

CHRONIC DISEASE IN WYOMING

Joseph Grandpre, PhD, MPH

Wyoming Department of Health

Leading Causes of Death in WY

	<u>2017</u>	<u>2018</u>
Heart Disease	994	1,040
Cancer	939	955
Chronic Resp.	366	408
<i>Accidents/Adverse</i>	<i>343</i>	<i>349</i>
Alzheimer's	209	262
Stroke	188	217
<i>Suicide</i>	<i>155</i>	<i>148</i>
<u>Diabetes</u>	<u>121</u>	<u>145</u>
Chronic Disease	59%	54%

WELL YOU'RE JUST A HUGE



RAY OF SUNSHINE AREN'T YOU?

WY 2017 Cancer Incidence:

Prostate = 469

Breast = 362 (358 Female, 4 male)

Lung = 279

Colorectal = 230

Melanoma = 158 (3 <30 years of age)

Bladder = 151

TOTAL = 2,788



WY 2017 Cancer Mortality:

- *Lung* = 214

- *ill-Defined* = 84

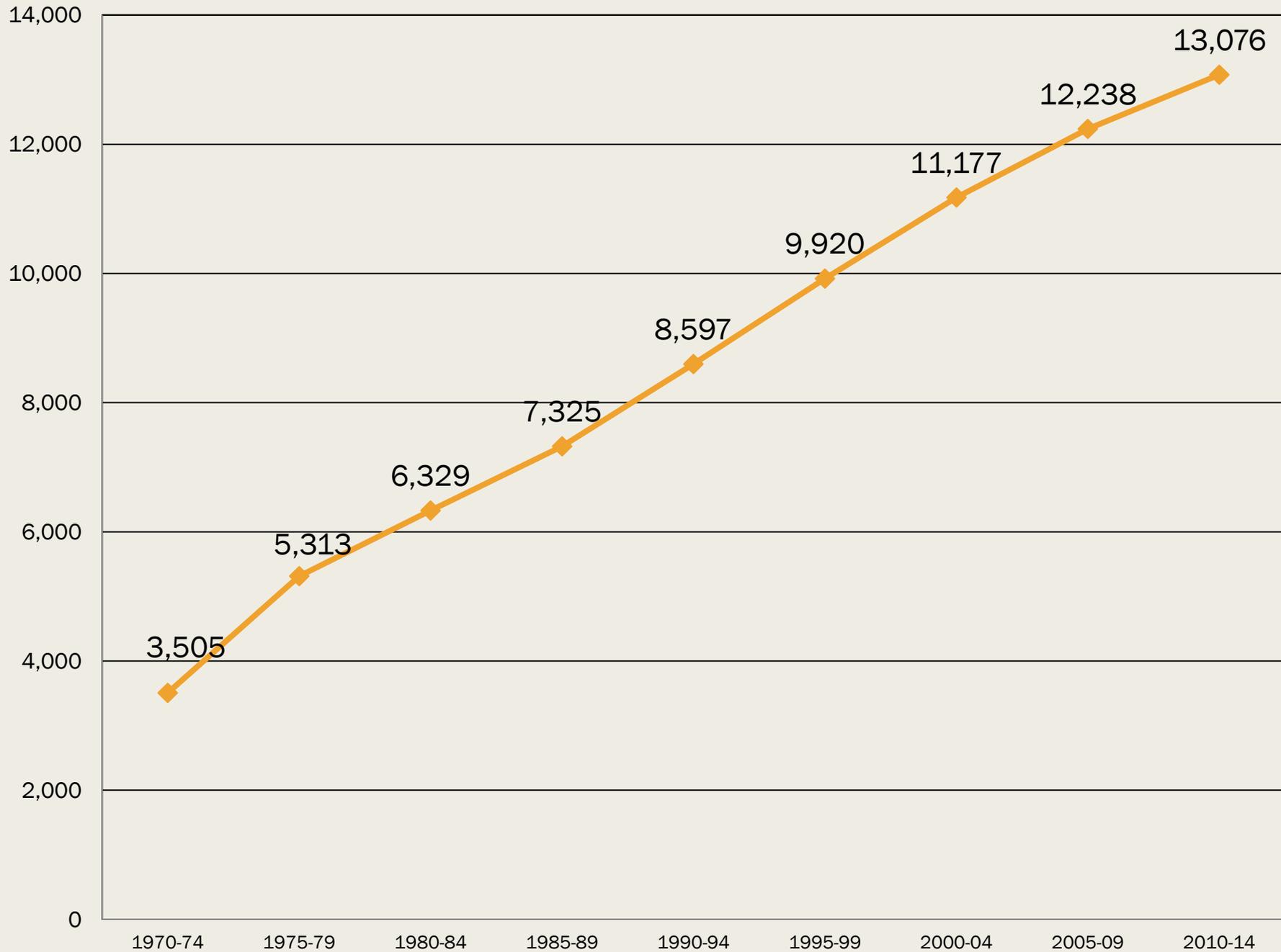
- *Pancreas* = 73

- *Colorectal* = 71

- *Breast* = 59 (58 women, 1 man)

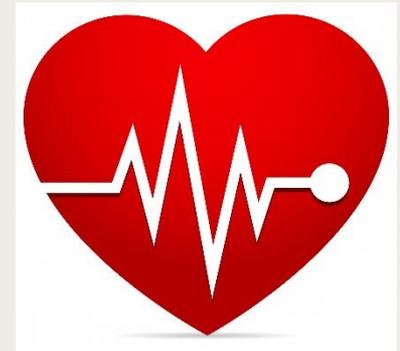
TOTAL = 939

WY INCIDENCE COUNT - ALL CANCER SITES - 5 YEAR GROUPS



Heart Disease & Stroke

- An estimated 92.1 Million Americans have some form of Cardiovascular disease (CVD) - (e.g., hypertension, CHD, stroke, etc...)
- CVD kills someone in the U.S. about once every 38 seconds. (2,300/day)



Heart Disease & Stroke

- On average someone has a stroke in the U.S. every 40 seconds.
- Stroke kills someone in the U.S. about once every 3 minutes 45 seconds.
- From 2005 to 2015 the number of stroke deaths declined by 2.3%

Heart Disease & Stroke

According to the **2018 BRFSS**

- 78.5% of Wyoming adults don't lead a healthy lifestyle (BMI 25 or above, current smoker, no physical activity).
- 5.9% Wyoming Adults have been told they have had a heart attack, angina, or CHD
- 3.3% Wyoming Adults have been told they have had a Stroke

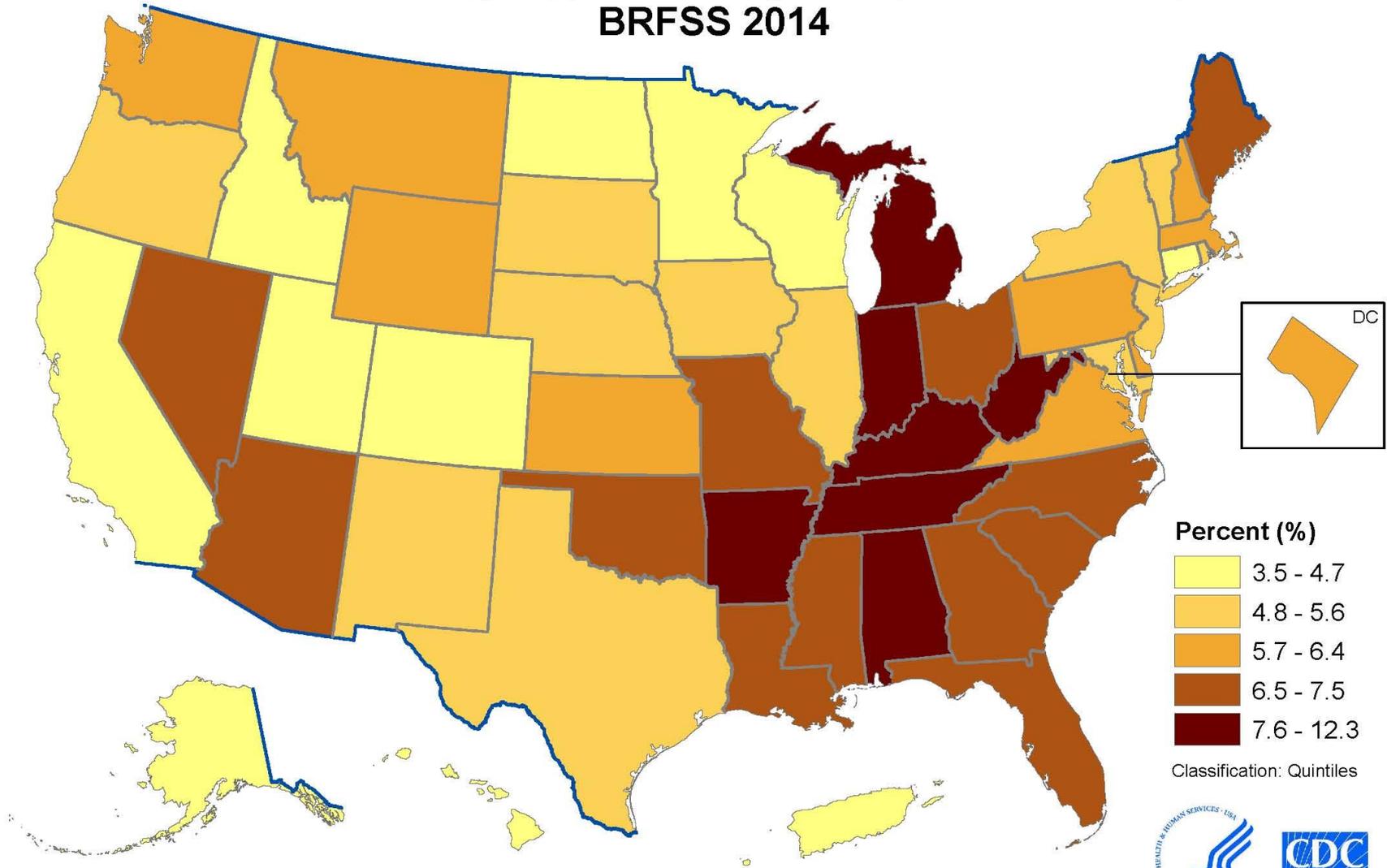
COPD

■ 2018 BRFSS

- 6.4% of Wyoming Adults had COPD
- 6.0% Males & 6.9% Female
- Mean number of years smoked = 26.7%
- Been told they have other CVD's = 26.1%



Prevalence of Chronic Obstructive Pulmonary Disease (COPD) for Adults Aged ≥ 18 Years by State, United States, BRFSS 2014

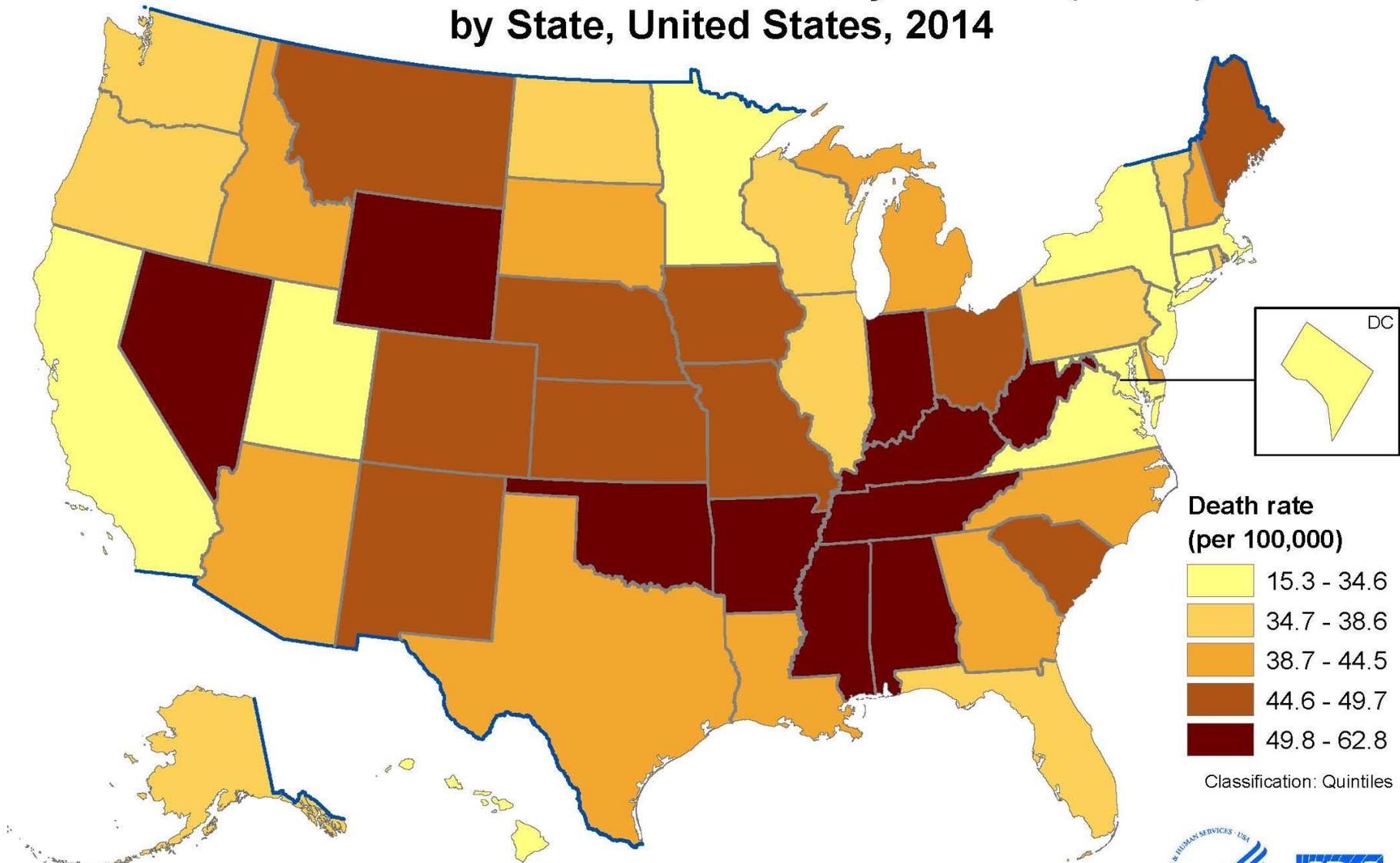


Data source: CDC Behavioral Risk Factor Surveillance System (BRFSS), 2014.
COPD based on an affirmative response to the question, "Has a doctor, nurse or other health professional ever told you that you have COPD, emphysema, or chronic bronchitis?"
Prevalence age-adjusted to the 2000 US standard population.



Date: 8/12/2016

Age-Standardized Death Rate (Per 100,000 US Population) for Chronic Obstructive Pulmonary Disease (COPD) by State, United States, 2014



Data source: CDC National Vital Statistics System data obtained from <http://wonder.cdc.gov>.
COPD as underlying cause of death was defined by ICD-10 codes J40-J44.
Death rates (per 100,000 US population) were age-adjusted to the 2000 US standard population.

