

Obesity and Current Unmet Needs

Fatima Cody Stanford, MD, MPH, MPA, MBA, FAAP, FACP, FAHA, FAMWA, FTOS
Massachusetts General Hospital and Harvard Medical School
Boston, MA, USA

Disclosures



- Advisor/ Consultant- Novo Nordisk, Calibrate, GoodRX, Pfizer, Boehringer Ingelheim, Gelesis, Eli Lilly, Coral Health, Rhythm, Vida Health, MelliCell, LifeForce, Dox Health, Ilant Health, Lifeness, Vira Health

Objectives

- Projected global incidence and preventable deaths
- Limitations of existing strategies (GLP-1 RA alone)

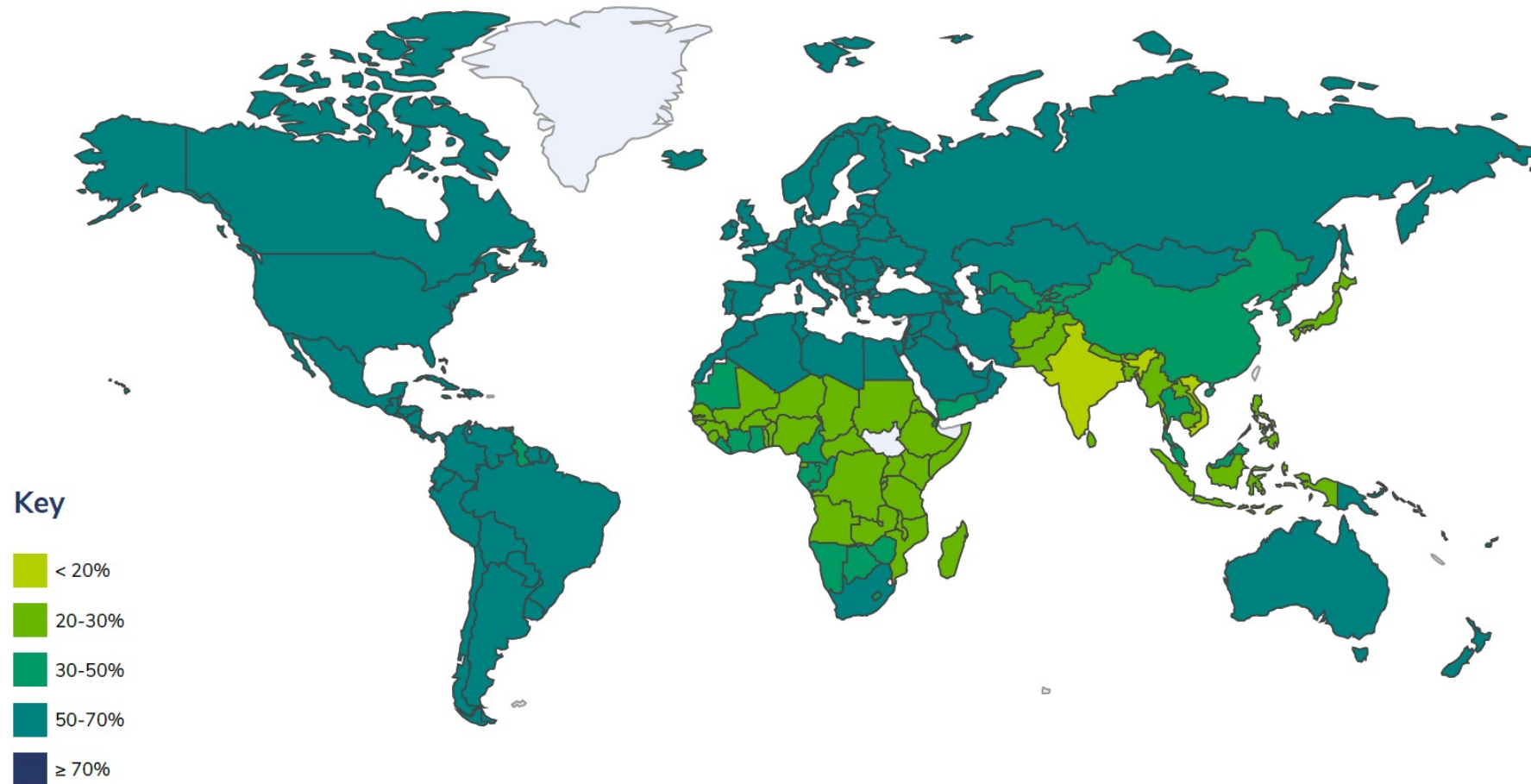




Obesity Burden and
Co-morbidities

Estimates of prevalence of overweight in adults

Overweight BMI ≥ 25 kg/m²

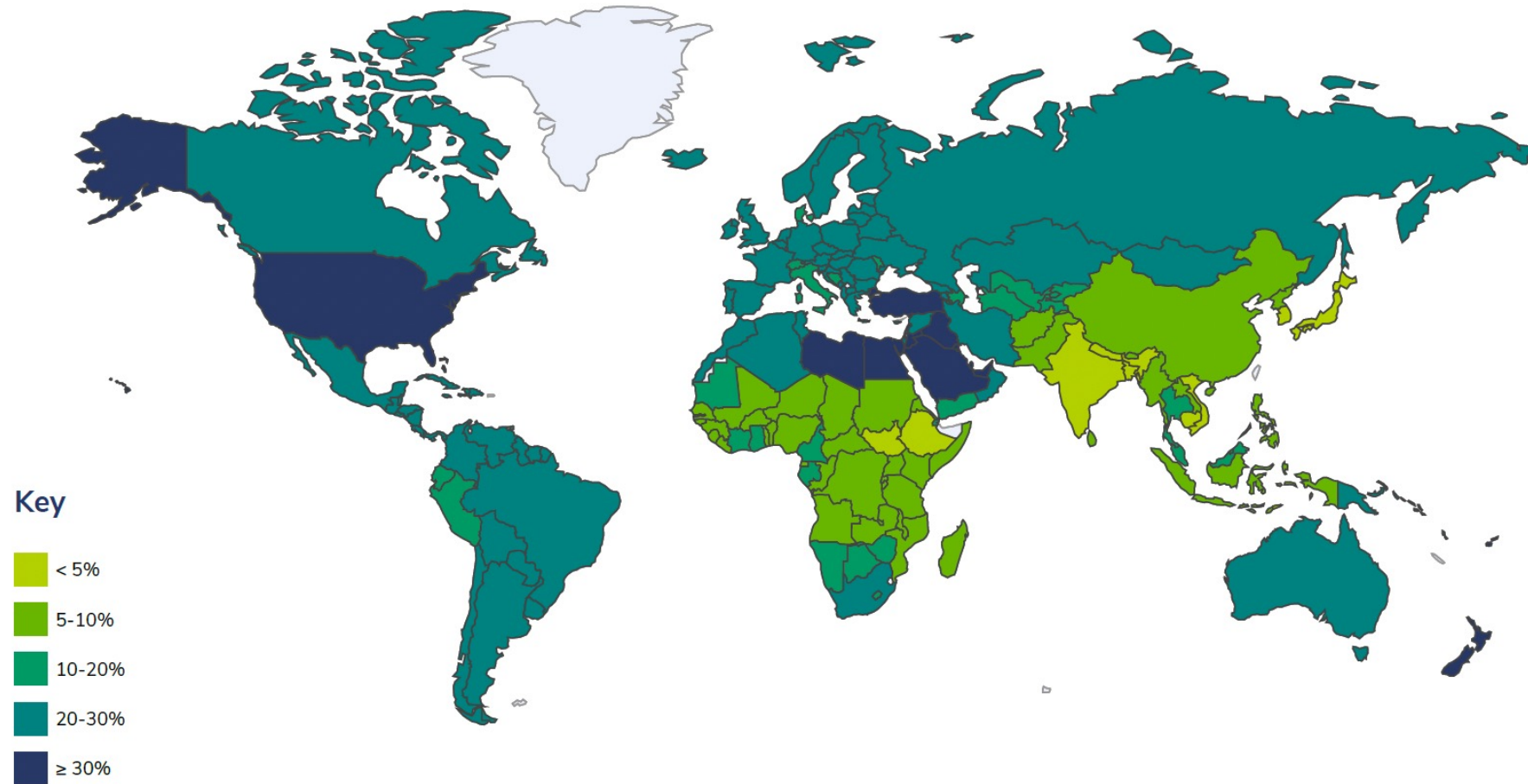


Source: WHO Global Health Observatory: <https://apps.who.int/gho/data/view.main.CTRY2430A> (12 December 2020)

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Estimates of prevalence of obesity in adults

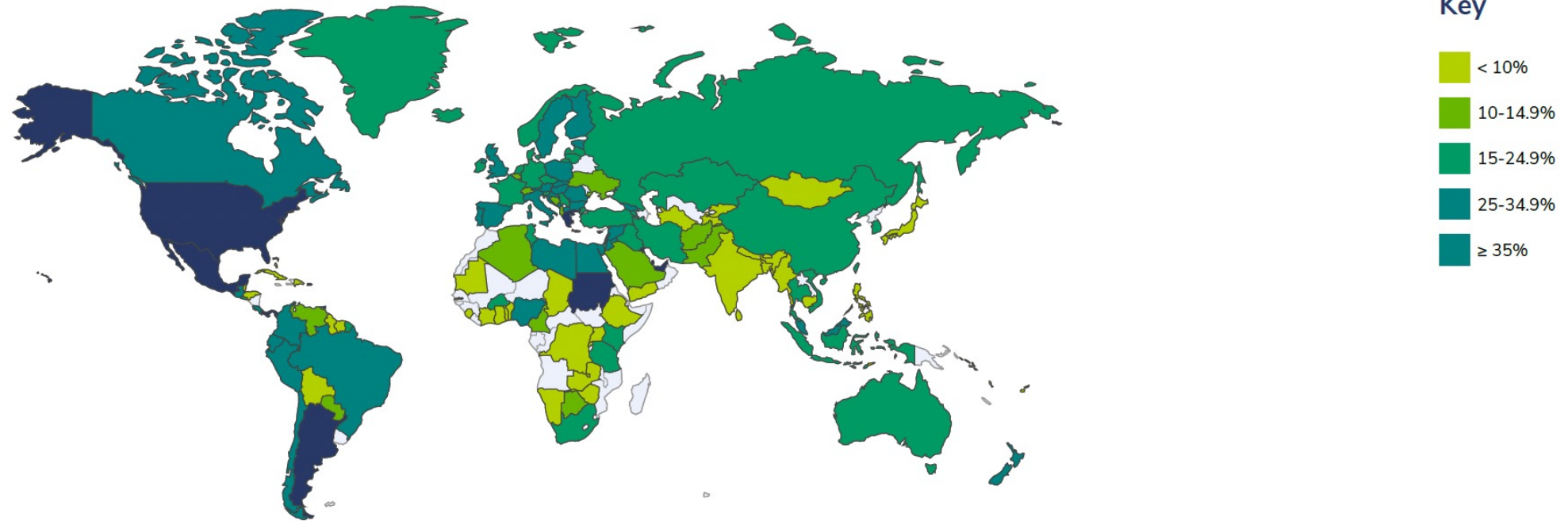
Obesity BMI ≥ 30 kg/m²



