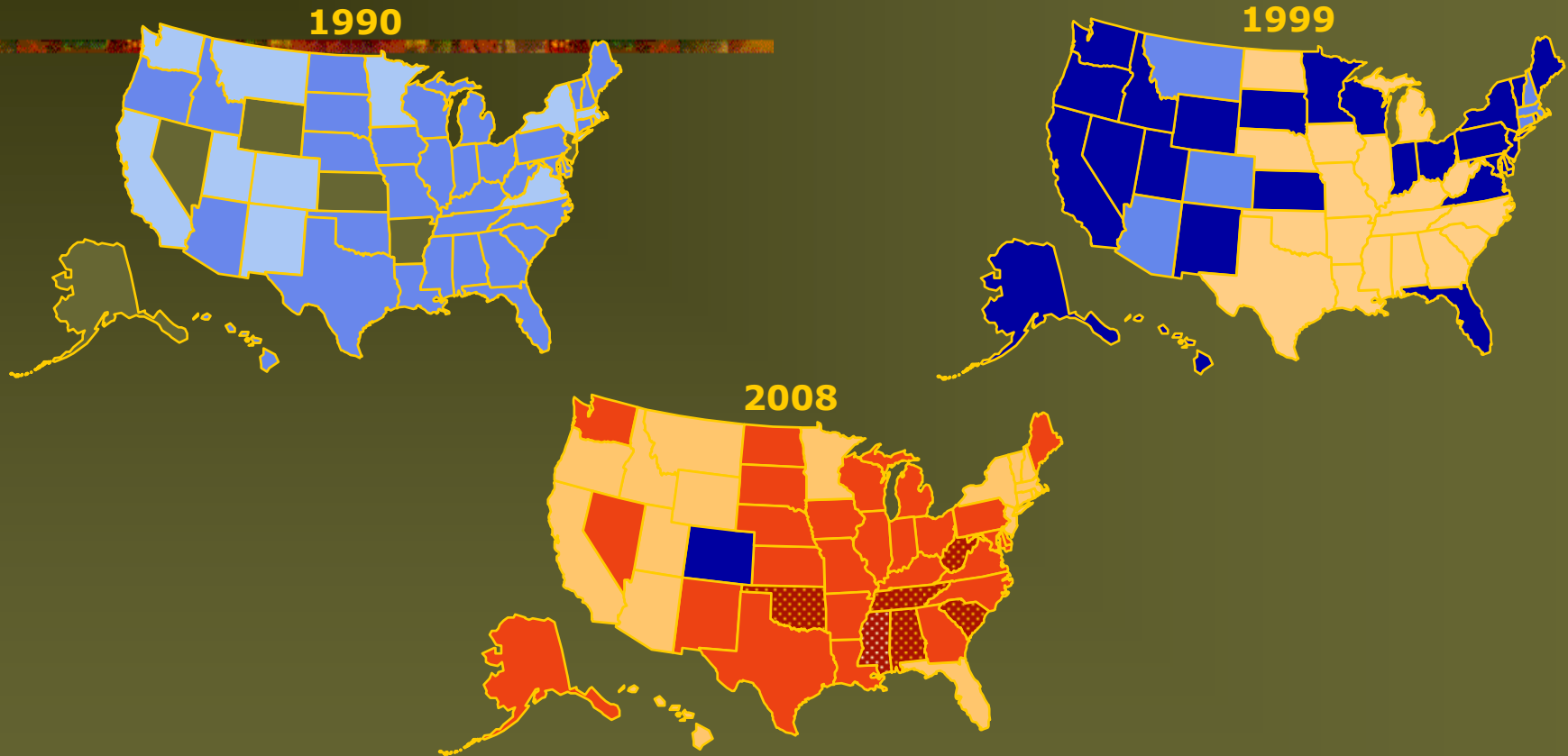
Prevalence of Obesity

- Two-thirds overweight (BMI \geq 25)
130 million (64.5 %)
 - Nearly one-third obese (BMI \geq 30)
61 million (30.5 %)
 - Morbidly obese (BMI $>$ 40, 100 lbs $>$ ideal body weight)
6 million (2.8%)
-

Obesity Trends* Among U.S. Adults

BRFSS, 1990, 1999, 2008

(*BMI ≥ 30 , or about 30 lbs. overweight for 5'4" person)

