Progress in Obesity Solutions: Health Care Systems

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- Research- Amazon

Objectives

Discern
- Discern the complexity of obesity as a chronic disease

Learn
- Learn about the problem of BMI as a metric

Determine
- Determine the deleterious impact of weight bias on health outcomes

Ascertain
- Ascertain treatment strategies regarding obesity and issues within health systems

Obesity: A Multi-factorial Disorder
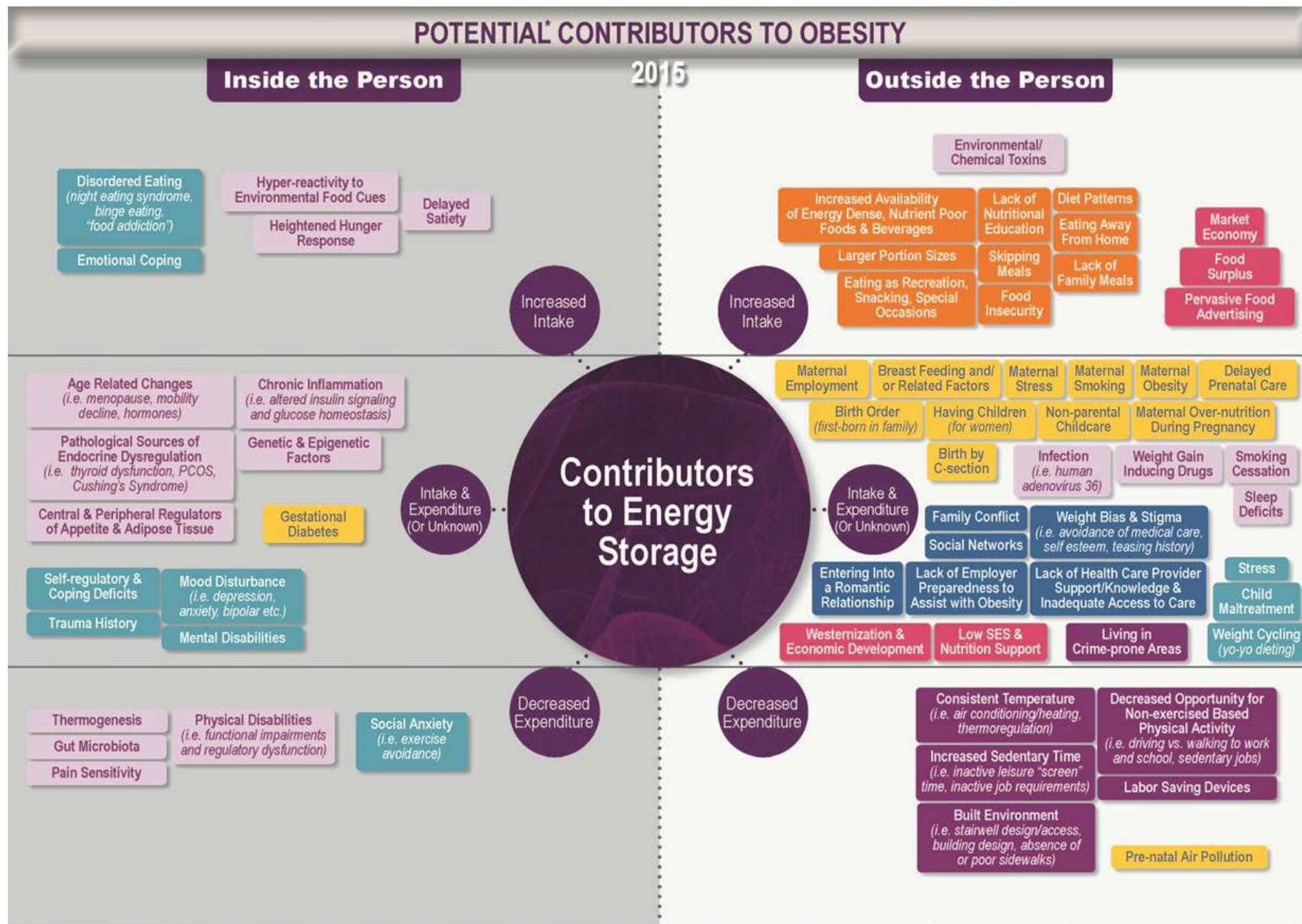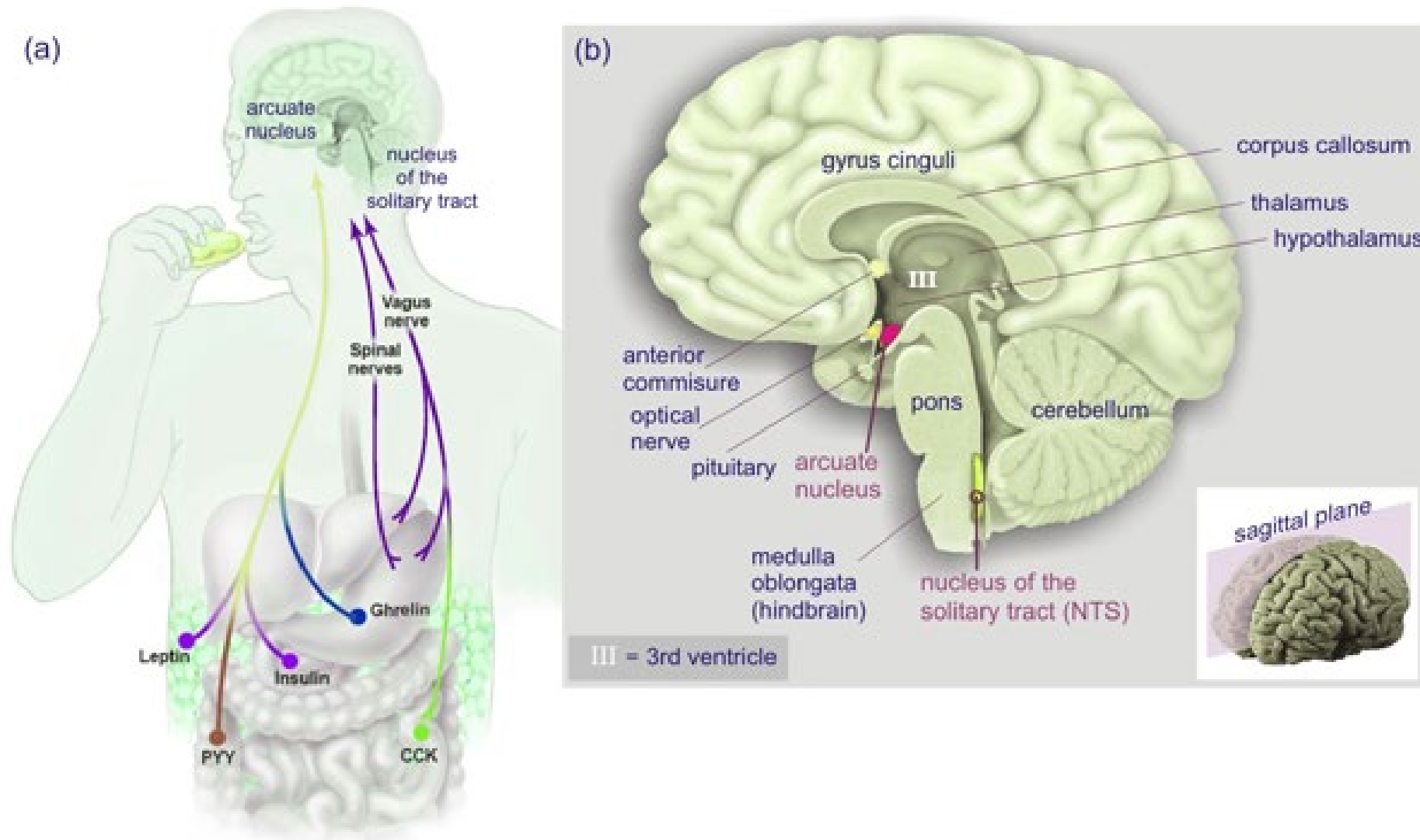