Diabetes



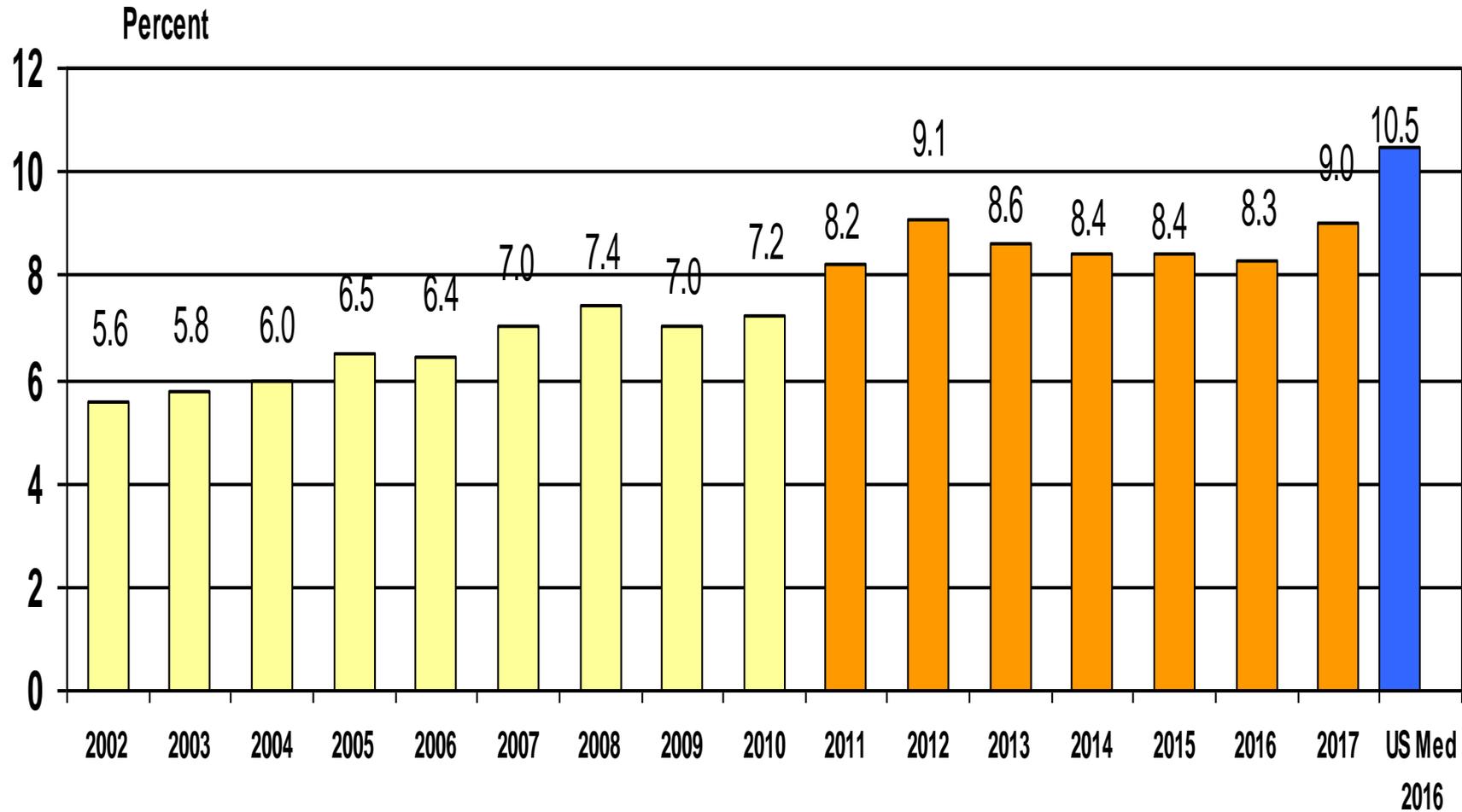
- As of 2015 - 30.3 million with diabetes
 - *23.1 Million diagnosed*
 - *7.2 Million undiagnosed*
 - *84.1 Million have prediabetes*



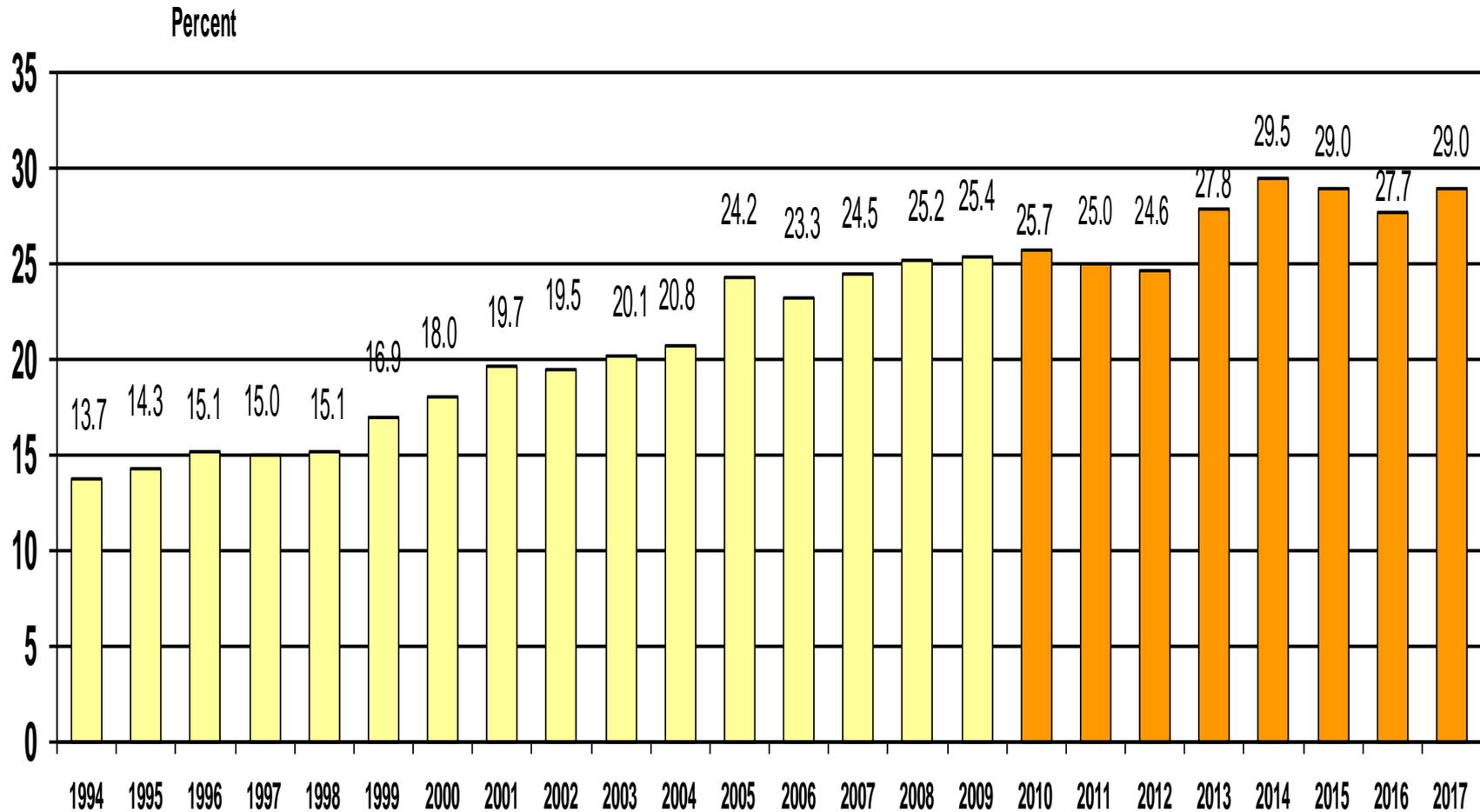
2018 BRFSS

- 8.7% of Wyoming adults had diabetes (39K)
- 7.8% have pre-diabetes (35K)

Diabetes by Year, WY BRFSS



Obesity by Year, WY BRFSS



Wyoming adults with body mass index (weight in kg/height in meters squared) ≥ 30.0 .

Diabetes

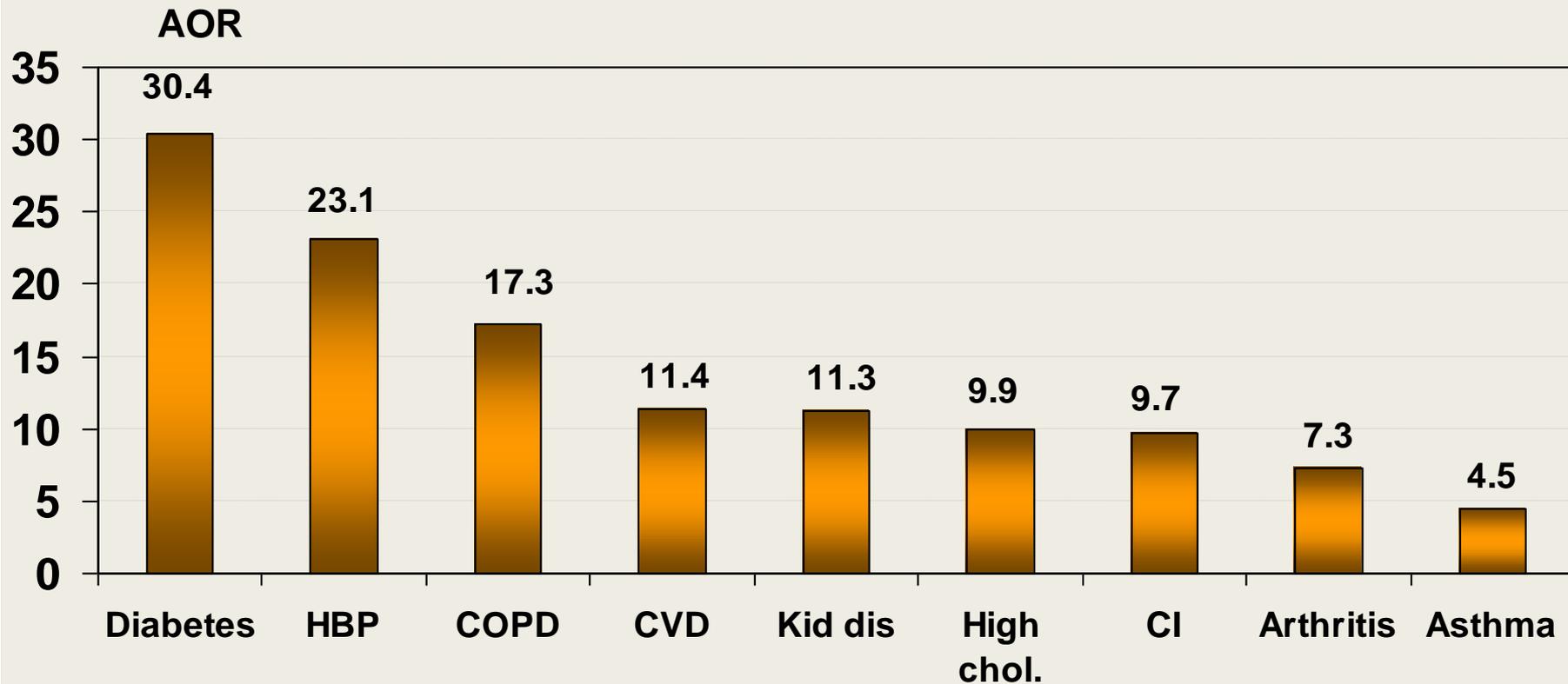
- About 193,000 people under 20 years of age have Diabetes
- 18,000 are diagnosed with Type 1 annually
- 5,000 are diagnosed with Type 2 annually



Diabetes

- End Stage Renal Disease (ERSD) Network #15
2016 Annual Report
 - *95 new cases of end-stage renal disease*
 - **51 (53.7%)** of these cases directly linked to diabetes
 - *328 Wyoming residents on dialysis because of end stage renal disease*
 - **164 (50.0%)** due directly to diabetes

AOR for highest # of RFs in composite measure (6 or 7) vs. 0 (Diabetes, HBP, HCh, ever smoked, sedentary, obesity, eat<5)



Source: 2017 BRFSS.

Table of PARs

Risk factor> Outcome	Diabetes	HBP	Hi chol	Ever smoked	Sedentary	Obese	Eat <5
CVD	6.7%	29.3%	19.9%	19.9%	5.1%	b	
Cognitive imp	4.6%	14.7%		24.9%	10.7%	5.6%	7.7%
Diabetes				3.7%	6.7%	37.8%	
HBP					5.1%	30.9%	
COPD				50.9%			
Kidney dis	14.0%	35.2%		6.8%		b	
Hi chol	15.1%			7.4%	1.9%	11.5%	11.4%
Arthritis					8.1%	20.5%	
Asthma						16.4%	

b: AOR not >1.0 although other studies show causality

SMILE BREAK



Risk Factors

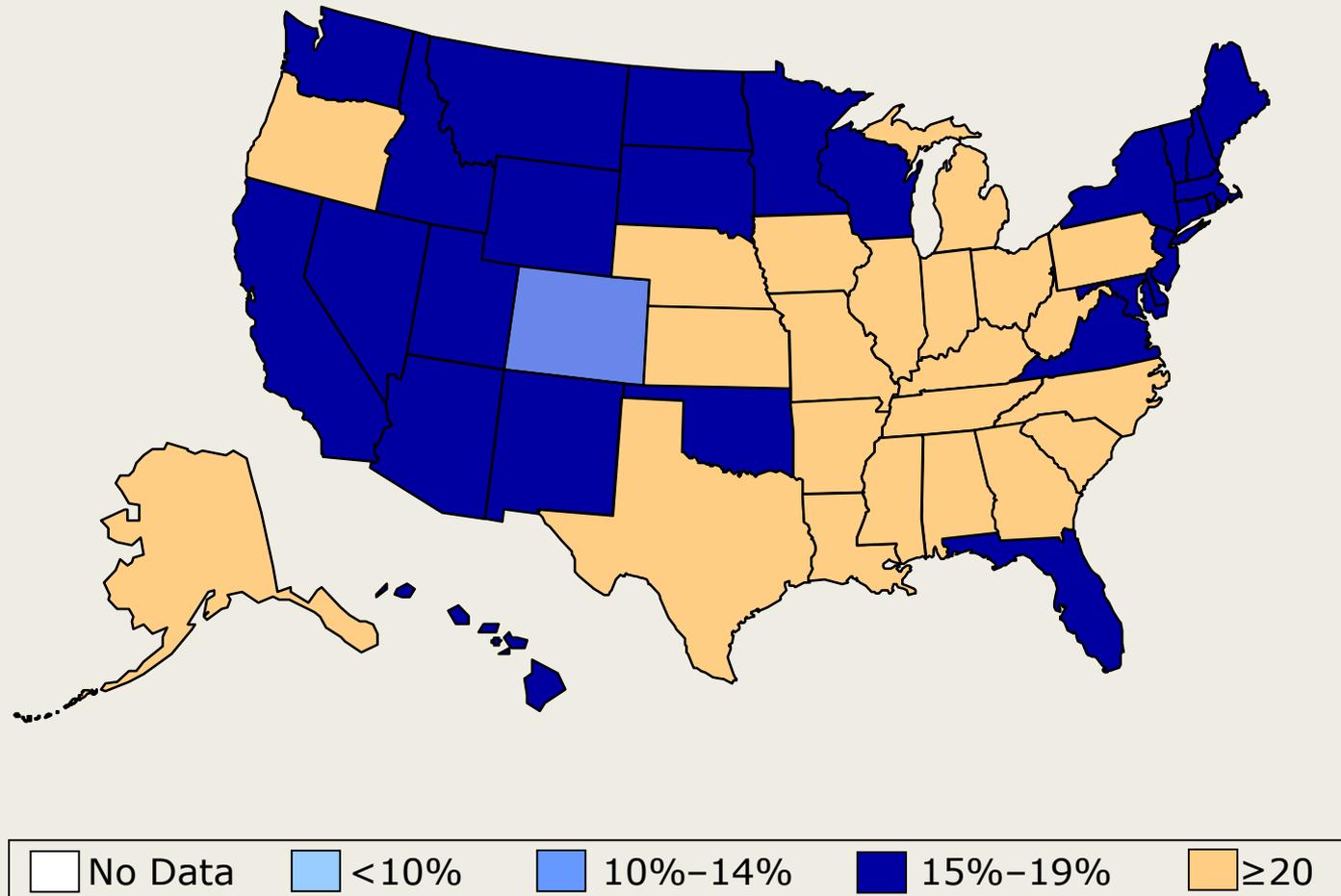
- Several risk factors associated with CD
 - *Physical Activity (too little)*
 - *Poor Nutrition*
 - *Tobacco (smoking, smokeless)*
 - Age