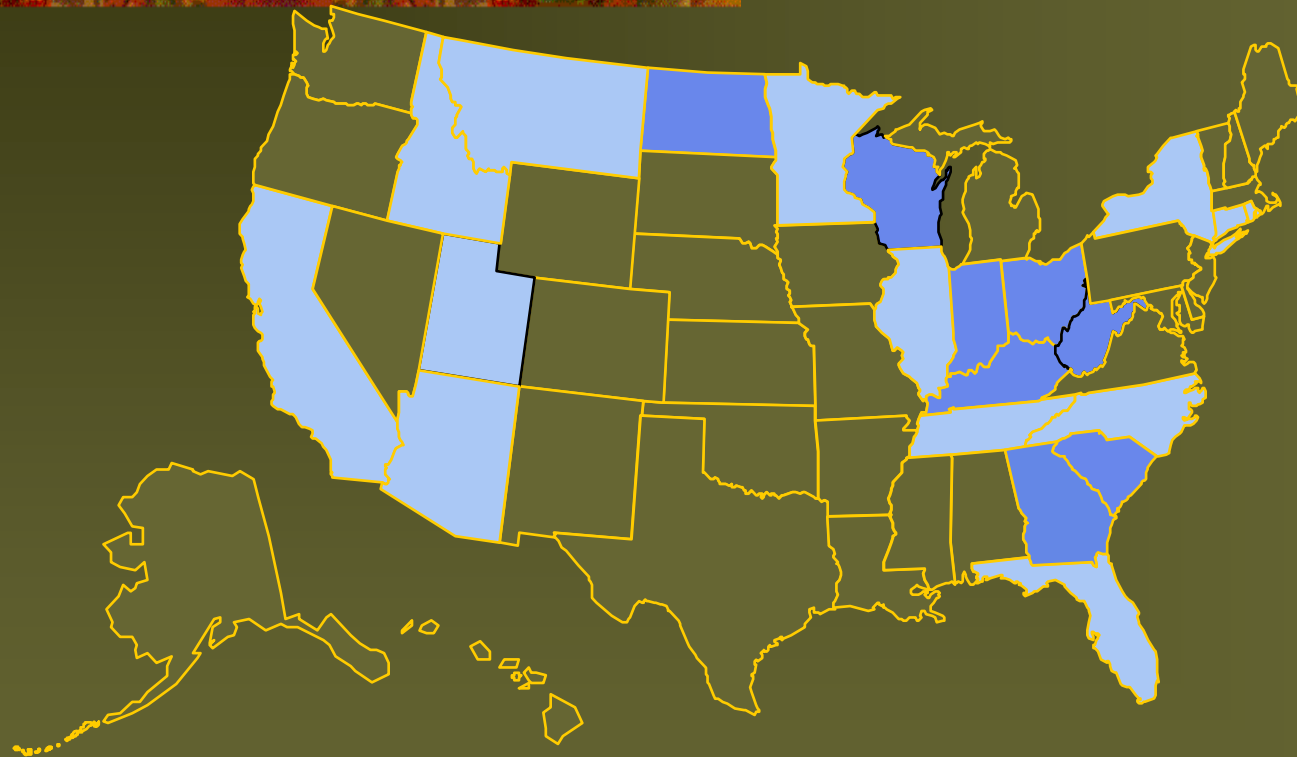


Legend: No Data, <10%, 10%–14%, 15%–19%, 20%–24%, 25%–29%, $\geq 30\%$

Obesity Trends* Among U.S. Adults

BRFSS, 1985

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

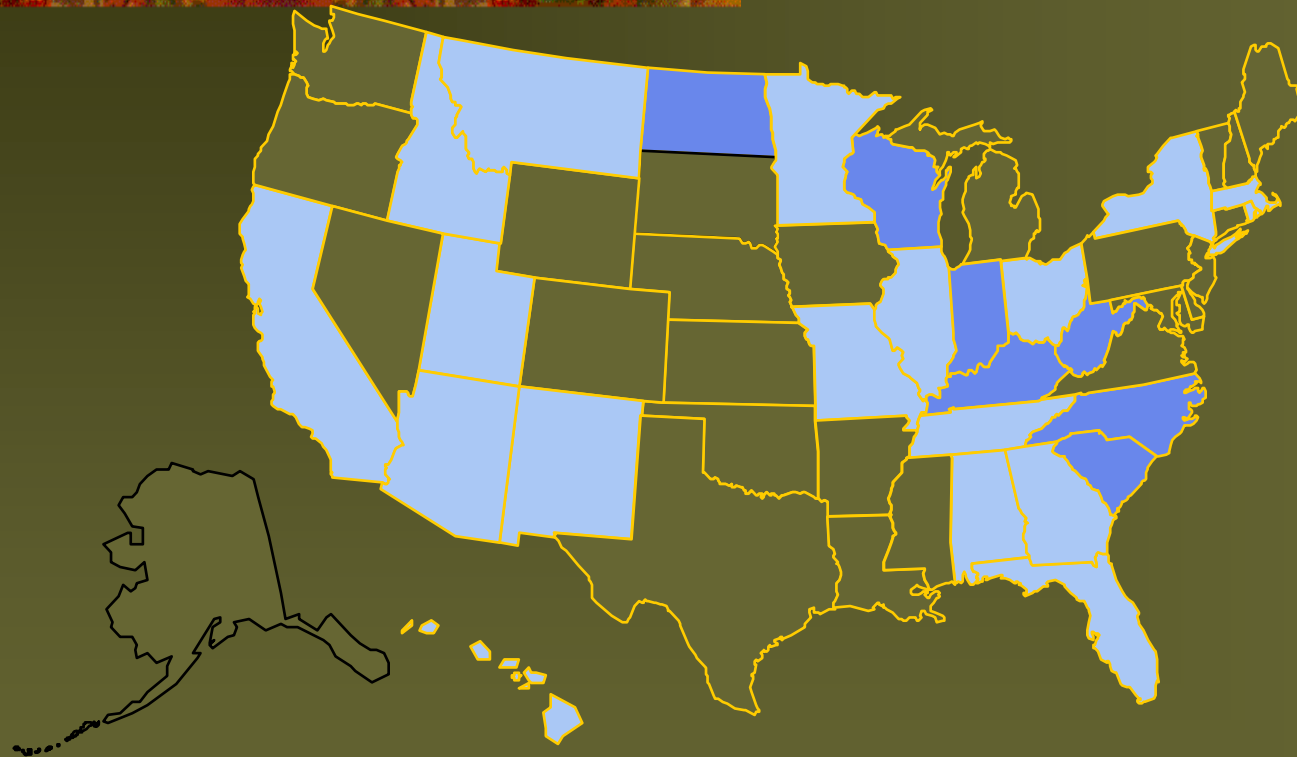


Legend:
No Data <10% 10%–14%

Obesity Trends* Among U.S. Adults

BRFSS, 1986

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

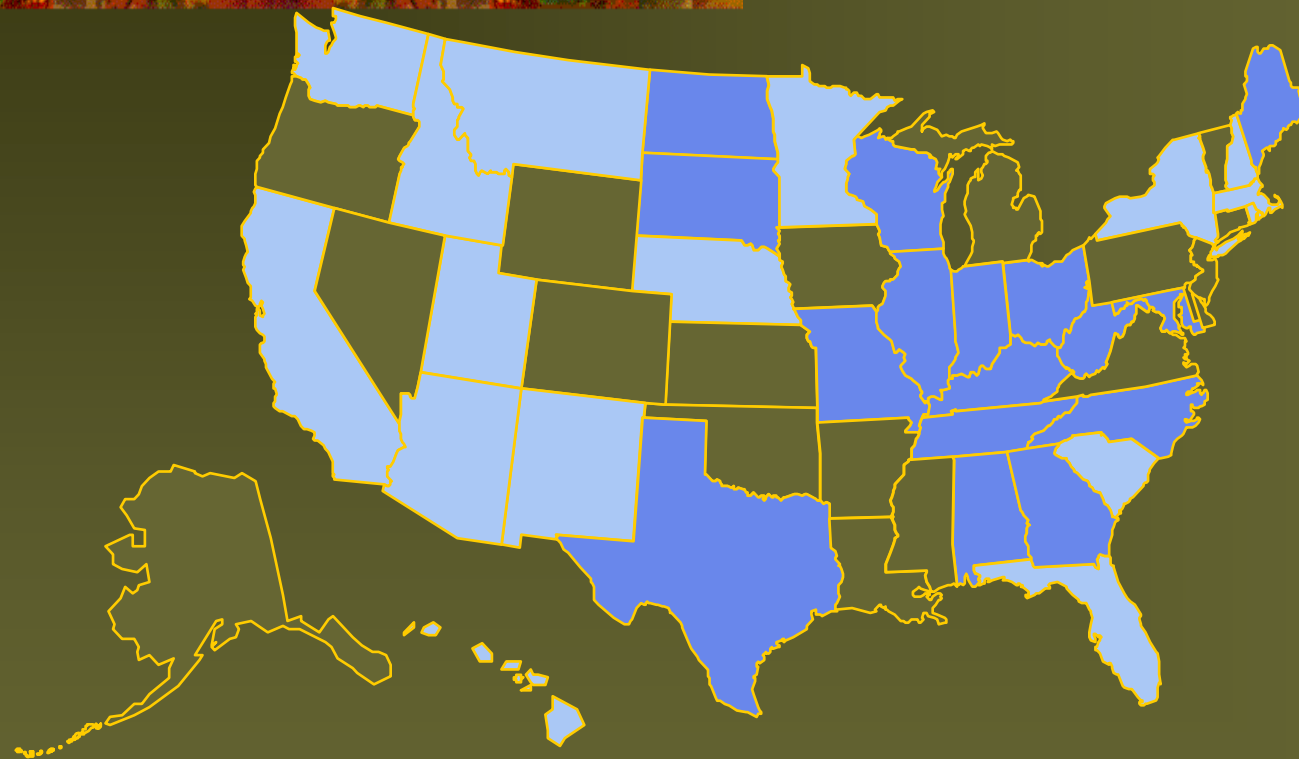


No Data <10% 10%-14%

Obesity Trends* Among U.S. Adults

BRFSS, 1987

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

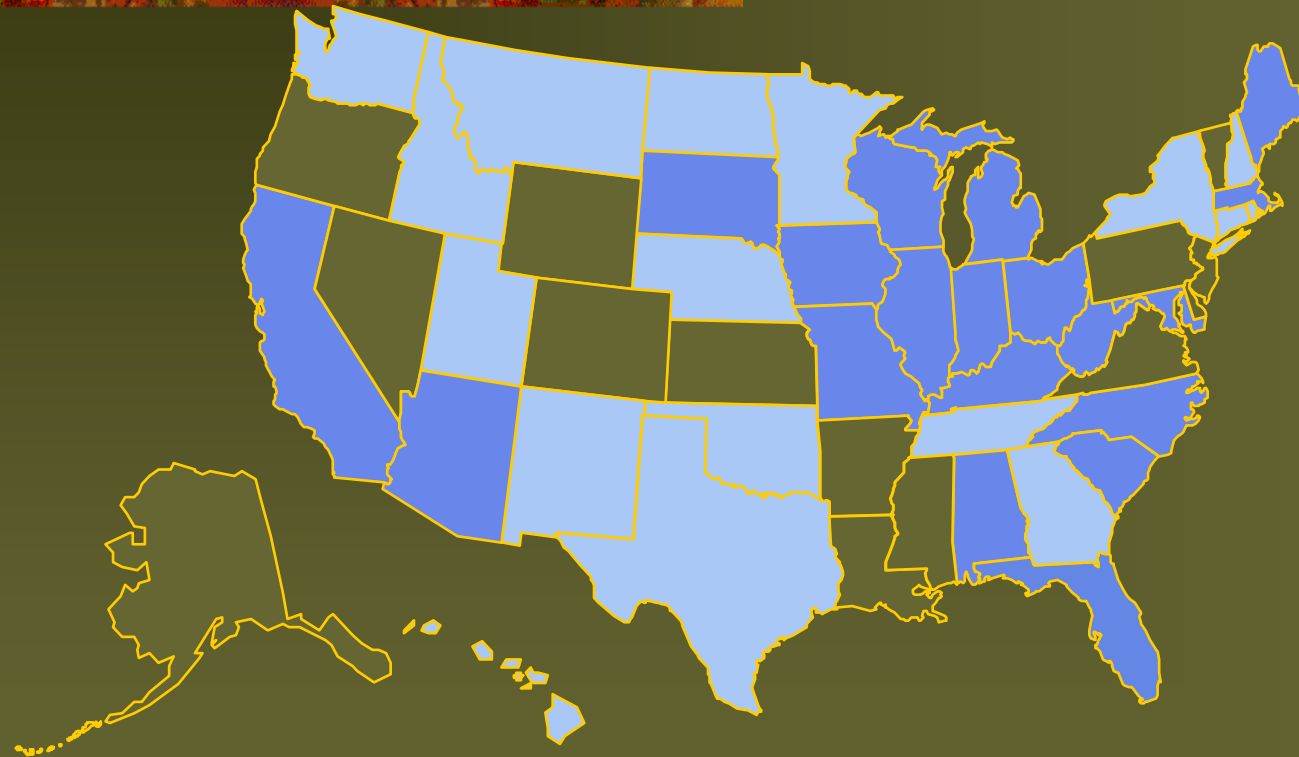


□ No Data □ <10% □ 10%–14%

Obesity Trends* Among U.S. Adults

BRFSS, 1988

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

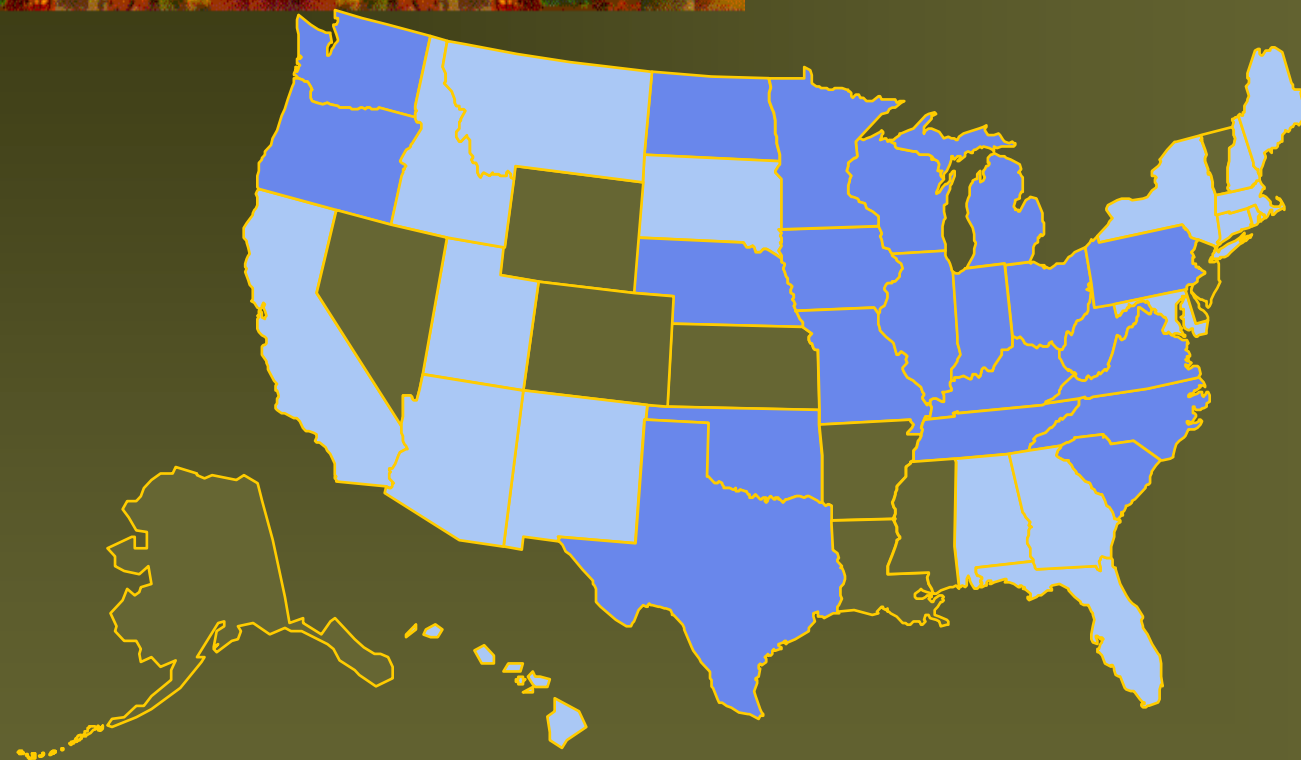


Legend: No Data, <10%, 10%-14%

Obesity Trends* Among U.S. Adults

BRFSS, 1989

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

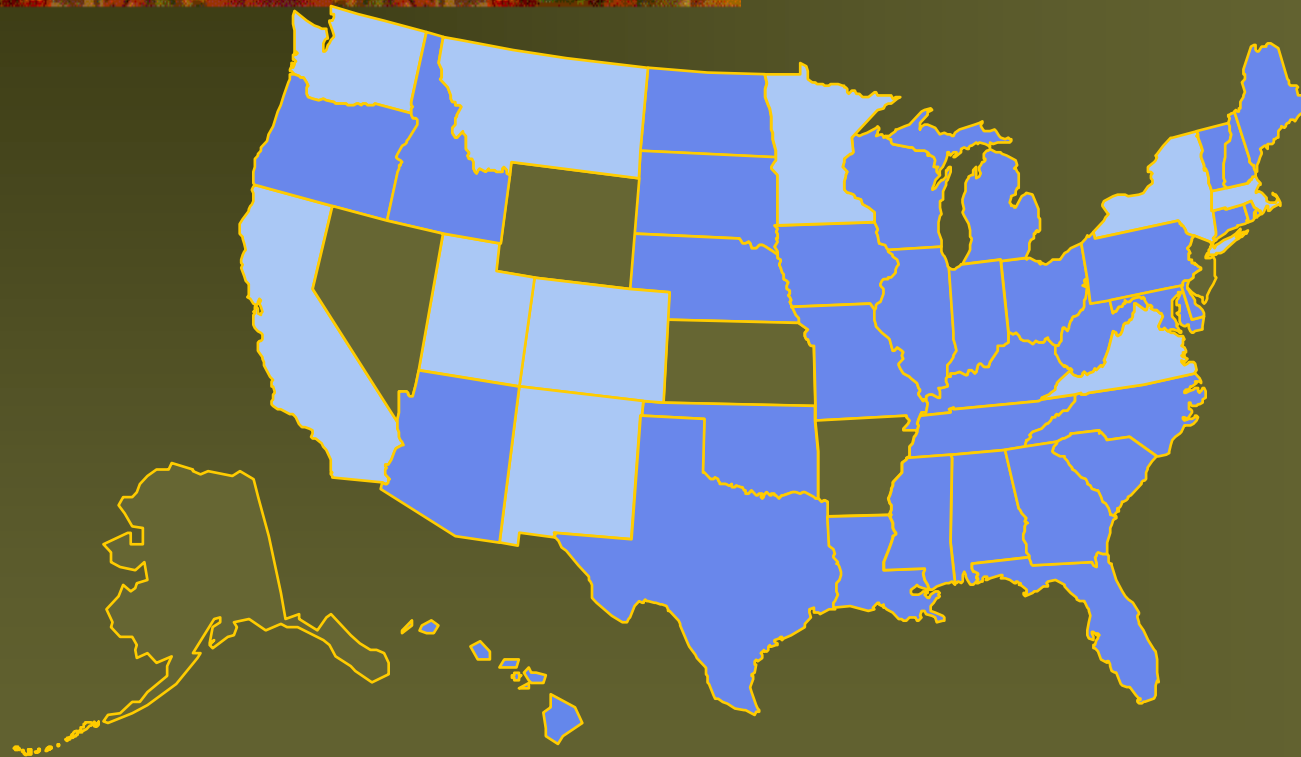


No Data <10% 10%–14%

Obesity Trends* Among U.S. Adults

BRFSS, 1990

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

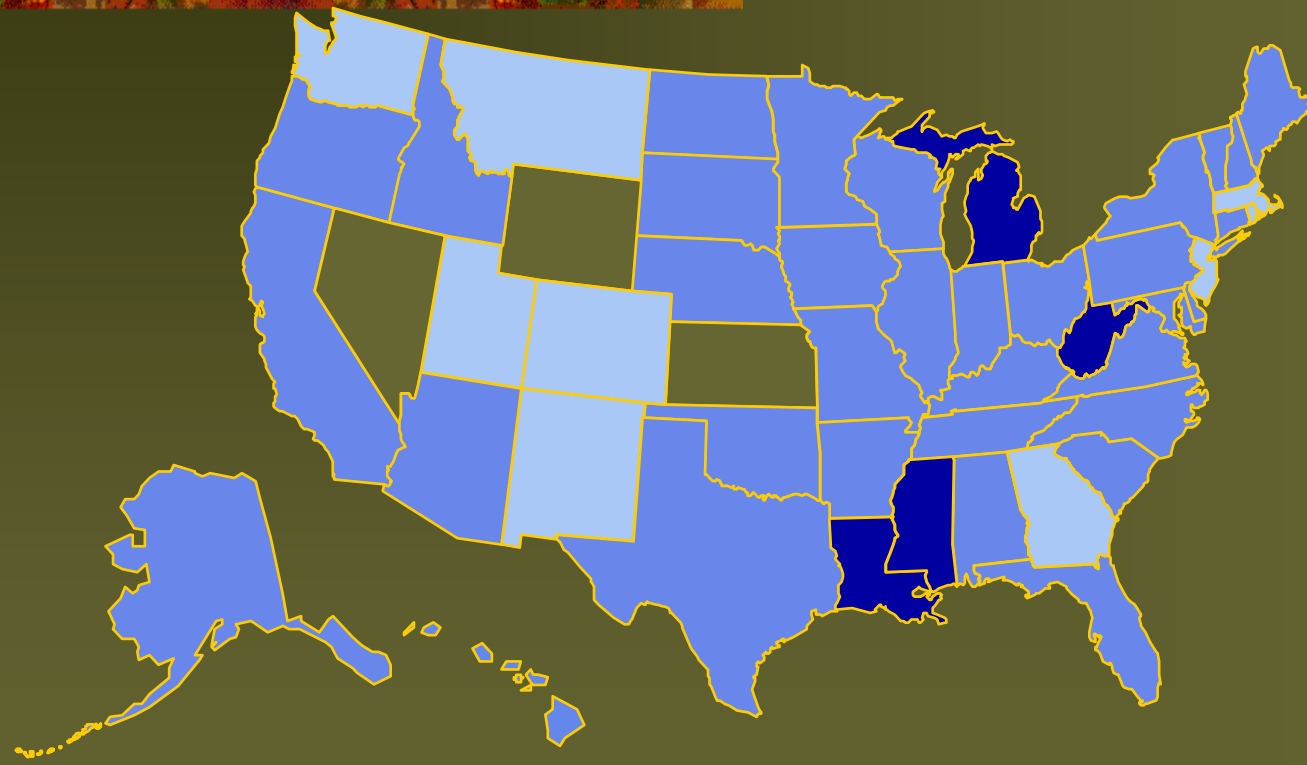


No Data <10% 10%–14%

Obesity Trends* Among U.S. Adults

BRFSS, 1991

(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)