Source: Global Health Observatory Data Repository <https://apps.who.int/gho/data/node.main.A900A?lang=en> (last accessed 14.06.21)

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Girls living with either overweight or obesity, Newest available data



Africa region

Nigeria: 27%
South Africa: 23.6%
Seychelles: 23.6%

Americas region

Mexico: 44.6%
Panama: 39.9%
Argentina: 39.9%

Eastern Mediterranean region

Kuwait: 44.6%
Sudan: 41.6%
Qatar: 40.4%

European region

Greece: 40.4%
Cyprus: 39%
Croatia: 33.2%

SE Asia region

Thailand: 20.8%
Indonesia: 18.9%
Bangladesh: 8%

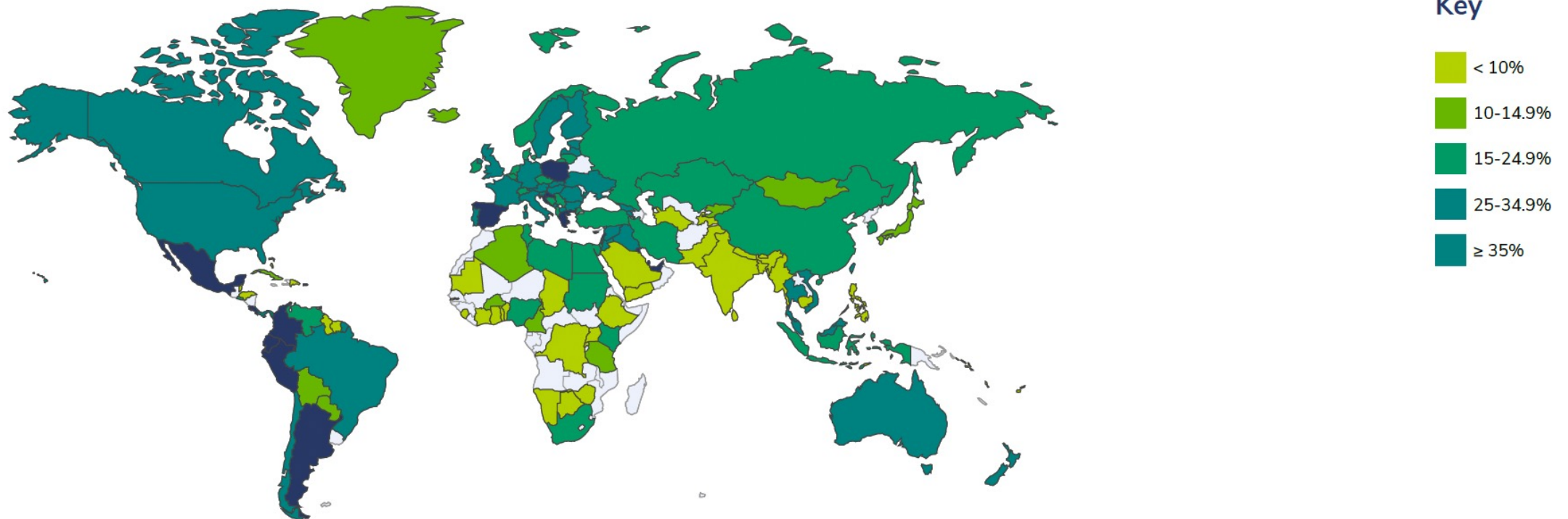
Western Pacific region

Niue: 112.8%
Federated States of
Micronesia: 41.3%
New Zealand: 29.5%

These maps include the most accurate and appropriate data available to us as the time of production. The maps only display data from surveys using measured heights and weights. Due to differences in survey methodology not all surveys are directly comparable and maps should be interpreted with care. Further survey details and references are available on the individual country pages.