Obesity Trends* Among U.S. Adults

BRFSS, 2000

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

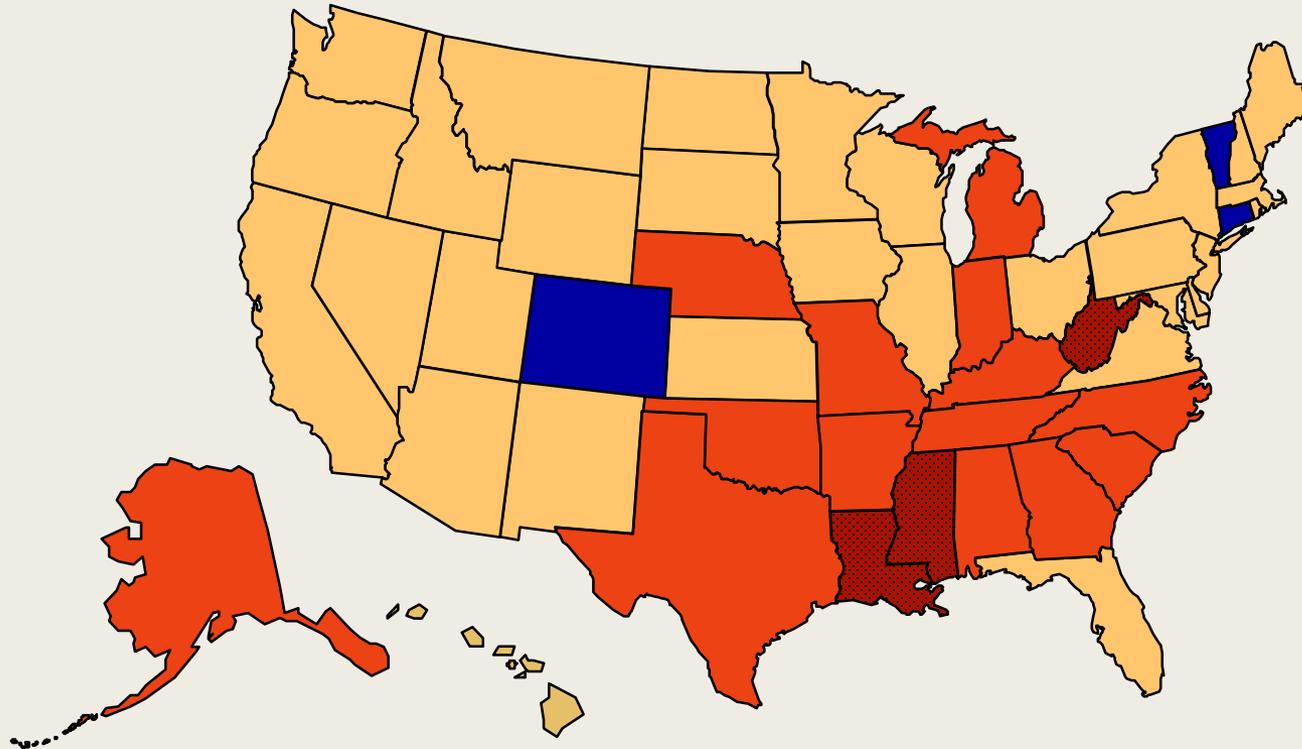


Source: Behavioral Risk Factor Surveillance System, CDC

Obesity Trends* Among U.S. Adults

BRFSS, 2005

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

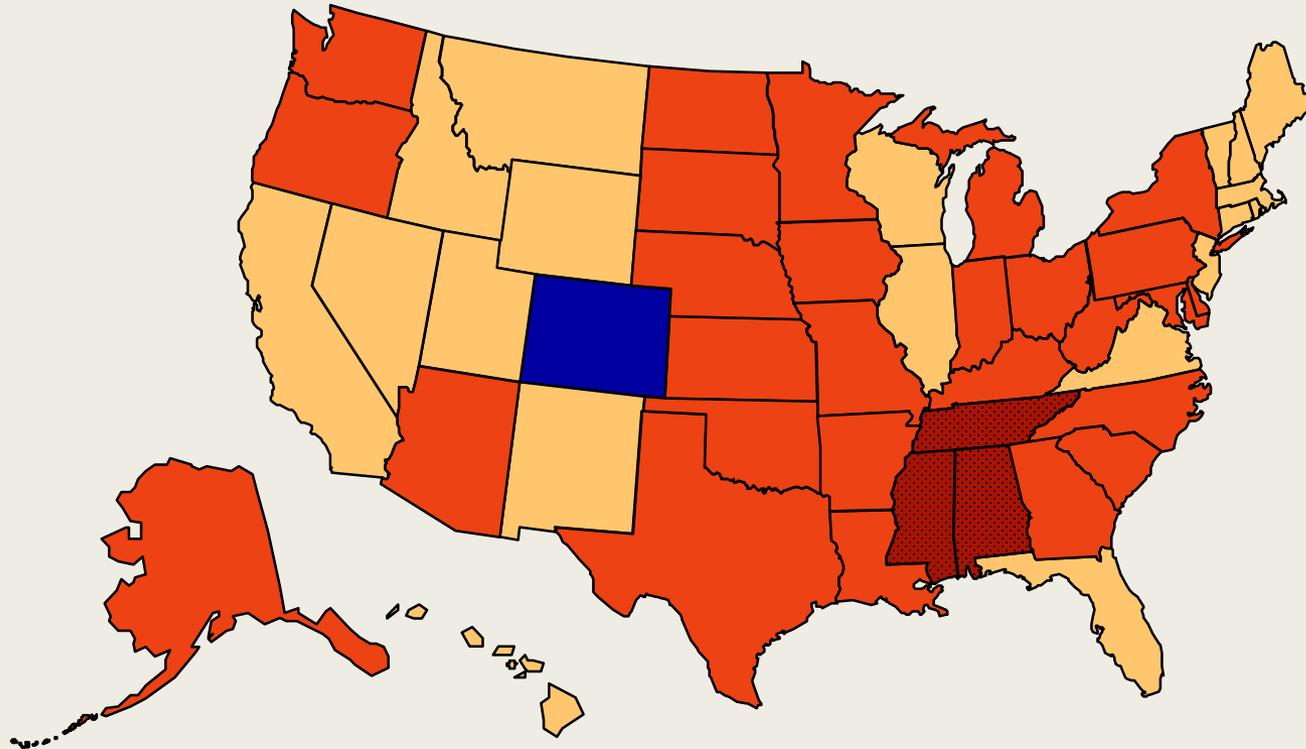


No Data <10% 10%–14% 15%–19% 20%–24% 25%–29% $\geq 30\%$

Obesity Trends* Among U.S. Adults

BRFSS, 2007

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

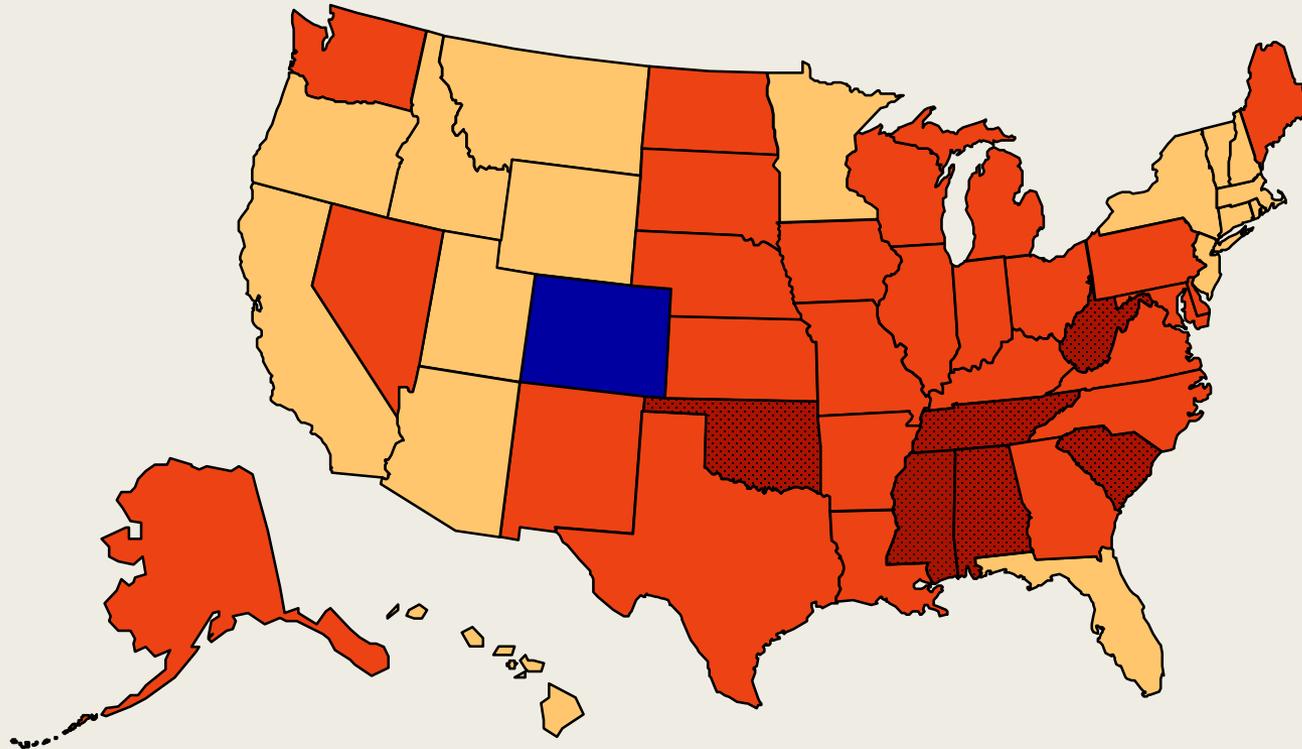


No Data <10% 10%–14% 15%–19% 20%–24% 25%–29% $\geq 30\%$

Obesity Trends* Among U.S. Adults

BRFSS, 2008

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

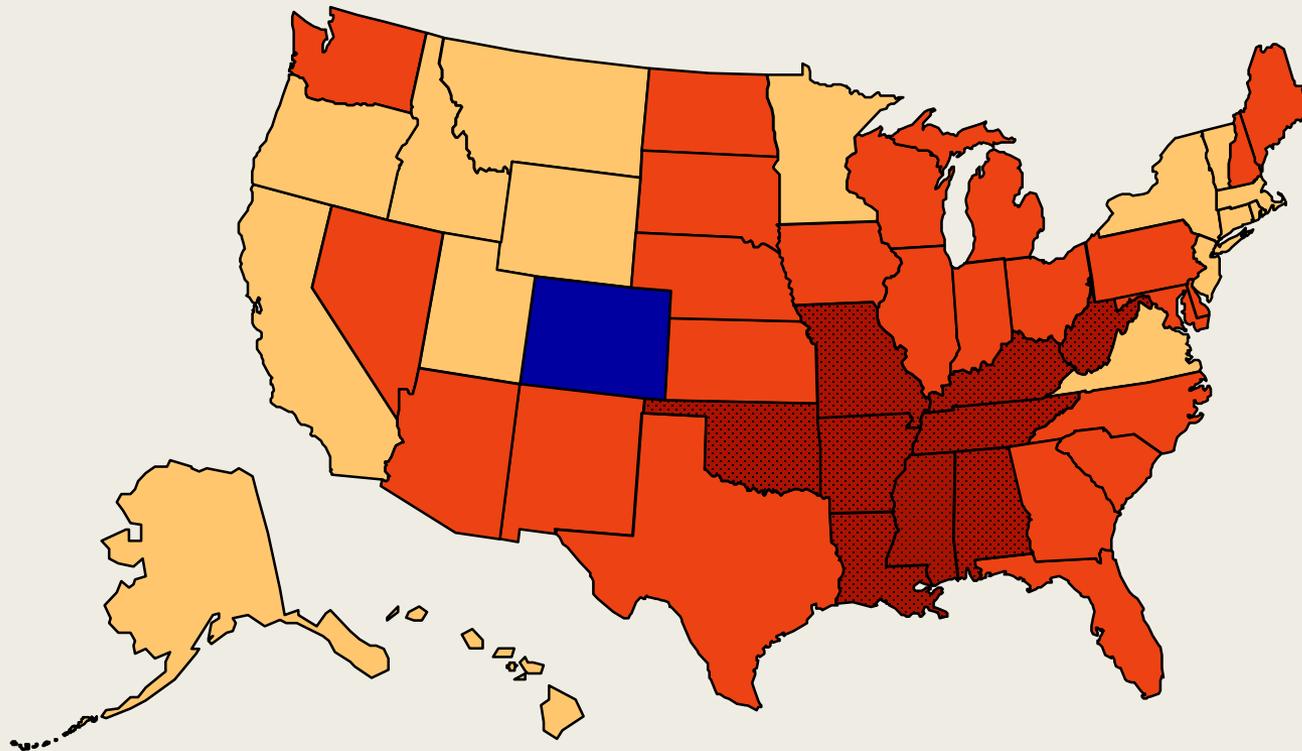


Legend: No Data, <10%, 10%-14%, 15%-19%, 20%-24%, 25%-29%, $\geq 30\%$

Obesity Trends* Among U.S. Adults