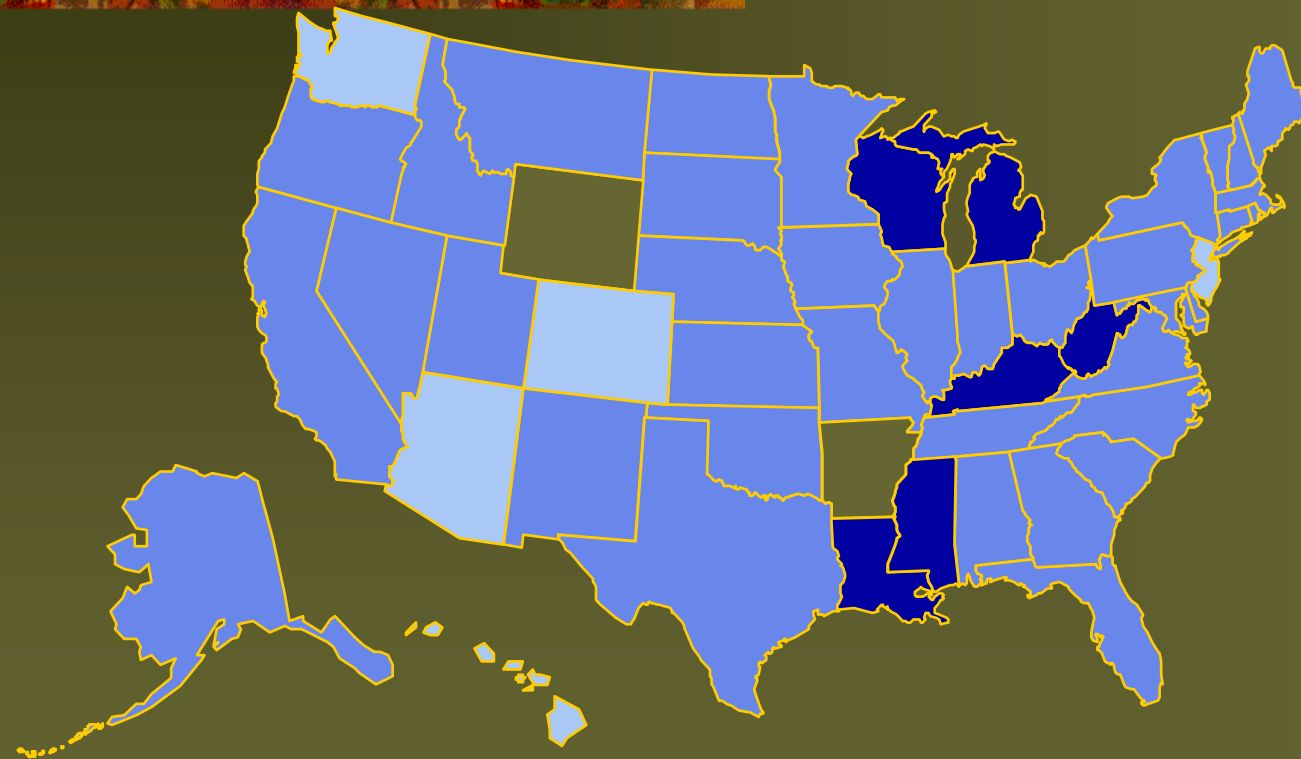


No Data <10% 10%-14% 15%-19%

Obesity Trends* Among U.S. Adults

BRFSS, 1992

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

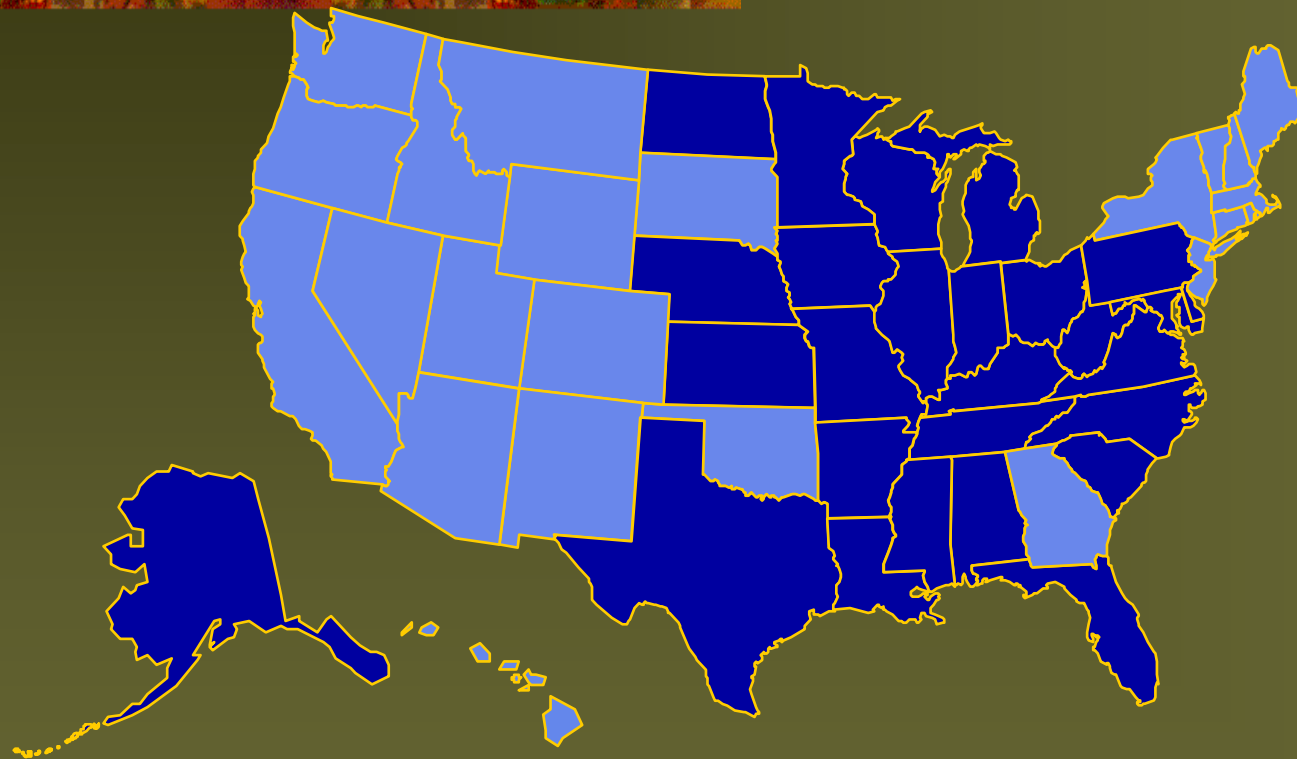


No Data <10% 10%-14% 15%-19%

Obesity Trends* Among U.S. Adults

BRFSS, 1995

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

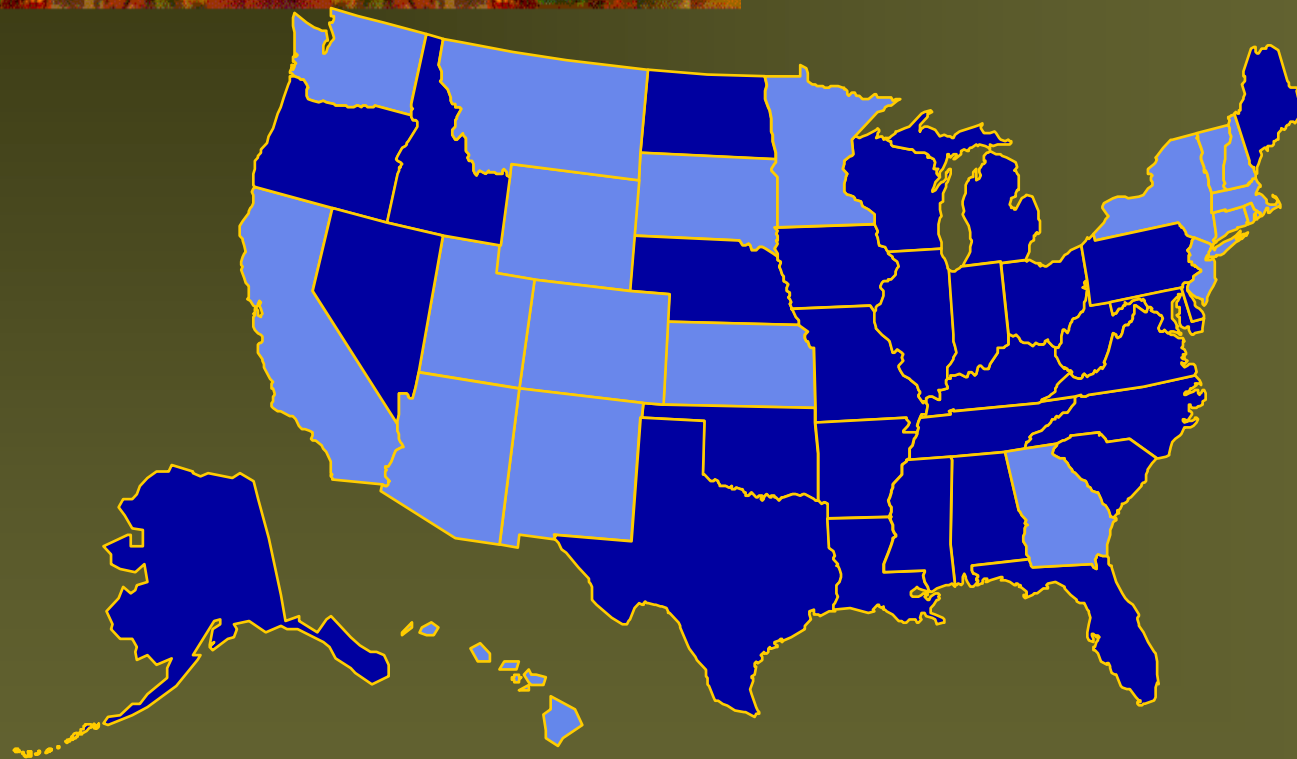


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Obesity Trends* Among U.S. Adults

BRFSS, 1996

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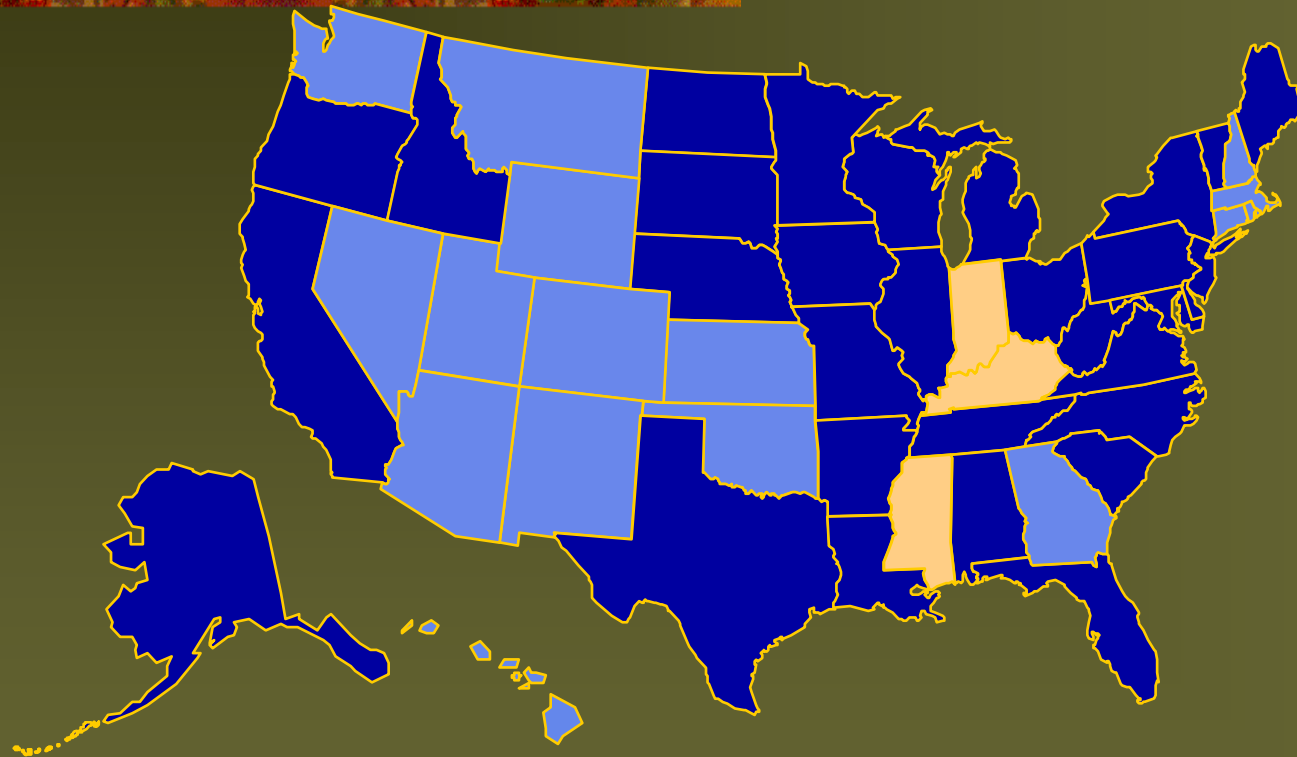


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Obesity Trends* Among U.S. Adults

BRFSS, 1997

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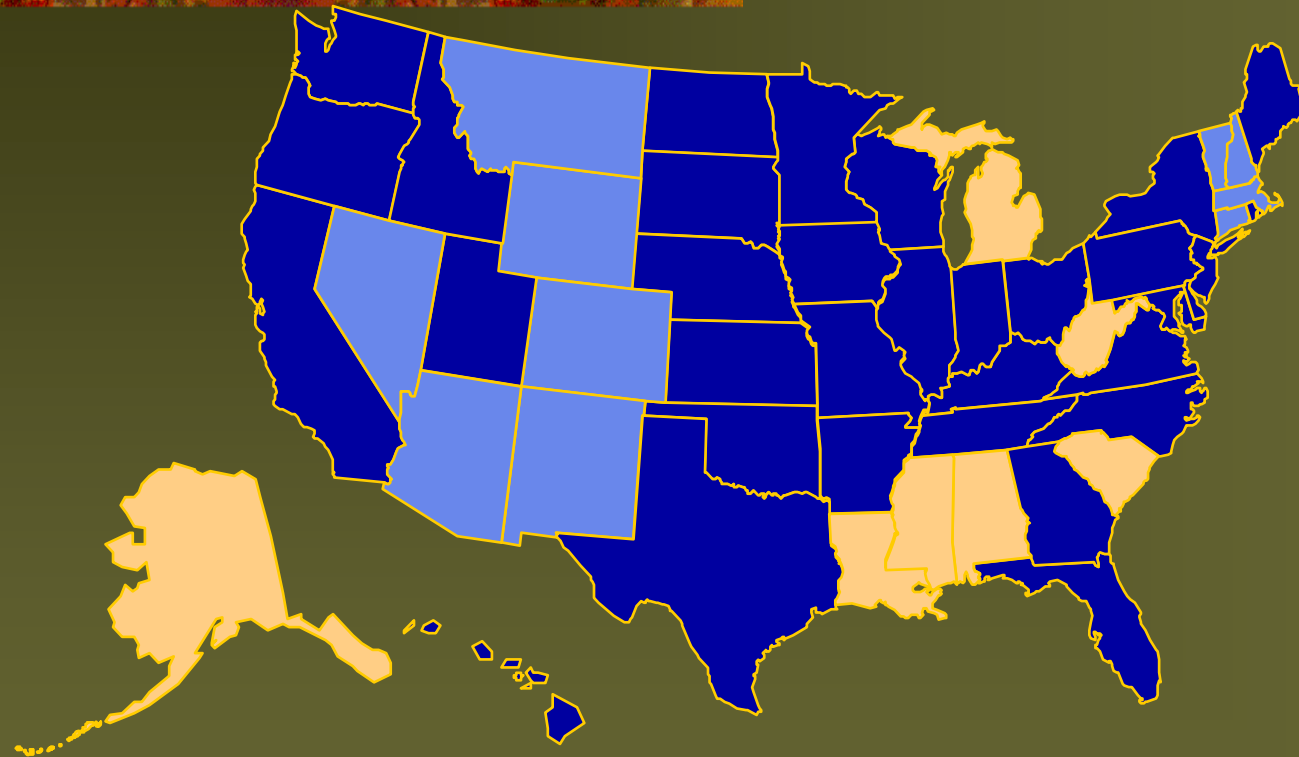


