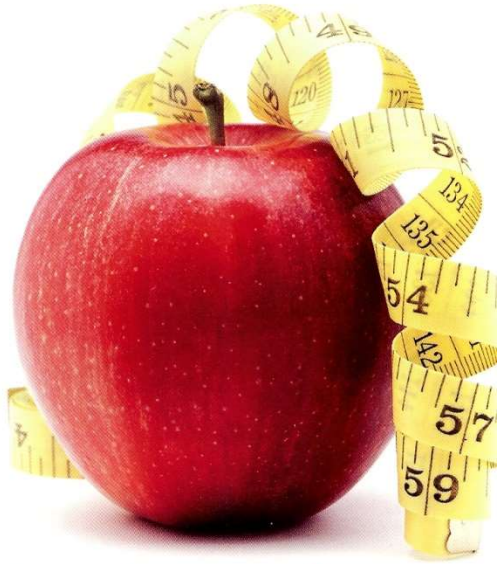
The Weight Loss & Wellness Center
at Oklahoma Heart Institute | An HMR Program

Life-Long Solution for Managing Your Weight.

Experience Rapid & Effective Weight Loss

Lose Weight While Feeling Full & Satisfied

Learn Skills for Long-Term Weight Management



For more information, please call:

918.579.3444

OklahomaHeartInstitute.hmrdiet.com

3-15

Preventing and Curing Cardiovascular Disease: The OHI Weight Loss & Wellness Center Approach

Eric G. Auerbach, MD, FACC

Director of Preventive Cardiology, Oklahoma Heart Institute

Medical Director, The Weight Loss & Wellness Center at Oklahoma Heart Institute


terminology
[tur-muh-nol-uh-jee]
noun, plural 'terminologies'
1. the system of terms belonging or peculiar to a science, art, or specialized subject; nomenclature.
2. the science of terms, as in particular sciences or arts.
Word Origin and History for 'terminology'

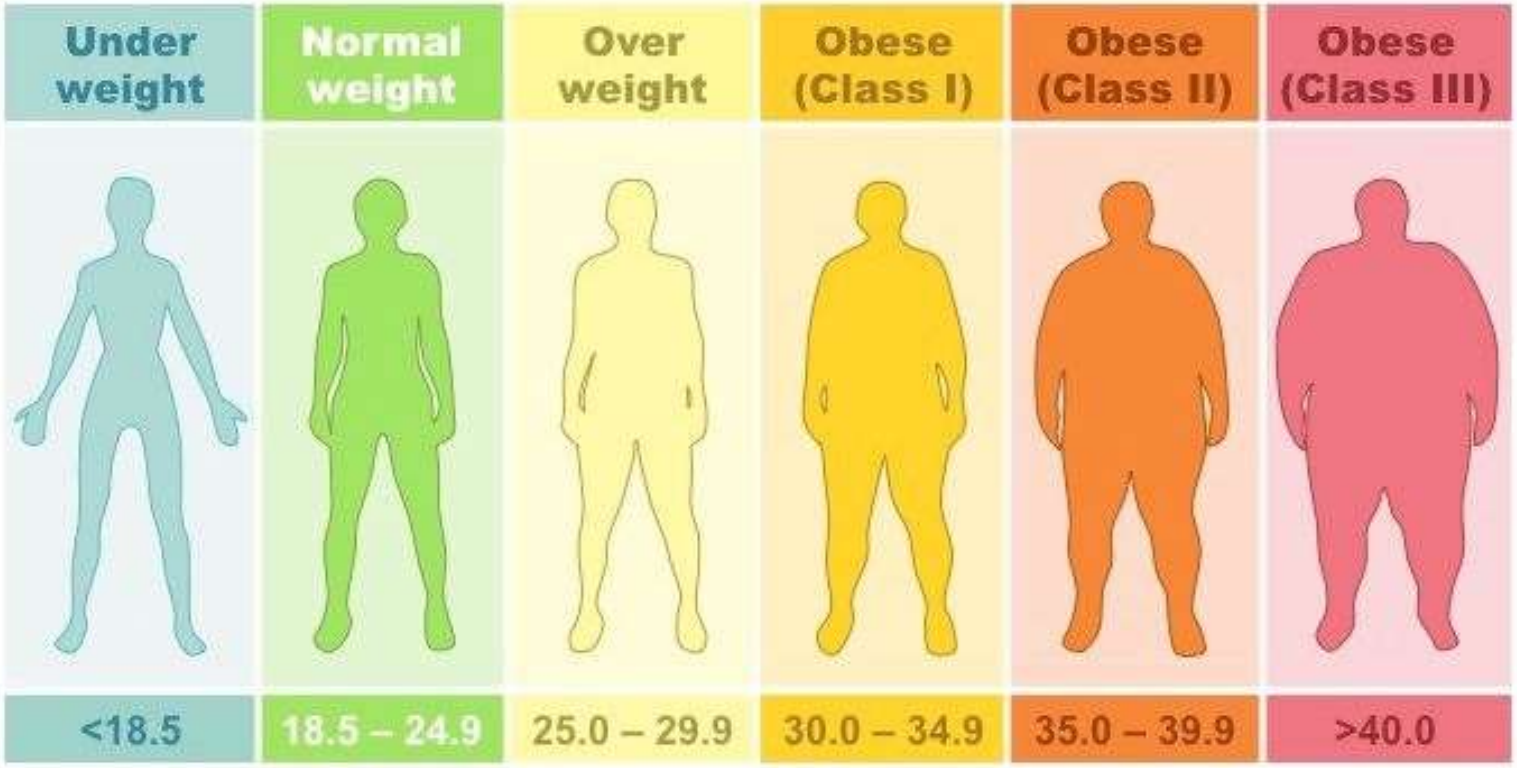
Body Mass Index

Question

"Morbid obesity" is defined by

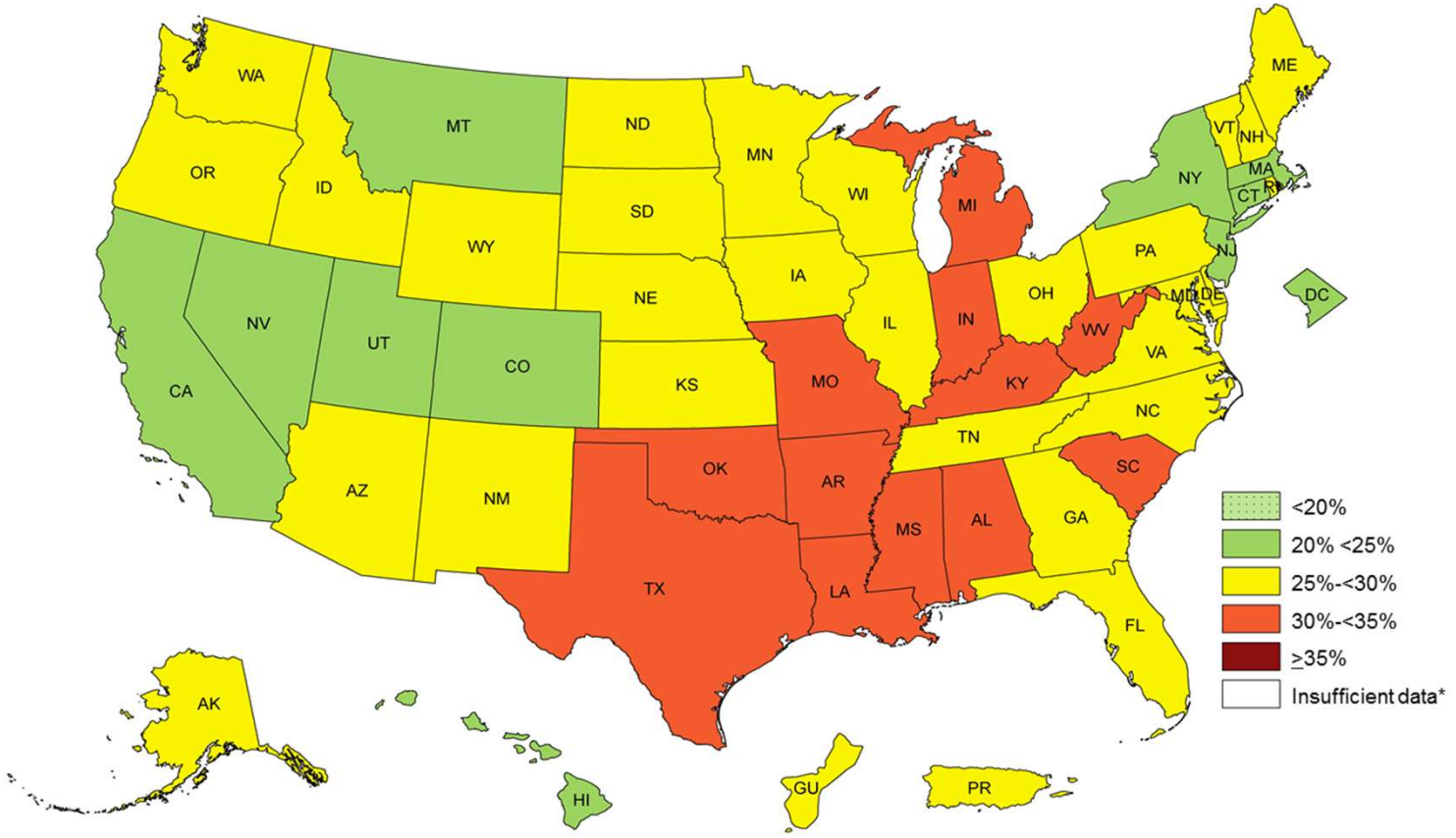
A. BMI of at least 30
B. BMI of at least 35 with at least one serious obesity-related condition.
C. BMI of at least 40
D. B or C
E. A patient who is fatter than his or her healthcare provider.

NIH/WHO Definitions



Prevalence¶ of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2011

¶ 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%.**

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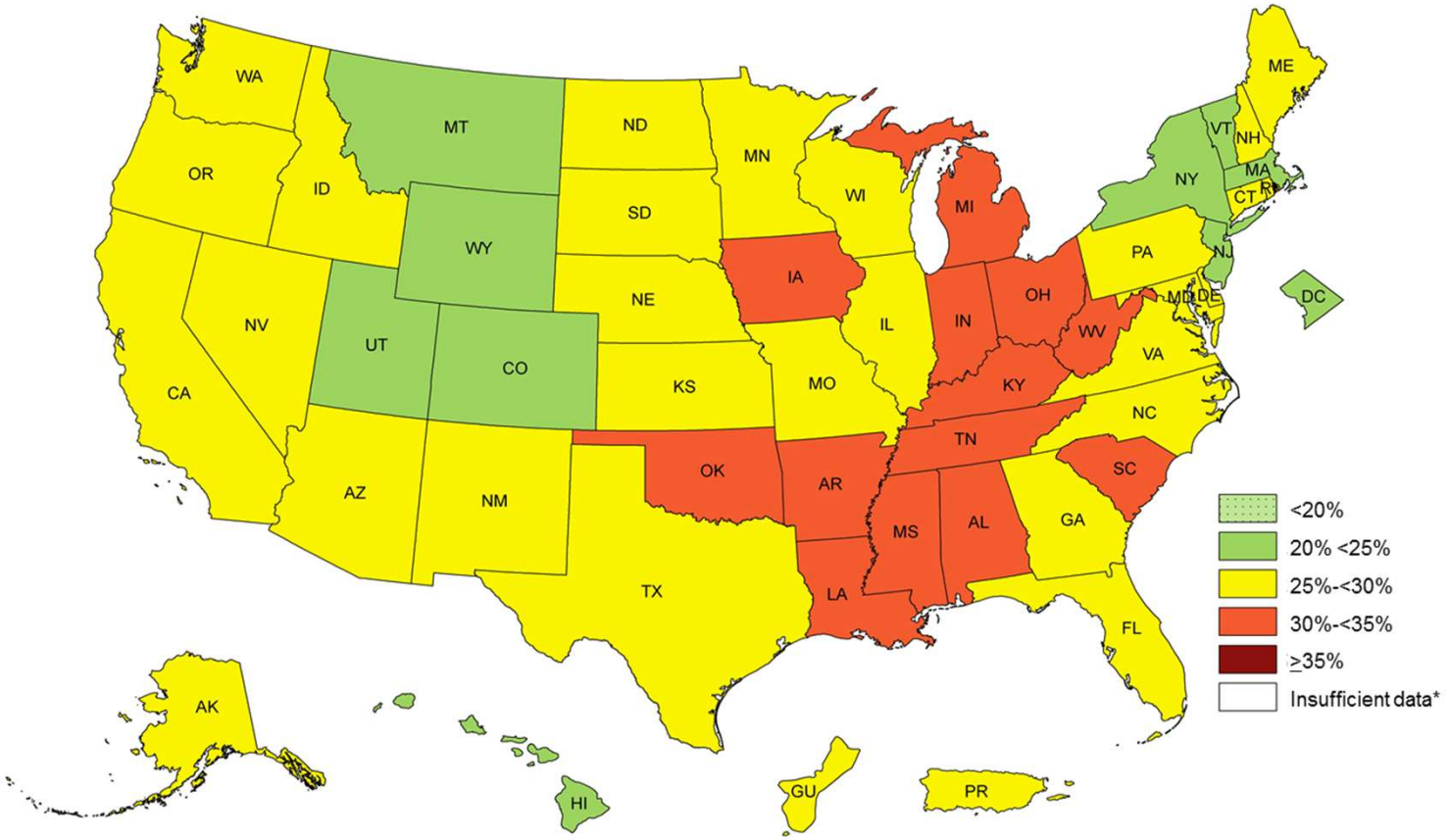