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Boys living with either overweight or obesity, Newest available data



Africa region

Kenya: 20.6%
Seychelles: 20%
Nigeria: 18.6%

Americas region

Mexico: 43.1%
Argentina: 42.2%
Ecuador: 37.8%

Eastern Mediterranean region

Kuwait: 54.3%
Qatar: 44.9%
United Arab Emirates: 43.1%

European region

Cyprus: 47.9%
Greece: 43.9%
San Marino: 39%

SE Asia region

Thailand: 30.7%
Indonesia: 21.1%
Myanmar: 9.5%

Western Pacific region

Niue: 103.7%
Malaysia: 33.2%
Brunei Darussalam: 30.5%

These maps include the most accurate and appropriate data available to us as the time of production. The maps only display data from surveys using measured heights and weights. Due to differences in survey methodology not all surveys are directly comparable and maps should be interpreted with care. Further survey details and references are available on the individual country pages.

4,000,000
Deaths
Attributed to
Obesity

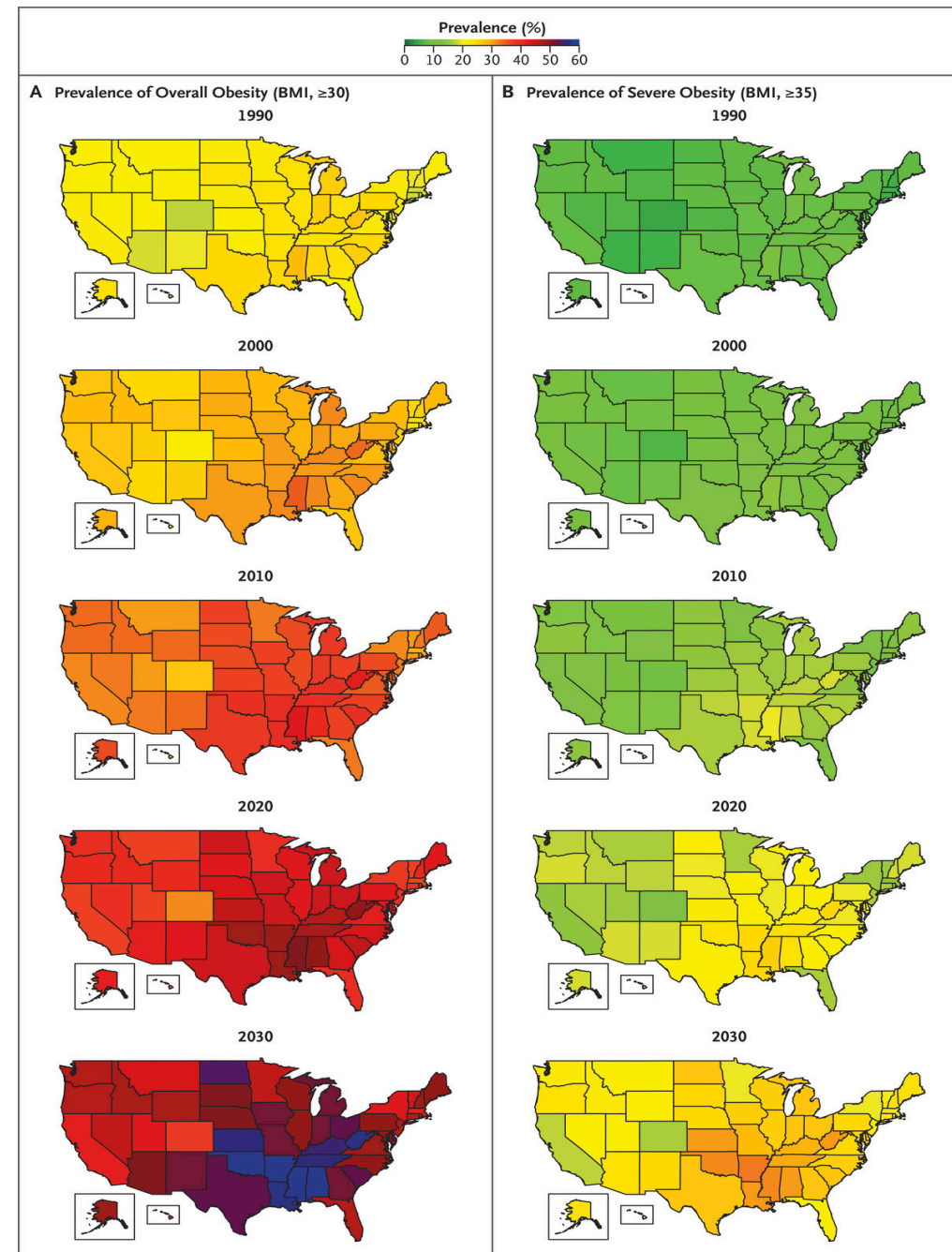


Estimated Prevalence of Overall Obesity and Severe Obesity in Each State, from 1990 through 2030.