Legend: No Data, <10%, 10%-14%, 15%-19%, $\geq 20\%$

Obesity Trends* Among U.S. Adults

BRFSS, 1998

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

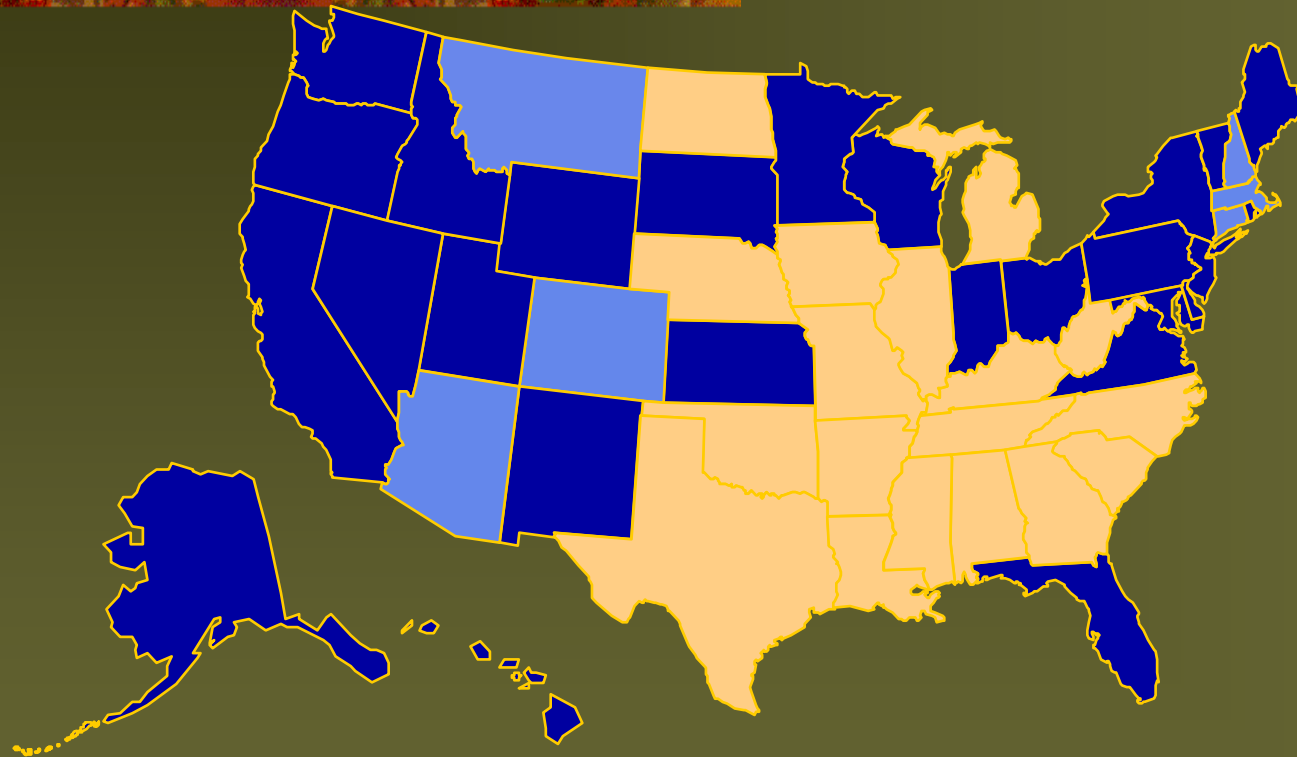


Legend: No Data, <10%, 10%-14%, 15%-19%, $\geq 20\%$

Obesity Trends* Among U.S. Adults

BRFSS, 1999

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

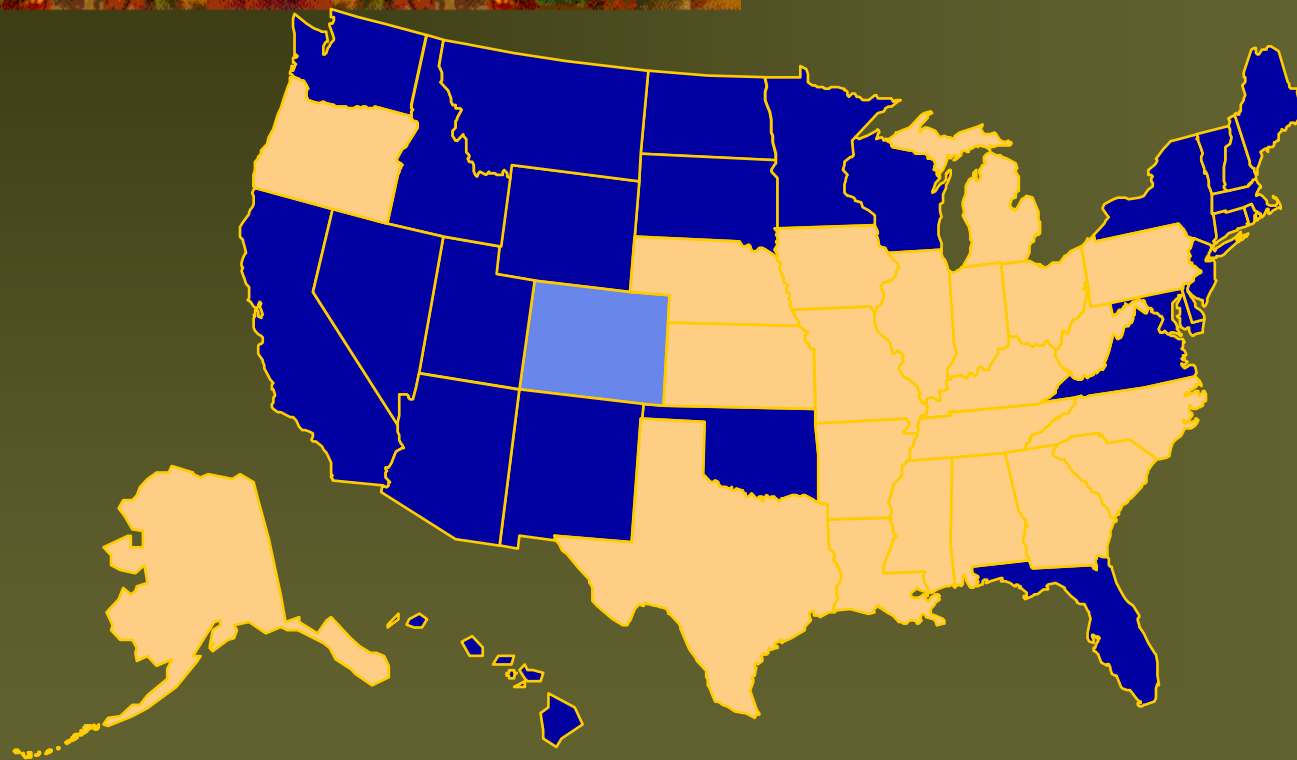


Legend: No Data, <10%, 10%-14%, 15%-19%, $\geq 20\%$

Obesity Trends* Among U.S. Adults

BRFSS, 2000

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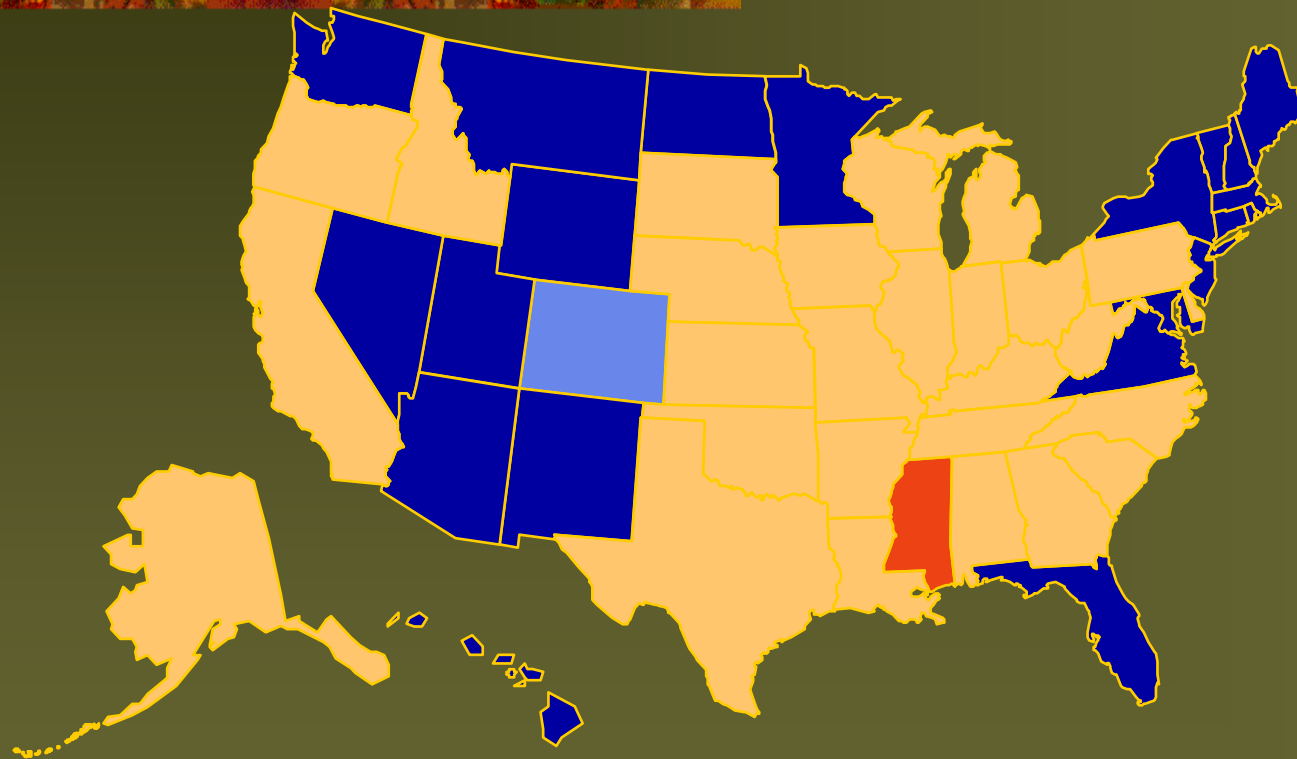


No Data <10% 10%-14% 15%-19% $\geq 20\%$

Obesity Trends* Among U.S. Adults

BRFSS, 2001

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

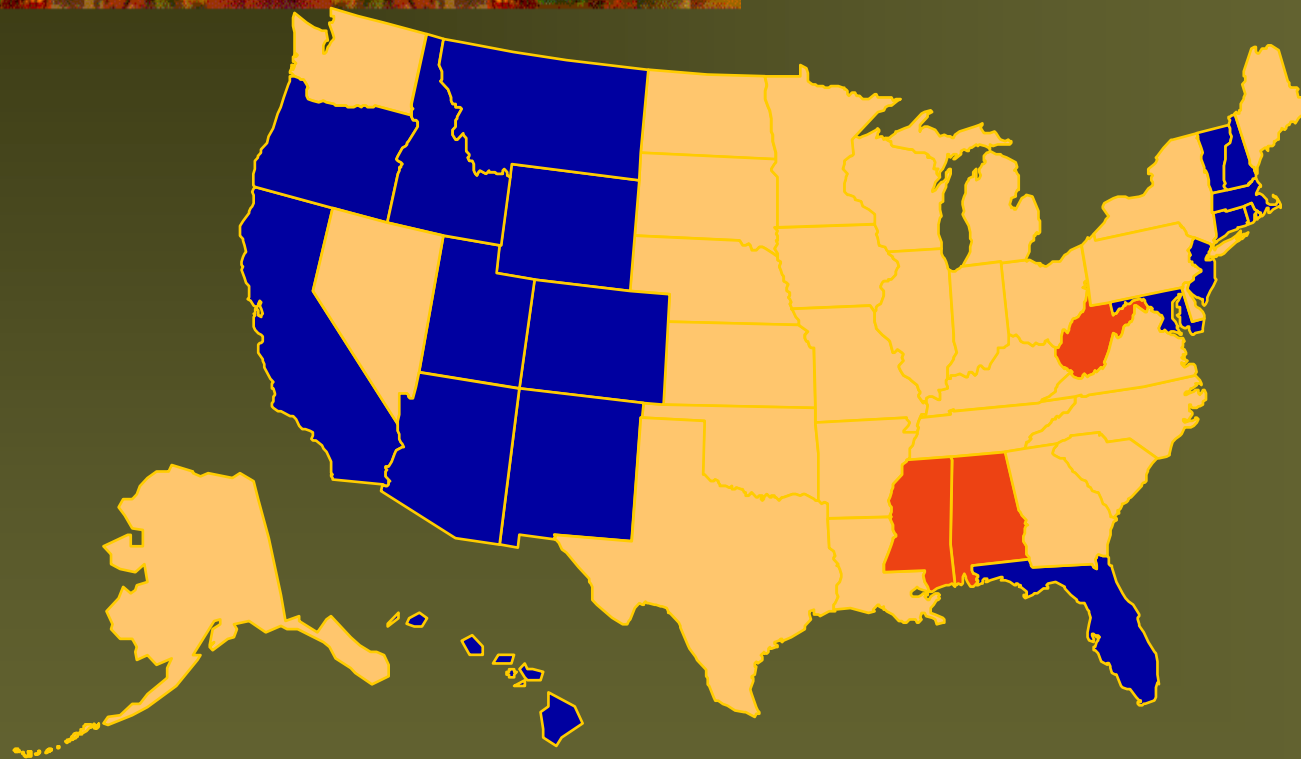


Legend: No Data, <10%, 10%–14%, 15%–19%, 20%–24%, $\geq 25\%$

Obesity Trends* Among U.S. Adults

BRFSS, 2002

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

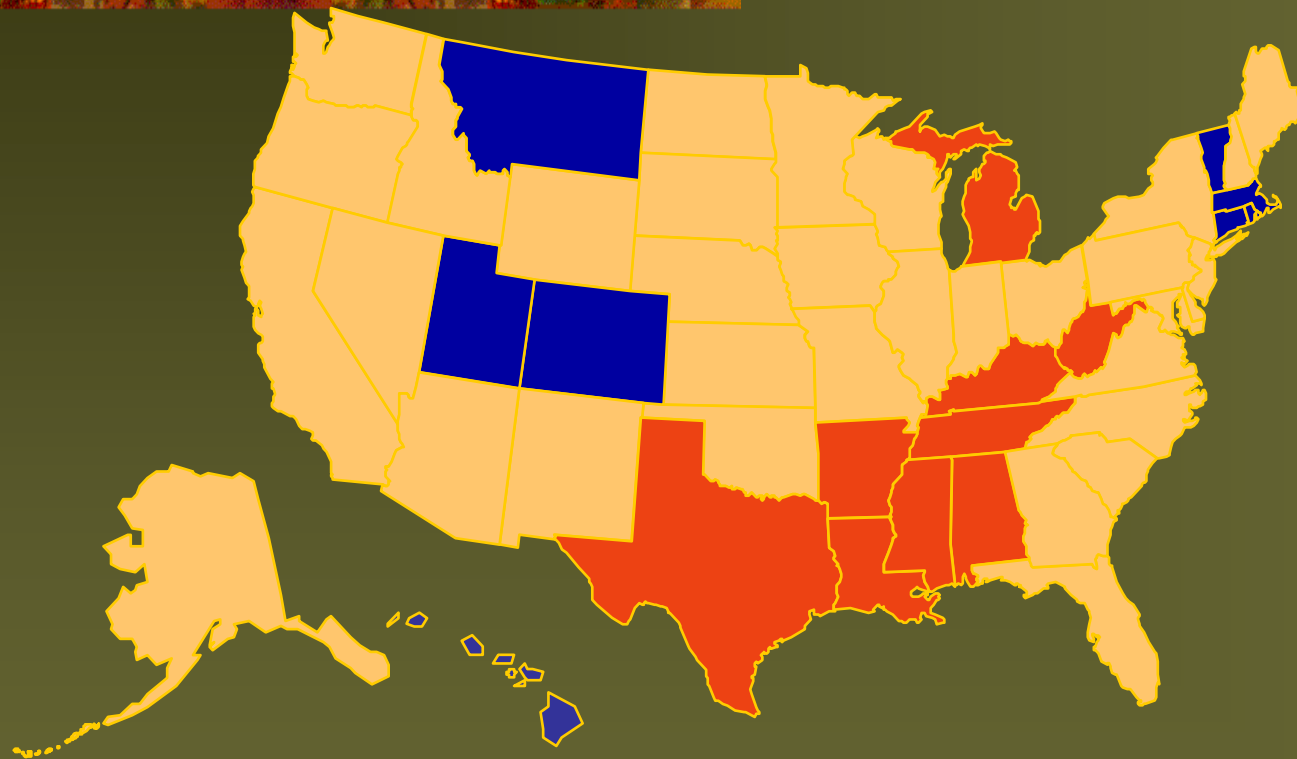


Legend: No Data, <10%, 10%–14%, 15%–19%, 20%–24%, $\geq 25\%$

Obesity Trends* Among U.S. Adults

BRFSS, 2004

(*BMI ≥ 30 , or ~ 30 lbs overweight for 5' 4" person)