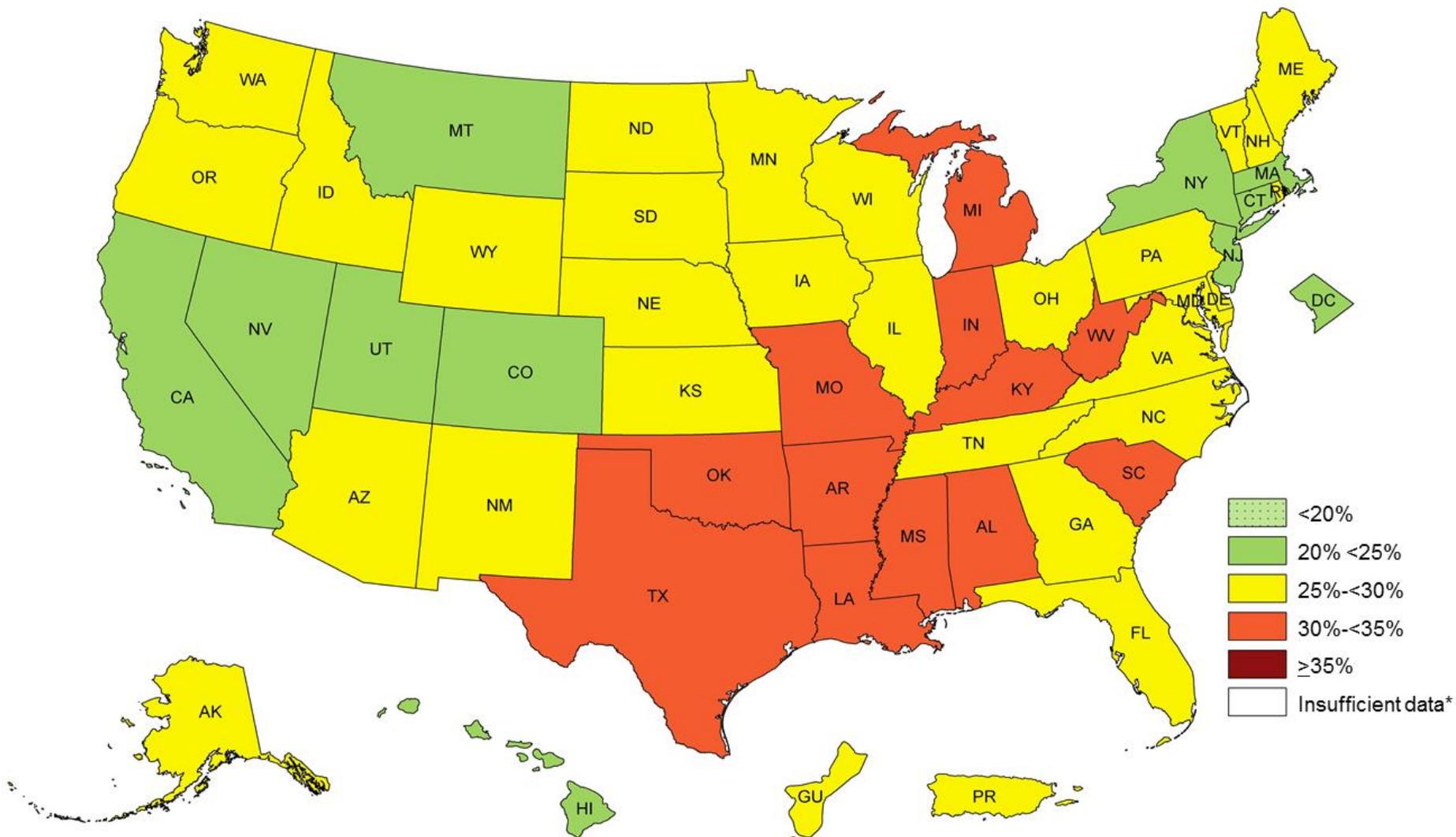
BRFSS, 2009

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



PREVALENCE¹ OF SELF-REPORTED OBESITY AMONG U.S. ADULTS BY STATE AND TERRITORY, BRFSS, 2011

¹ Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

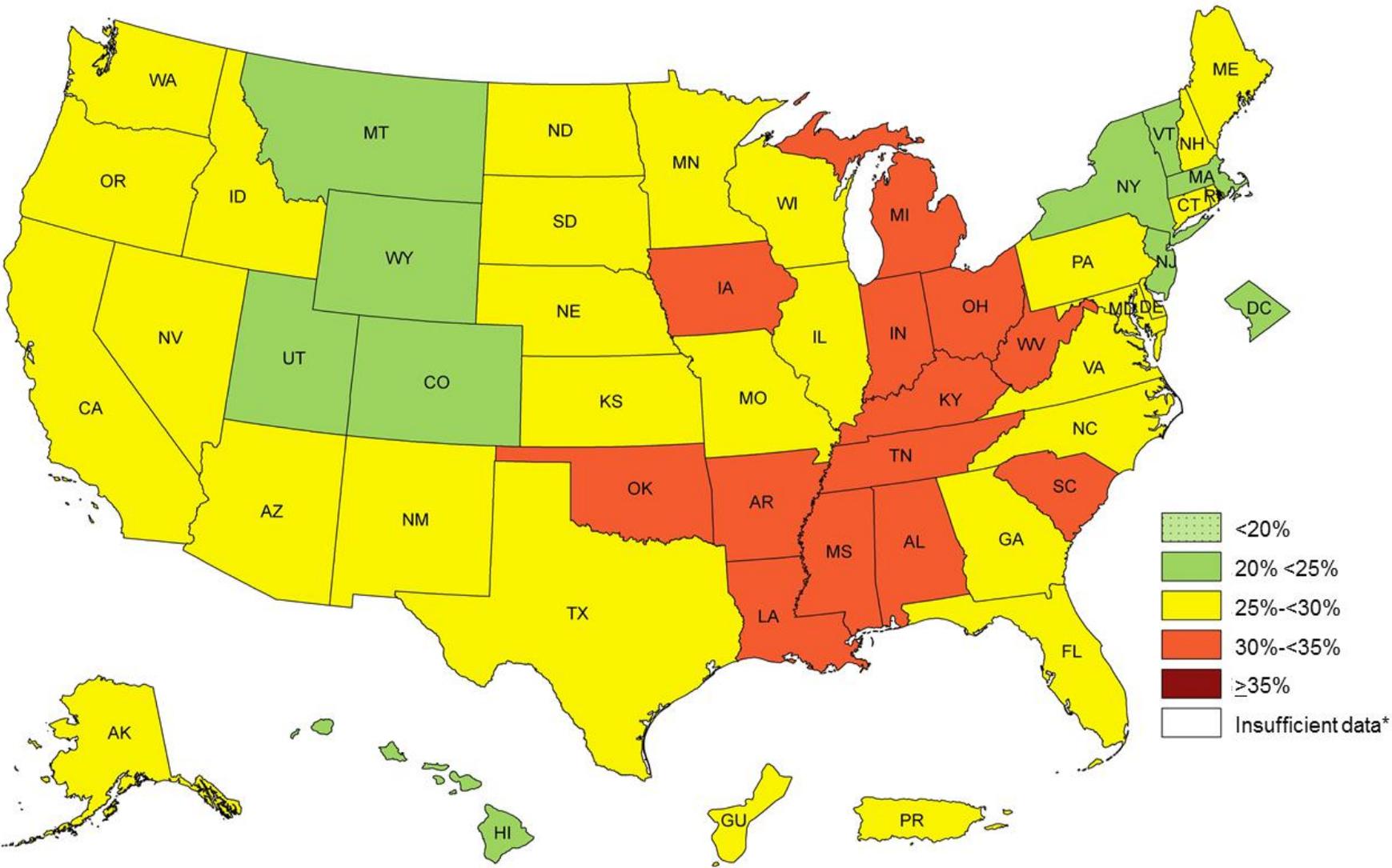


*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.



PREVALENCE¹ OF SELF-REPORTED OBESITY AMONG U.S. ADULTS BY STATE AND TERRITORY, BRFSS, 2012

¹ Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

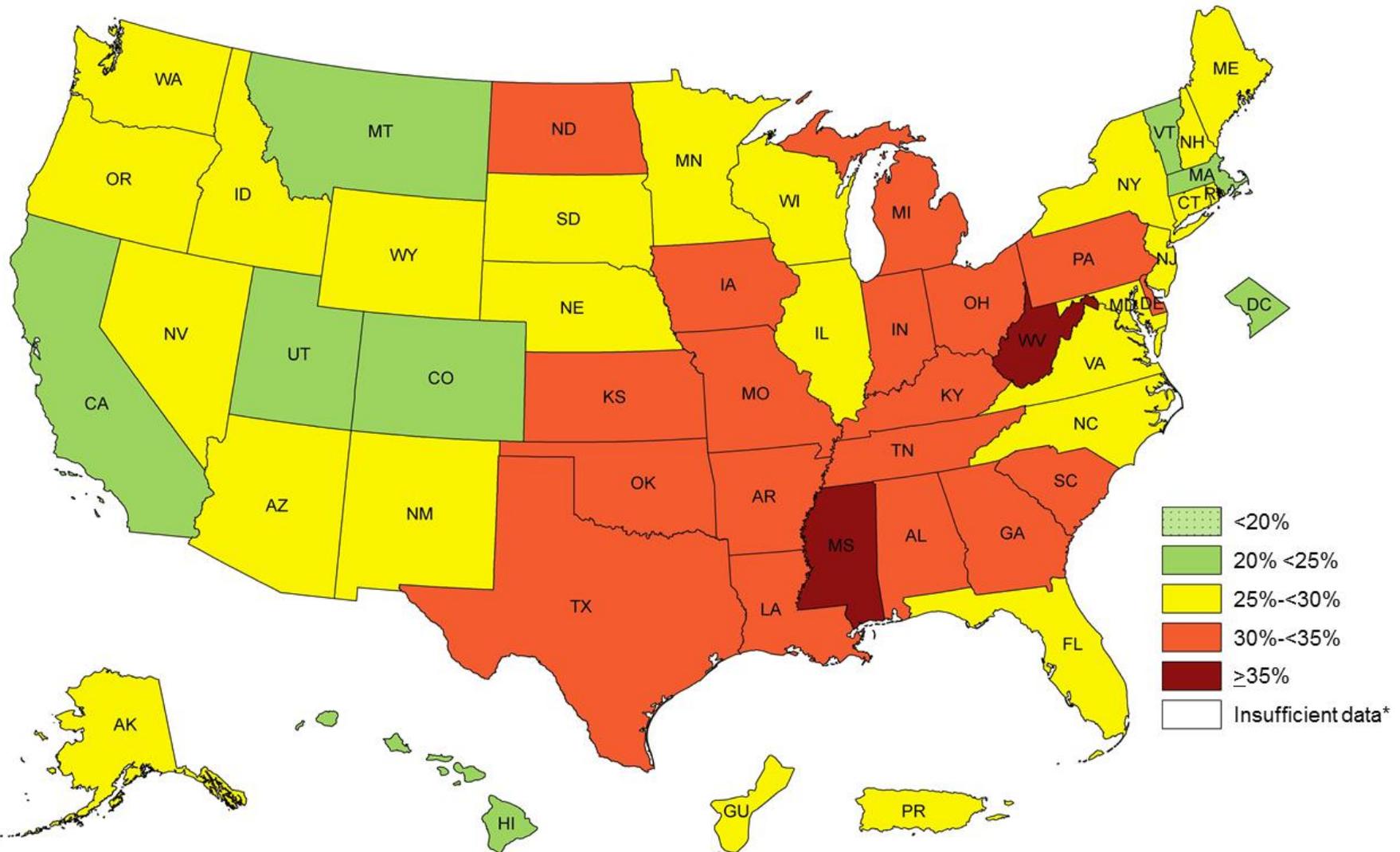


*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.



PREVALENCE¹ OF SELF-REPORTED OBESITY AMONG U.S. ADULTS BY STATE AND TERRITORY, BRFSS, 2013

¹ Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

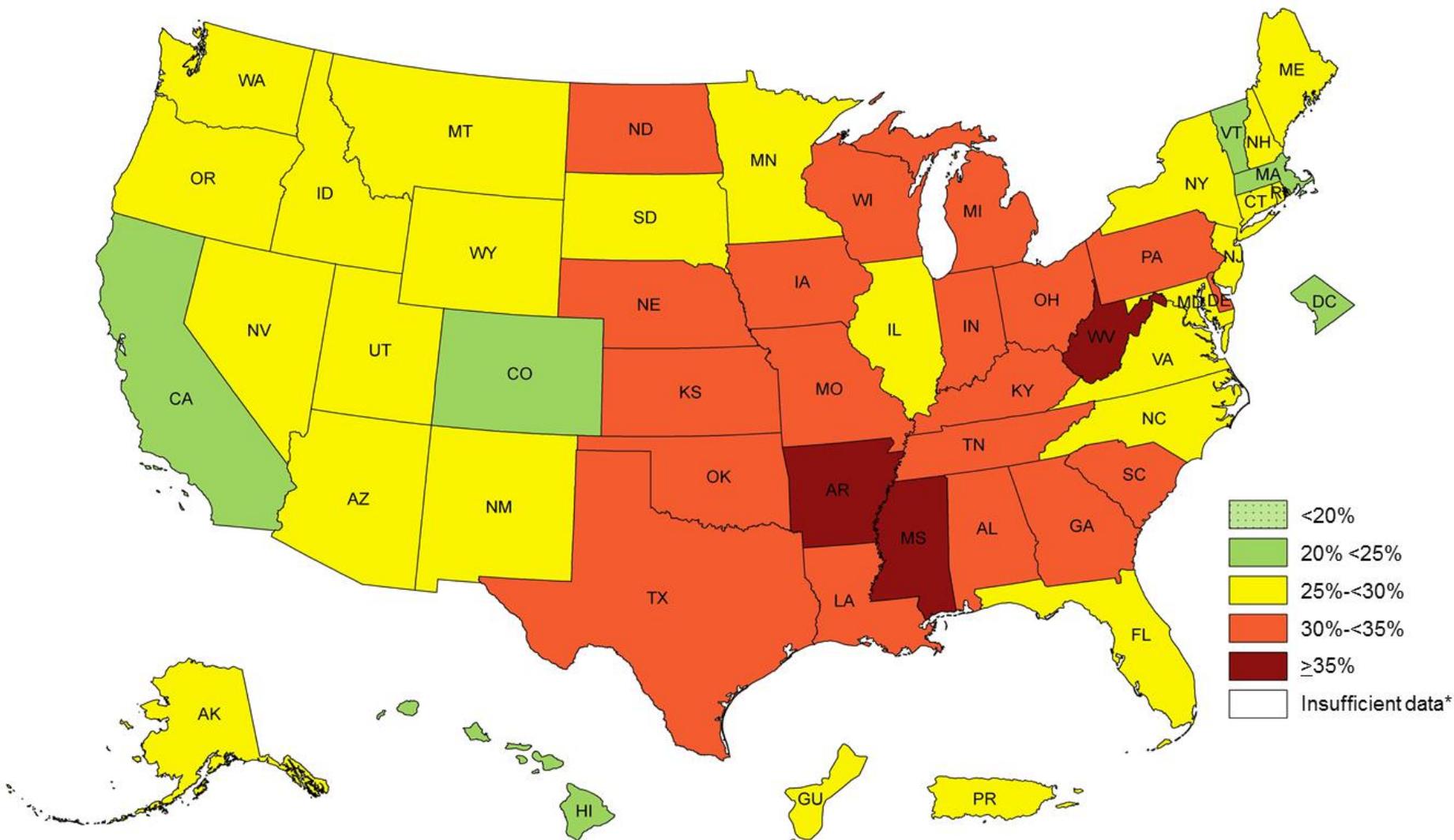


*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.