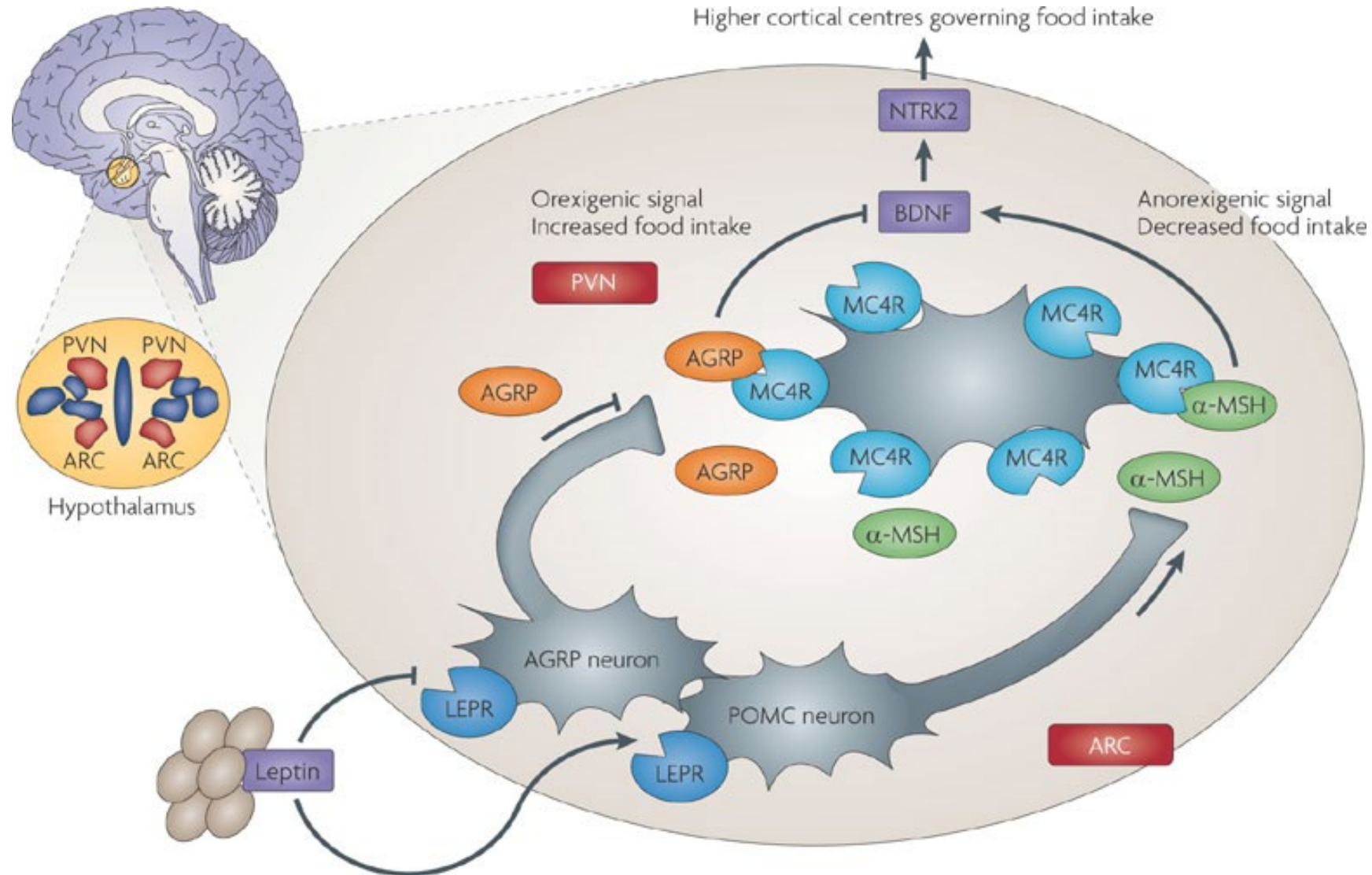Genetics

Environment

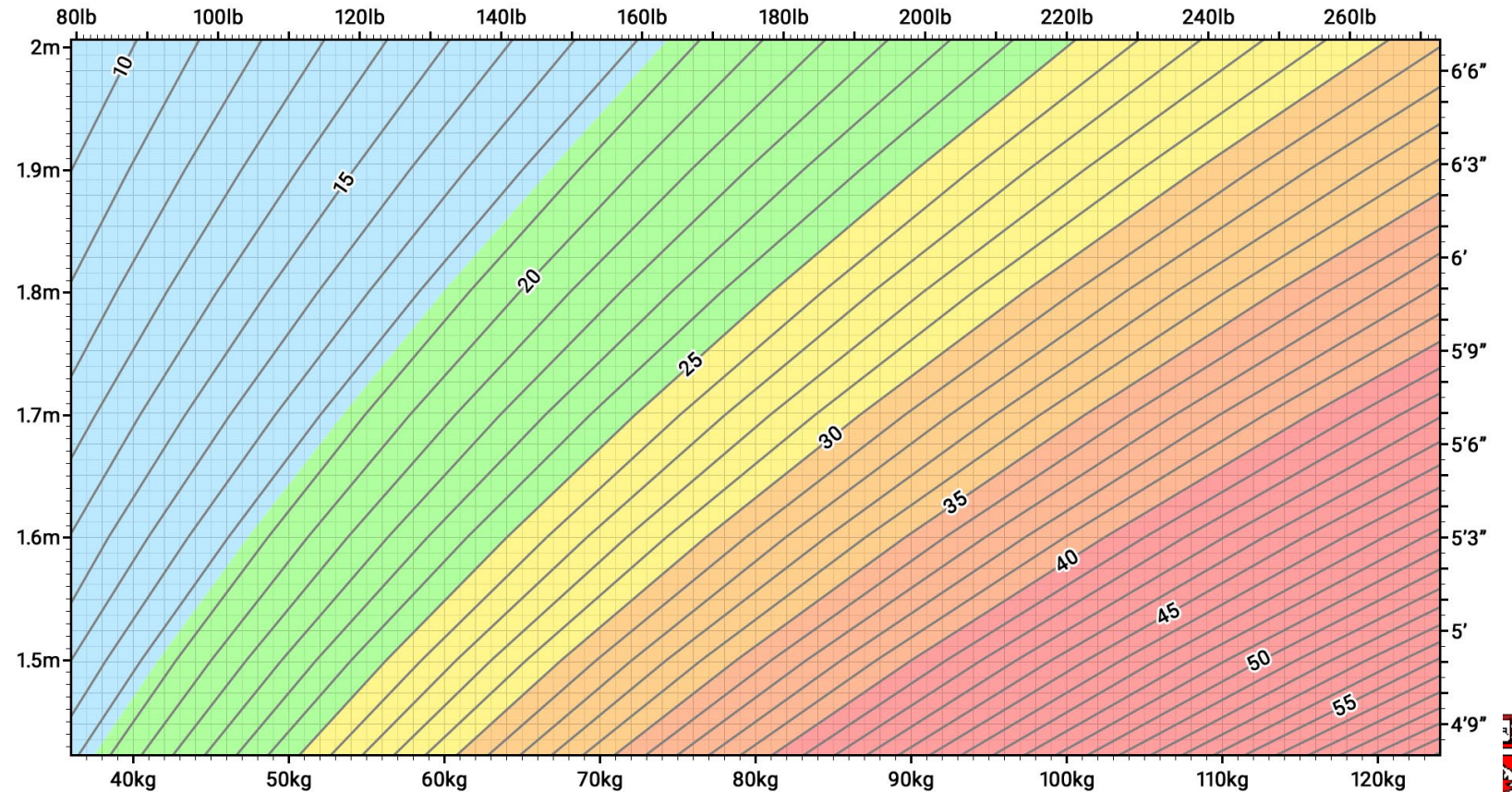Development

Behavior

POTENTIAL* CONTRIBUTORS TO OBESITY

Regulation of Food Intake

Regulation of Food Intake

Adolphe Quetelet

Eugenics
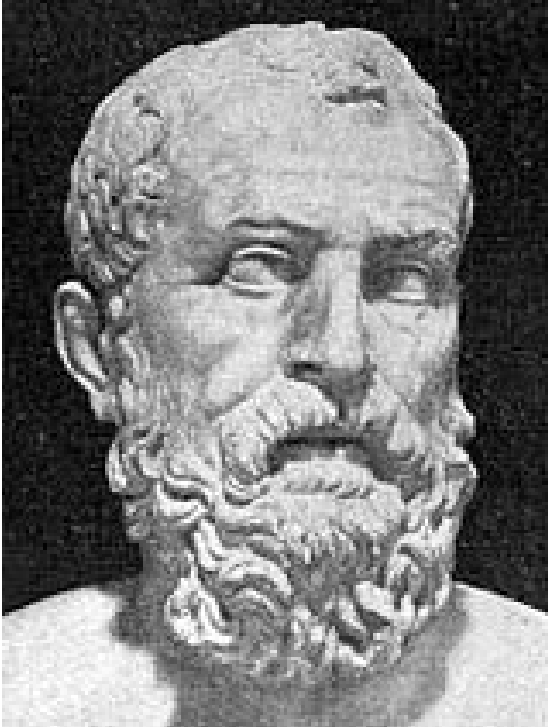
The study of how to arrange reproduction within a human population to increase the occurrence of heritable characteristics regarded