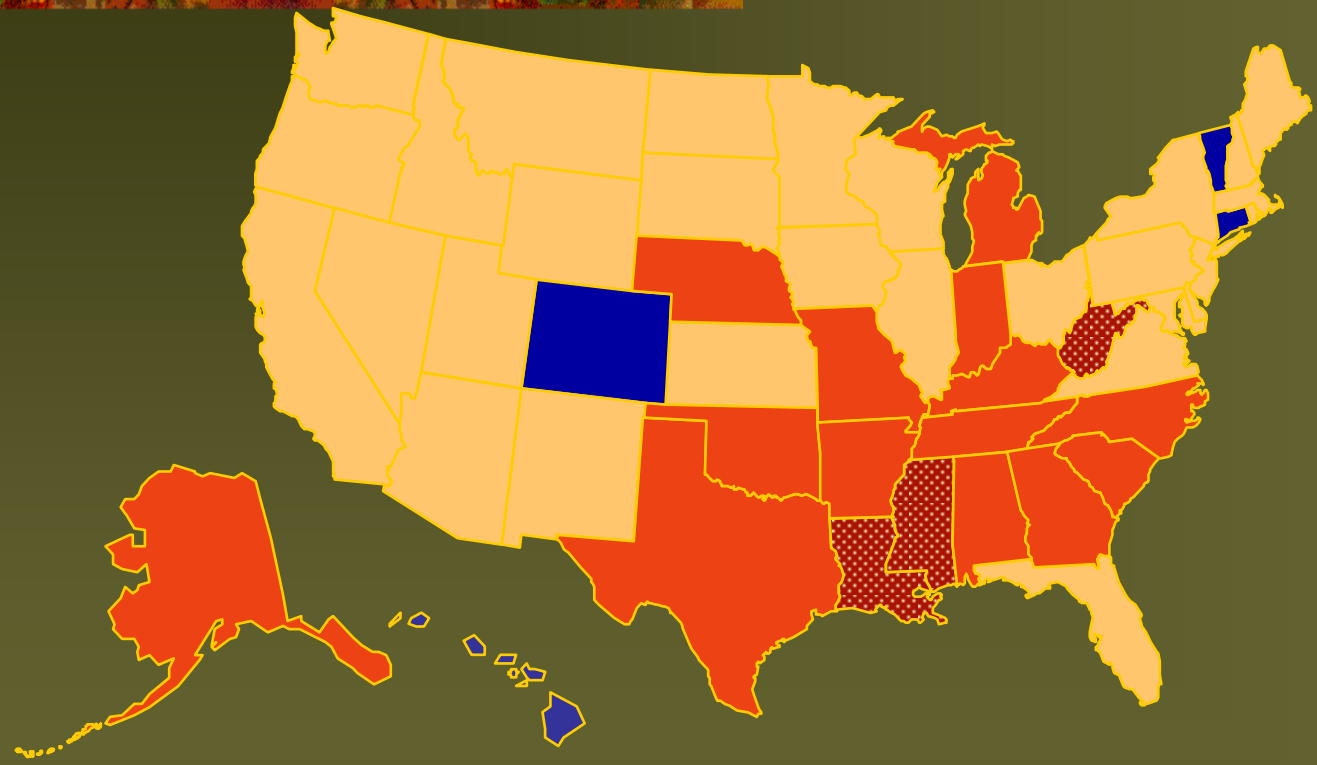


Legend: No Data, <10%, 10%–14%, 15%–19%, 20%–24%, $\geq 25\%$

Obesity Trends* Among U.S. Adults

BRFSS, 2005

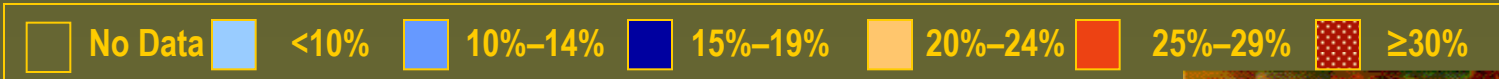
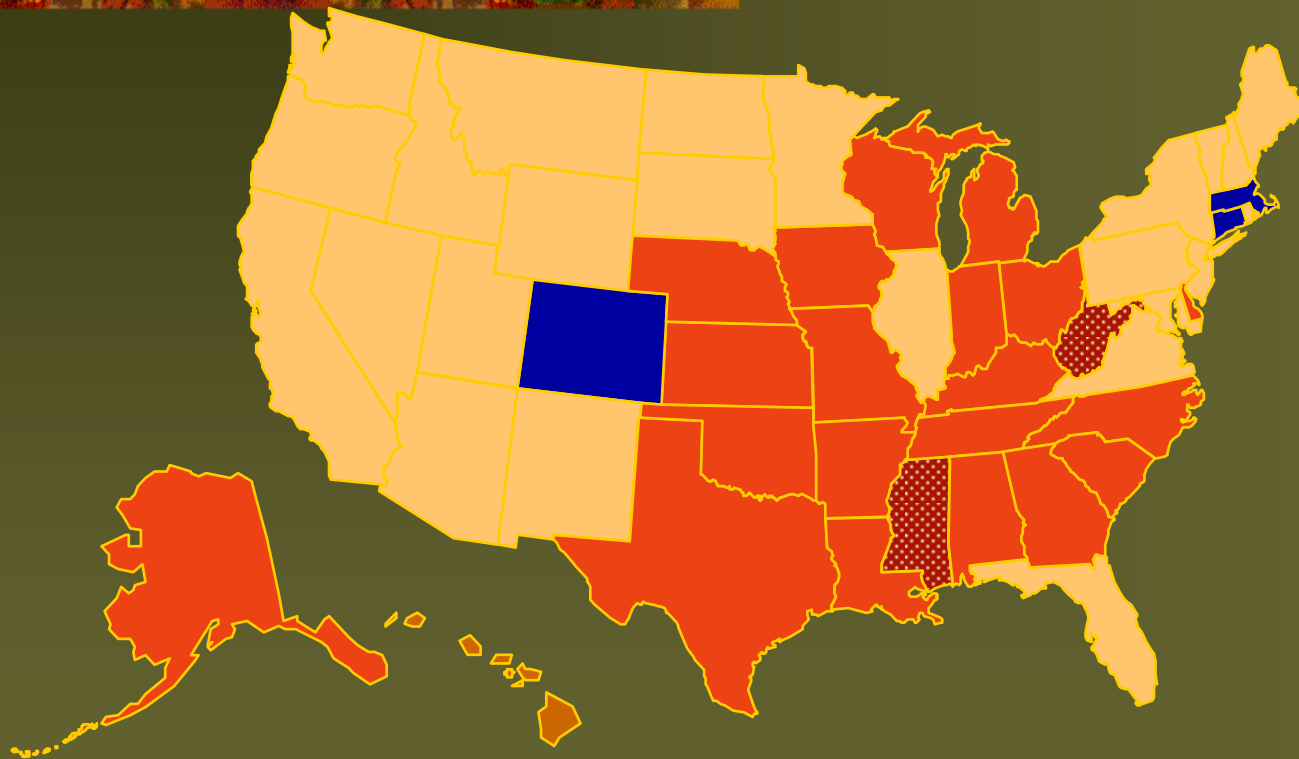
(*BMI ≥30, or ~ 30 lbs overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2006

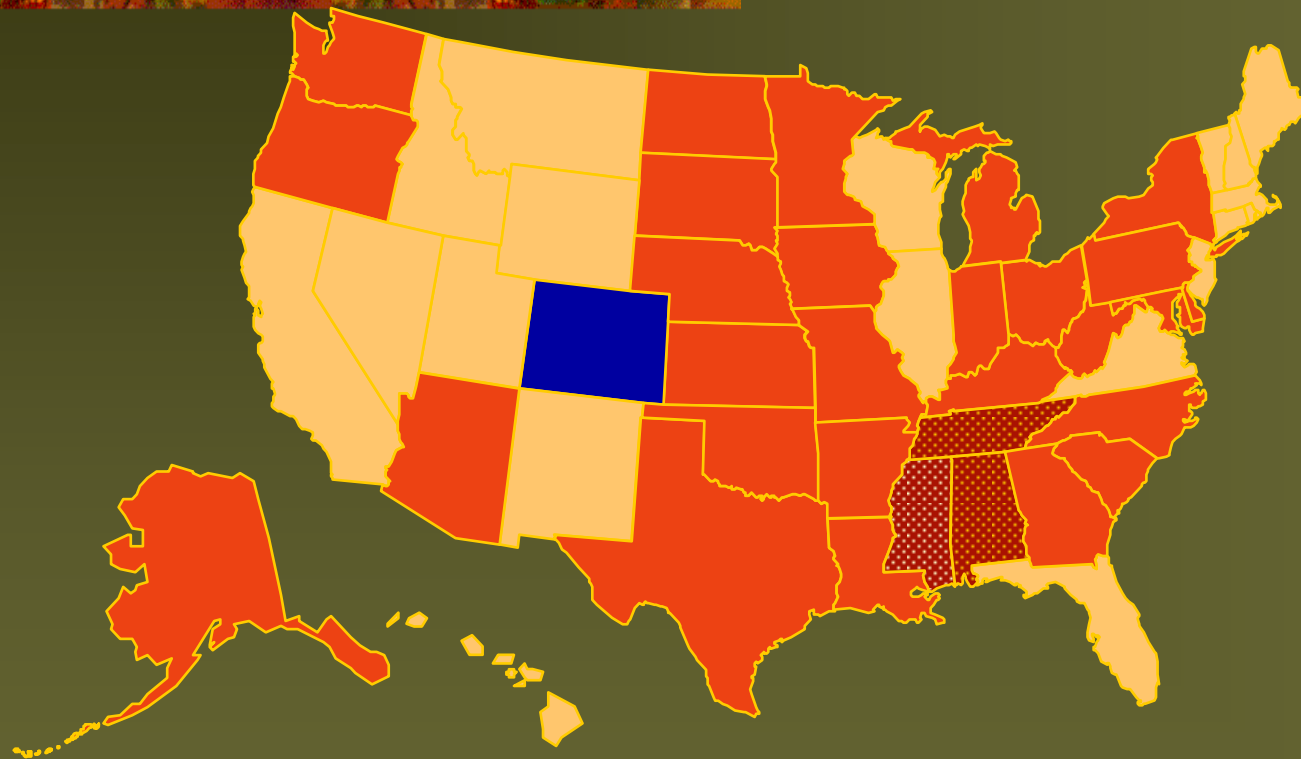
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2007

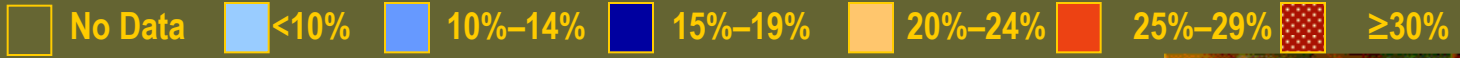
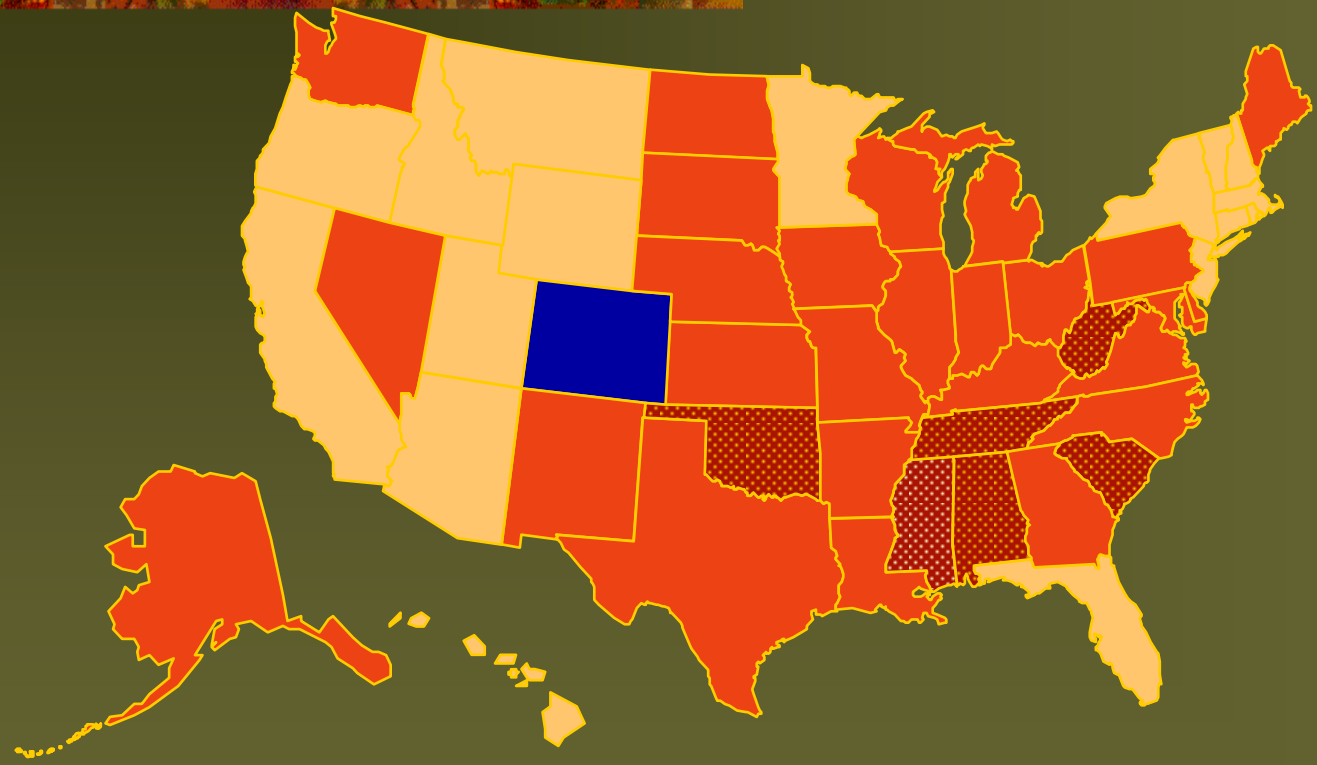
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2008