PREVALENCE[†] OF SELF-REPORTED OBESITY AMONG U.S. ADULTS BY STATE AND TERRITORY, BRFSS, 2014

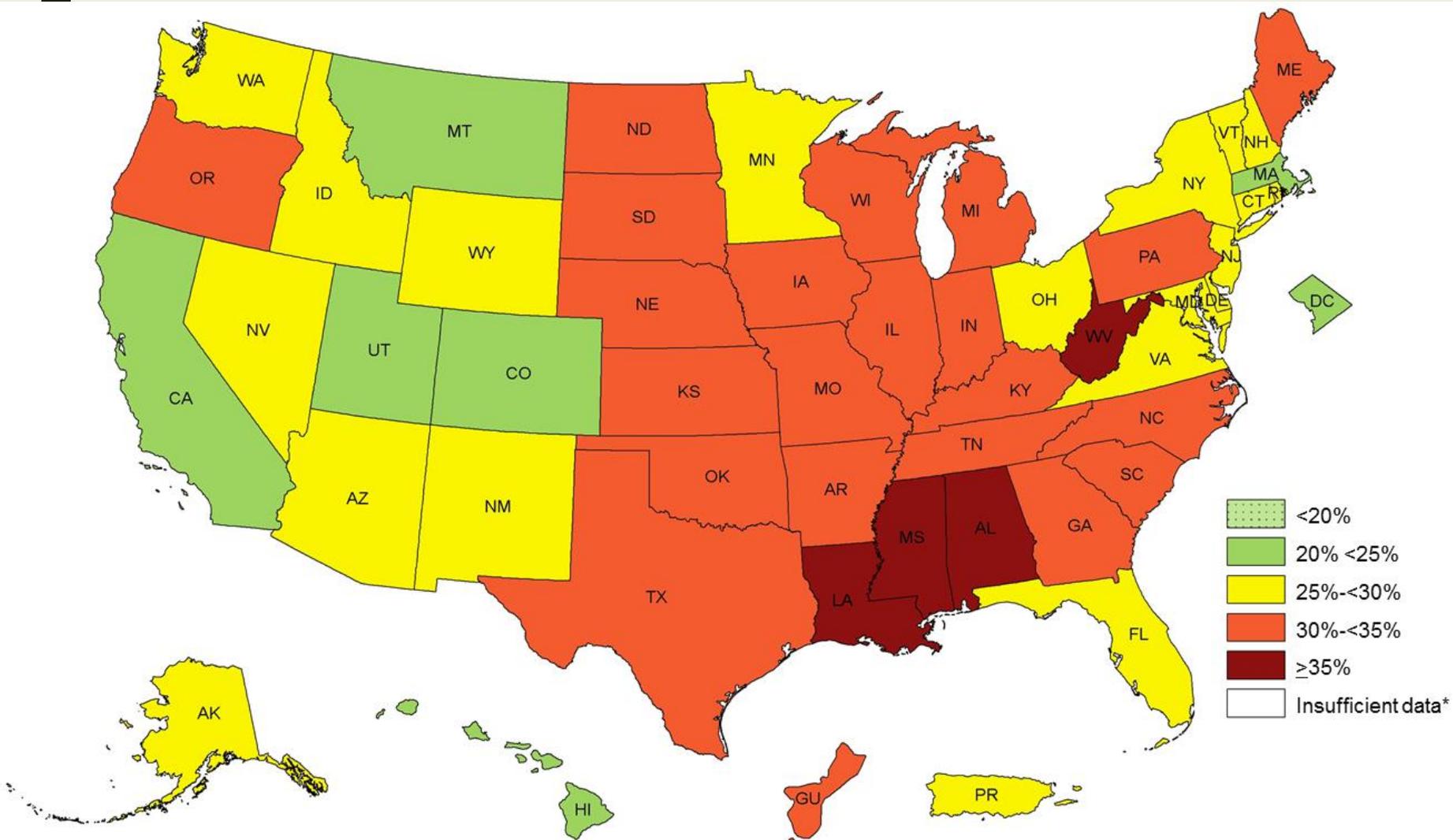
[†] Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.



*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.

PREVALENCE[†] OF SELF-REPORTED OBESITY AMONG U.S. ADULTS BY STATE AND TERRITORY, BRFSS, 2015

[†] Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

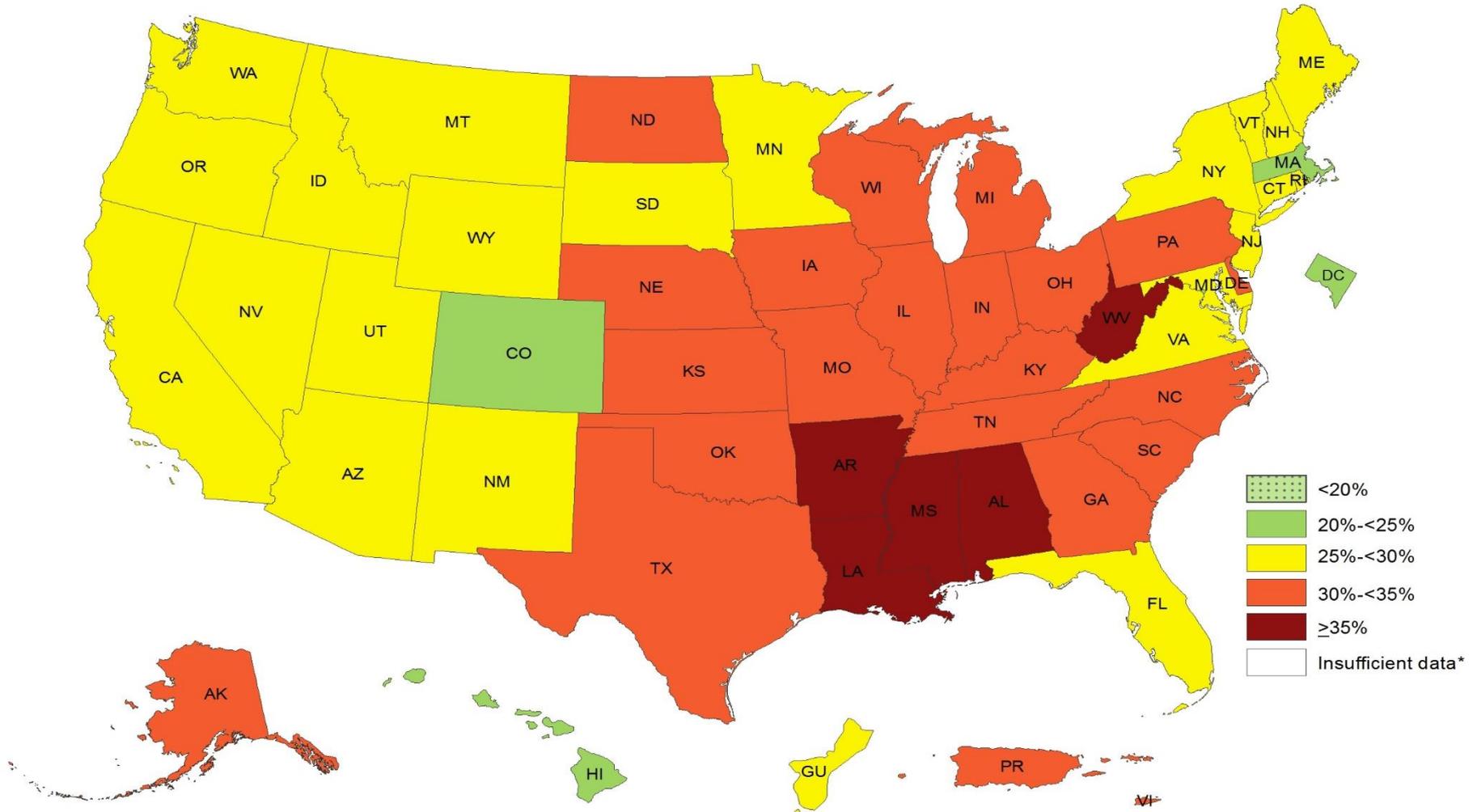


*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.



PREVALENCE¹ OF SELF-REPORTED OBESITY AMONG U.S. ADULTS BY STATE AND TERRITORY, BRFSS, 2016

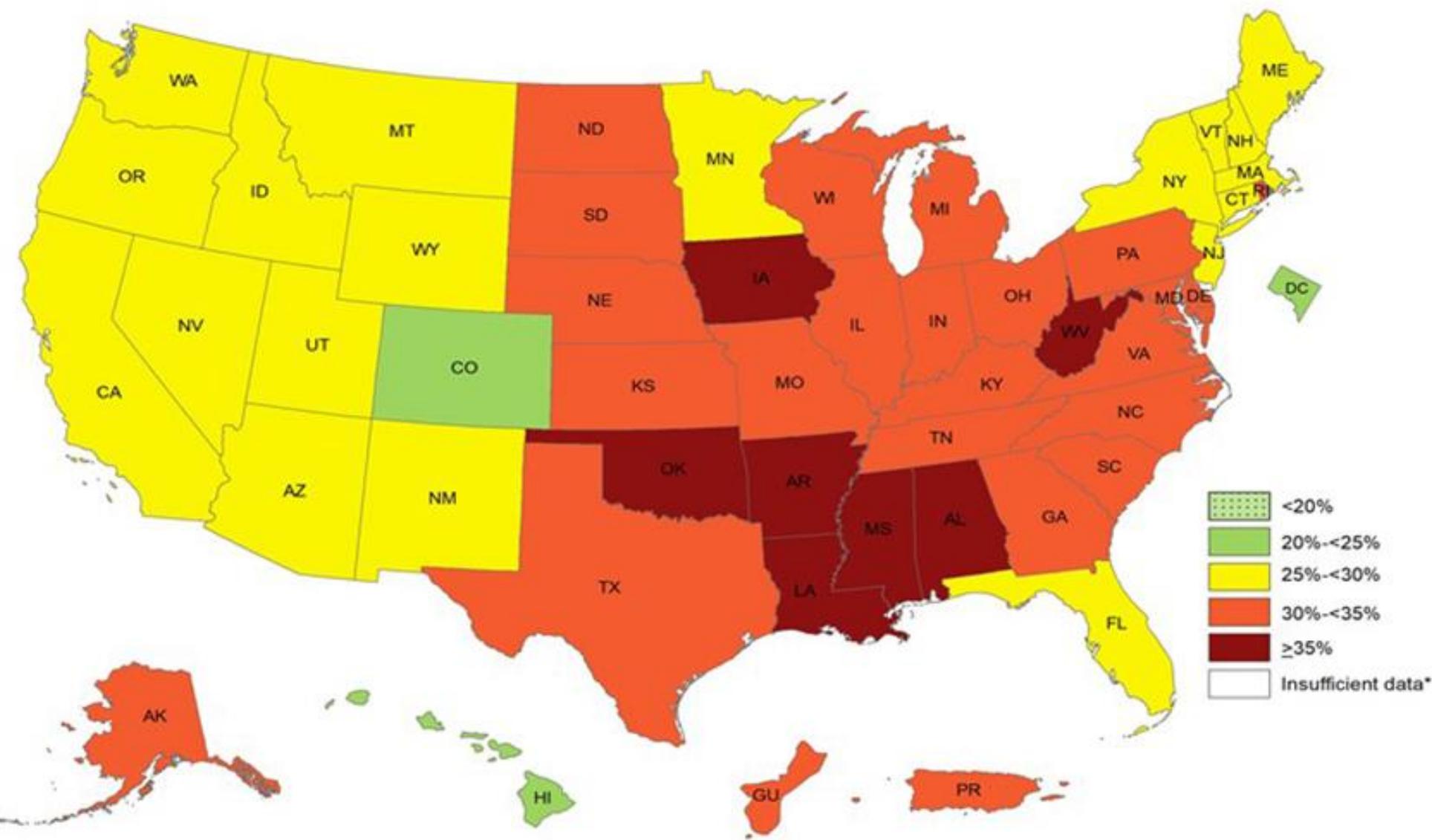
¹ Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

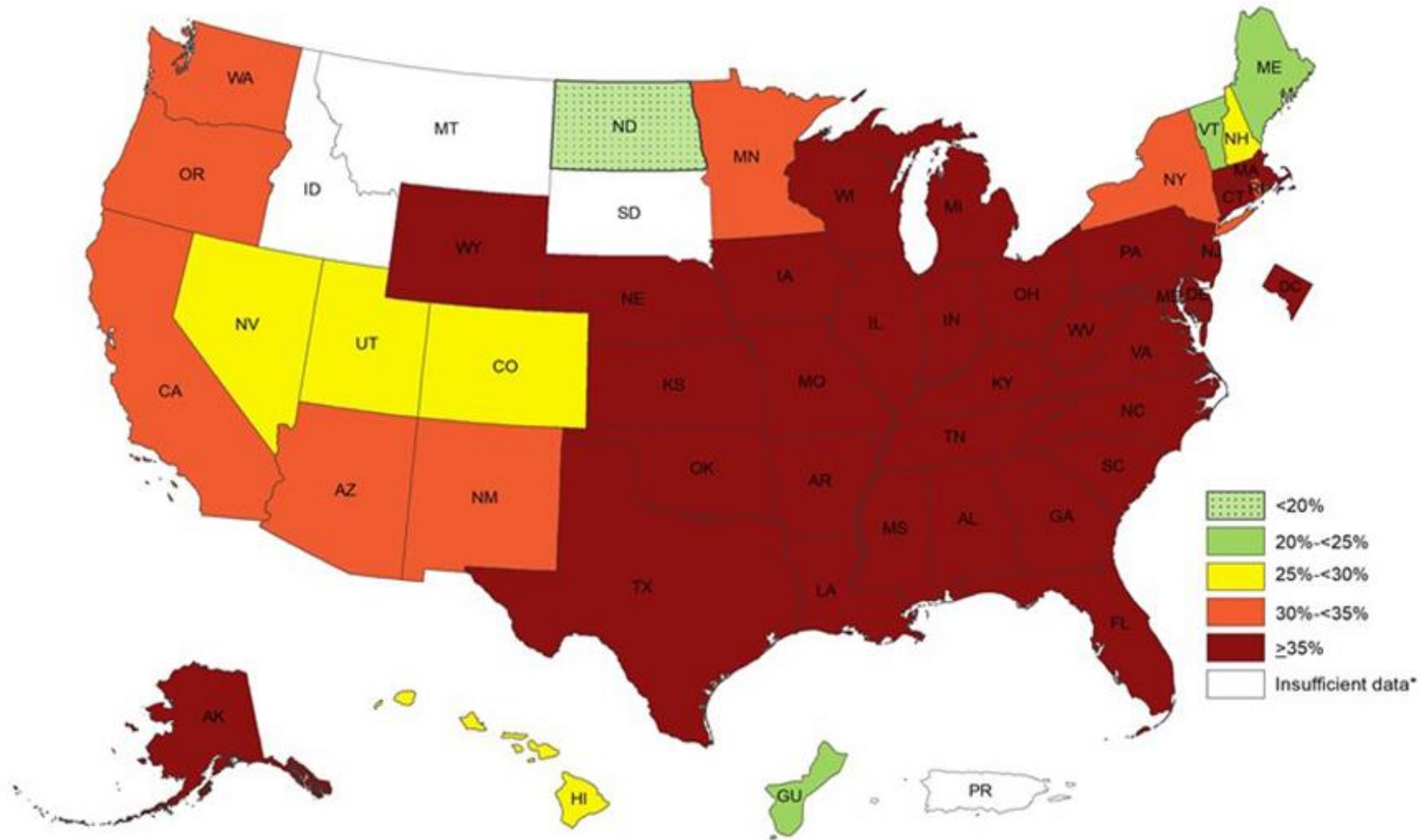


*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.