as desirable. Developed largely by Sir Francis Galton as a method of improving the human race, eugenics was increasingly discredited as unscientific and racially biased during the 20th century, especially after the adoption of its doctrines by the Nazis in order to justify their treatment of Jews, disabled people, and other minority groups.
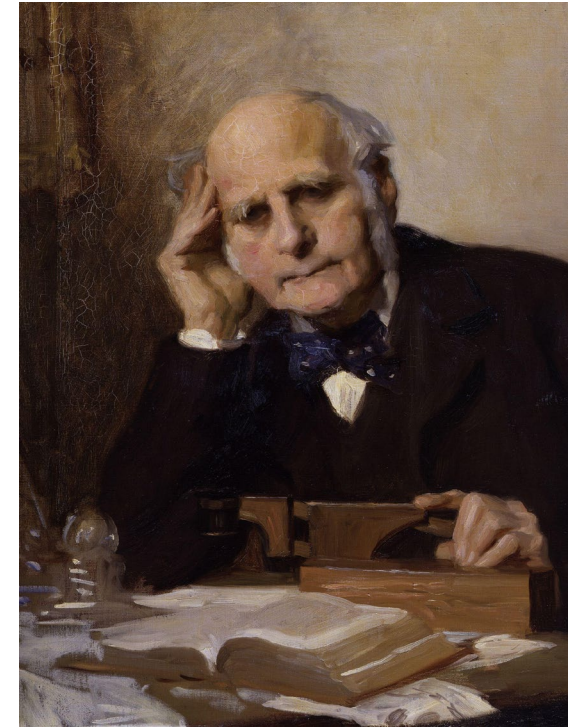
How is Obesity defined in Adults?