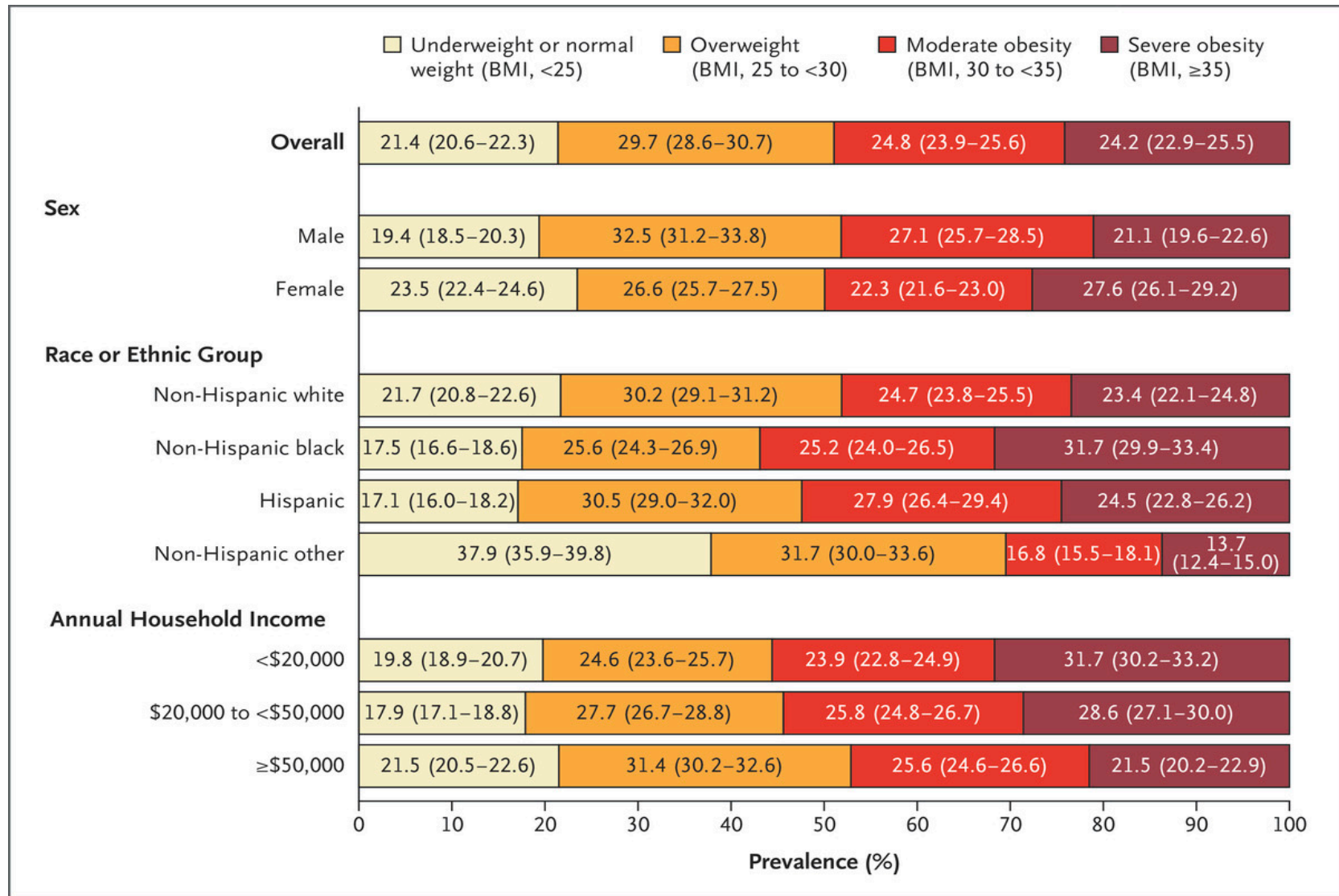
- ZJ Ward et al. N Engl J Med 2019;381:2440-2450.



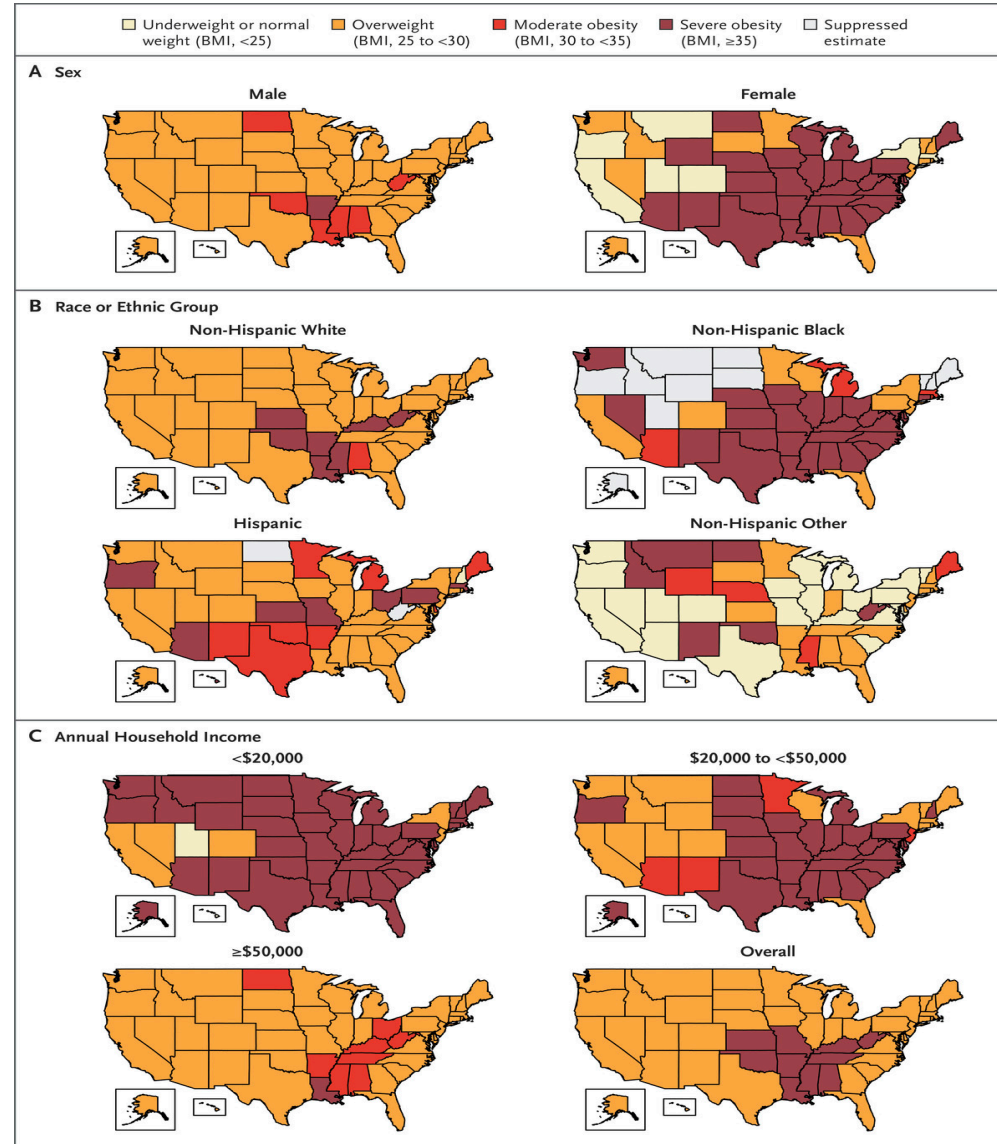
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Projected National Prevalence of BMI Categories in 2030, According to the Demographic Subgroup.