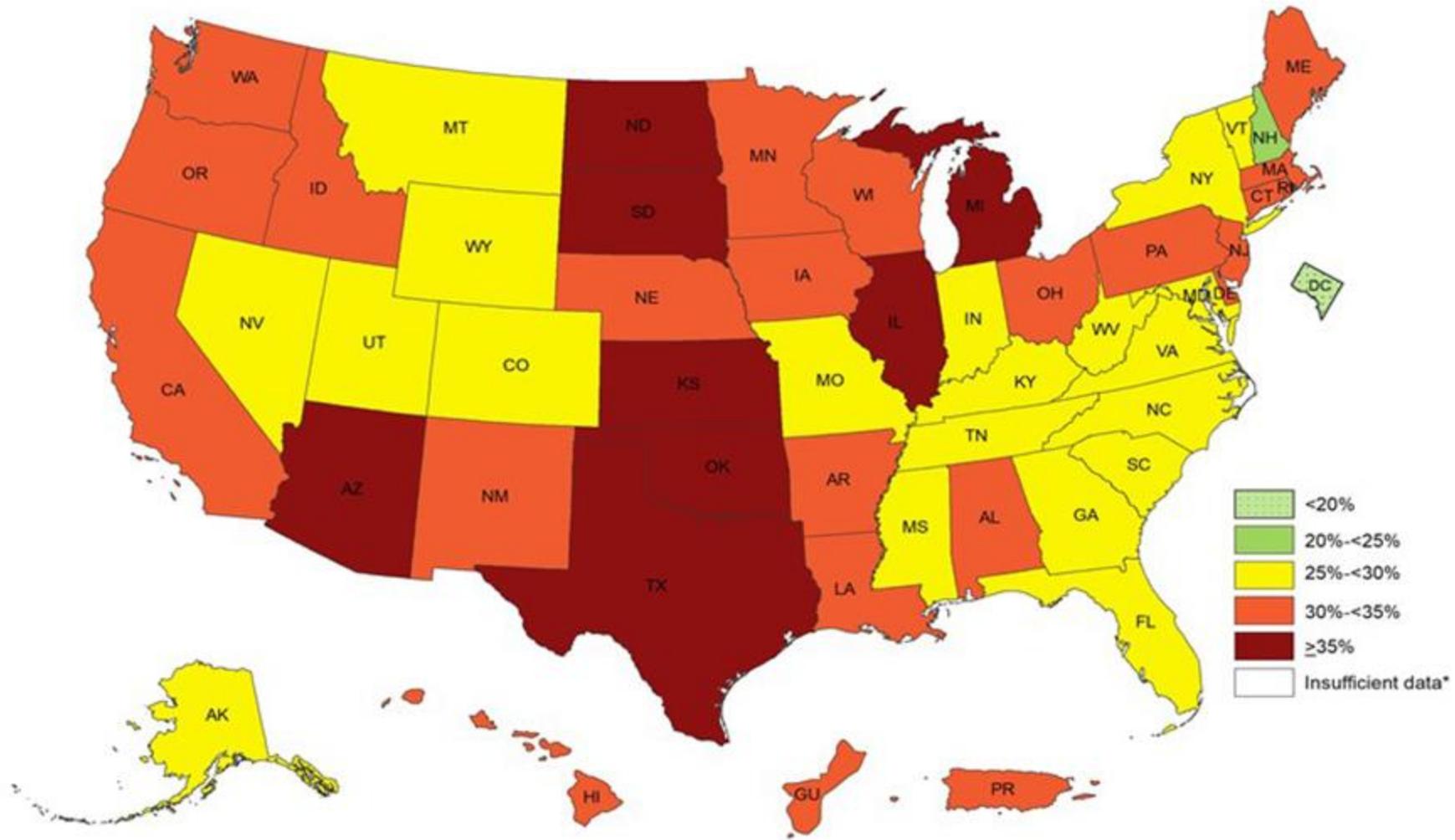


Prevalence¹ of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2017



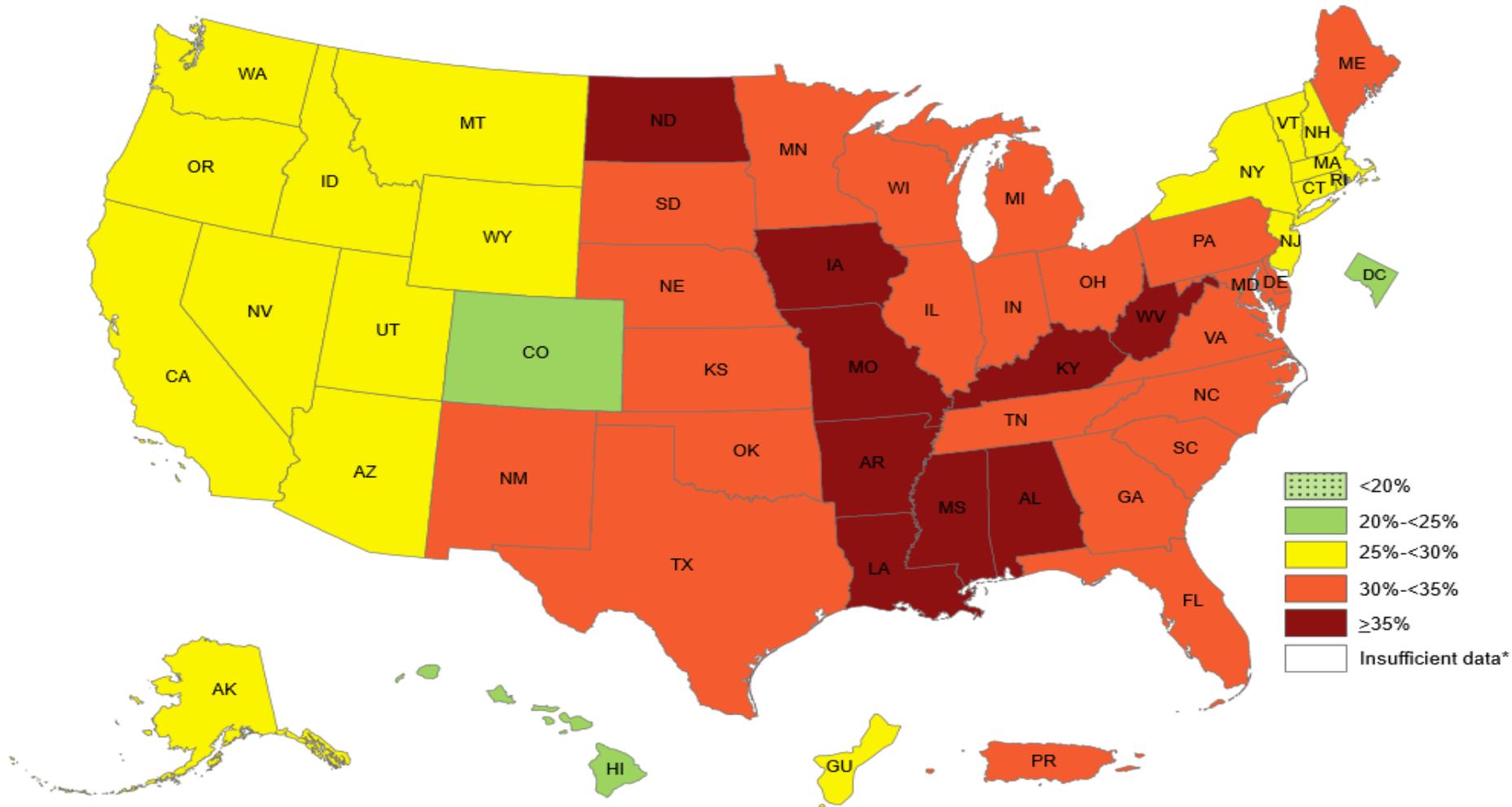


NON-HISPANIC, BLACK ADULTS



HISPANIC ADULTS

Prevalence[†] of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2018



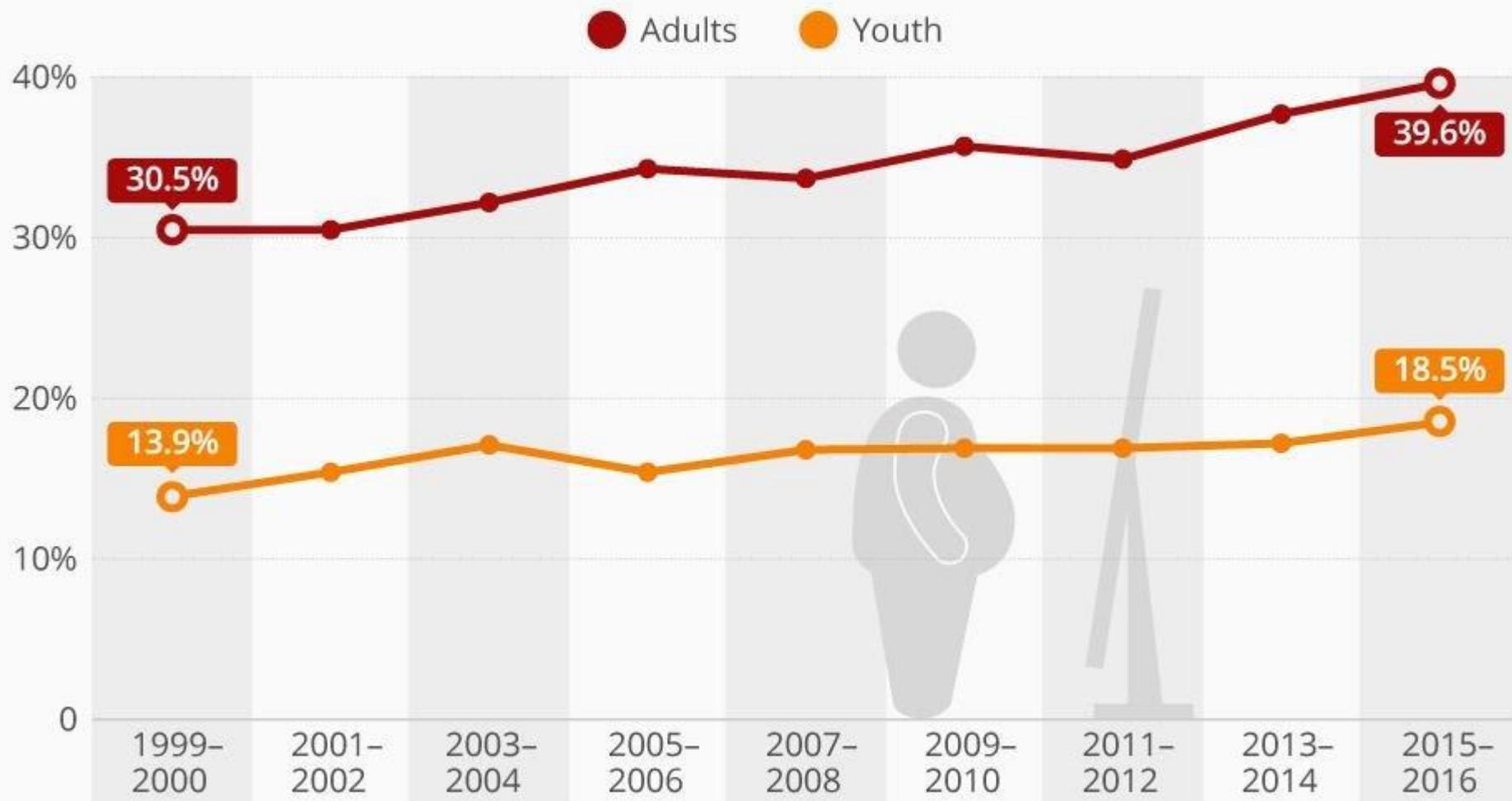
*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) $\geq 30\%$.



[†] Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.