Weight Status Category	Body Mass Index (BMI)
Underweight	< 18.5
Normal Weight	18.5-24.9
Overweight	25- 29.9
Class I Obesity	30-34.9
Class II Obesity	35-39.9
Class III Obesity	≥40

Adjustment of BMI Scale for Race, Gender, and Obesity Related Diseases

TABLE. Cutoffs for BMI Based on ROC Curve Analysis

Obesity Co-morbidity	BMI (kg/m²)					
	Men			Women		
	Black	Hispanic	White	Black	Hispanic	White
Hypertension	28	29	28	31	28	27
Dyslipidemia	27	26	27	29	27	25
Diabetes	29	29	30	33	30	29
≥2 risk factors	28	29	29	31	30	28
Average	28	28	29	31	29	27

BMI = body mass index; ROC = receiver operating characteristic.

Age-adjusted prevalence of obesity among adults aged 20 and over, by sex and race and Hispanic origin: United States, 2017–2018
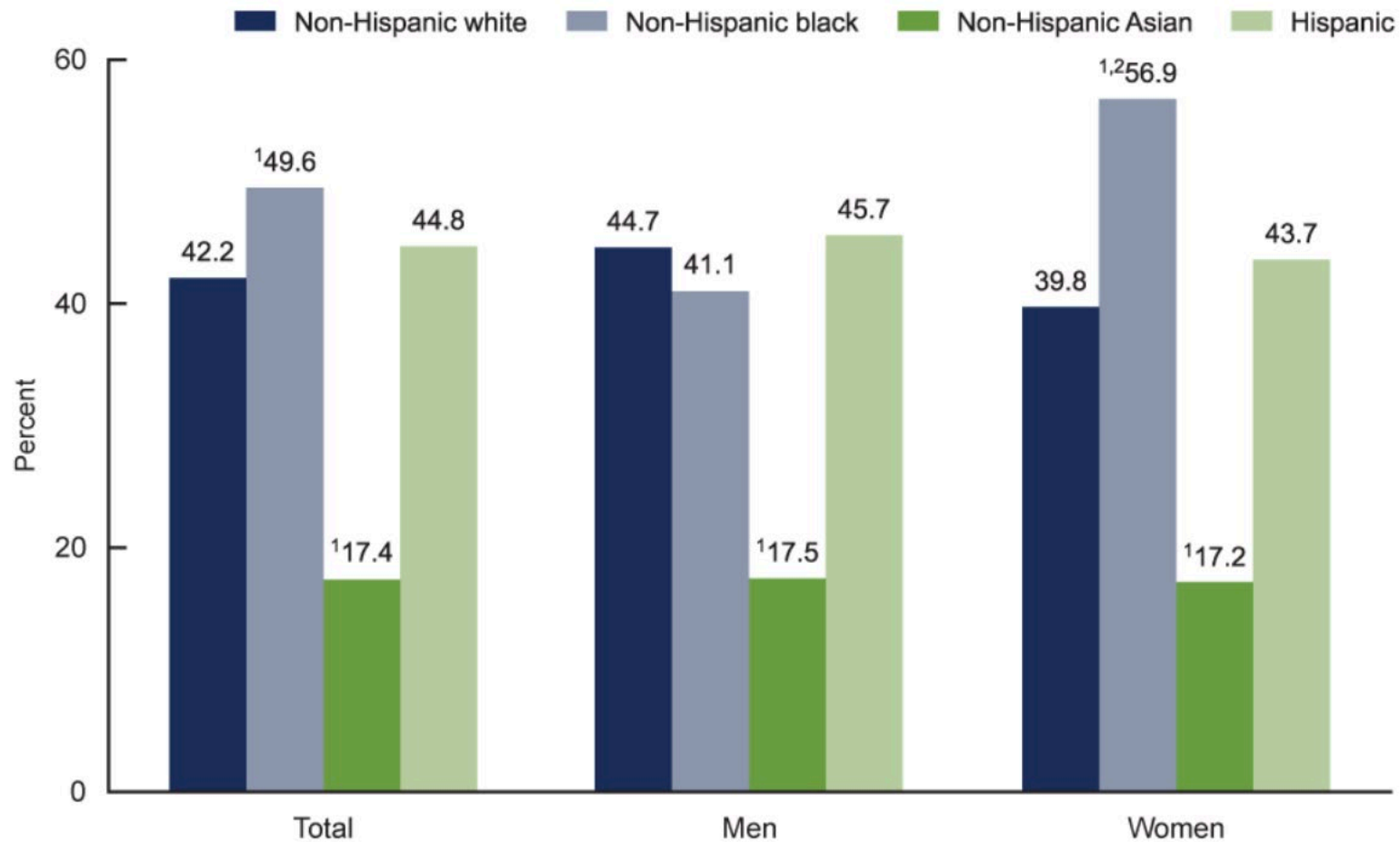
Age-adjusted prevalence of severe obesity among adults aged 20 and over, by sex, age, and race and Hispanic origin: United States, 2017–2018
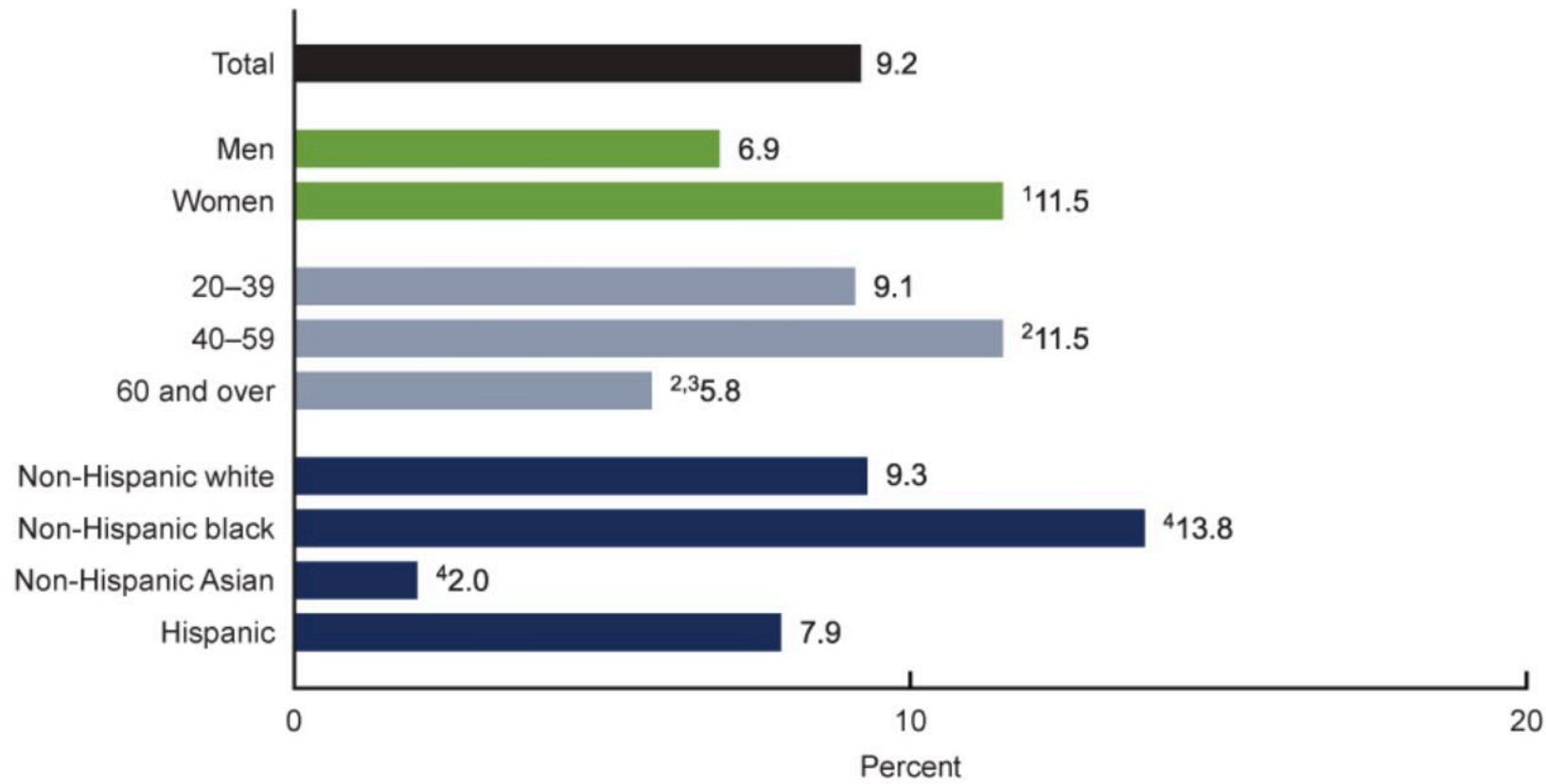
Obesity Rate ▾