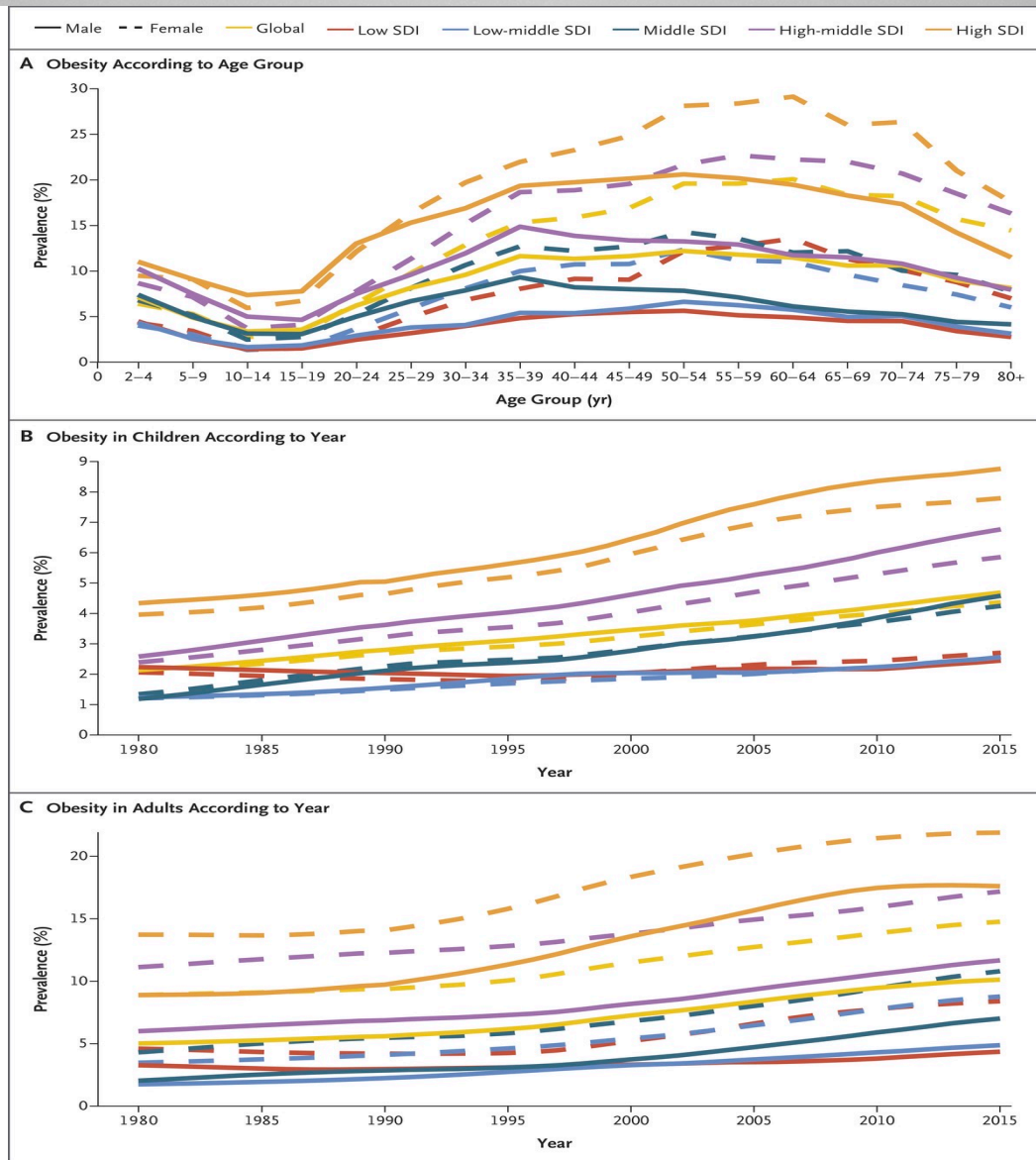


Projected Most Common BMI Category in 2030 in Each State, According to Demographic Subgroup.



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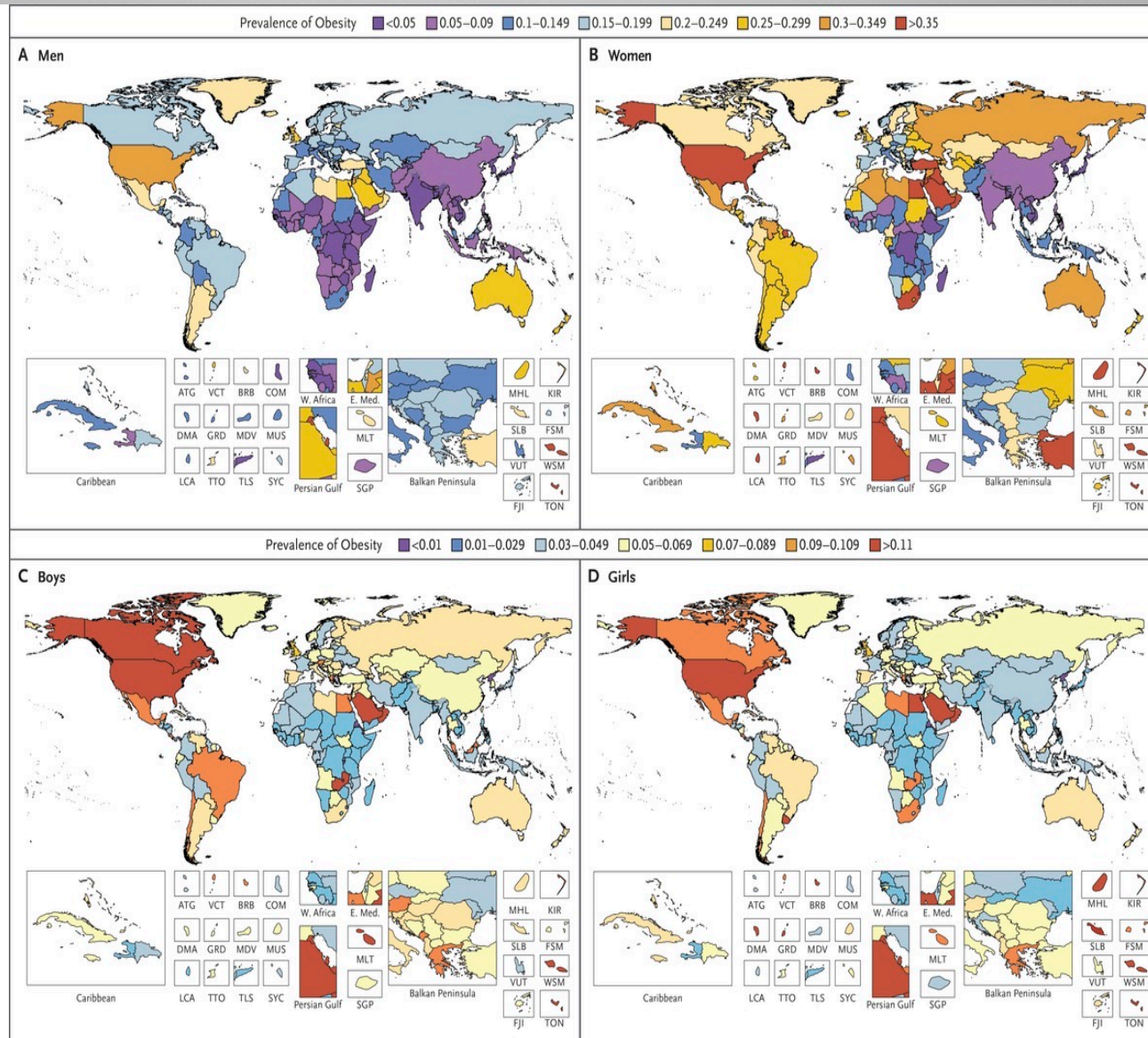
Prevalence of Obesity at the Global Level, According to Sociodemographic Index (SDI).