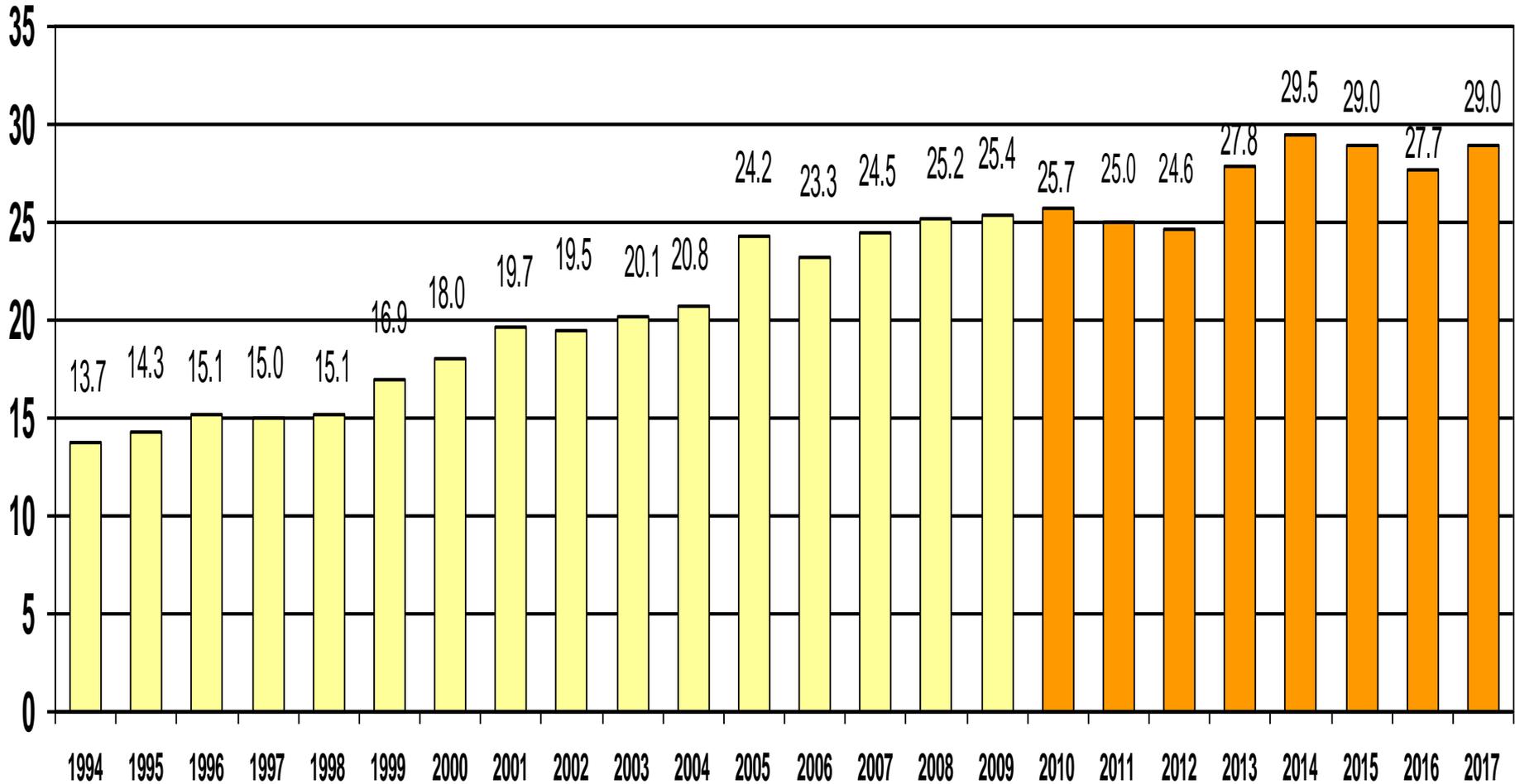
America Is Fatter Than Ever

Obesity prevalence among adults and youths in the U.S.*



Obesity by Year, WY BRFSS

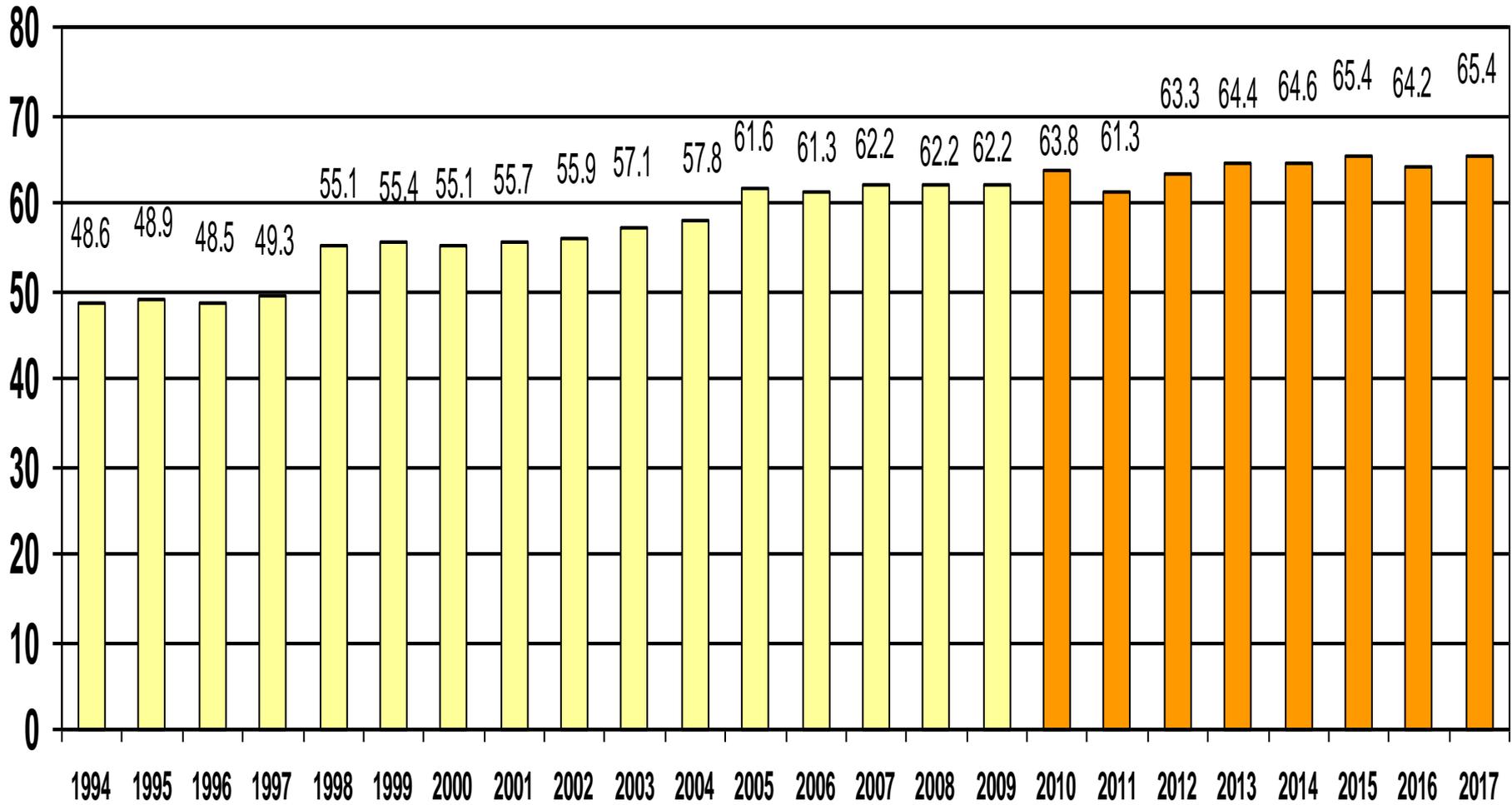
Percent



Wyoming adults with body mass index (weight in kg/height in meters squared) ≥ 30.0 .

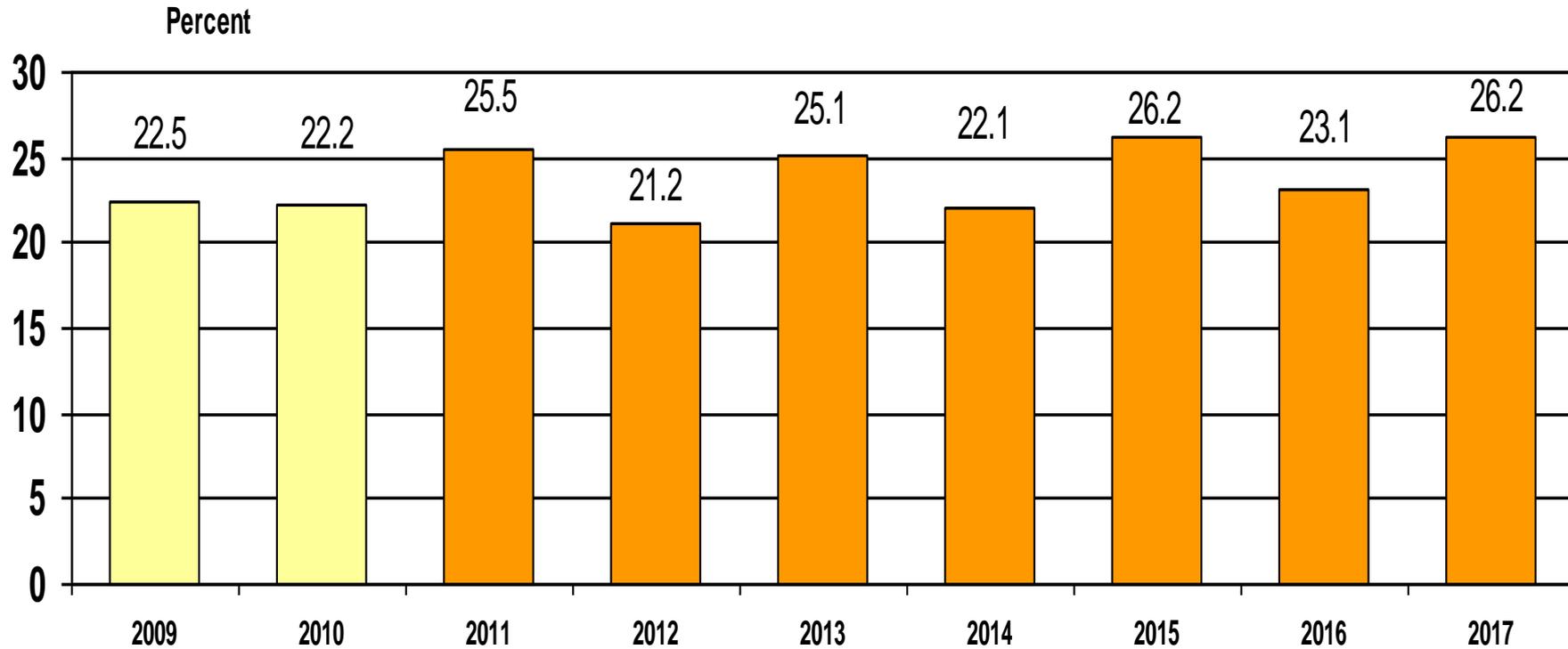
Overweight or Obese by Year, WY BRFSS

Percent



1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

No Leisure Time Physical Activity by Year, WY BRFSS



2016 US Median = 23.1%

Portion Distortion

20 YEARS AGO

TODAY

DIFFERENCE

Renee Comet, National Cancer Institute



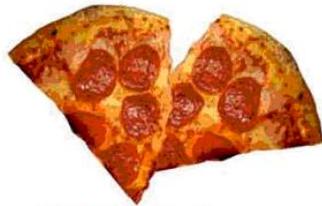
333 Calories



590 Calories

257 MORE CALORIES

Lifting weights for **1 HOUR AND 30 MINUTES** burns approximately 257 calories* **Based on 130-pound person*



500 Calories



850 Calories

350 MORE CALORIES

Playing golf (while walking and carrying your clubs) for **1 HOUR** burns approximately 350 calories* **Based on 160-pound person*



1 cup spaghetti with sauce and 3 small meatballs

500 Calories



2 cups spaghetti with sauce and 3 large meatballs

1,025 Calories

525 MORE CALORIES

Housecleaning for **2 HOURS AND 35 MINUTES** burns approximately 525 calories* **Based on 130-pound person*

20 YEARS AGO

TODAY

DIFFERENCE

Renee Mcgurk, www.flickr.com



Coffee, 8 oz (with whole milk and sugar)

45 Calories



Mocha Coffee, 16 oz (with steamed whole milk and mocha syrup)

350 Calories

305 MORE CALORIES

Walking **1 HOUR AND 20 MINUTES** burns approximately 305 calories* **Based on 130-pound person*



1.5 oz

210 Calories



4 oz

500 Calories

290 MORE CALORIES

Vacuuming for **1 HOUR AND 30 MINUTES** burns approximately 290 calories* **Based on 130-pound person*

Renee Comet, National Cancer Institute



1.5 diameter

55 Calories



3.5 diameter

275 Calories

220 MORE CALORIES

Washing a car for **1 HOUR AND 15 MINUTES** burns approximately 220 calories* **Based on 130-pound person*

PORTION SIZE

The History of Dinner Plate Sizes Corresponds to the Increase in Obesity

8.5-inch

1960's. Dinner Plate
size = 8.5-9-inch.
Holds about
800 calories

10-inch

1980's. Dinner Plate
size = 10-inch.
Holds about
1000 calories
(20% kcal increase)

11-inch

2000's. Dinner Plate
size = 11-inch.
Holds about
1600 calories
(35% kcal increase)

12-inch

2009. Dinner Plate
size = 12-inch.
Holds about
1900 calories
(15% kcal increase)

The Portion Size Illusion

Which plate contains the most food?