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



What has happened since 1960

- Women ages 20 to 29 weighed about 128 pounds - - - by 2000 they averaged 157 pounds
 - Women ages 40 to 49 went from 140 pounds in 1960 to 169 pounds in 2000
 - One out six children are obese
-

Classification of Overweight and Obesity

NHLBI Expert Panel

	BMI kg/m ²	Obesity Class	Disease Risk (Relative to Normal Weight and Waist Circumference)	
			Men ≤ 40 in (≤ 102 cm) Women ≤ 35 in (≤ 88 cm)	Men >40 in (> 102 cm) Women >35 in (>88 cm)
Underweight	<18.5	-	-	-
Normal	18.5 - 24.9	-	-	-
Overweight	25.0 - 29.9	-	Increased	High
Obesity	30.0 - 34.9	I	High	Very High
	35.0 - 39.9	II	Very High	Very High
Extreme Obesity	≥40	III	Extremely High	Extremely High

Waist to Hip Ratio

- Recent research demonstrated that waist to hip ratio is independent risk factor for cardiac disease
 - Recommended waist to hip ratio
 - Men: 1.0 or less
 - Women: 0.8 or less
-

Fat Percentage

- Fat is not an inactive tissue
 - Promotes inflammation
 - Study of women at recommended BMI with 30% or greater body fat still at risk for cardiac disease and diabetes because of elevated C-reactive protein levels
 - Resistant training is a must for all
-

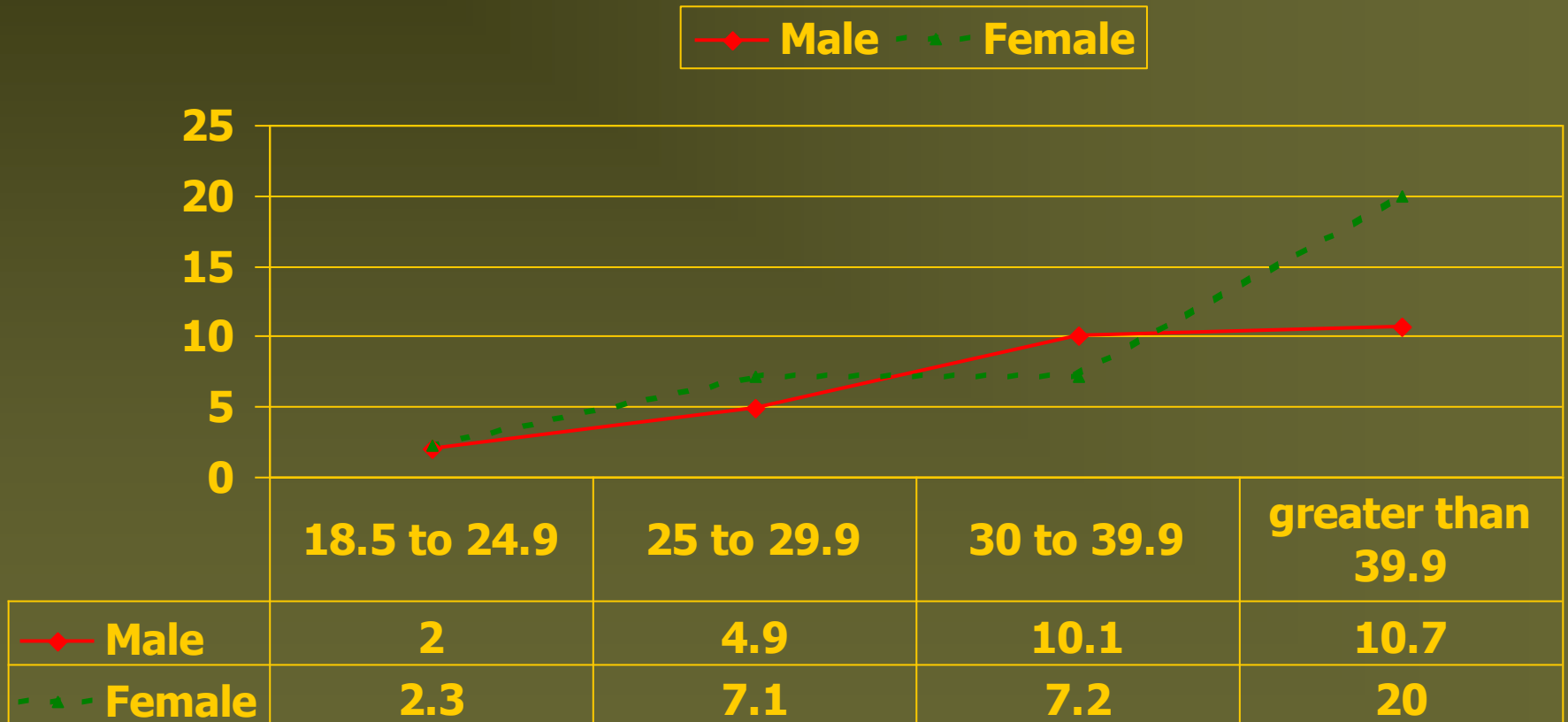
Obesity and Disease

- Increased risk for
 - High blood pressure (75% r/t wgt)
 - Osteoarthritis
 - High cholesterol
 - Type II diabetes (90% r/t wgt)
 - Coronary artery disease
 - Stroke
 - Gallbladder disease
 - Sleep Apnea
 - Some cancers
-

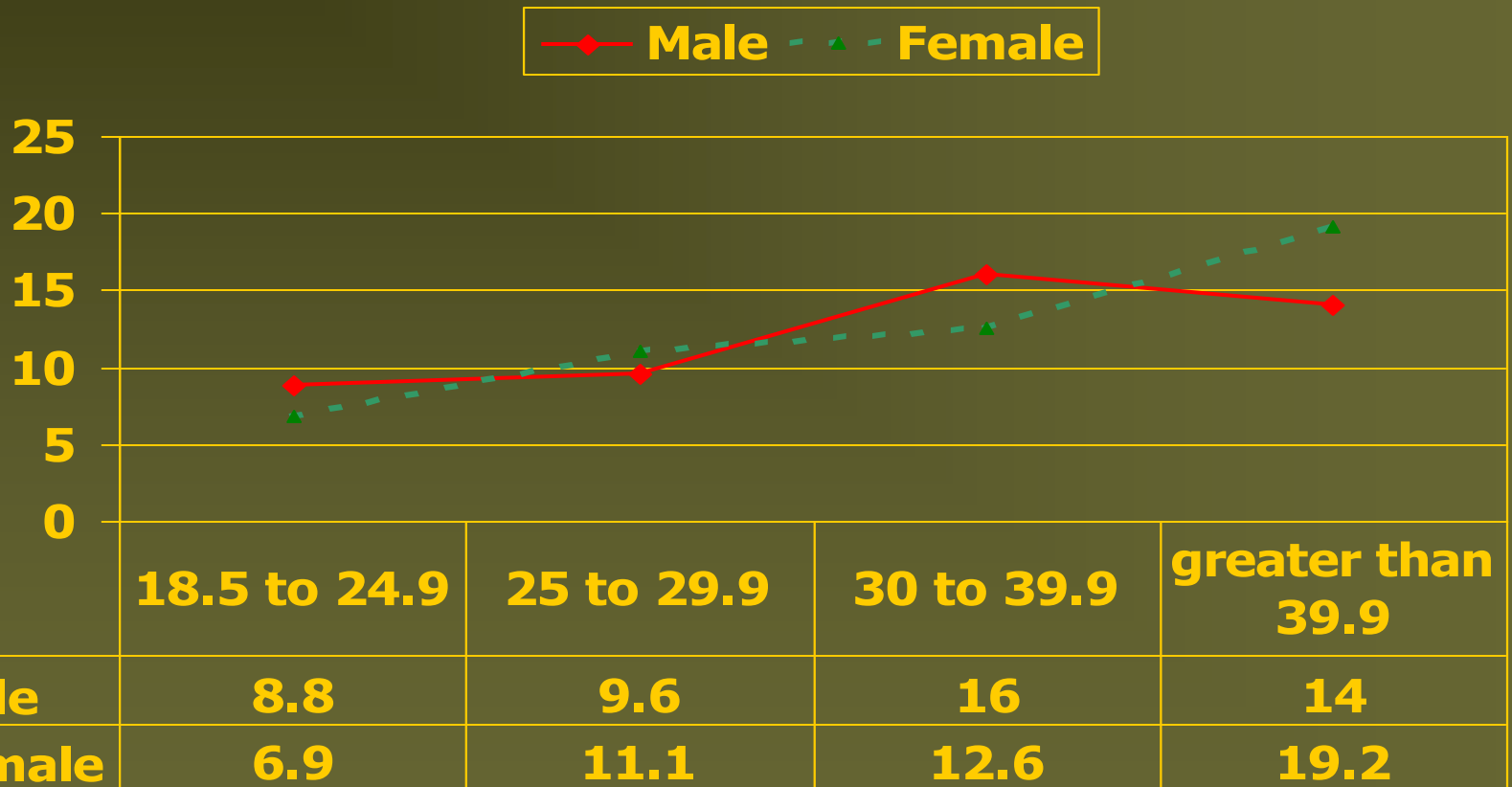
Other conditions related to weight

- Birth defects
- Carpal tunnel syndrome
- Venous insufficiency
- Deep vein thrombosis
- End stage renal disease
- Gout
- Infertility
- Liver disease
- Pain
- Urinary incontinence
- Pancreatitis