Avg: 19.90%

United States Obesity Rate
36.20%
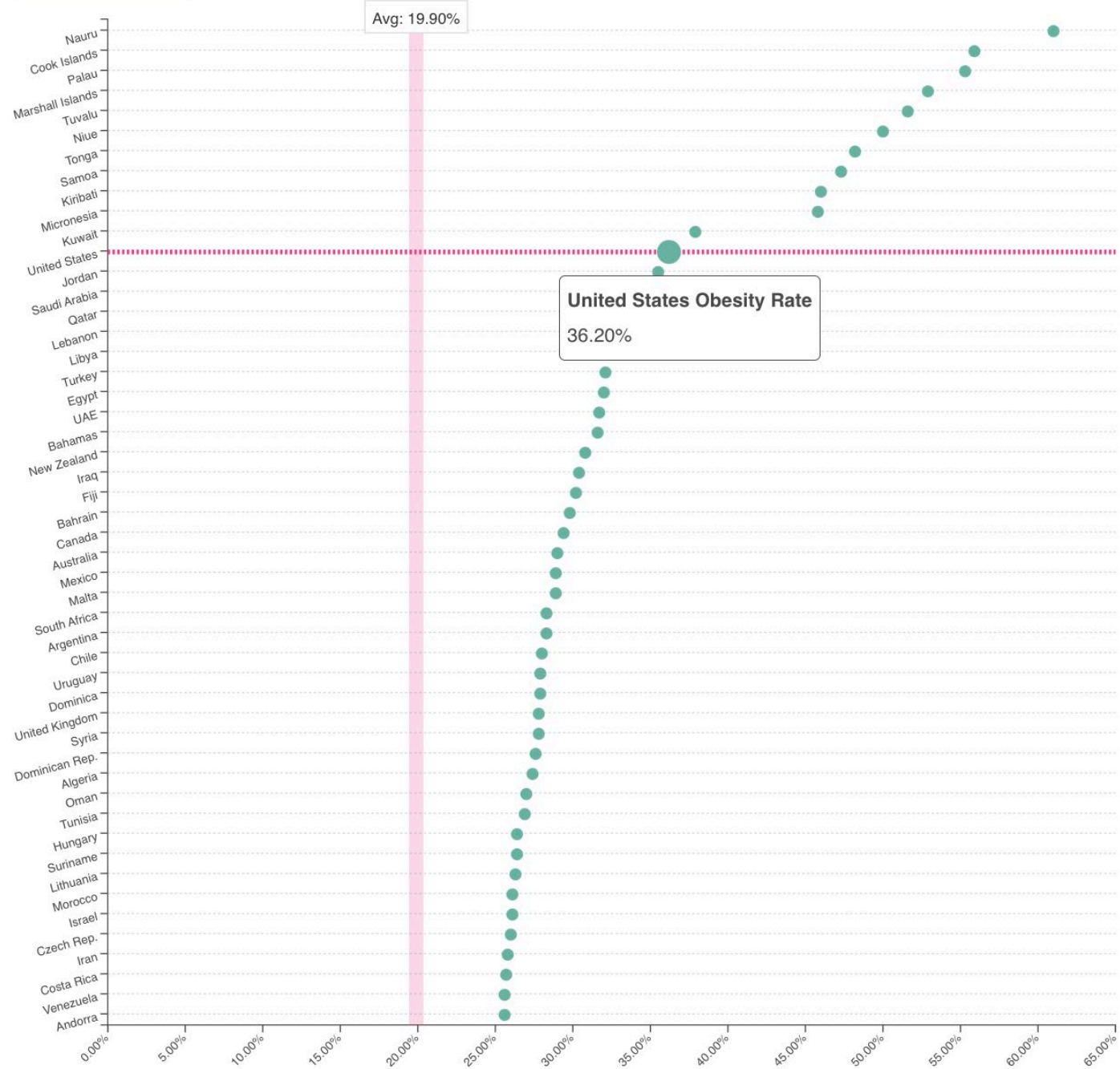
Overcoming Weight Stigma in the Treatment of Obesity