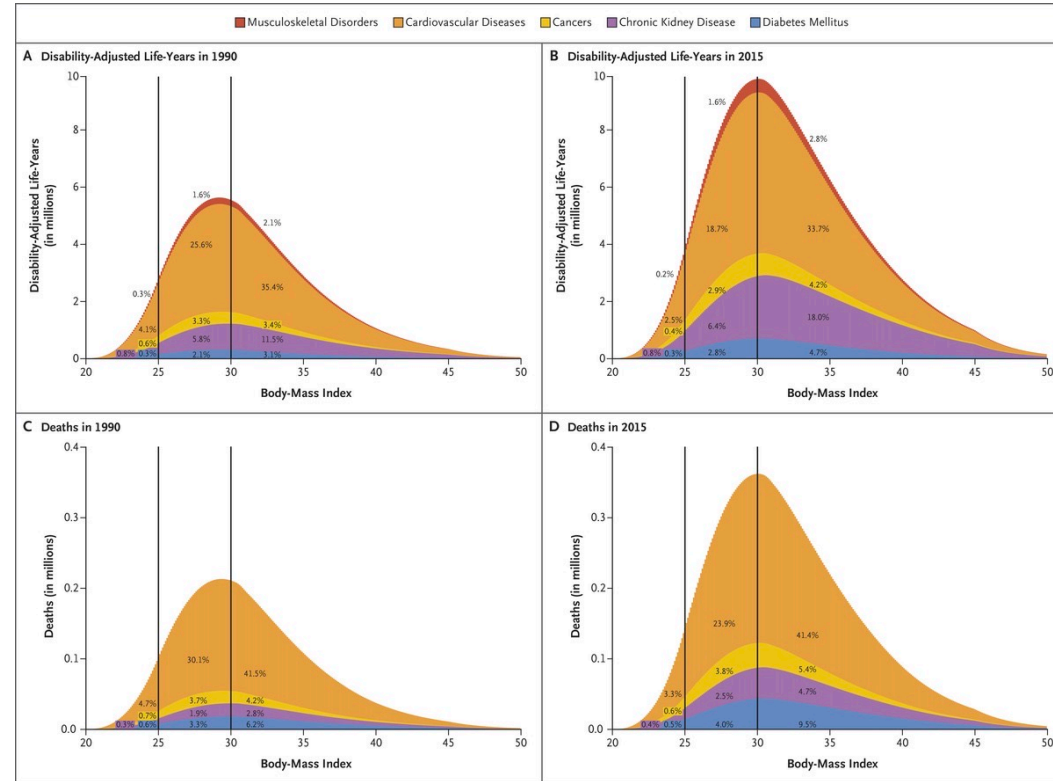
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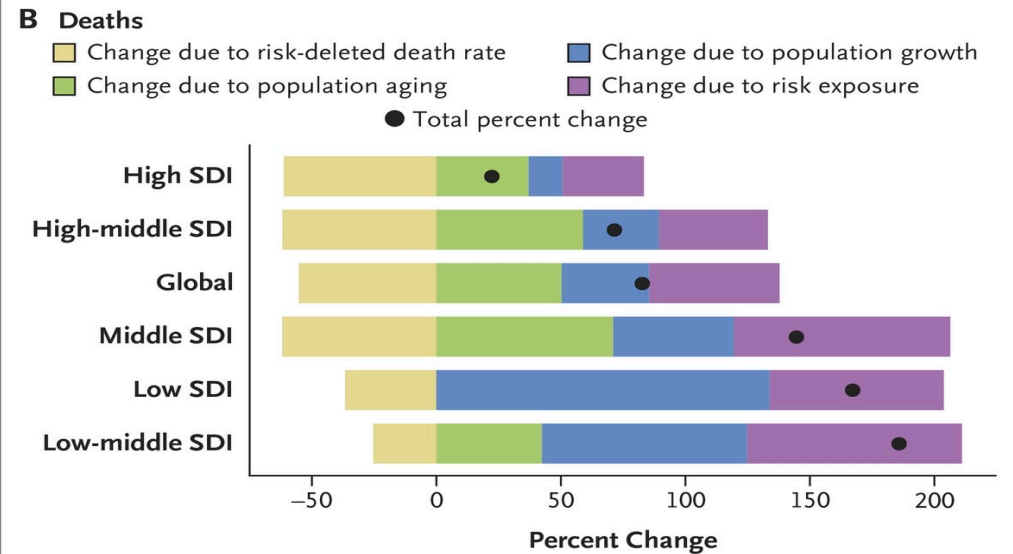
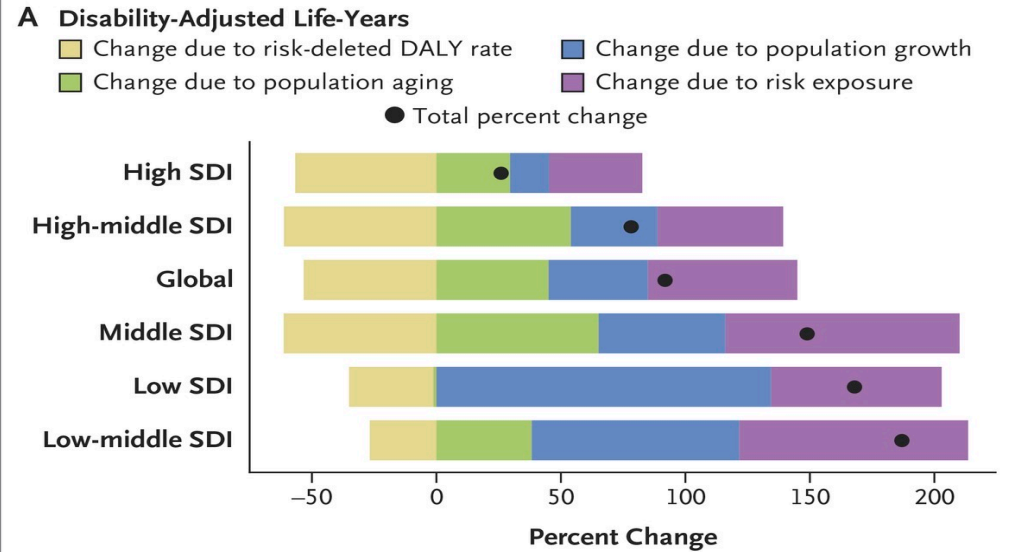
Age-Standardized Prevalence of Obesity Worldwide in 2015.



Global Disability-Adjusted Life-Years and Deaths Associated with a High Body-Mass Index (1990–2015).