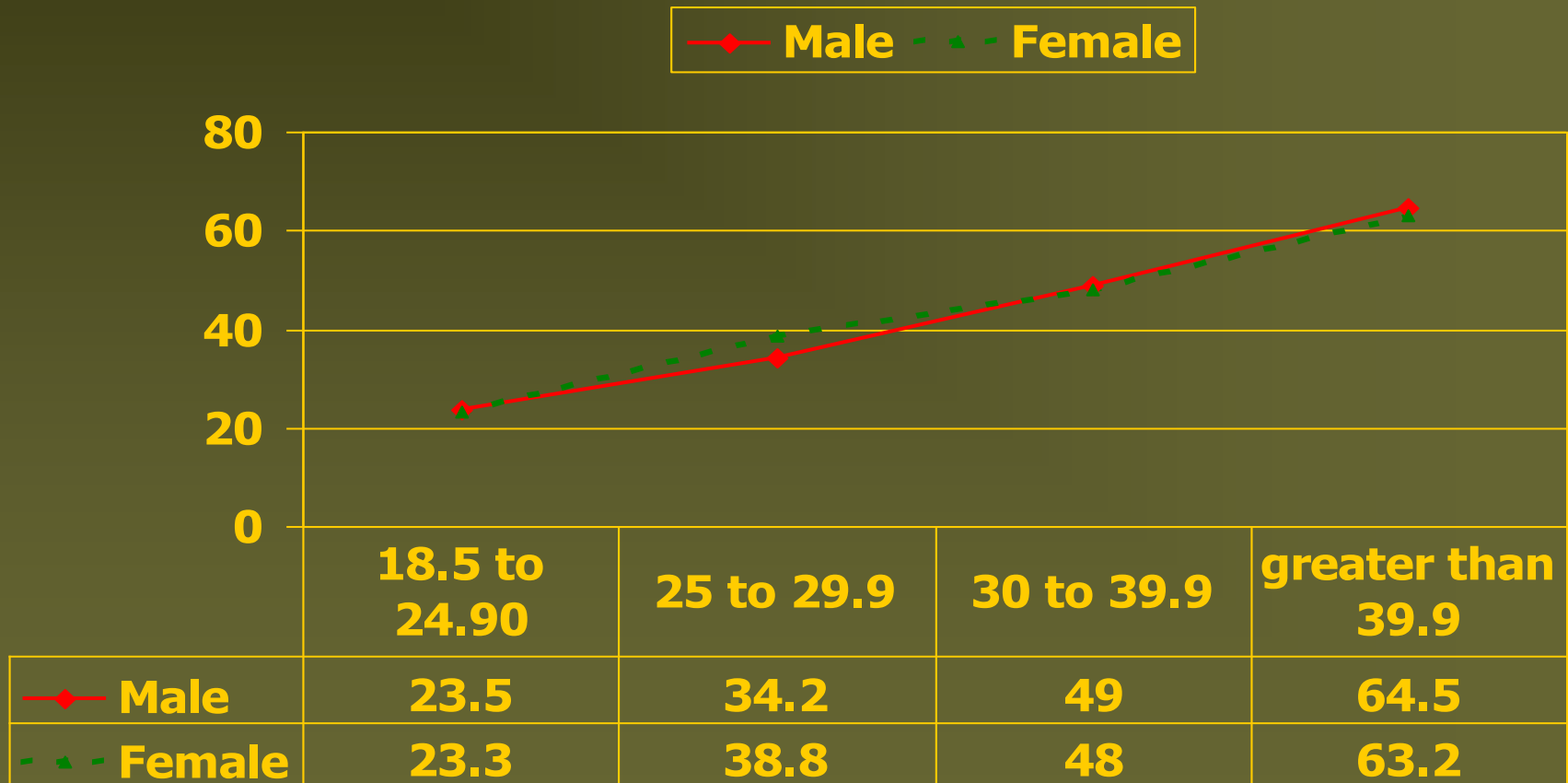
Diabetes Type II Prevalence



Heart Disease

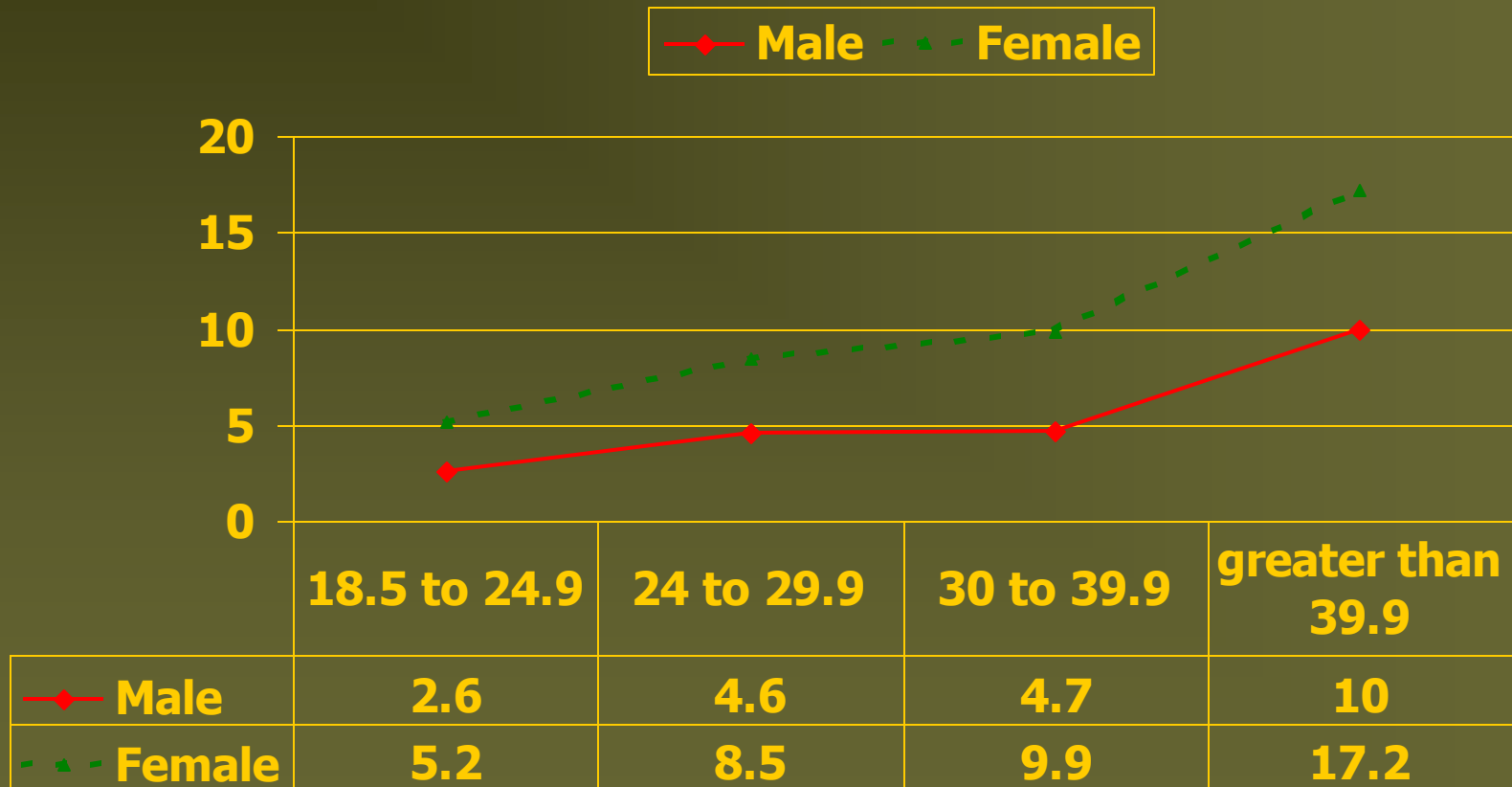


High Blood Pressure



NHANES III, 1988-1994

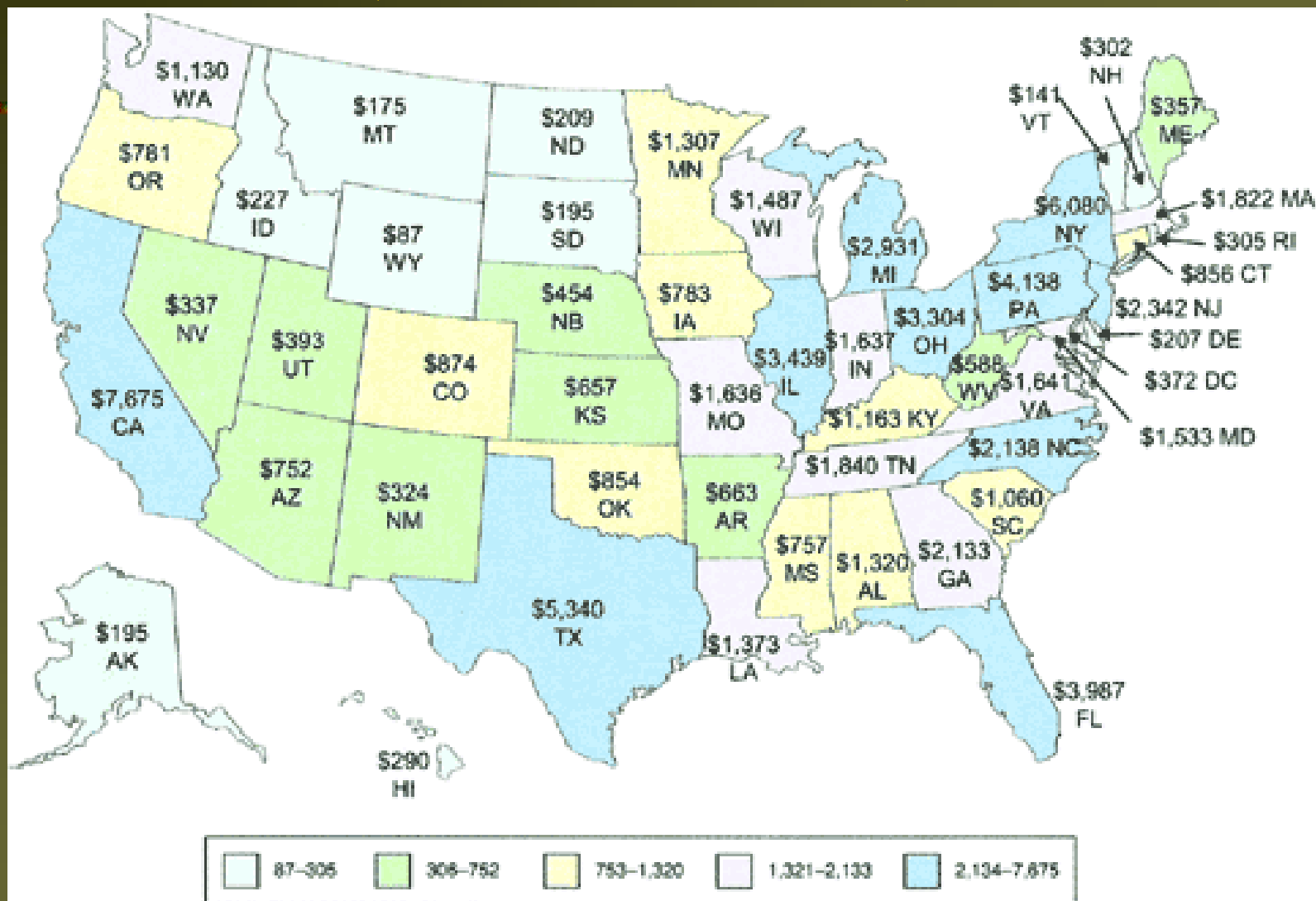
Osteoarthritis Prevalence



Financial and Health Costs of Obesity

- Total costs of obesity for year 2000: **\$117 Billion**
 - Annual deaths associated with obesity: **300,000/Year**
 - Untold disease and disability
-

Estimated Adult Obesity-Attributable Medical Expenditures (2003 dollars in millions)



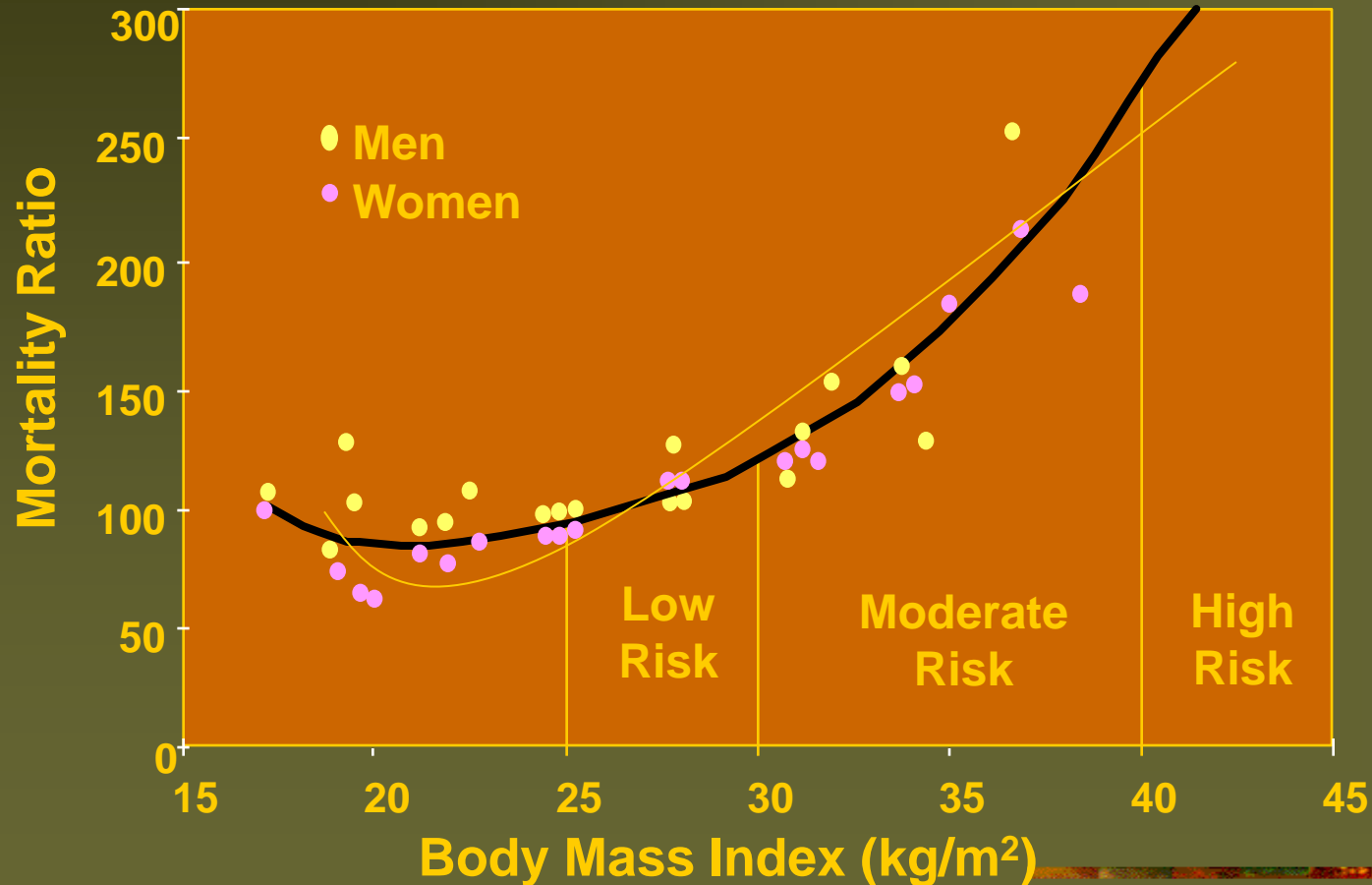
Surgeon General's Call To Action

“Overweight and obesity may soon cause as much preventable disease and death as cigarette smoking.”

“People tend to think of overweight and obesity as strictly a personal matter, but there is much that communities can do to address these problems.”

--The Surgeon General, Press Release December 13,
2001

All Causes of Death as a Function of BMI






**OBESITY
KILLS!**





How did we get
here?



Genetics vs. Lifestyle

- Genetic predisposition to obesity does exist
 - But our genetic make-up has not changed in 20 years
 - Genes load the gun and our choices pull the trigger
-

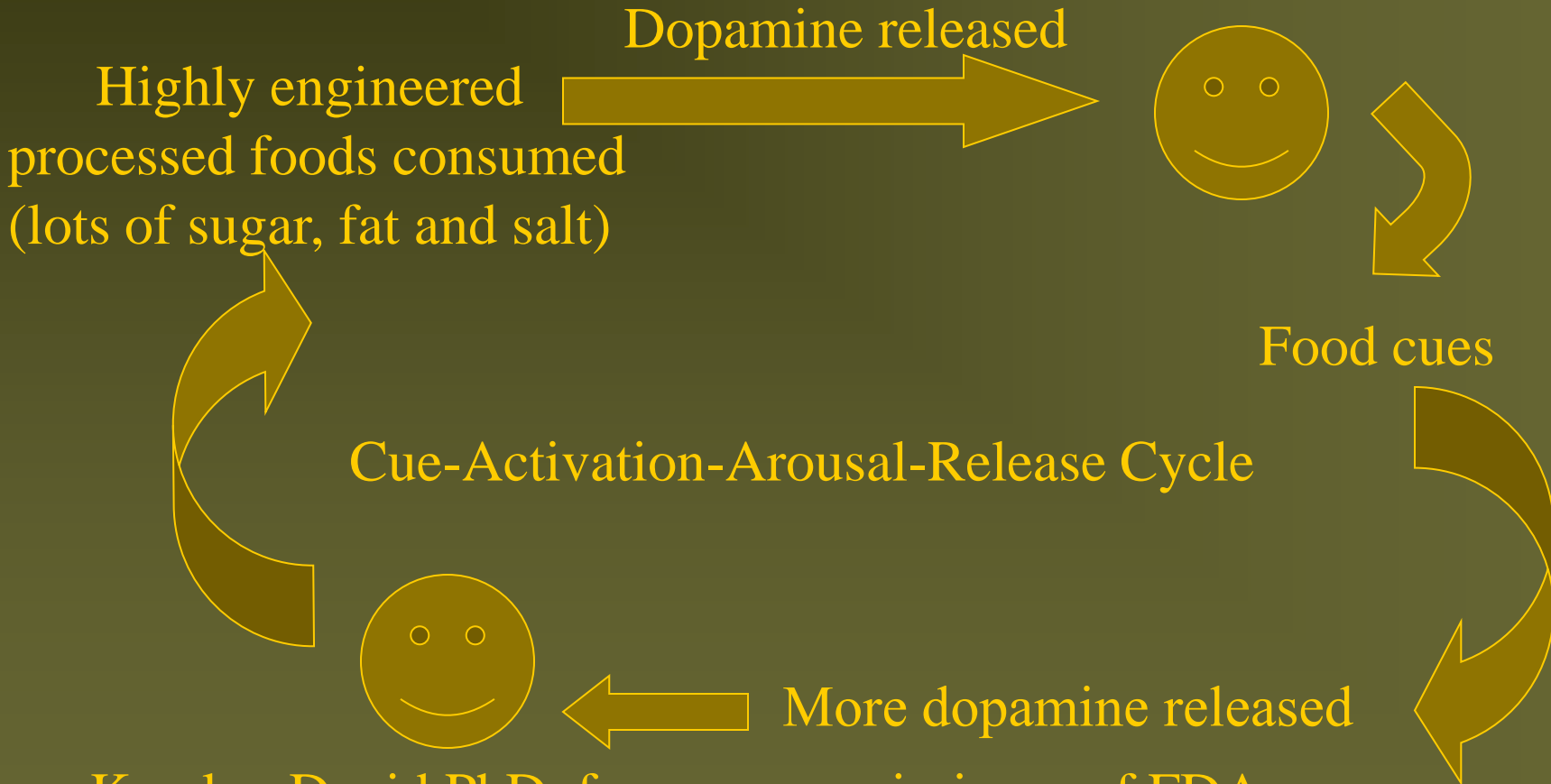
Obesigenic Environment

- Excess calorie intake
 - Five fruits and vegies:
 - 1988-1994 - - 42% of adults
 - 2001-2006 - - 26% of adults
- Reduced physical activity
 - Exercise 12 times per month fell from 53% to 43%
(Obesity increased from 28% to 36%)

Lifestyle Factors

- Super-size meals, with wide variety of foods
 - Labor & activity saving devices
 - Go, go, go mentality
 - Food filled environment
-

Conditioned overeating (Kessler)



Kessler, David PhD, former commissioner of FDA
(2009) "The End of Overeating".