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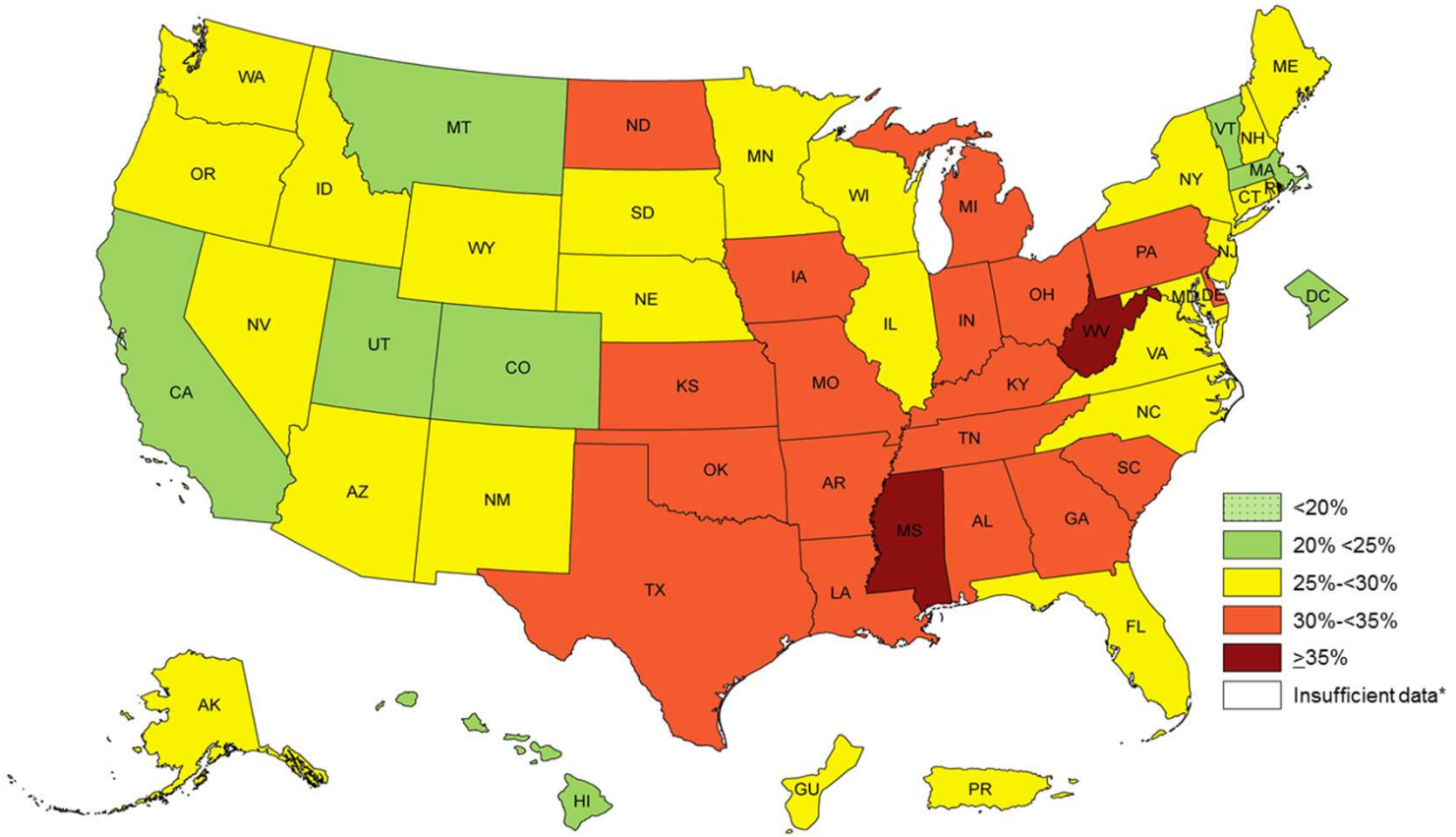

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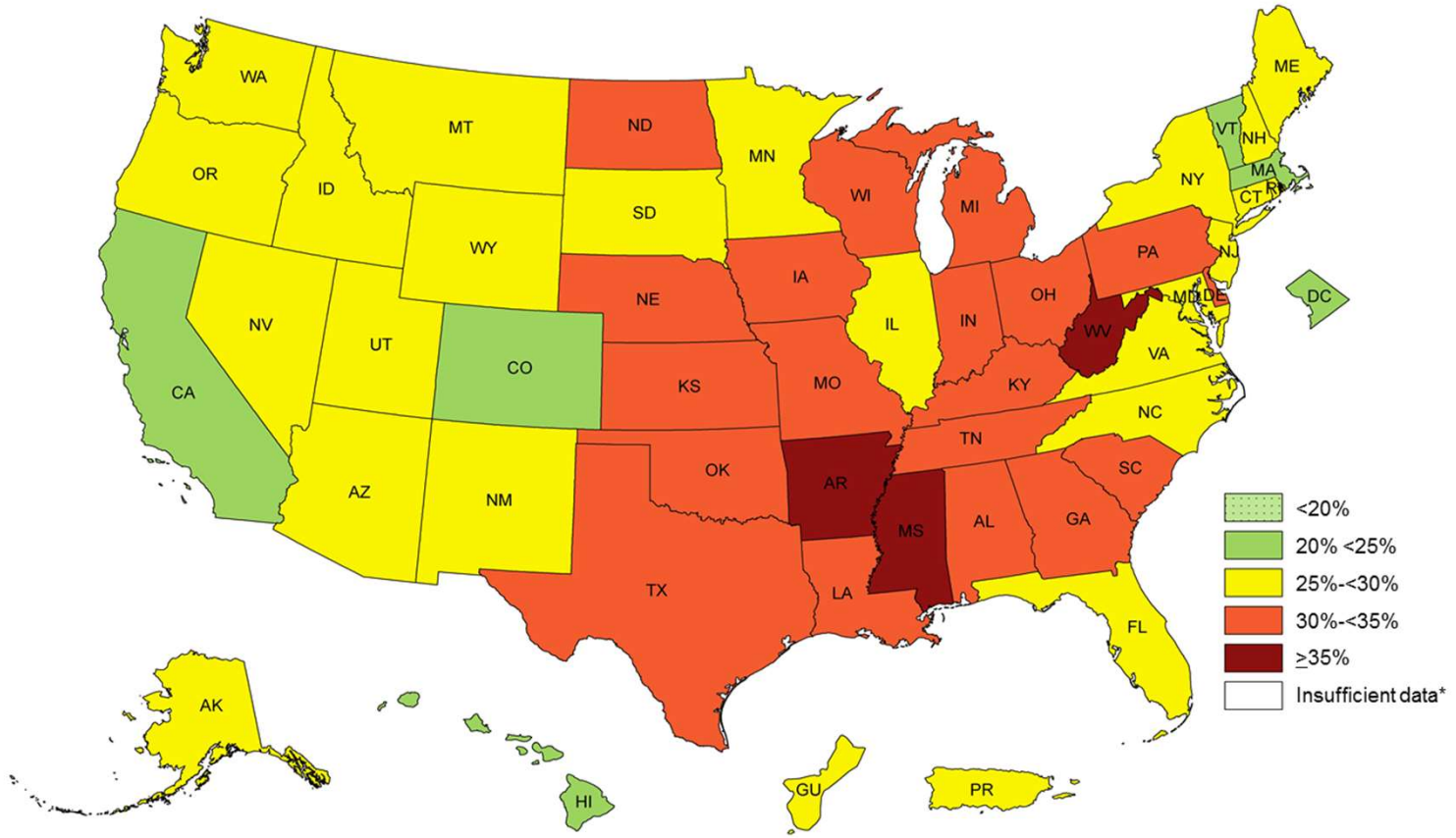
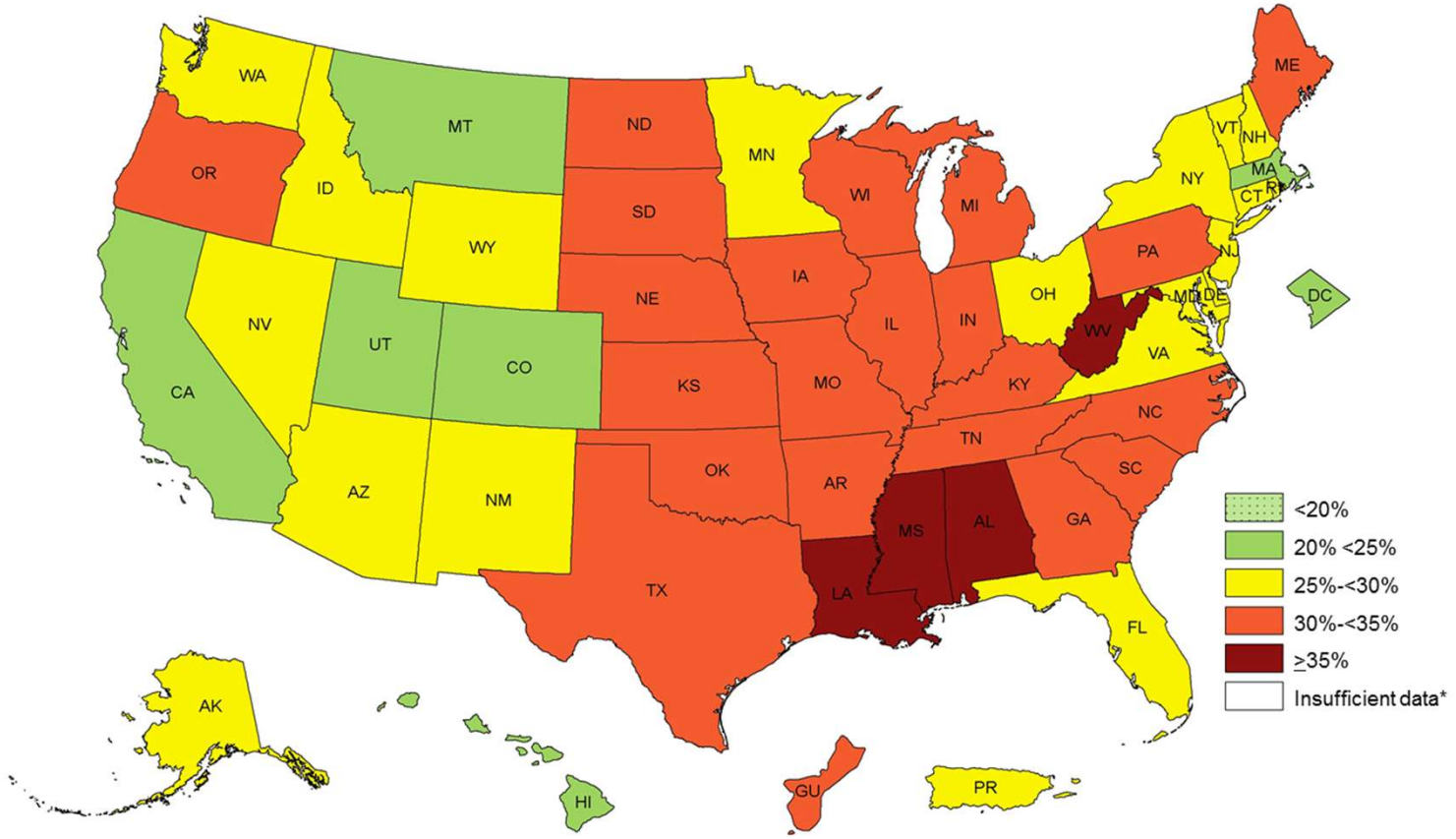


***Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.**

Prevalence¶ of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2015

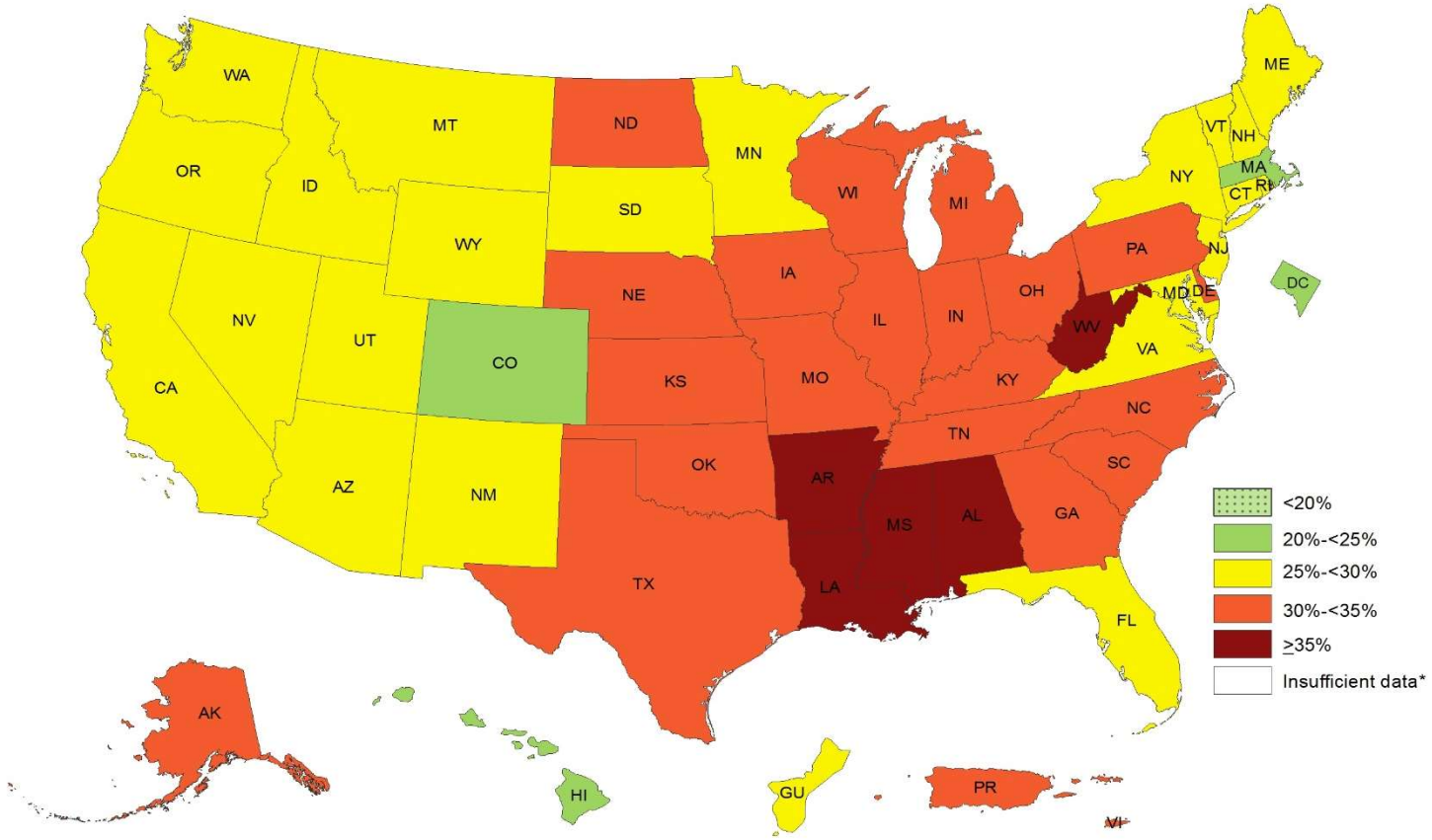
¶ Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.