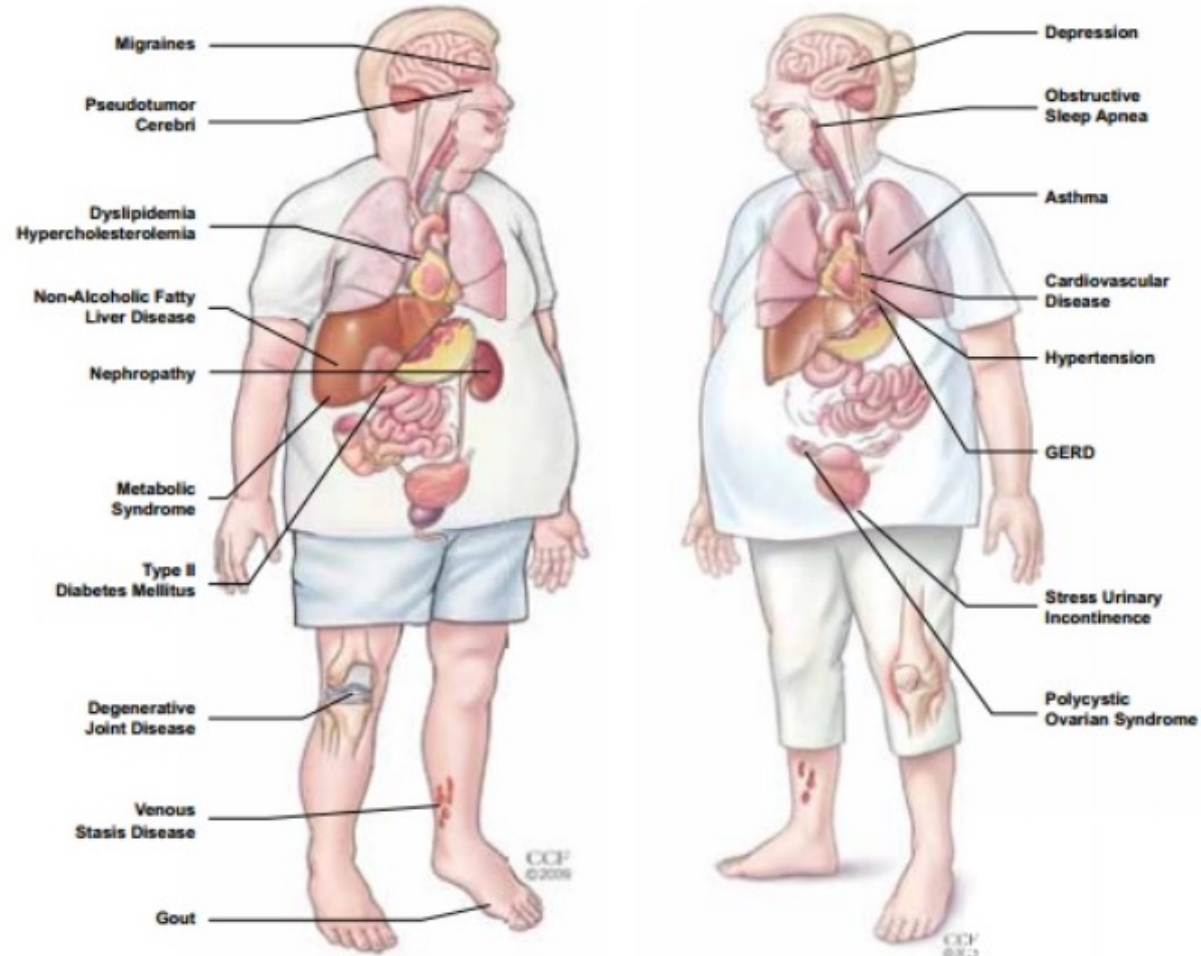


Percent Changes and Drivers of Change in Disability-Adjusted Life-Years and Deaths at the Global Level, According to SDI (1990–2015).



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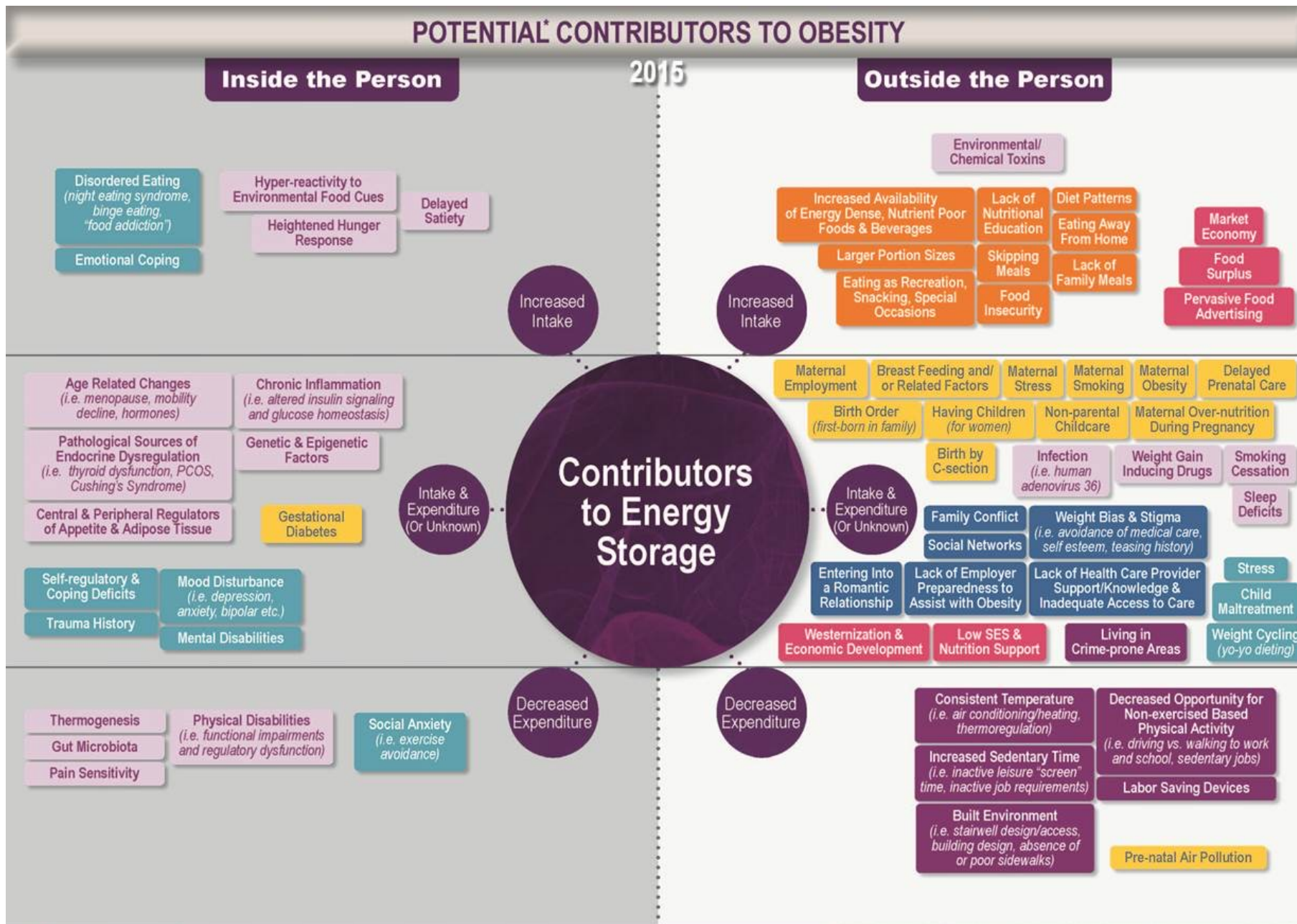
Obesity Co-Morbidities