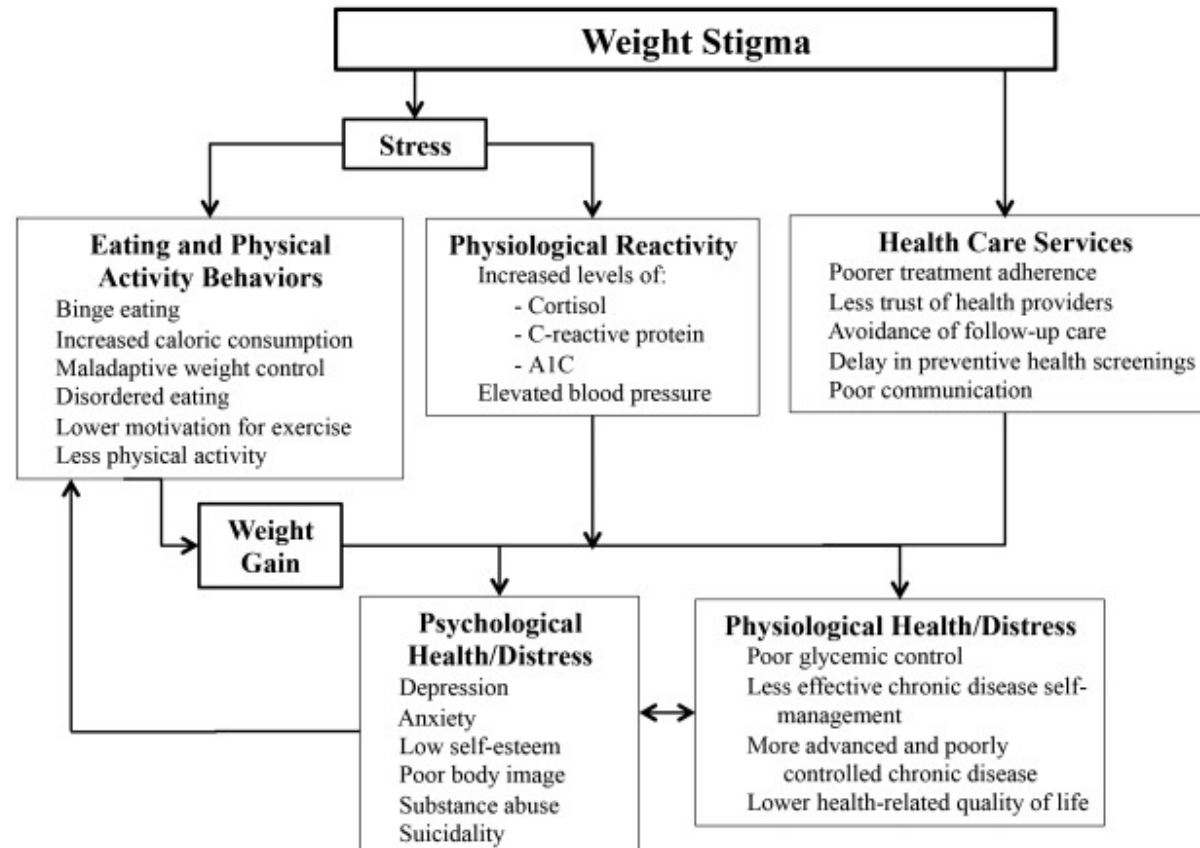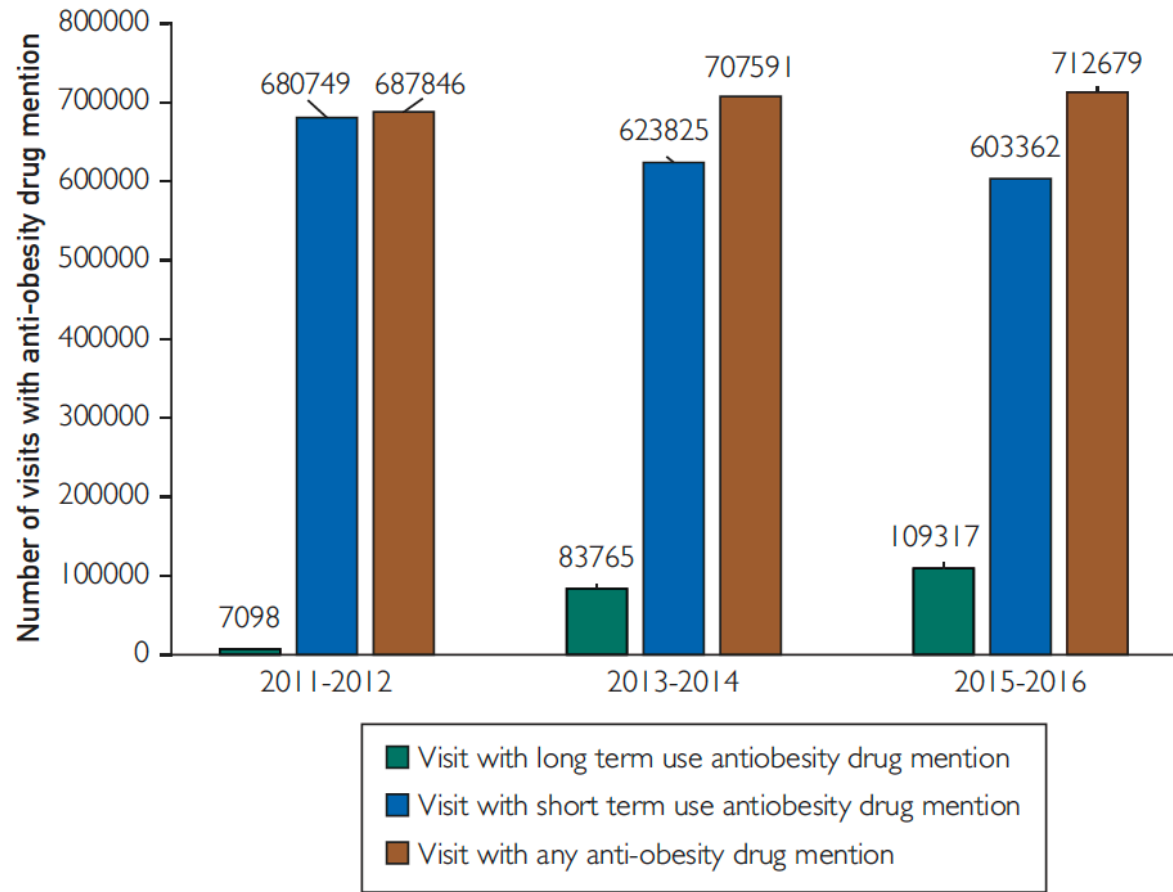
FIGURE. Trend in number of antiobesity medication prescriptions by 2-year period from 2011 to 2016.