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

Prevalence¶ of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2016

¶ 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, 2017

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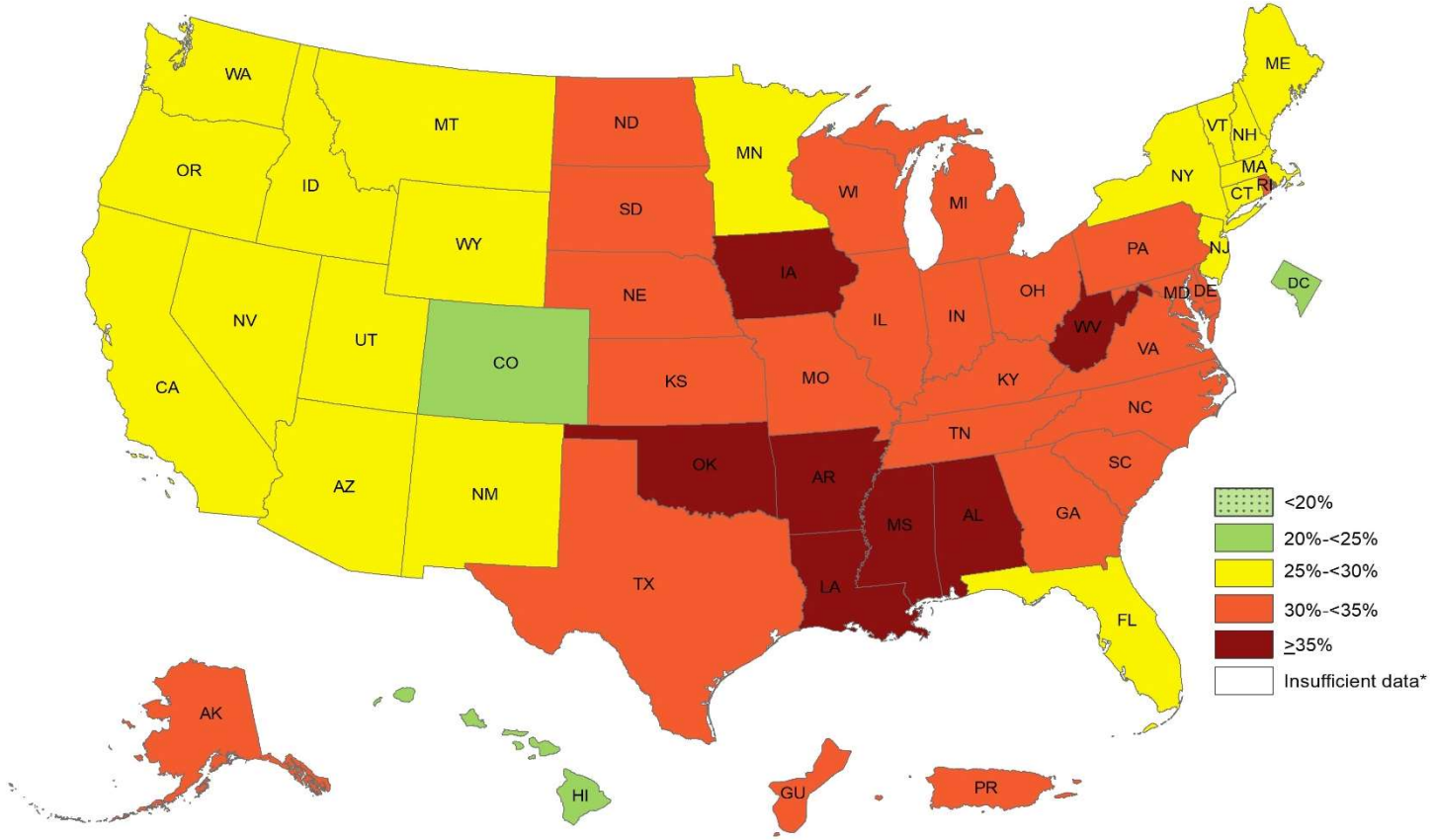

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Prevalence¶ of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2018

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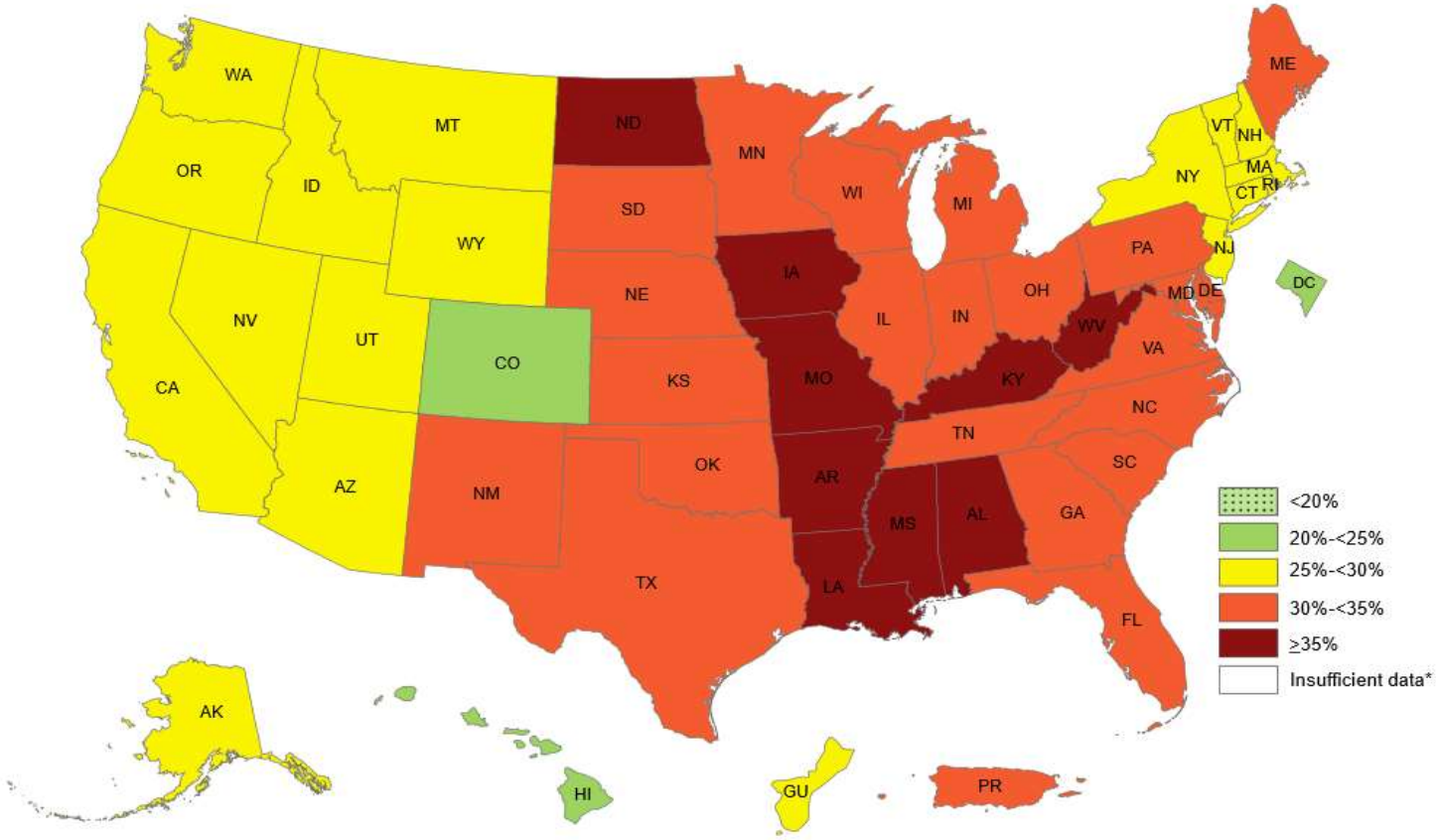


***Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.**

Obesity: The New "Normal"

- In 2015–2016, the prevalence of obesity was 39.8% in adults.
- In 2015–2016, the prevalence of obesity was 18.5% in youth.

CDC NCHS Data Brief, No. 288, October 2017

Obesity prevalence doubled among U.S. adults between 1980 and 2004.

JAMA 2012; 307(5):491-497

The number of Americans with a BMI ≥ 40 (~100 lbs. overweight) more than quadrupled between 1980 and 2012.

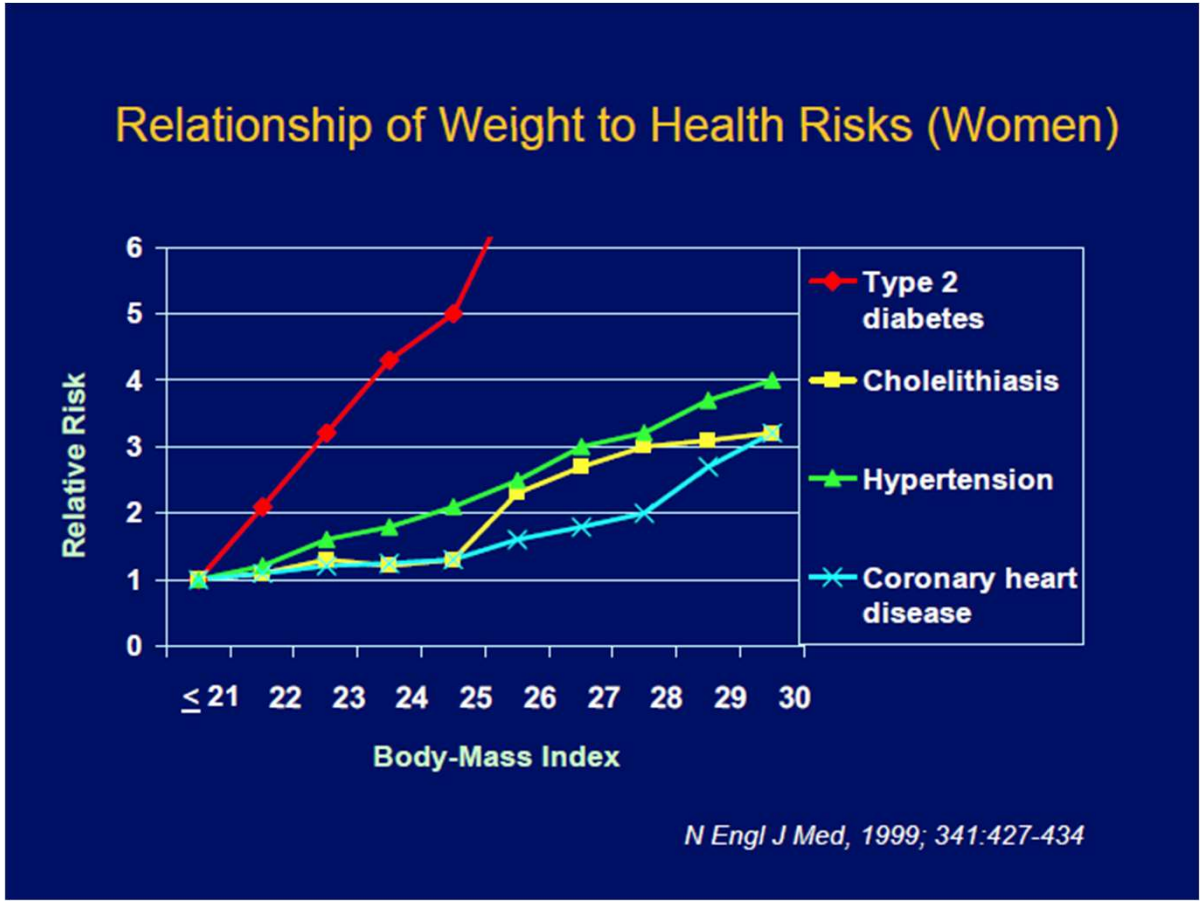
http://www.cdc.gov/nchs/data/hestat/obesity_adult_11_12/obesity_adult_11_12.pdf