Think about it before looking at the answer below

There is exactly the same amount of food on each plate

UNITED STATES



GERMANY



ITALY



MEXICO



EGYPT

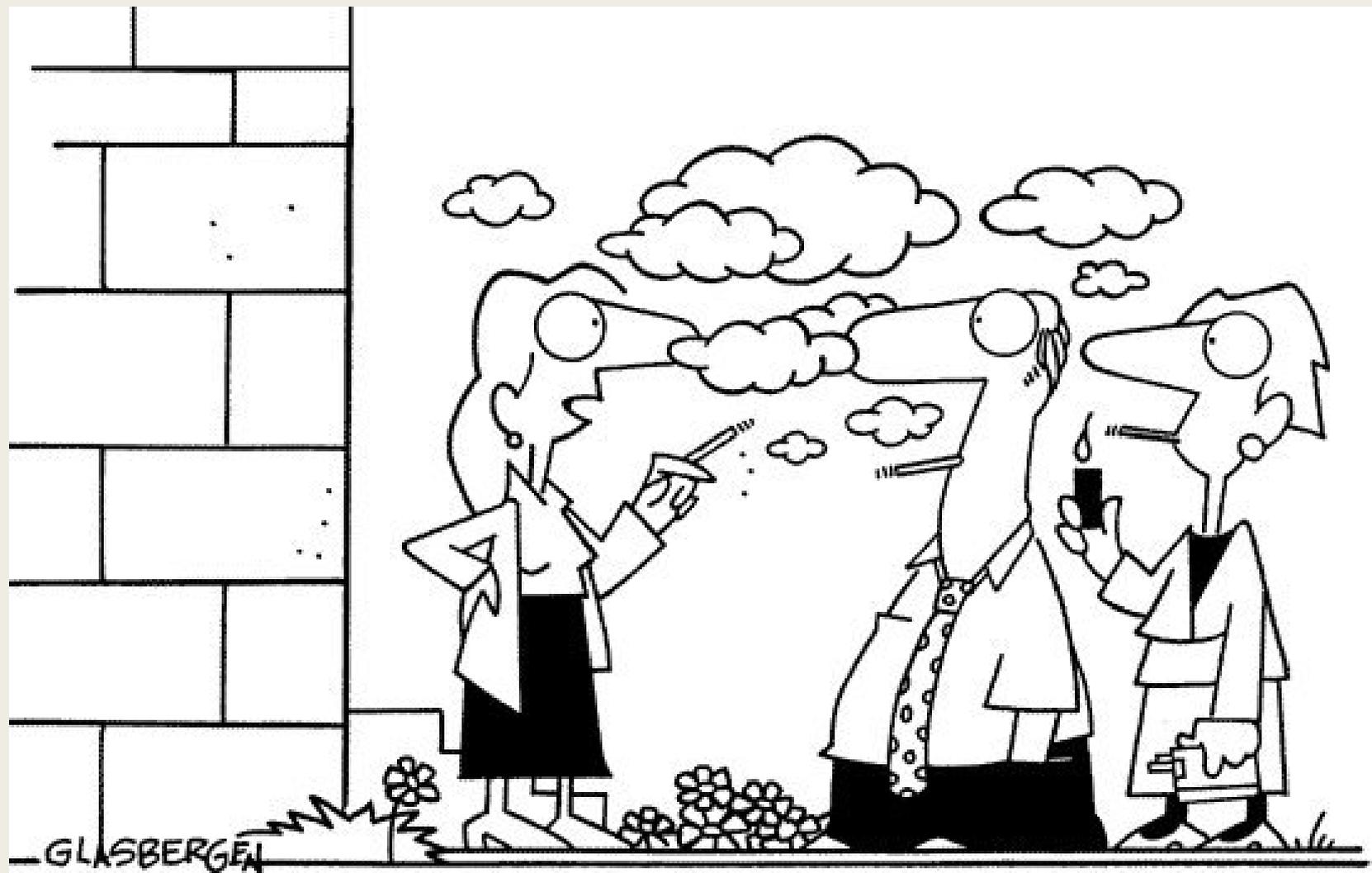


ECUADOR



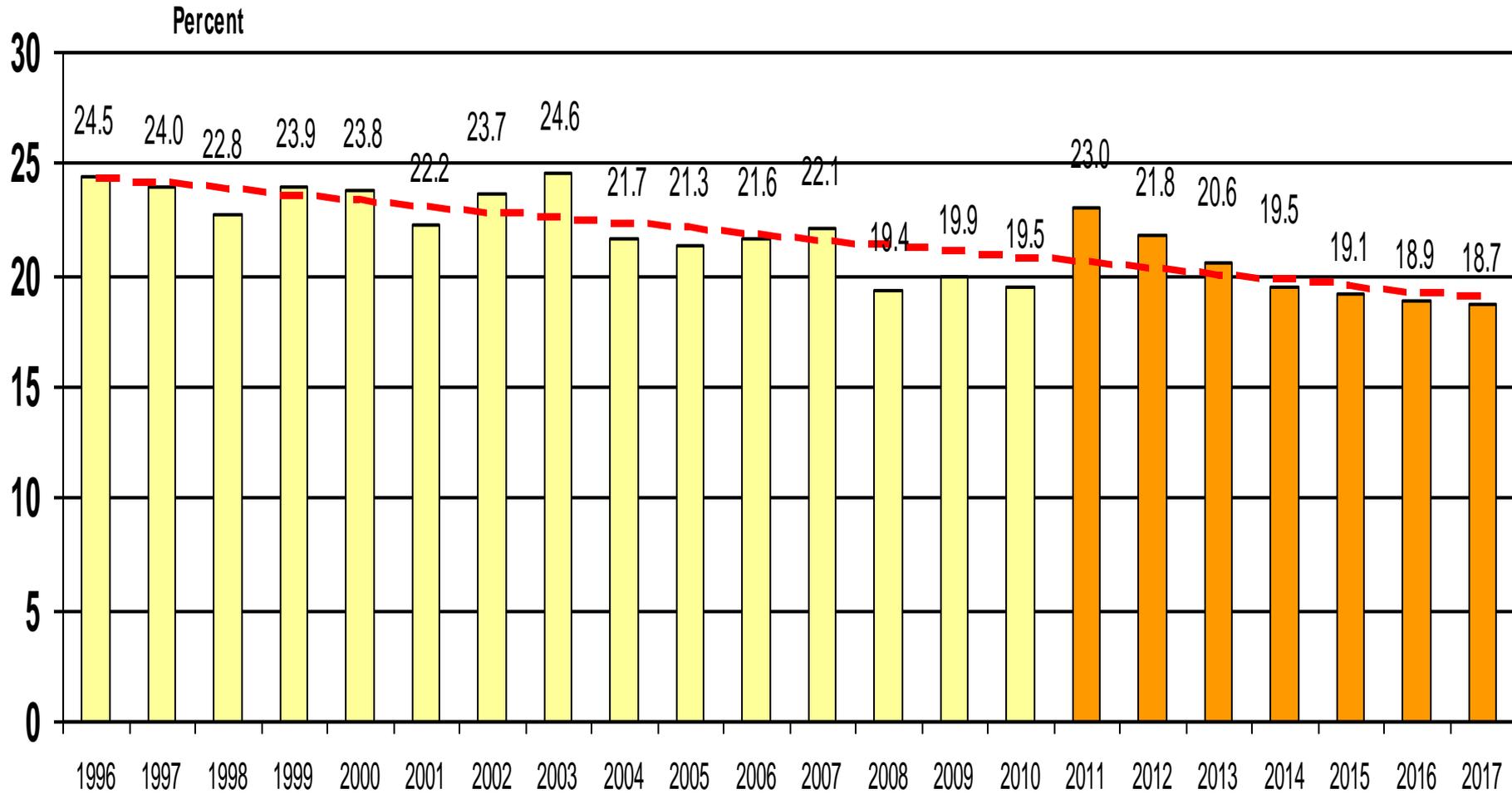
UNITED STATES





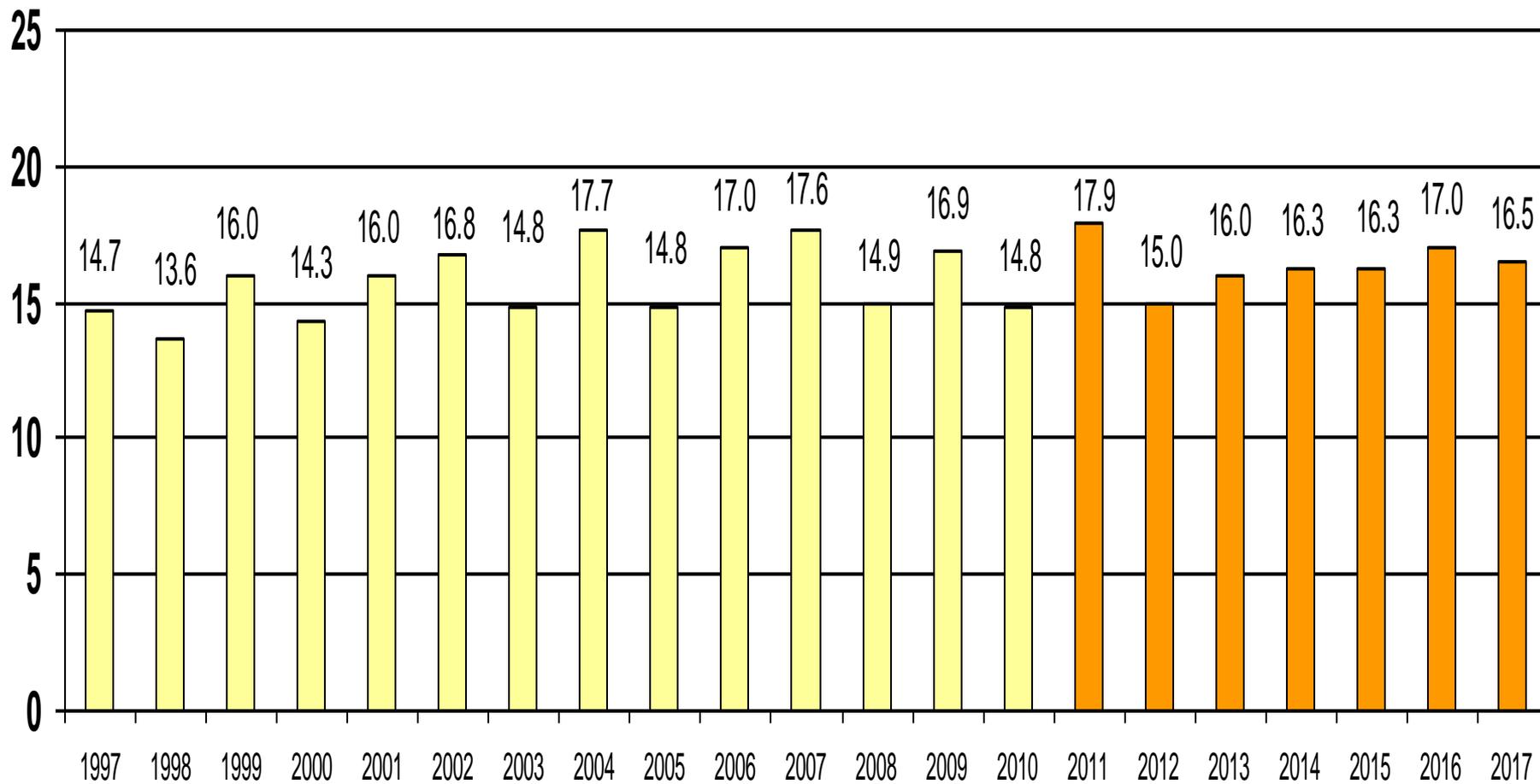
“That’s what I like best about smoking—it gets me out in the fresh air a couple times a day.”

Current Smoking by Year, WY BRFSS

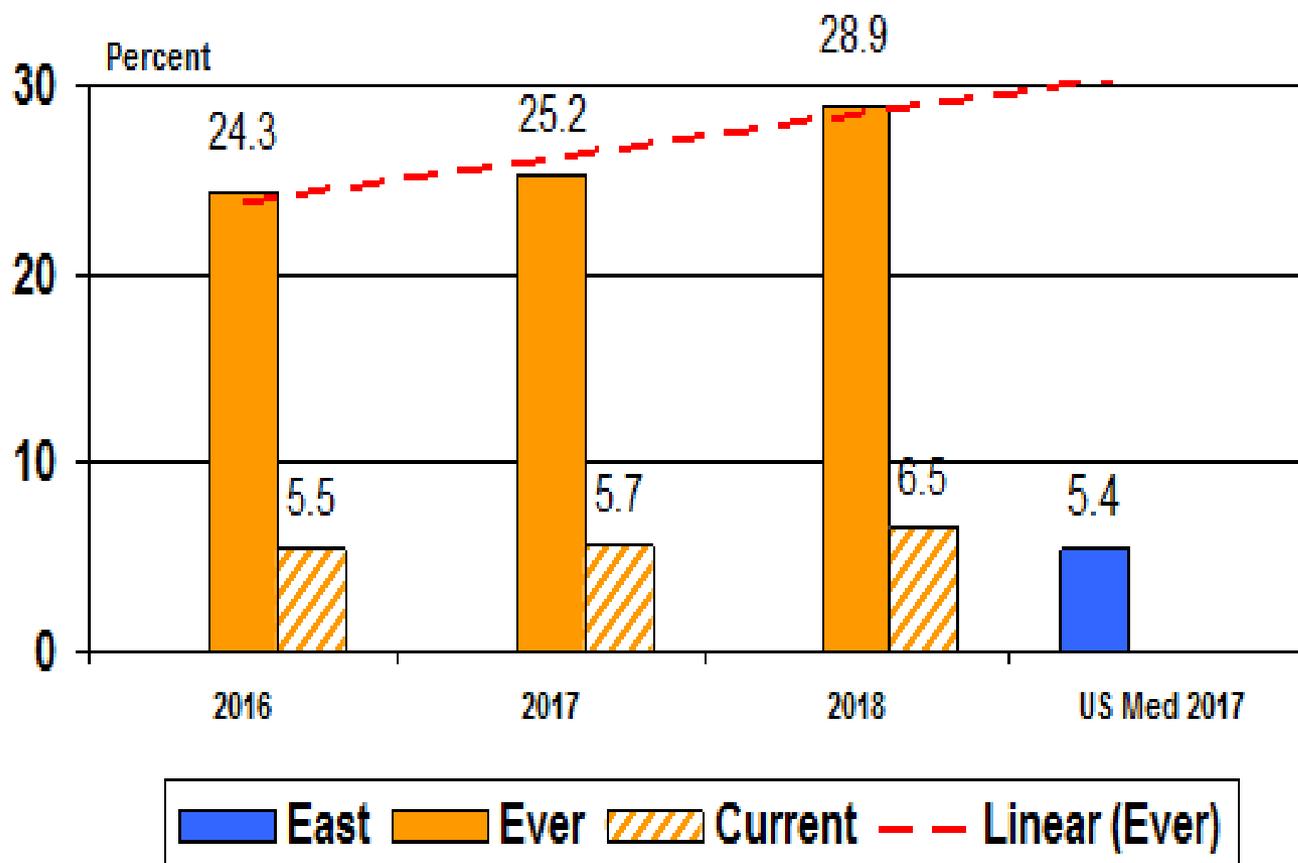


Male Smokeless Tobacco Use by Year, WY BRFSS

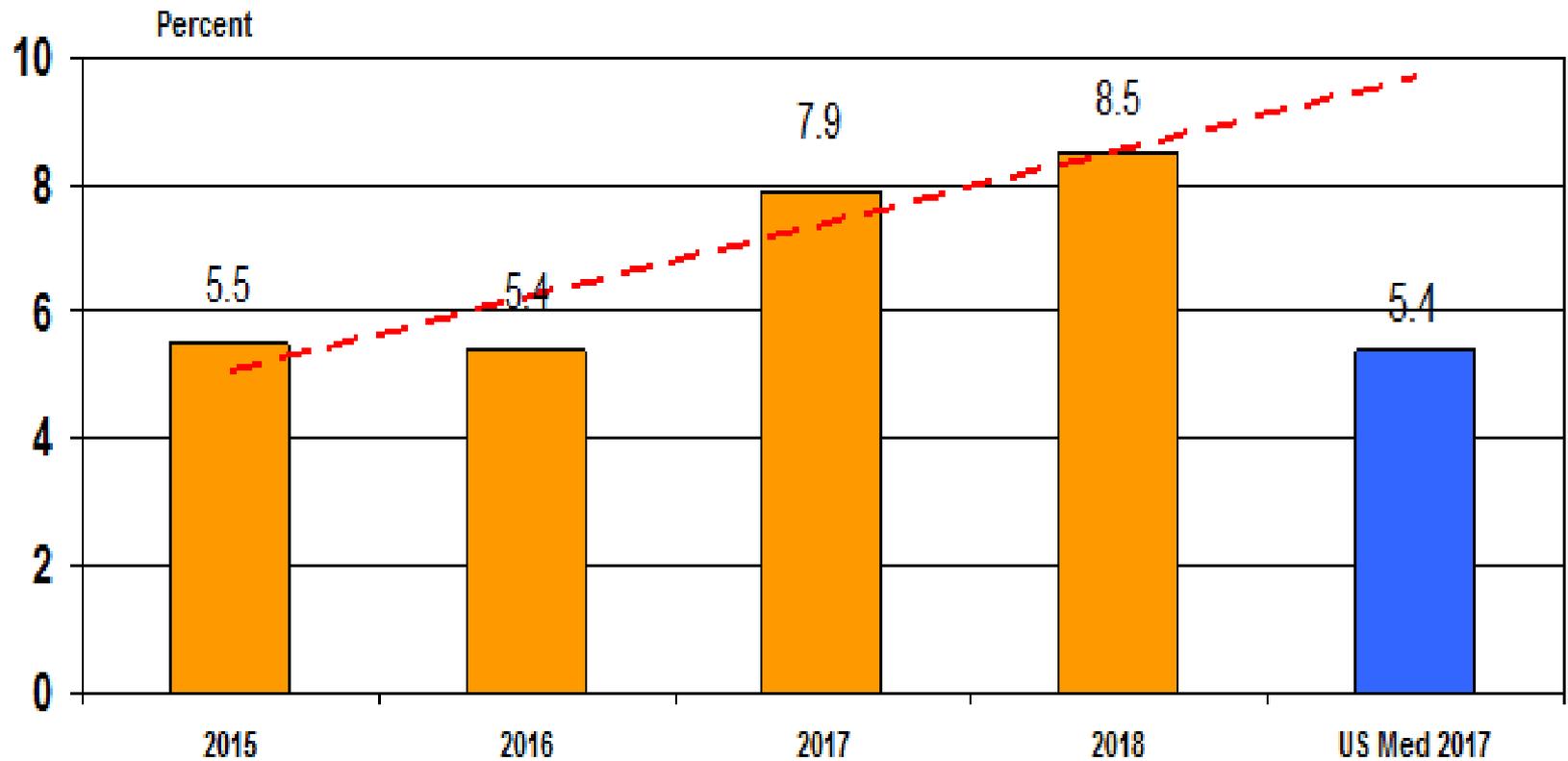
Percent



E-cigarette Use by Year, WY BRFSS



Marijuana Use in Past Month by Year, WY BRFSS



FY2018 Hospital Discharge

	INPATIENT		ER or URGENT	
	# Discharges	Charges	# Discharges	Charges
HEART DISEASE	6,090	\$259,915,754.88	17,246	\$112,709,843.88
CANCER	2,194	\$79,201,519.23	1,651	\$9,207,286.56
COPD	7,465	\$260,562,141.04	11,871	\$52,229,596.85
DIABETES	7,901	\$295,025,147.52	10,819	\$57,784,817.33
STROKE	1,497	\$61,788,592.84	942	\$8,426,988.42
ALZHEIMER'S	451	\$13,540,622.30	764	\$31,78,231.21
TOTAL	25,598	\$970,033,777.81	43,293	\$240,358,533.04

QUESTIONS?

GLASBERGEN

© Randy Glasbergen / glasbergen.com



**“You can enjoy diabetes, high cholesterol
and hypertension or you can suffer
from good health.”**