Mayo Clin Proc. 2021 Dec;96(12):2991-3000.. doi: 10.1016/j.mayocp.2021.07.021

TABLE 4. Logistic Regression Results for Predicting the Odds of an Antiobesity Drug Mention for the Overall Population of Patients With Obesity From 2011 to 2016.

Predictor	Adjusted odds ratio	95% CI
Sex, female	2.30	0.61-8.63
Race, White	1.04	0.36-2.97
Patient age, ≥51 years	0.14	0.02-0.82
Provider region		
Northeast	1.19	0.23-6.12
South	3.69	1.17-11.63
Midwest or West	1.00	
Insurance type		
Private	1.00	
Public or other[a]	0.16	0.24-6.66
Self-pay	0.72	0.12-4.23
Patient's primary care physician	3.54	0.96-13.07
Total comorbidities	0.14	0.02-0.82
≤1 comorbidity	1.00	
≥1 comorbidity	2.04	0.58-7.12

[a]Other includes workers' compensation, no charge, and charity.

Estimate of Bariatric Surgery Numbers, 2011-2019

	2011	2012	2013	2014	2015	2016	2017	2018	2019*
Total	158,000	173,000	179,000	193,000	196,000	216,000	228,000	252,000	256,000
Sleeve	17.8%	33.0%	42.1%	51.7%	53.6%	58.1%	59.4%	61.4%	59.4%
RYGB	36.7%	37.5%	34.2%	26.8%	23.0%	18.7%	17.8%	17.0%	17.8%
Band	35.4%	20.2%	14.0%	9.5%	5.7%	3.4%	2.7%	1.1%	0.9%
BPD-DS	0.9%	1.0%	1.0%	0.4%	0.6%	0.6%	0.7%	0.8%	0.9%
Revision	6.0%	6.0%	6.0%	11.5%	13.6%	14.0%	14.1%	15.4%	16.7%
Other	3.2%	2.3%	2.7%	0.1%	3.2%	2.6%	2.5%	2.3%	2.4%
Balloons	—	—	—	—	0.3%	2.6%	2.8%	2.0%	1.8%

The ASMBS total bariatric procedure numbers are based on the best estimation from available data (BOLD, ACS/MBSAQIP, National Inpatient Sample Data and outpatient estimates

*New methodology for estimating outpatient procedures done at non-accredited centers.

Economic impacts of overweight and obesity, 2019 and 2060, by country.
*Upper middle-income. **Lower middle-income. ***Low-income.
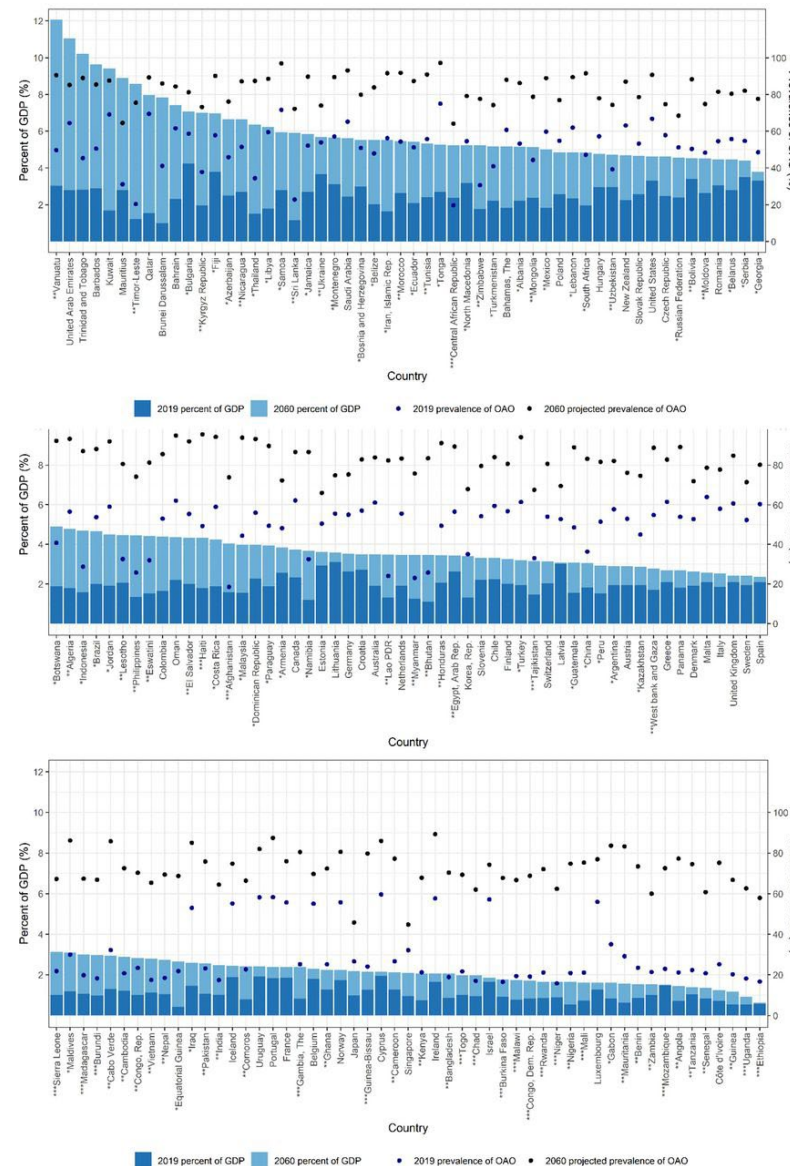
Obesity Impact on Global GDP