Question

Adverse health outcomes are associated with a BMI above

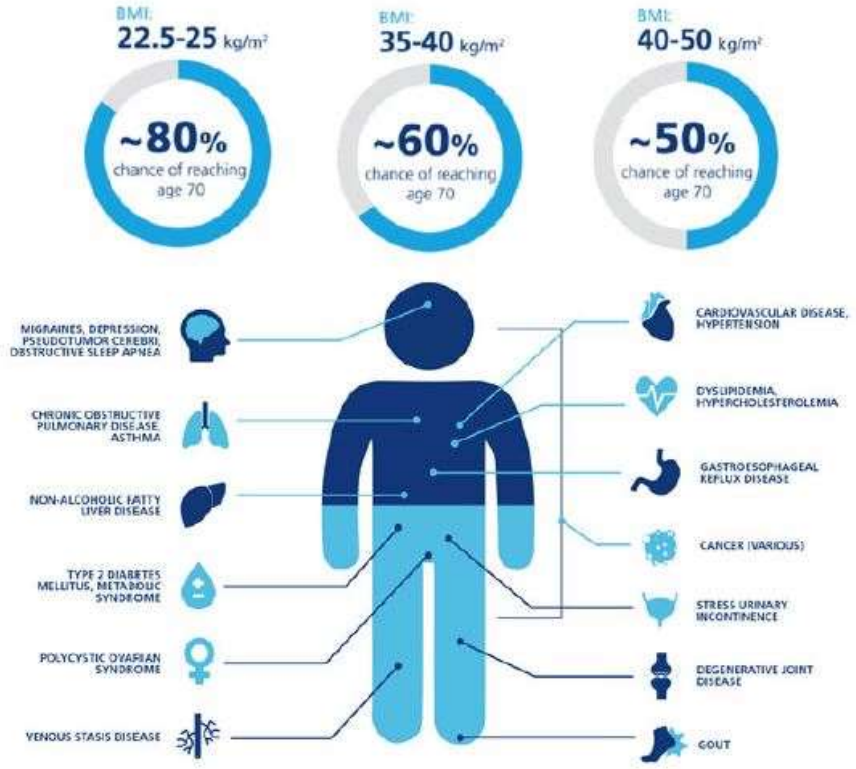
A. 22
B. 25 (Overweight)
C. 30 (Obesity)
D. 35 (Morbid obesity)
E. 40

What is Morbid Obesity?



For every 5 kg/m^2 BMI range above 22.5-25 kg/m^2, there is a

30% increase in overall mortality



Lancet. 2009;373:1083-1096
Obes Rev. 2017;18:715-723

Question

Robust data supports that healthy weight maintenance can potentially prevent and cure which of the following conditions?

A. Diabetes
B. Atrial fibrillation
C. Congestive heart failure
D. A and C
E. All of the above

Coronary Artery Disease

- CAD is the #1 cause of death in men and women worldwide.
- For persons aged 40 years, the lifetime risk of developing CAD is

  49% in men

  32% in women

INTERHEART

1. High ApoB:ApoA1 ratio
2. Smoking
3. Psychosocial factors
4. Abdominal obesity
5. Diabetes
6. Hypertension
7. (Lack of) alcohol consumption
8. (Lack of) daily exercise
9. (Lack of) daily fruit and vegetable intake

Lancet 2004; 364: 937-52

INTERHEART

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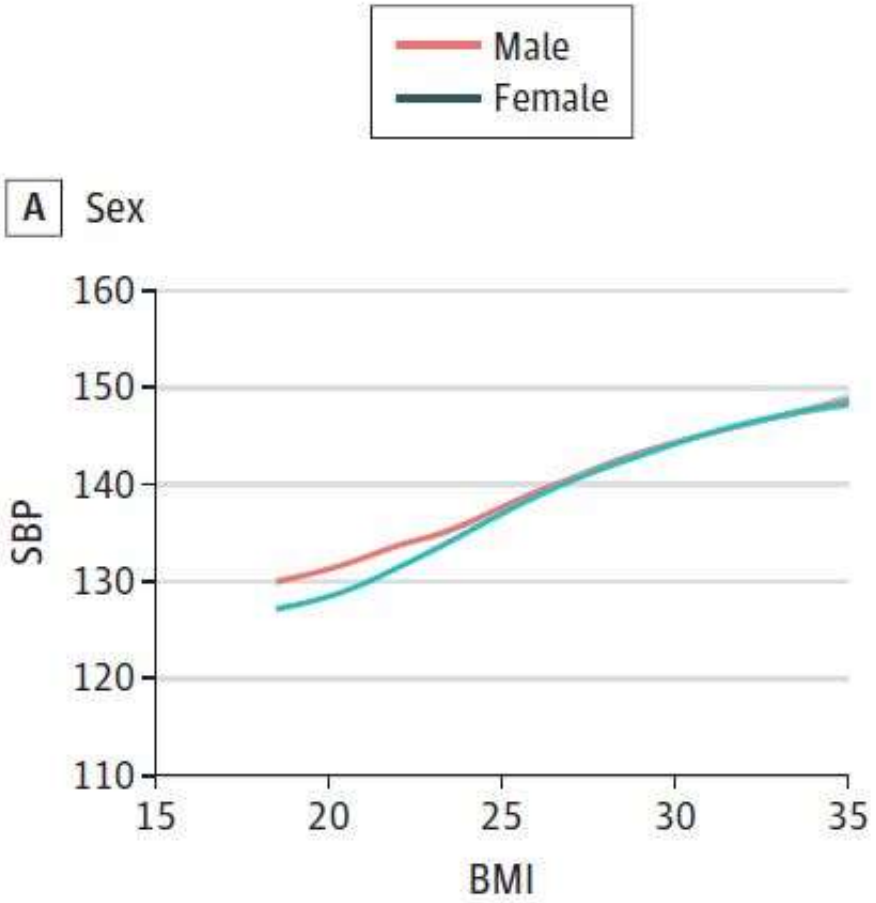
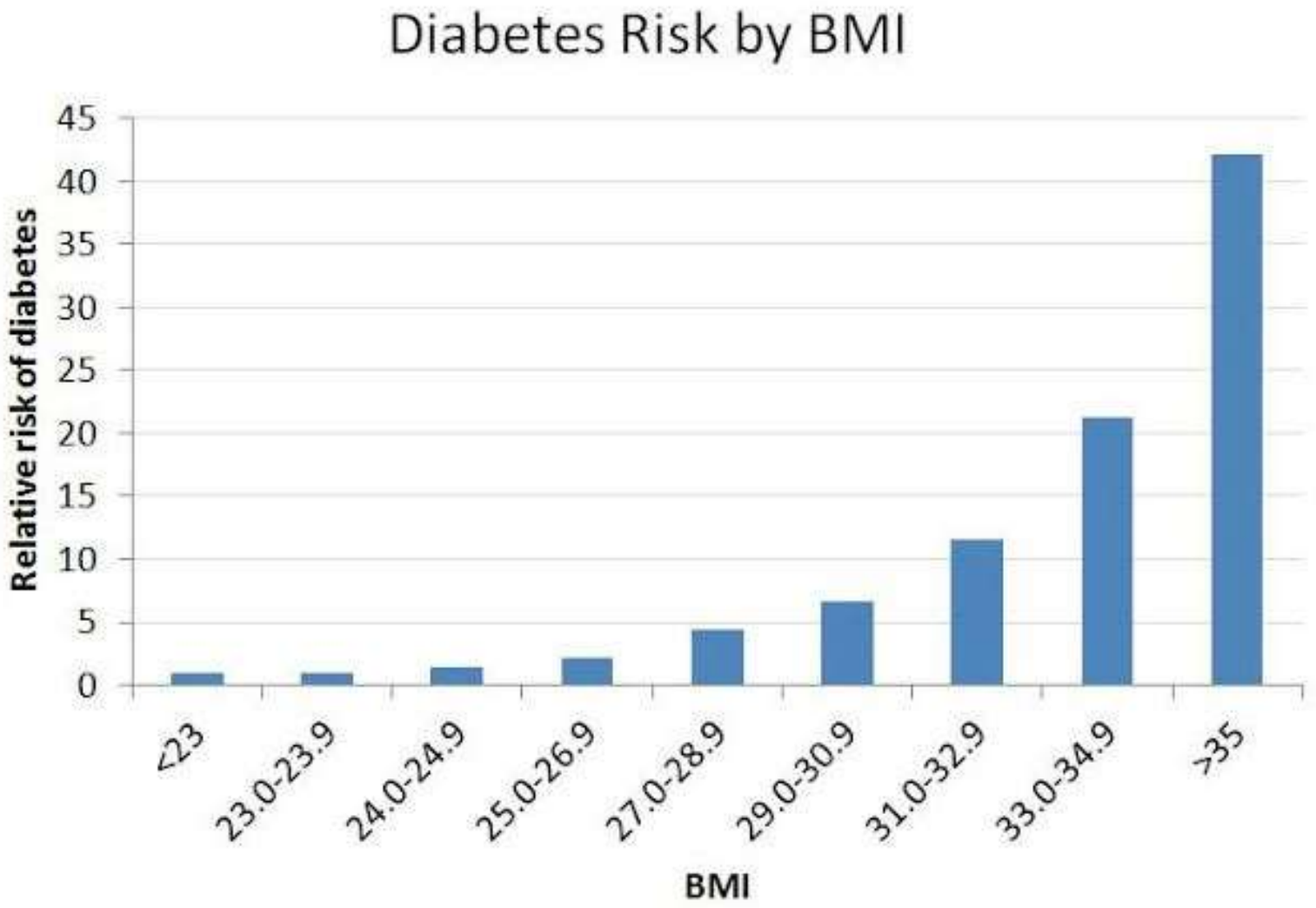
Lancet 2004; 364: 937-52

Association of BMI with BP among 1.7 million Chinese adults



JAMA Network Open. 2018;1(4):e181271.doi:10.1001/jamanetworkopen.2018.1271


Diabetes Risk by BMI
Relative risk of diabetes
45
40
35
30
25
20
15
10
5
0
<23
23.0-23.9
24.0-24.9
25.0-26.9
27.0-28.9
29.0-30.9
31.0-32.9
33.0-34.9
>35
BMI

THE LANCET
Diabetes & Endocrinology

ARTICLES | VOLUME 7, ISSUE 5, P344-355, MAY 01, 2019

Durability of a primary care-led weight-management intervention for remission of type 2 diabetes: 2-year results of the DiRECT open-label, cluster-randomised trial

Prof Michael E J Lean, MD † • Wilma S Leslie, PhD • Alison C Barnes, PGDip • Naomi Brosnahan, PGDip • George Thom, MSc • Louise McCombie, BSc • et al. Show all authors • Show footnotes

Published: March 06, 2019 • DOI: https://doi.org/10.1016/S2213-8587(19)30068-3 •

Reversing Diabetes with Rapid Weight Loss - Subjects

- DM < 6 years; mean duration 3 years
- Not on insulin
- Baseline mean BMI 35
- Mean age 54
- Starting A1c mean 7.6

Reversing Diabetes with Rapid Weight Loss

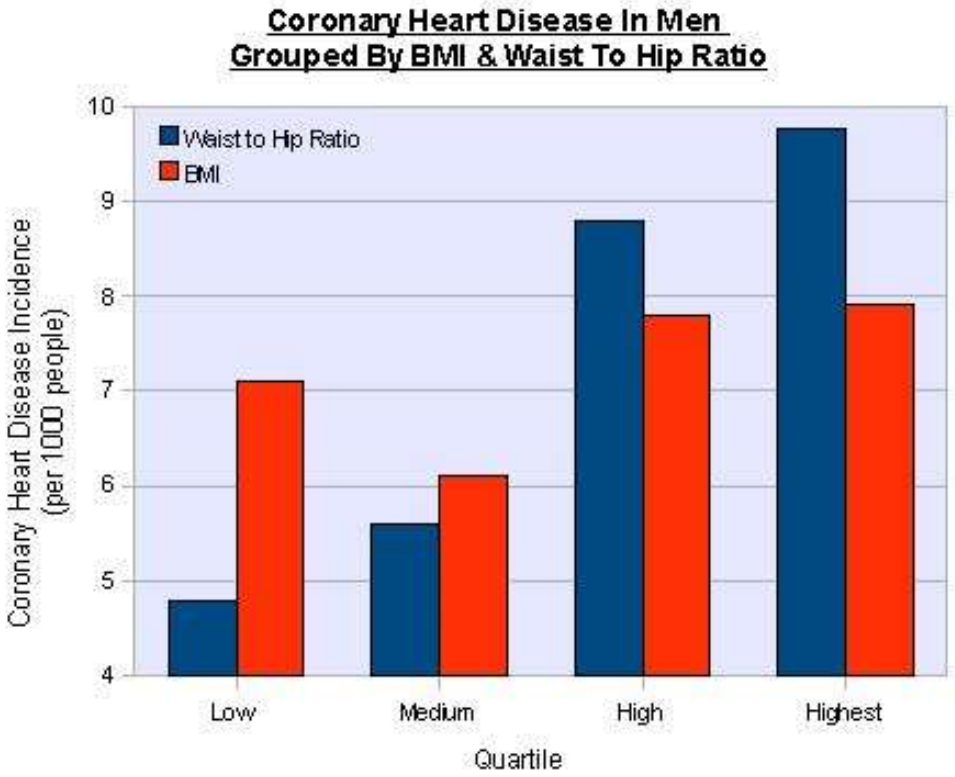
- 70% of diabetics who lost >33 lbs over a few months and maintained the weight loss were free of diabetes at 2 years.
- Odds of remission (A1c < 6.5 without meds) were directly related to amount of weight lost.
- Beta-cell function rebounded rapidly after weight loss and was normal at two years.