Bliss Points - - - SFS

- Food industry maximizes the drive for food
 - Used to eat for nutrition - - - now eat for stimulation
 - Sugar, Fat and Salt are multi-layered for maximum advantage
 - No one craves packages of sugar - - - but hard to walk away from a hot-fudge brownie
-

Maintaining a Healthy Weight is a Balancing Act
Calories In = Calories Out



BAGEL

20 Years Ago



140 calories
3-inch diameter

Today



How many calories
are in this bagel?

BAGEL

20 Years Ago



140 calories
3-inch diameter

Today



350 calories
6-inch diameter

Calorie Difference: 210 calories



How long will you have to rake leaves in order to burn the extra 210 calories?*

*Based on 130-pound person

Calories In = Calories Out



If you rake the leaves for **50 minutes** you will burn the extra **210 calories**.*

*Based on 130-pound person

CHEESEBURGER

20 Years Ago



333 calories

Today



**How many calories are
in today's cheeseburger?**

CHEESEBURGER

20 Years Ago



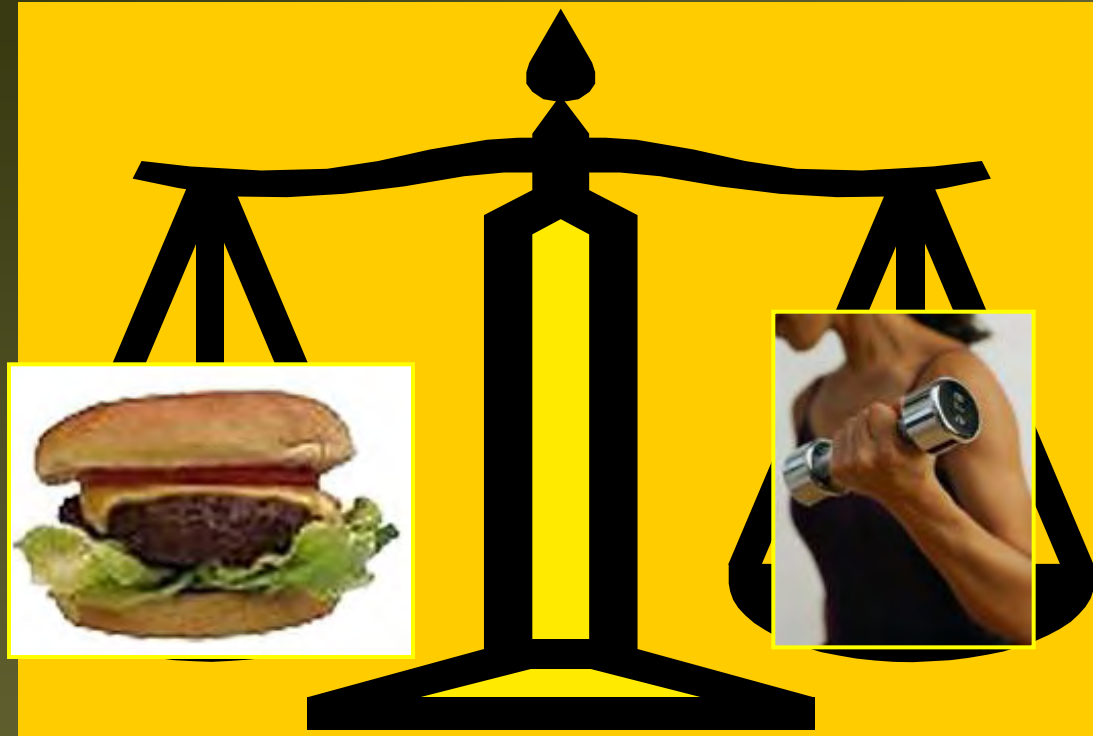
333 calories

Today



590 calories

Calorie Difference: 257 calories



How long will you have to lift weights in order to burn the extra 257 calories?*

*Based on 130-pound person

Calories In = Calories Out



If you **lift weights for 1 hour and 30 minutes**, you will burn approximately **257 calories.***

**Based on 130-pound person*

FRENCH FRIES

20 Years Ago



210 Calories
2.4 ounces

Today



**How many calories are in
today's portion of fries?**

FRENCH FRIES

20 Years Ago



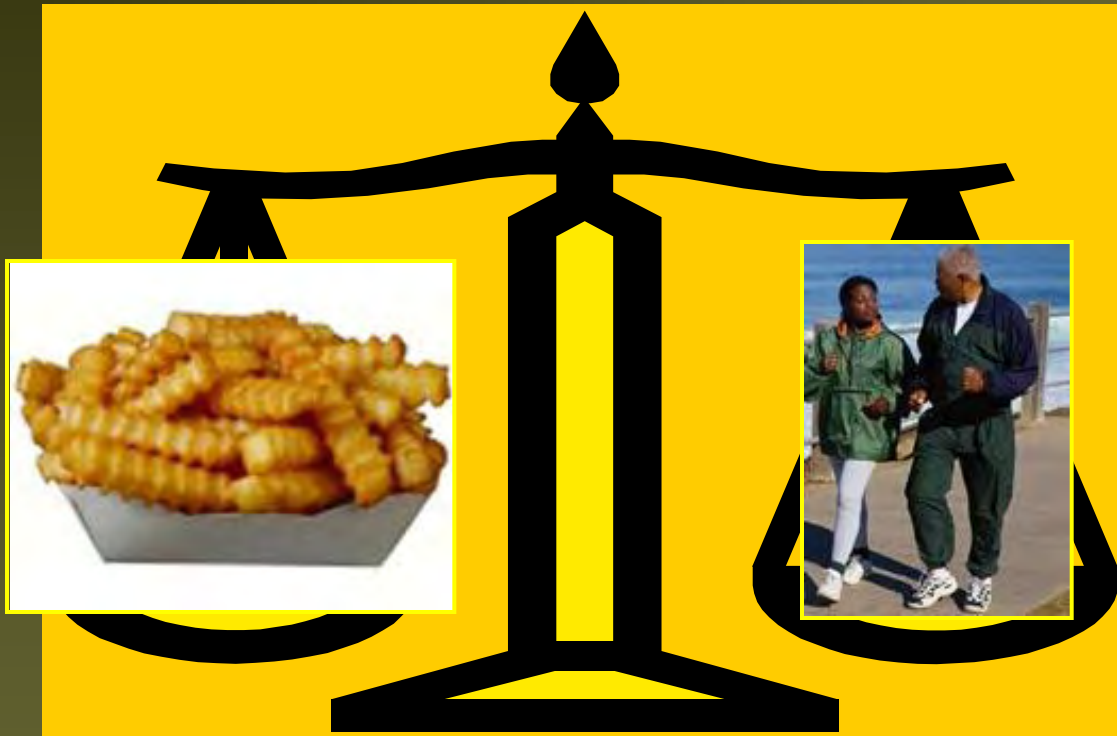
210 Calories
2.4 ounces

Today



610 Calories
6.9 ounces

Calorie Difference: 400 Calories



**How long will you have to walk
leisurely in order to burn those
extra 400 calories?***

***Based on 160-pound person**

Calories In = Calories Out



If you **walk leisurely for 1 hour and 10 minutes** you will burn approximately **400 calories.***

***Based on 160-pound person**

Why do most weight management programs fail?

- An entrenched dieting mentality
- Expect perfection (all or nothing)
- Want to lose it NOW !!!!
- Attempt too many changes at once
- Do not understand the basics
- Searching for the magic bullet
- Set unrealistic expectations

Classification of Overweight and Obesity

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Options for Weight Reduction Therapy

Health Risk

Treatment

Minimal to Low

- Healthful eating and/or moderate deficit diet
- Increase physical activity
- Lifestyle change strategies

Moderate

- All the above plus low calorie diet
(800-1500 kcal/day)

High to Very High

- All the above plus pharmacotherapy

Extremely High

- All the above plus surgical intervention

Goals of Comprehensive Therapy

- Healthier weight with improved health status
- Reduced risk for developing additional obesity related co-morbidities
- Medical supervision during weight loss for obese patients (BMI 30 or higher)
- **Not** cosmetic weight loss

Life-Style Changes (low health risks)

Where to start the journey?

- Stop the weight gain
 - Instill awareness of health risks
 - 5% to 10% weight loss
 - Be proactive
 - Improve communities
 - Food Rehab
-

Food Rehab

- Replace chaos with structure (planO=)
 - Practice “just-right” eating
 - Pick foods that will satisfy, not stimulate, you
 - Rehearse (If I encounter X, I will do Y)
 - Seize control (recognize emotions)
 - Stop that thought (end the triggers)
 - Think negative (pair unhealthy food with ugly visions)
-

Small Changes - - - Big Results

- Average American has gained weight gradually -
- - more success if loss is gradual
 - One pound equals 3500 calories
 - 100 extra calories per day = 10 pounds gained
in one year
 - By adding 100 calories of exercise per day and
subtracting 100 calories of food consumed
equals 20 pounds of weight loss per year
-

Weekly Exercise Recommendations

- 30 minutes of exercise most days of the week
 - Aerobics (15 – 20 minutes 3 days/week) burns calories more quickly
 - Resistance training (3 times per week) increases/maintains muscle; decreases fat
 - Stretching (daily) maintains flexibility and mobility
-

Increasing Exercise (calories burned)

- Use step-counter (pedometer)
 - Average American walks 5500 steps per day
 - Goal of 10,000 steps too big of change
 - Gradually add 2000 steps per day (1 mile or 100 calories)
-

Ways to add 2000 steps

- Pace while on telephone
 - Take stairs instead of elevator
 - Park furthest corner of parking lot
 - Use restroom on opposite side of building
 - Visit co-worker instead of e-mailing/calling
-

Resistance/Weight Training

- Absolute must for long-term success
 - Sit-ups, push-ups, yoga, pilates, core strengthening, weight training, raking leaves, pushing lawn mover
 - Muscle is metabolic furnace
 - Lose muscle as we age
 - “Dieting makes you fat”
-

Decreasing calories consumed

- Journal food intake
 - Decrease plate size
 - Leave three to four bites on plate
 - Decrease juice glass from 8 to 4 ounces
 - Be aware of what goes in your mouth
 - Learn to read labels and discover serving sizes
-

Portion Sizes

- 1 ounce of cheese - - one matchbook
 - 1 tablespoon of salad drsg - - one matchbook
 - 3 oz of meat - - deck of playing cards
 - 1 cup of rice - - - tennis ball
 - 1 cup of cereal - - - baseball
-



Ranch DRESSING

Nutrition Facts

Serv Size 2 Tbsp (30g)
Servings 16
Calories 110
Fat Cal 100

*Percent Daily Values (DV) are based on a 2,000 calorie diet.

Amount/serving	% DV*	Amount/serving	% DV*
Total Fat 11g	17%	Total Carb 2g	1%
Sat Fat 1.5g	8%	Fiber 0g	0%
Trans Fat 0g		Sugars 1g	
Cholest 5mg	2%	Protein 0g	
Sodium 310mg	13%		

CarbWellTM Ranch DRESSING

Nutrition Facts

Serv Size 2 Tbsp (29g)
Servings 16
Calories 110
Fat Cal 100

*Percent Daily Values (DV) are based on a 2,000 calorie diet.

Amount/serving	% DV*	Amount/serving	% DV*
Total Fat 11g	17%	Total Carb 0g	0%
Sat Fat 1.5g	8%	Fiber 0g	0%
Trans Fat 0g		Sugars 0g	
Cholest 5mg	2%	Protein 0g	
Sodium 310mg	13%		

® FREETM

Ranch FAT FREE DRESSING

Nutrition Facts

Serv Size 2 Tbsp (35g)
Servings 16
Calories 50
Fat Cal 0

*Percent Daily Values (DV) are based on a 2,000 calorie diet.

Amount/serving	% DV*	Amount/serving	% DV*
Total Fat 0g	0%	Sodium 350mg	15%
Sat Fat 0g	0%	Total Carb 11g	4%
Trans Fat 0g		Fiber 0g	0%
Polyunsat Fat 0g		Sugars 2g	
Monounsat Fat 0g		Protein 0	
Cholest 0mg	0%		

Sugar Loophole

- Federal law requires that the most prevalent food ingredient be listed first
 - However. . . . if a food has multiple sweeteners . . . sugar, brown sugar, honey, fructose, corn syrup, molasses. . . each can be listed separately
-

Sneaky Calories

- 7 medium/ 14 small macadamia nuts - - - 200 calories
- 1 tblspn butter (matchbook) - - - 100 calories
- 1 ounce of candy corn - - - 100 calories
- 1 oz of almonds (25) - - - 170 calories
- 1 hersey kiss - - - 25 calories
- 5 to 6 chocolate almonds - - - 150 calories
- 12 peanut M&Ms - - - 210 calories
- 1 regular M&M - - - 5 calories
- One handful M&Ms (1 oz) - - - 150 calories

Build a salad

- Fried chicken salad

- 2 tblspn ranch drsg - - 145/80 calories
- 4 oz fried chicken - - 310 calories
- 4 oz of co-jack cheese - - 440 calories
- ½ cup cuke slices - - - 8 calories
- 1 cup diced tomatoes - - - 35 calories
- ½ cup grn pepper - - - 20 calories
- 2 cups of greens - - - 20 calories

TOTAL calories: 978/913

Build a salad

- Grilled chicken Caesar salad
 - 2 tblspn Caesar drsg - - 155/70 calories
 - 4 oz grilled chicken - - 190 calories
 - 1 tblspn parmesan cheese - - 20 calories
 - 9 small croutons - - - 35 calories
 - 2 cups of greens - - - 20 calories
- TOTAL calories: 420/335

Low Calorie Meal Replacements

- Must be medically monitored
- For patients at moderate to high health risks related to their weight
- Portion and calorie controlled
- Provides 100% of daily nutritional needs in 800 to 950 calories per day
- Decreases encounters with food cues

Low Calorie Meal Replacements

- Provides an opportunity to break the cycle of old eating patterns
 - Establish new behaviors during transition to conventional food
 - Rapid weight loss is motivating (1-2% per week)
-

Weight Loss Surgery

- For high to extreme health risk individuals related to their weight
 - Only surgery has been proven to achieve adequate weight loss and long-term maintenance of weight loss
-

Types of Surgery

- Restrictive: limits how much food you can eat at one time.
 - Malabsorptive: limits how much food the body absorbs.
-



www.foodfacts.info/blog

Summary

- Obesity is at epidemic levels and it kills
 - Stop the weight gain
 - Make small changes in food intake and exercise patterns
 - Be realistic
-

Weight management is a life-
time journey, not a destination
- - - just keep at it