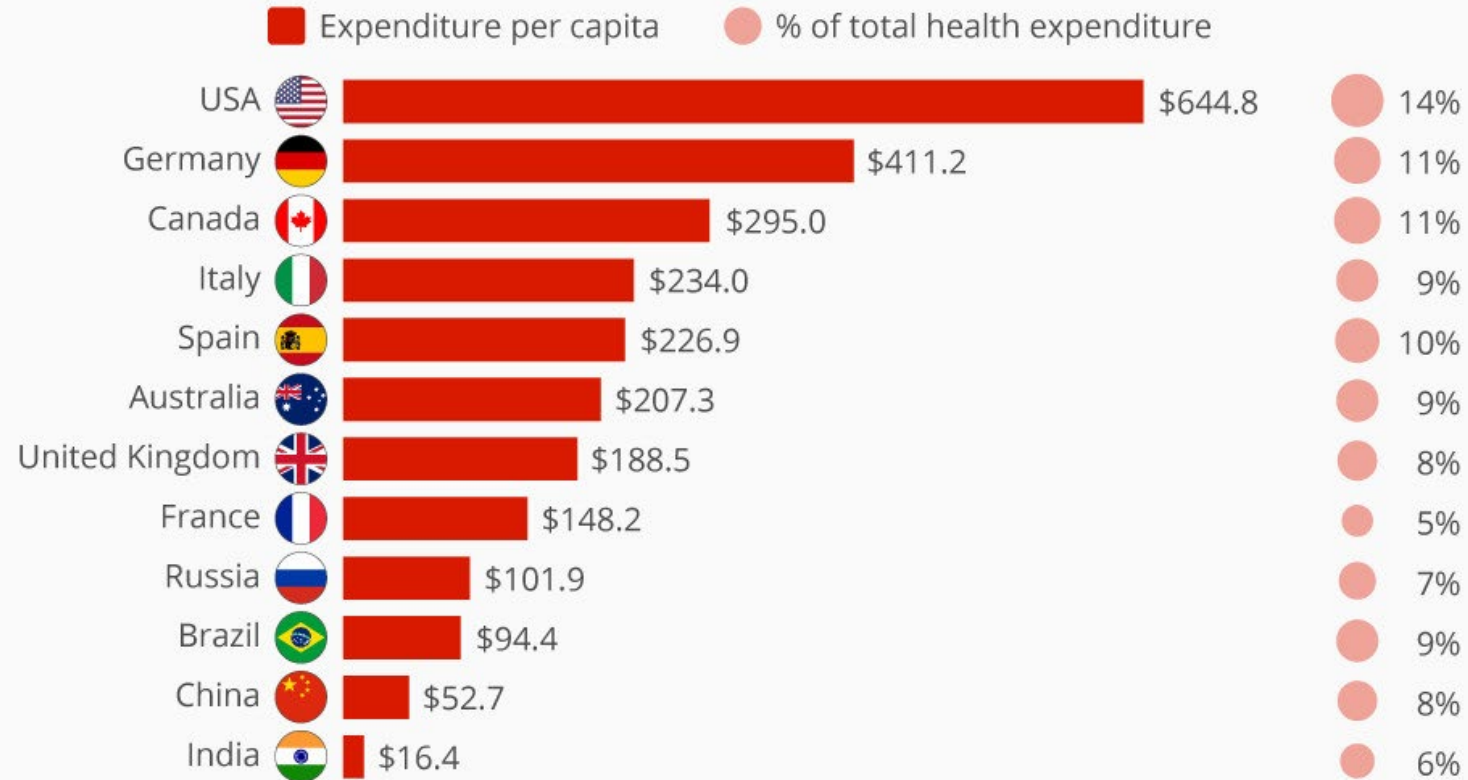| $2.1 trillion | $2.1 trillion | $2.0 trillion | $1.4 trillion |
| Smoking | Armed violence, war, and terrorism | Obesity | Alcoholism |

[1] In 2014 dollars at purchasing-power parity.

Source: Literature review; World Health Organization global burden of disease (GBD) database; McKinsey Global Institute analysis

Where Obesity Places The Biggest Burden On Healthcare

Average annual health expenditure per capita due to obesity from 2020-2050*

Expenditure per capita   % of total health expenditure

	Expenditure per capita	% of total health expenditure
USA	$644.8	14%
Germany	$411.2	11%
Canada	$295.0	11%
Italy	$234.0	9%
Spain	$226.9	10%
Australia	$207.3	9%
United Kingdom	$188.5	8%
France	$148.2	5%
Russia	$101.9	7%
Brazil	$94.4	9%
China	$52.7	8%
India	$16.4	6%

* U.S. dollars - purchasing power parity.

@StatistaCharts   Source: OECD

statista

Obesity Policies and Targets

	Adult obesity (%)	Adult overweight (%)	Combined adult o/w and obese (%)	National obesity targets?*	National obesity policy?	State-level obesity policy?	Guidance on surgery/drugs?
Brazil	17.4	33.6	51.0	✓✓	✓✓	n/a	✓
Bulgaria	23.7	34.5	58.2	✓✓	✓	n/a	X
Canada	18.4	34.1	52.5	✓✓	✓✓	✓	✓✓
Denmark	14.1	33.3	47.4	✓	✓	n/a	✓✓
England	24.8	37.1	61.9	✓✓	✓✓	n/a	✓✓
France	15.0	32.6	47.6	✓✓	✓✓	n/a	✓✓
Germany	23.6	36.5	60.1	✓✓	✓✓	✓	✓✓
Italy	10.3	36.5	46.8	✓	✓	n/a	✓✓
Mexico	32.2	39.1	71.3	✓	✓	n/a	✓✓
Spain	22.9	39.4	62.3	X	✓✓	n/a	✓✓
United States	35.7	33.1	68.8	✓✓	X	✓	✓✓

Obesity Perception and Policy-Multi-country review and survey of policymakers 2014

Summary

▶ Obesity is a multifactorial disorder

▶ BMI is a problematic metric for ascertaining weight status

▶ Weight stigma has a negative impact on the health and psychological health of patients who struggle with obesity

▶ Pharmacotherapy and/or bariatric surgery should be considered as an option for appropriate patients

▶ The economic impacts of obesity is vast- policy is lacking in the US

Thank You For Your Time

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