Reversing Diabetes with Rapid Weight Loss

"If people lose around 30 pounds and keep it off for two years, there's a two-thirds chance of them escaping type II diabetes. People want to understand their options, and this is an option. This is very good news for people with diabetes."

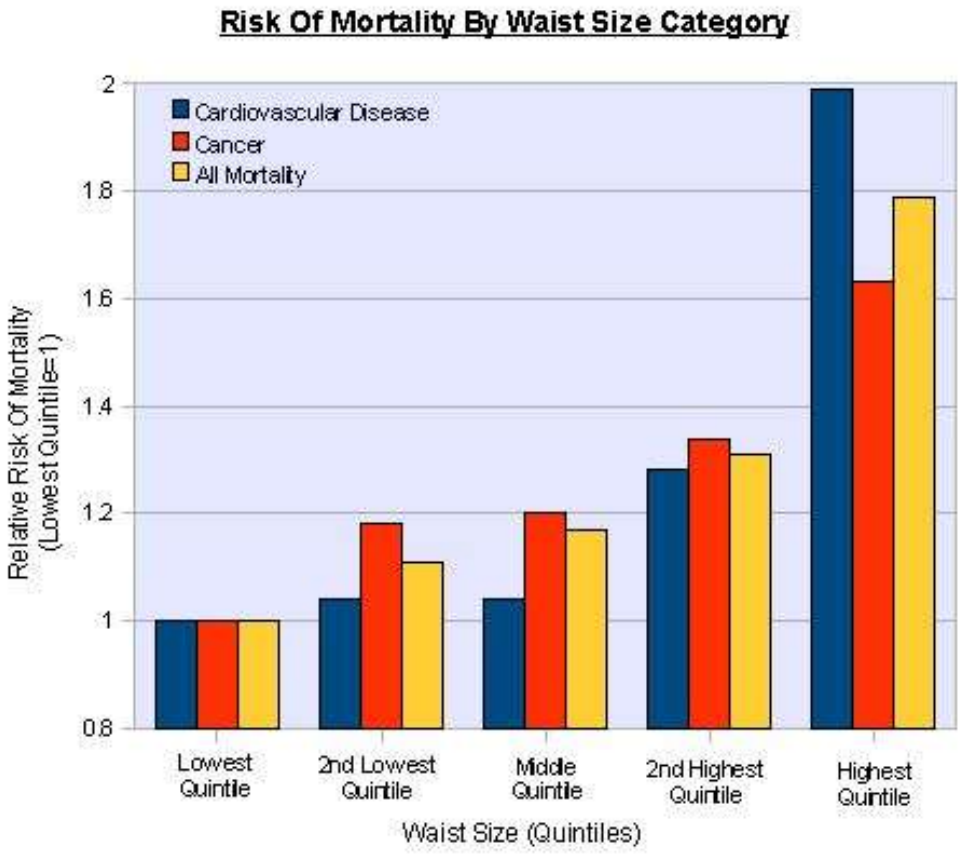
-Roy Taylor, MD at ADA 2019

CAD by Waist Size



Data from: "Body Mass Index, Waist/Hip Ratio, and Coronary Heart Disease Incidence in African Americans and Whites" - American Journal of Epidemiology, 1998

CAD by Waist Size

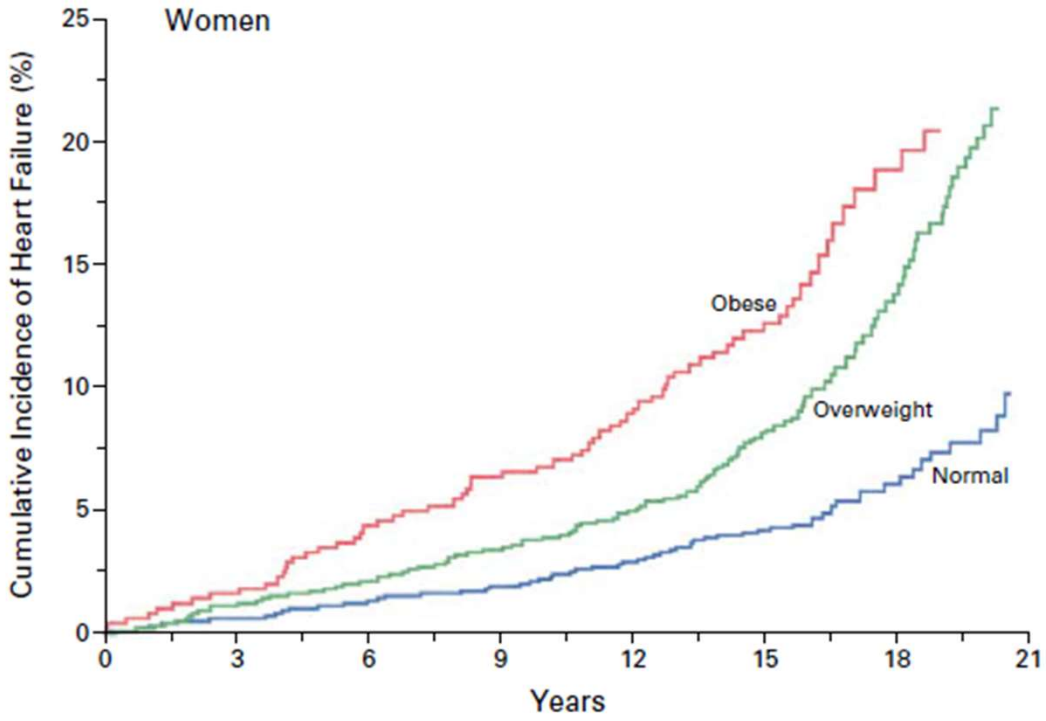


Data from "Abdominal Obesity and the Risk of All-Cause, Cardiovascular, and Cancer Mortality" - Circulation, 2008

Heart Failure

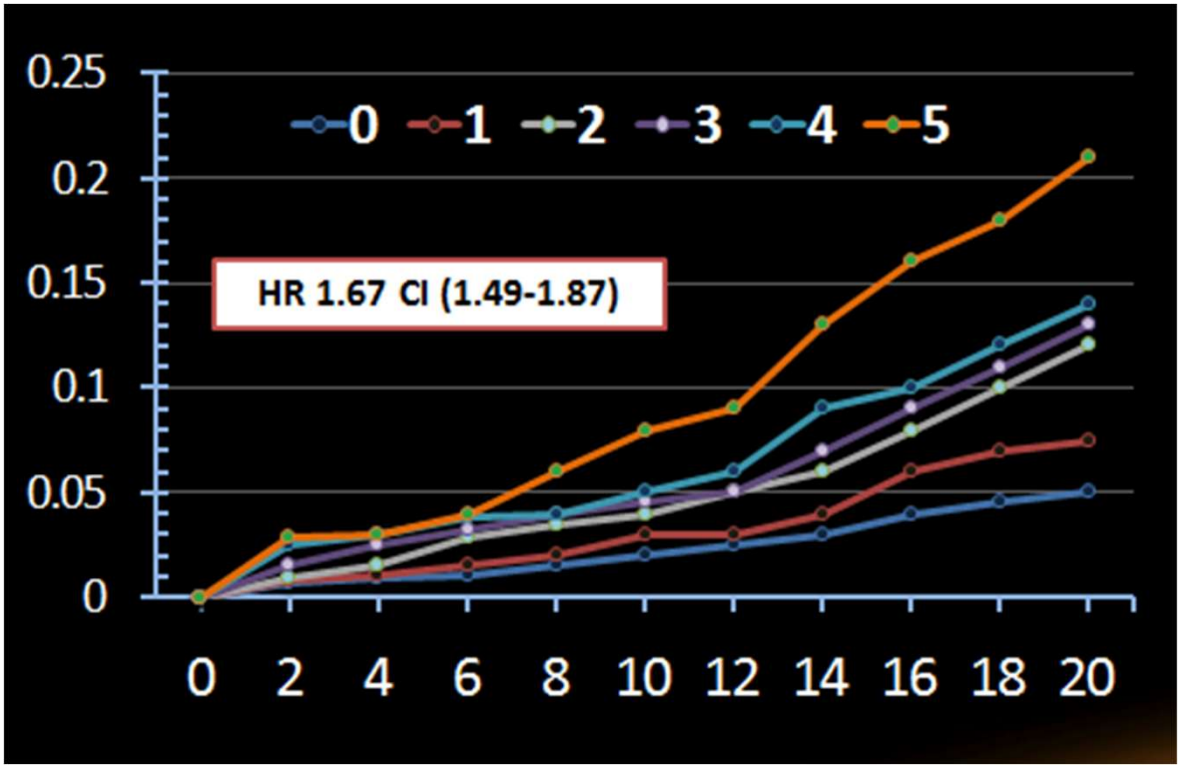
- Incidence increases with age.
- #1 hospital admission under Medicare.
- At age 40, lifetime risk of developing HF in men and women is 1 in 5.

Cumulative Incidence of Heart Failure According to Category of Body-Mass Index at the Base-Line Examination



Kenchaiah, S. et al. N Engl J Med 2002;347:305-313

Incidence of Atrial Fibrillation in Metabolic Syndrome



Chamberlain et al. AHJ 2010; 159: 850-856.

JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY
VOL. 65, NO. 20, 2015

ISSN 0735-1097/$36.00
PUBLISHED BY ELSEVIER INC.
http://dx.doi.org/10.1016/j.jacc.2015.03.002

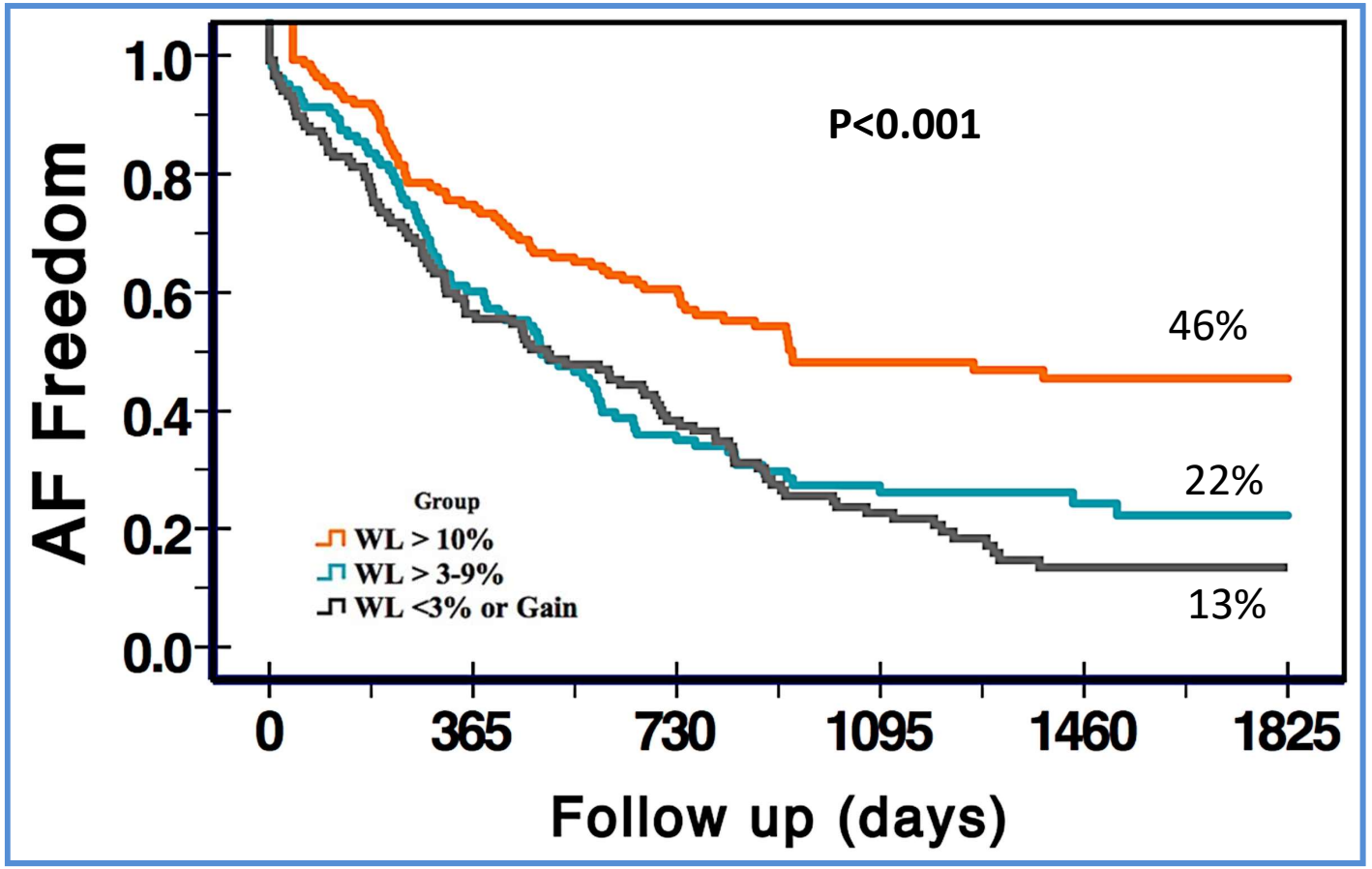
ORIGINAL INVESTIGATIONS

Long-Term Effect of Goal-Directed Weight Management in an Atrial Fibrillation Cohort

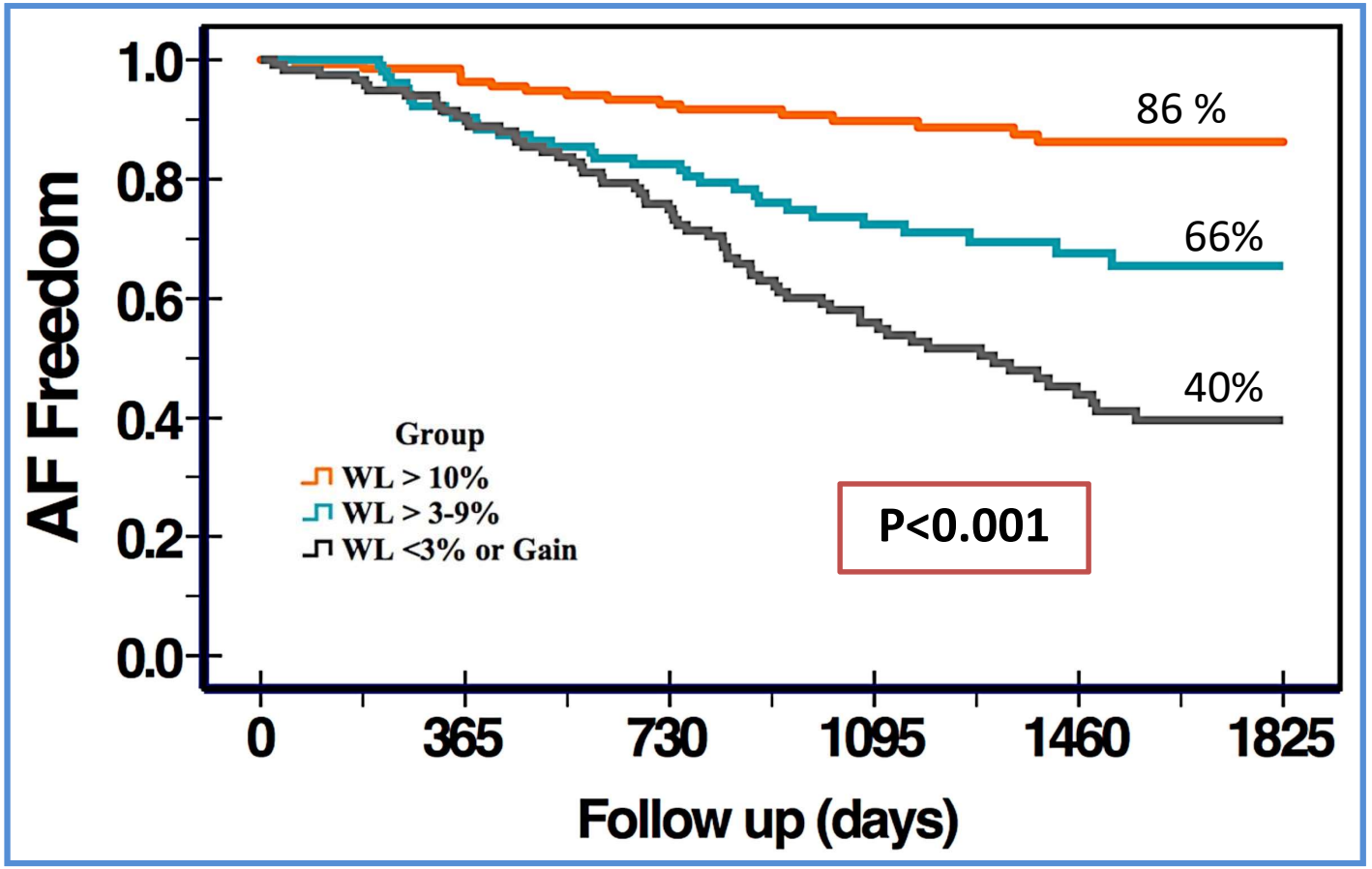
A Long-Term Follow-Up Study (LEGACY)

Rajeev K. Pathak, MBBS,* Melissa E. Middeldorp,* Megan Meredith,* Abhinav B. Mehta, MAcTSt,†
Rajiv Mahajan, MD, PhD,* Christopher X. Wong, MBBS, PhD,*‡ Darragh Twomey, MBBS,* Adrian D. Elliott, PhD,*§
Jonathan M. Kalman, MBBS, PhD,¶ Walter P. Abhayaratna, MBBS, PhD,# Dennis H. Lau, MBBS, PhD,*
Prashanthan Sanders, MBBS, PhD*

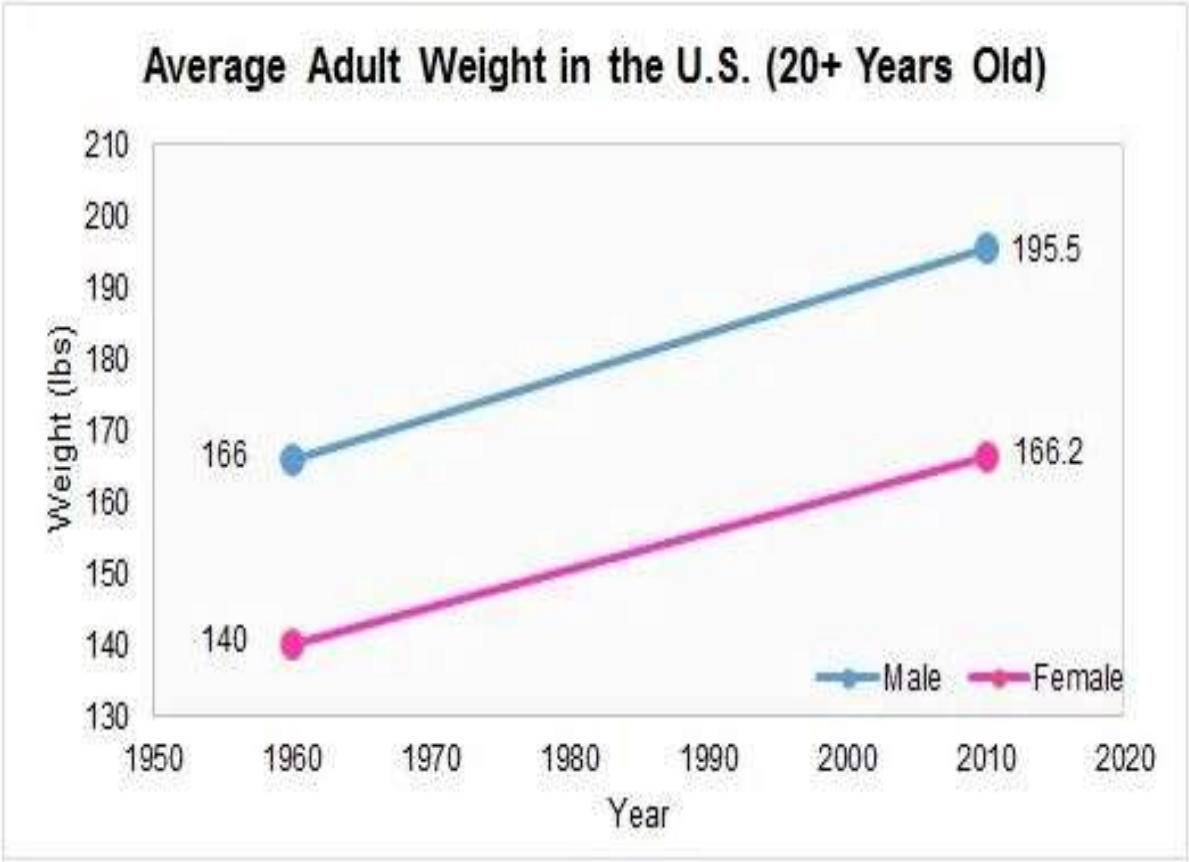
Freedom From Afib Based on Wgt Loss



Total Arrhythmia-Free Survival



The average woman today weighs as much as the average man in 1960



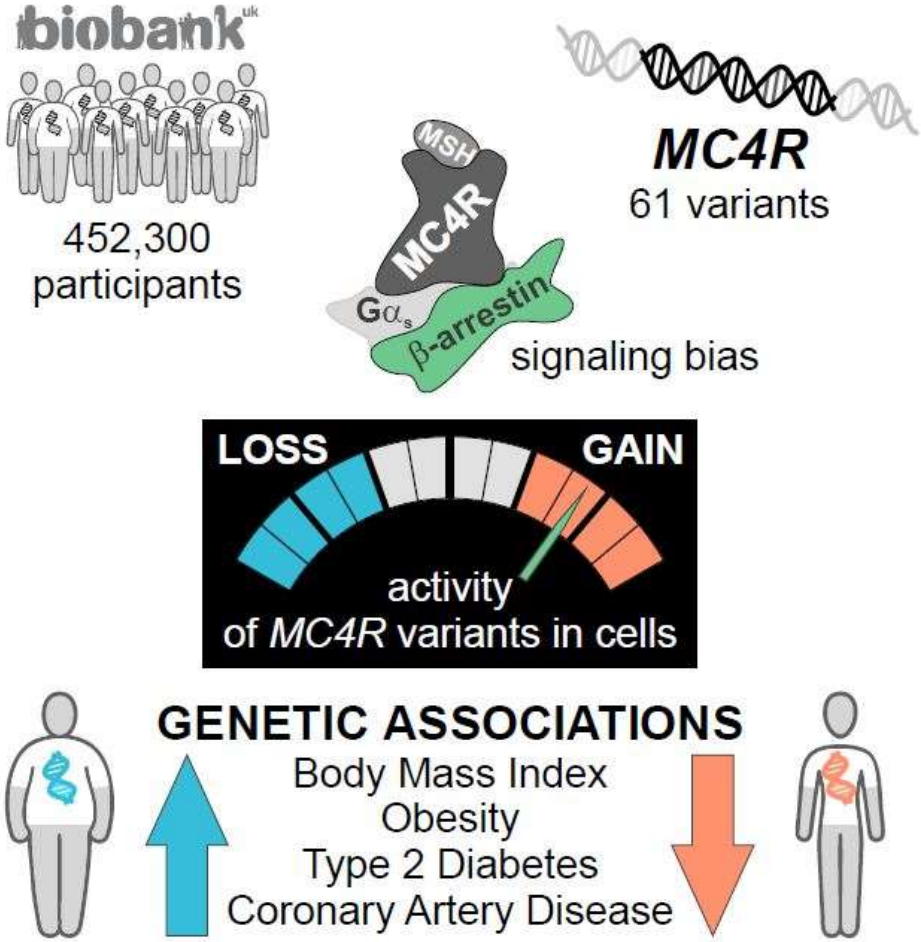
Question

Which of the following are plausible explanations for the sustained increase in BMI in the US over the past ½ century?

A. A change in the genome has promoted increased fat deposition.
B. We eat more.
C. We move less.
D. We are deficient in ketogenic foods.
E. B and C

Cell

Human Gain-of-Function *MC4R* Variants Show Signaling Bias and Protect against Obesity



Highlights

- 61 variants in the Melanocortin-4 Receptor gene were found in 0.5 million people
- Variants causing a gain of function were associated with protection from obesity

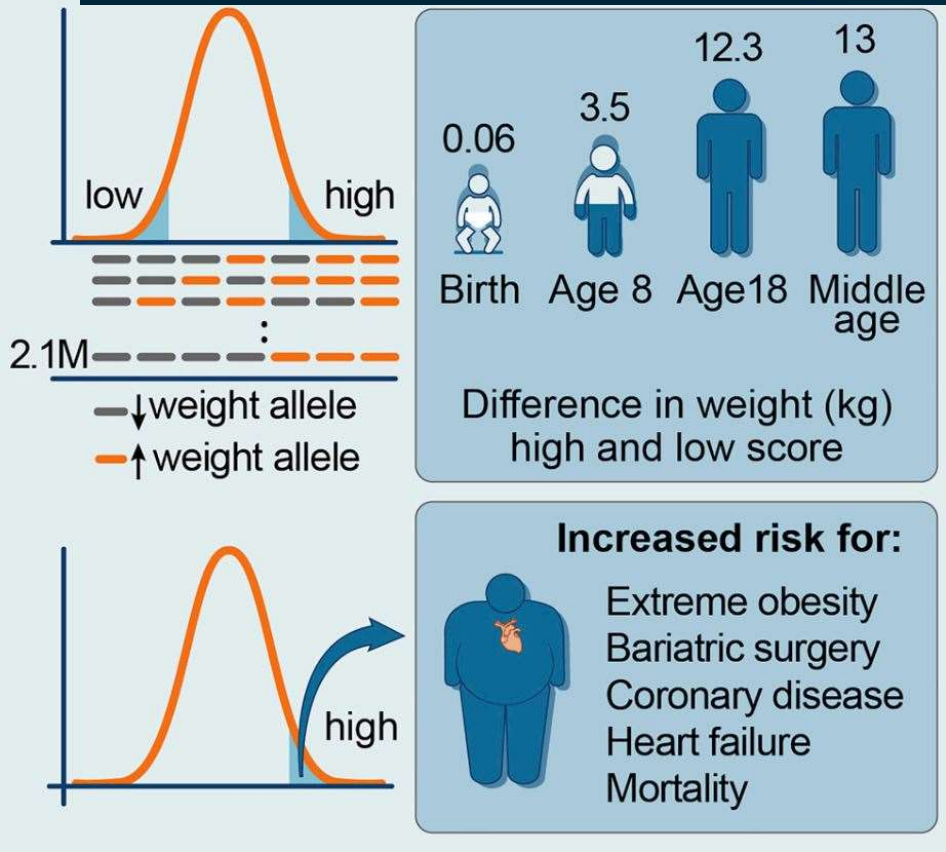
Lotta et al., 2019, Cell *177*, 597–607
April 18, 2019
https://doi.org/10.1016/j.cell.2019.03.044

ARTICLE | VOLUME 177, ISSUE 3, P587-596.E9, APRIL 18, 2019

Polygenic Prediction of Weight and Obesity Trajectories from Birth to Adulthood

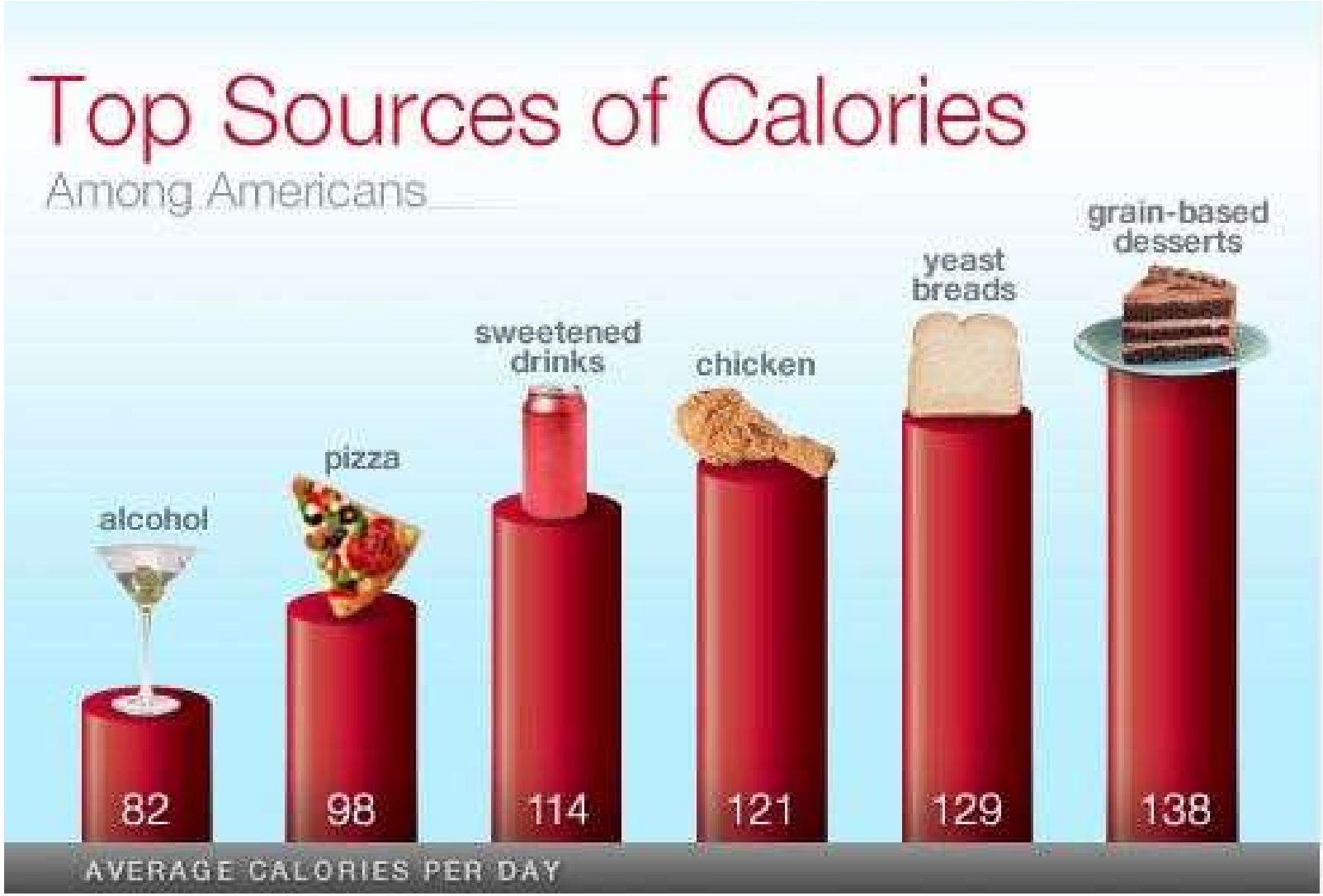
Amit V. Khera [15] • Mark Chaffin [15] • Kaitlin H. Wade • ... Nicholas J. Timpson • Lee M. Kaplan • Sekar Kathiresan [16] • Show all authors • Show footnotes

DOI: https://doi.org/10.1016/j.cell.2019.03.028 • Check for updates



SUMMARY

Here we derive and validate a new polygenic predictor comprised of 2.1 million common variants to quantify this susceptibility and test this predictor in more than 300,000 individuals ranging from middle age to birth. Among middle-aged adults, we observe a 13-kg gradient in weight and a 25-fold gradient in risk of severe obesity across polygenic score deciles. In a longitudinal birth cohort, we note minimal differences in birthweight across score deciles, but a significant gradient emerged in early childhood and reached 12 kg by 18 years of age.


Top Sources of Calories
Among Americans
alcohol
pizza
sweetened drinks
chicken
yeast breads
grain-based desserts
82
98
114
121
129
138
AVERAGE CALORIES PER DAY

WebMD, 2019


Maple
WAFFLE
SANDWICHES
HAM
SAUSAGE
BACON


Pizza Hut


Coca-Cola


$4.99*
COMBO
SOURDOUGH
PATTY
MELT
Dr Pepper

The Morning Commute: Then

300 kcal/hr

The Morning Commute: Now

25 kcal/hr

Question

Studies indicate that which of the following approaches to diet is most effective for weight loss?

A. Vegan, very low fat diet.
B. Very low carb diet with high fat intake, achieving nutritional ketosis.
C. Strict counting of calories to maintain calorie deficit.
D. Pickles. Only pickles.
E. None of the above.

Original Contribution

FREE

January 5, 2005

Comparison of the Atkins, Ornish, Weight Watchers, and Zone Diets for Weight Loss and Heart Disease Risk Reduction

A Randomized Trial

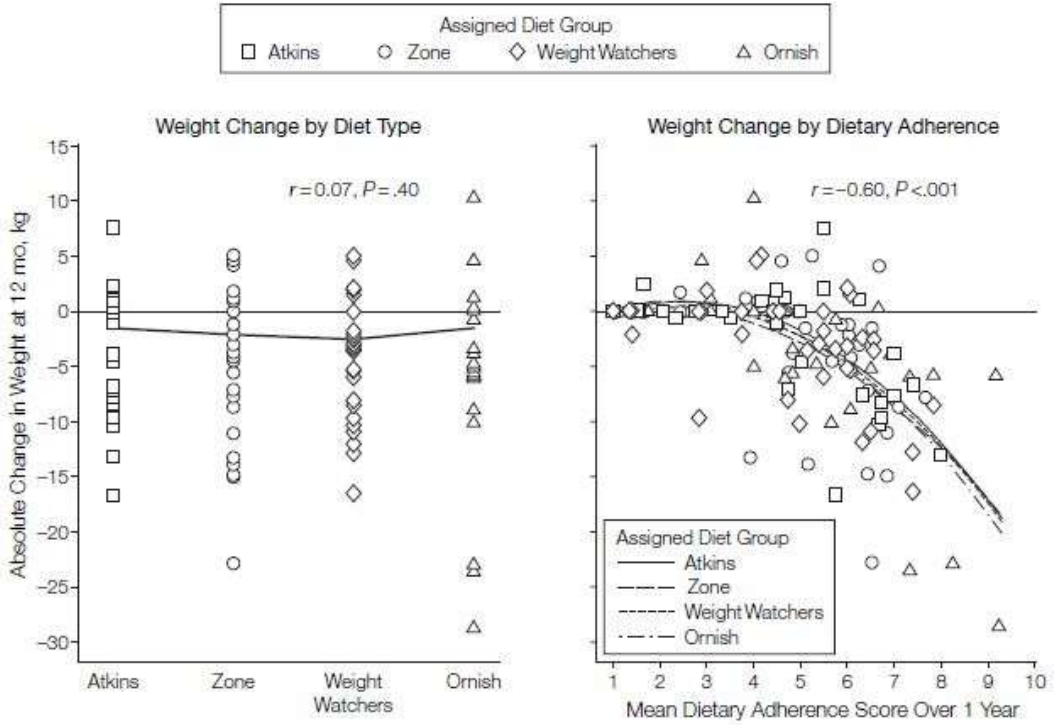
Michael L. Dansinger, MD; Joi Augustin Gleason, MS, RD; John L. Griffith, PhD; et al

» Author Affiliations | Article Information

JAMA. 2005;293(1):43-53. doi:10.1001/jama.293.1.43

Adherence is More Important than Macros for Weight Loss

Figure 3. One-Year Changes in Body Weight as a Function of Diet Group and Dietary Adherence Level for All Study Participants



Question

Data supports which of the following strategies for weight loss and healthy weight maintenance?

A. Increased physical activity.
B. Use of meal replacements to help reduce calorie intake.
C. Counseling sessions for trouble-shooting and accountability.
D. A and C.
E. All of the above.

Ten-year Self-Management of Weight Using a Meal Replacement Diet Plan

- Prospective cohort design
- Follow-up of 130 men and women residing in community
- Meal replacements provided at no cost with instructions on how to use diet plan

After 10 years, those using meal replacements weighed 32.6 pounds less than matched controls who did not use meal replacements.

No other treatment was given and no meetings occurred with the researchers during this time.

Blackburn GL, Rothacker D. *Obes Res* 2003;11:A103

Meal Replacements Displace Calories

Example:

	The Gap™	Meal Replacement	Approx. Savings
Breakfast	Muffin (5 oz) + coffee* **560 cals.**	HMR shake **120 cals.** (avg. value)	~440 cals.
Dinner	Typical restaurant[1] dinner + dessert[2] **1875 cals.**	HMR entree w/ veggies + dessert **460 cals.** (avg. value)	~1415 cals.

Making these two changes weekly could result in approximately a 25 lb. weight loss in a year. (*Using 3500 calories/lb.)

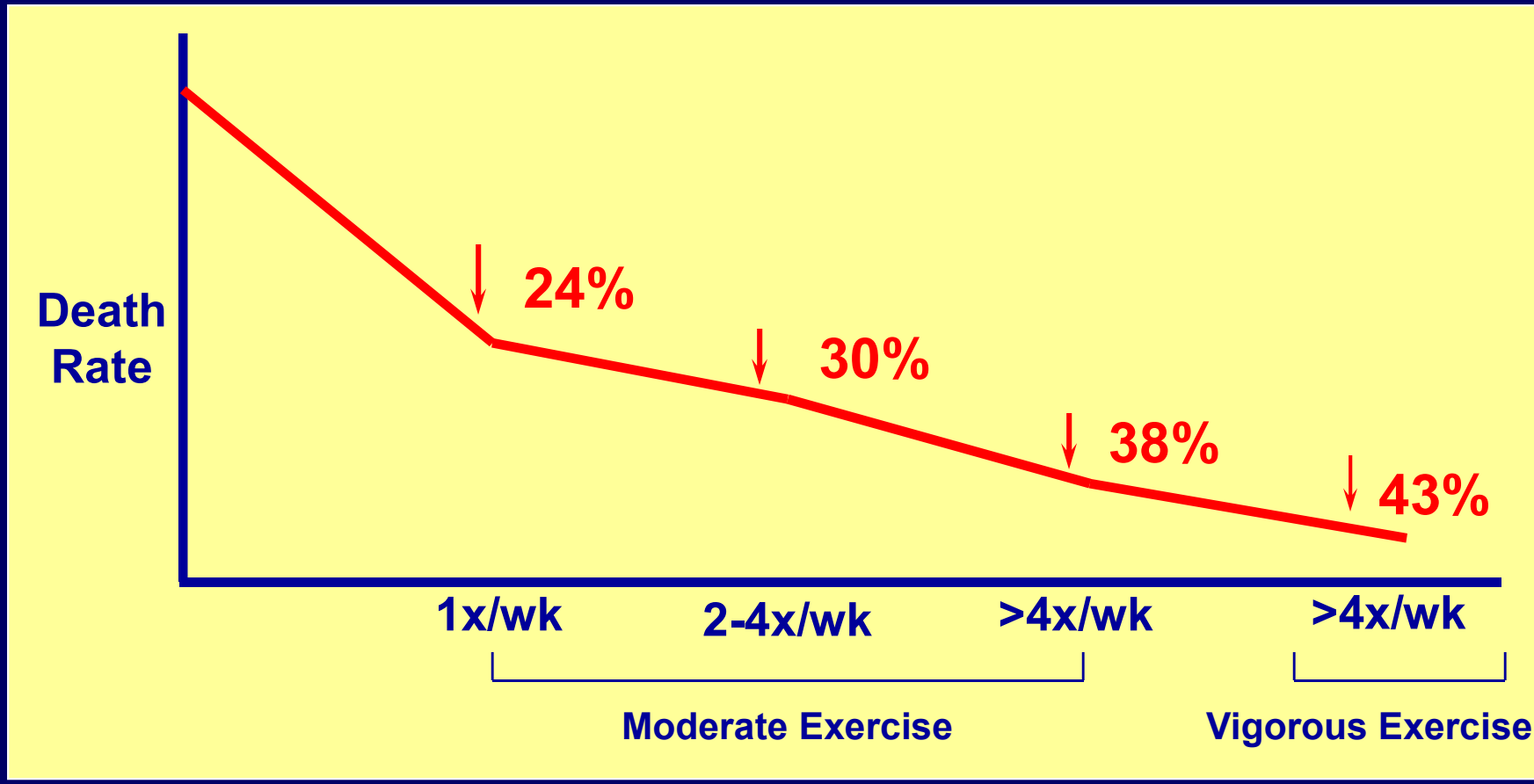
This estimated savings of 1,855 calories = 93% of the PA Imperative (2,000 kcal per week) for just *two* meal replacements!

* Dunkin' Donuts small coffee with cream

[1] Urban LE et al. *JAMA Intern Med* 2013;173:1292-1299
[2] Scourboutakos et al. *JAMA Intern Med* 2013;173:1373-1374

Physical Activity and Mortality in Postmenopausal Women

N = 40,417; Avg. FU = 7 years



JAMA 1997;277:1287-1292

The Conclusion from 206 High-Quality Studies from 17 Different Countries

"People who eat the most fruits and vegetables have half the risk of developing cancer than those who eat the least…"

J Am Diet Assoc 1996;96:1027-1039

The Weight Loss & Wellness Center at OHI: Comprehensive Behavior-Based Intervention for Weight Loss

- Weekly coaching sessions.
- Weekly telephone calls between sessions.
- Focus on lifestyle skills to increase vegetable and fruit intake, decrease dietary calories, and increase physical activity.
- Health educators provide support to encourage patient accountability.
- Daily record-keeping.

Oklahoma Heart Institute

Oklahoma Heart Institute

Oklahoma Heart Institute

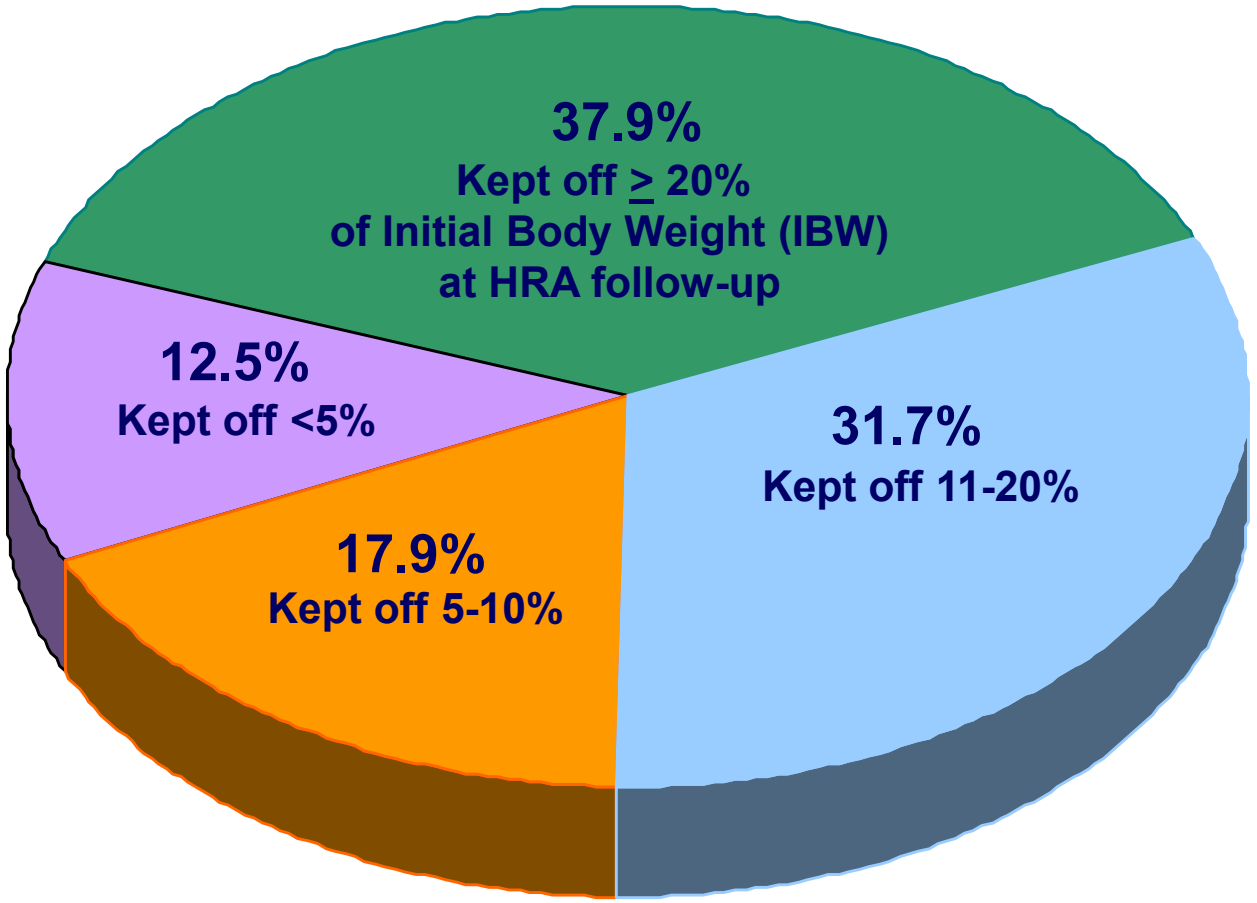
Oklahoma Heart Institute


TWICE THE HERO
HE USE BE
DISNEY PRESENTS A PIXAR FILM
THE INCREDIBLES
NOVEMBER 5

Weight Maintenance Data

N=1,256

Data from 1,256 patients who enrolled in HMR's clinic-based Decision-Free or Healthy Solutions programs at one of 43 U.S.-based clinics. Patients completed a baseline Health Risk Assessment (HRA) and a follow-up HRA during the maintenance phase of the program (July/August 2012). Patients were excluded if they did not have complete biometric measures.
Time between initial and follow-up HRA represents time in and out of the program.



Average weight change from initial:	**43lbs. (17.8%)**
Average time between HRAs:	**186 weeks (3.6 years)**

Presented at The Obesity Society 2013

HMR ® Program: Reductions in Medical Risk Factors

Medical Risk Factor Changes

N = 1,256 patients with an average time between surveys = 186 weeks

It is well reported that weight loss is associated with favorable changes in risk factors for co-morbidities associated with obesity and with decreased medication needs.

Category	Initial Average Value	Latest Average Value	Change from Initial to Latest
Weight (lbs.)	**241 lbs.**	**198 lbs.**	↓ **43 lbs.**
Total Chol/HDL (mg/dL)	**3.78**	**3.26**	↓ **13.8%**
Triglycerides (mg/dL)	**149**	**111**	↓ **25.5%**
Systolic BP (mmHg)	**128**	**120**	↓ **8 mmHg**
Diastolic BP (mmHg)	**78**	**74**	↓ **4 mmHg**
Fasting Glucose (mg/dL)	**104**	**100**	↓ **3.8%**

Data from 1,256 patients who enrolled in HMR's clinic-based Decision-Free or Healthy Solutions programs at one of 43 U.S.-based clinics. Patients completed a baseline Health Risk Assessment (HRA) and a follow-up HRA during the maintenance phase of the program (July/August 2012). Patients were excluded if they did not have complete biometric measures. Time between initial and follow-up HRA represents time in and out of the program.

Presented at The Obesity Society 2013 *Data on file.*

High Intensity Lifestyle Intervention and Use of Meal Replacements is Associated with Clinically Meaningful Weight Loss and Durable Weight Maintenance

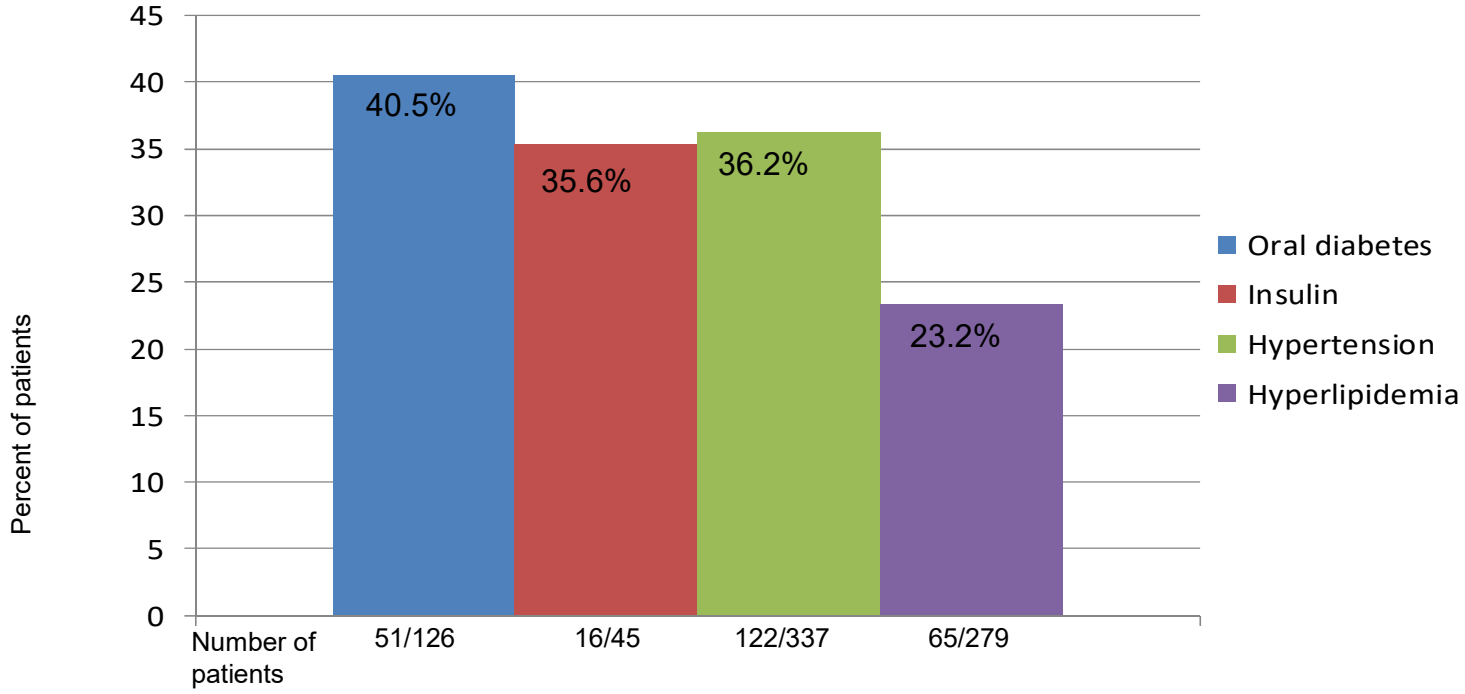
N = 721 *(HRA data)*

Mean reduction in body weight: 48.4 lbs.

Mean duration of follow-up: 107.6 weeks.

It is well reported that weight loss is associated with favorable changes in risk factors for co-morbidities associated with obesity and with decreased medication needs.

Percent of patients discontinuing medications at follow-up



Data from 721 patients who enrolled in HMR's clinic-based Decision-Free or Healthy Solutions programs at U.S.-based clinics. Patients completed a baseline Health Risk Assessment (HRA) and a follow-up HRA during the maintenance phase of the program (July/August 2013). Patients were excluded if they did not have complete biometric measures and continuous enrollment. Average weight loss for individuals completing the Decision-Free, medically supervised diet is 46.7 lbs. in 12 weeks and 66 lbs. in 26 weeks for people with high BMI (≥40). Int J Obes 2007;31:488–493

PosterT-2083-P presented at ObesityWeek 2014 (Boston, MA)

The U.S. Preventive Services Task Force on Screening for Obesity in Adults

Recommends that clinicians screen all adult patients for obesity and offer intensive counseling and behavioral interventions to promote sustained weight loss for obese adults.

Ann Intern Med 2003;139:930-932

A recent survey of over 90,000 patients in a primary care setting found that . . .

- In 59% who were morbidly obese
- In 90% who were overweight

No weight management intervention was recommended.

Barriers to Obesity Care

Not starting the conversation…

Healthcare Providers

1. They are too embarrassed – 65%
2. They are not motivated – 56%
3. They don't believe they can do it – 55%
4. They don't see weight as an issue – 55%
5. They are not interested – 47%

Patients With Obesity

1. It is my responsibility – 44%
2. I know what I need to do – 37%
3. Insufficient money to make changes – 23%
4. I am not motivated to lose weight – 21%
5. I am embarrassed to bring it up – 15%

Obesity. 2018;26(1):61-69

What Can You Do?

- Integrate obesity management into your practice.
- Counsel your patients regarding weight loss.
- Don’t be afraid to refer!

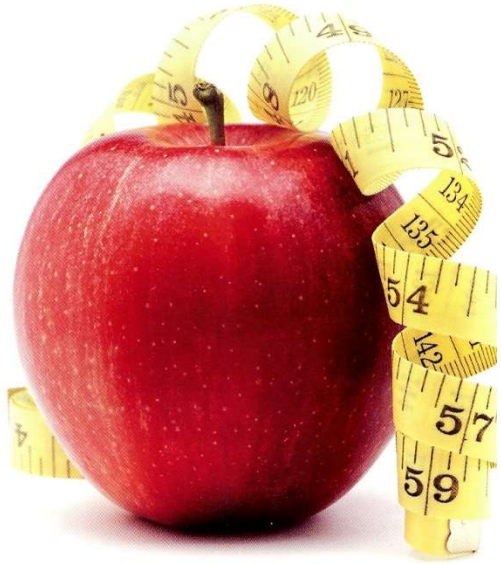
The Weight Loss & Wellness Center
at Oklahoma Heart Institute | An HMR Program

Life-Long Solution for Managing Your Weight.

Experience Rapid & Effective Weight Loss

Lose Weight While Feeling Full & Satisfied

Learn Skills for Long-Term Weight Management



For more information, please call:

918.579.3444

OklahomaHeartInstitute.hmrdiet.com

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