0

There are 100+
contributors to
obesity, both inside
and outside a person

POTENTIAL CONTRIBUTORS TO OBESITY



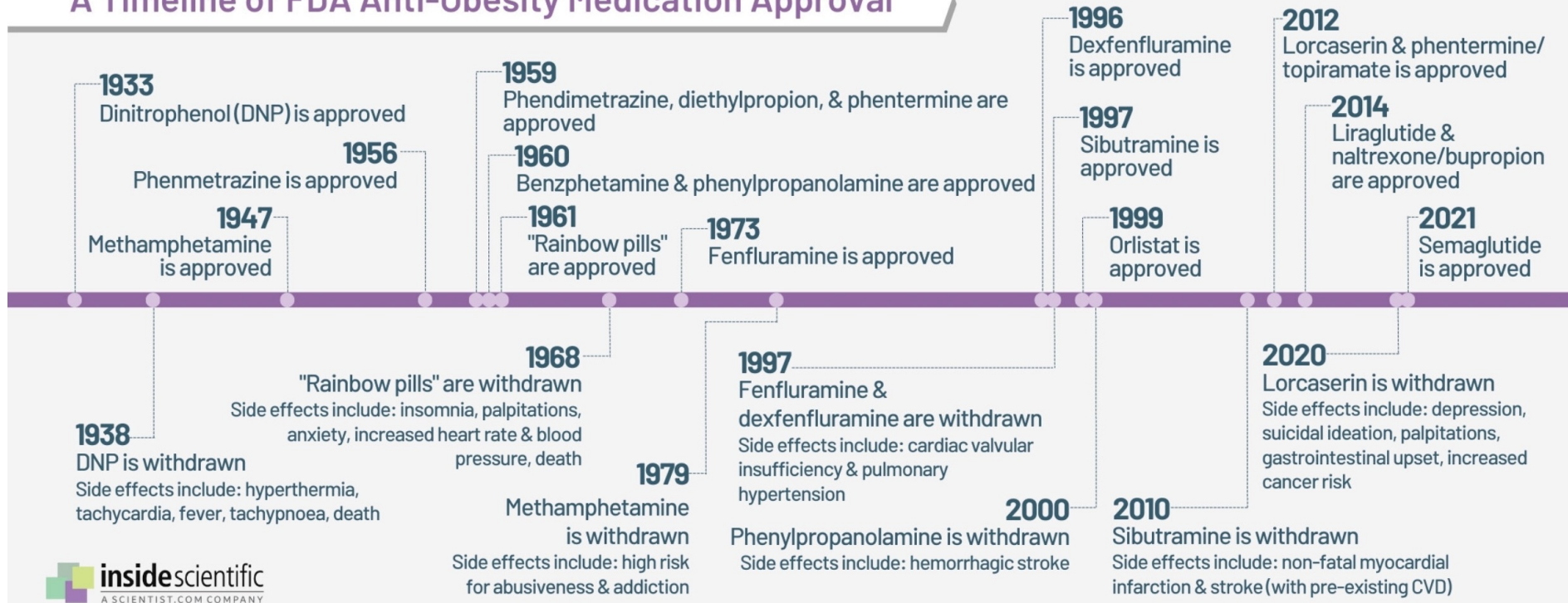
* Potential contributors indicate anything that has been put forth in the research literature as a question of investigation and is not intended to be a verification of whether or not, or the extent to which, each may or may not contribute.

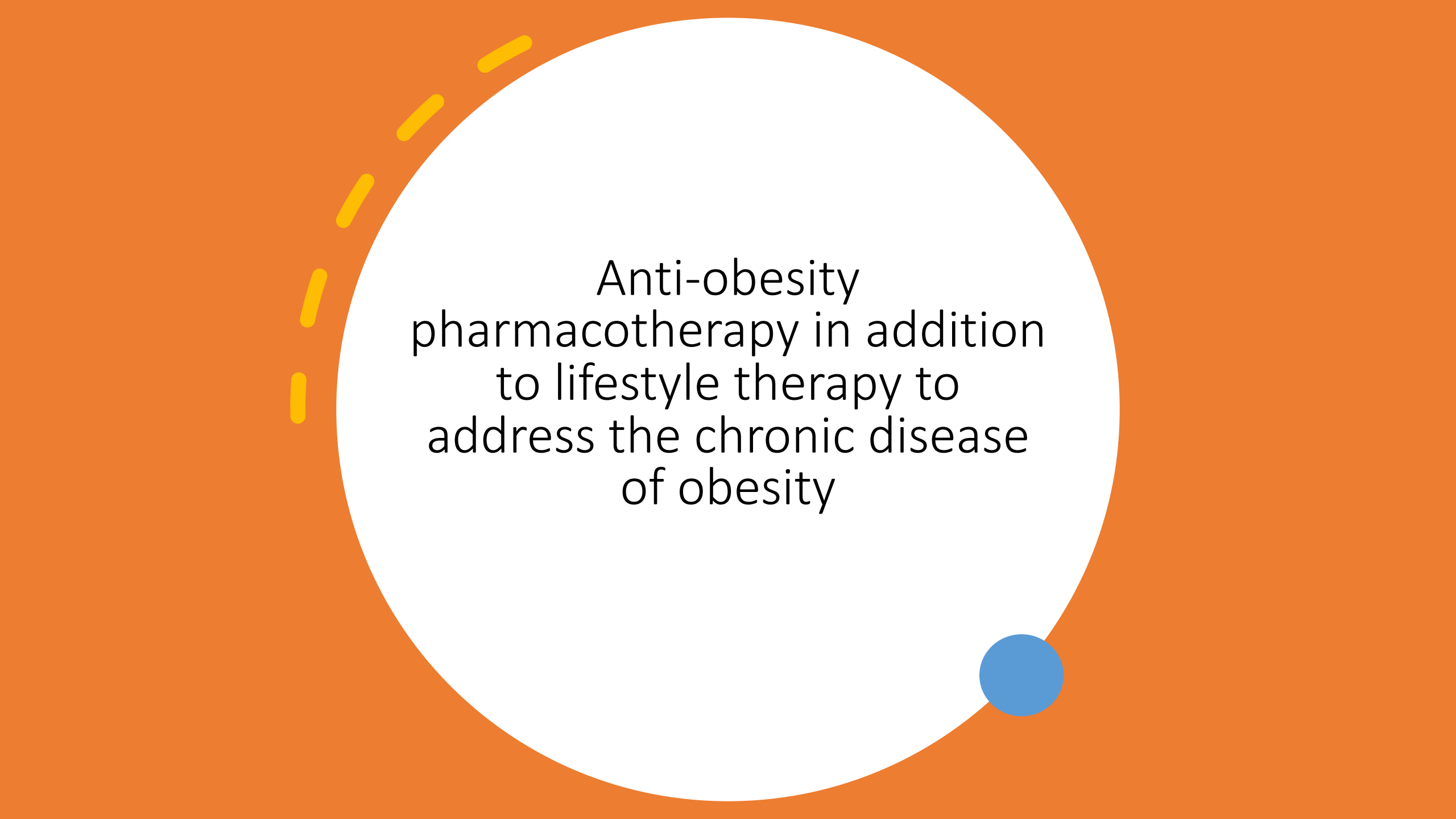
Historical Landscape of
Obesity Treatments &
The Reluctance to Utilize
Anti-Obesity
Pharmacotherapy



Timeline of Anti-Obesity Medication Approval in the US

A Timeline of FDA Anti-Obesity Medication Approval





Anti-obesity
pharmacotherapy in addition
to lifestyle therapy to
address the chronic disease
of obesity

Obesity Treatment Outcomes



Weight Loss %	Lifestyle Modification	Surgery	Medications			
	Patients in behavior programs (WW, IBT)	Patients with surgery at 10 years ¹	Patients on liraglutide 3 mg ³ Plus IBT ⁴	Patients on semaglutide 2.4 mg weekly ⁵ Plus IBT ⁶	Patients on phentermine/topiramate 15/92 mg ⁷	Patients on bupropion/naltrexone ⁸ Plus IBT ⁹
≥5%	48% ²	96.6%	63% (74%)	86% (87%)	67%	42% (66%)
≥10%	25% ²		33% (52%)	69% (75%)	47%	21% (41%)
≥15%	12% ⁵		14% (36%)	51% (56%)	32%	10% (29%)
≥20%	10% ¹	72%		32% (36%)	15%	
≥30%	4% ¹	40%				

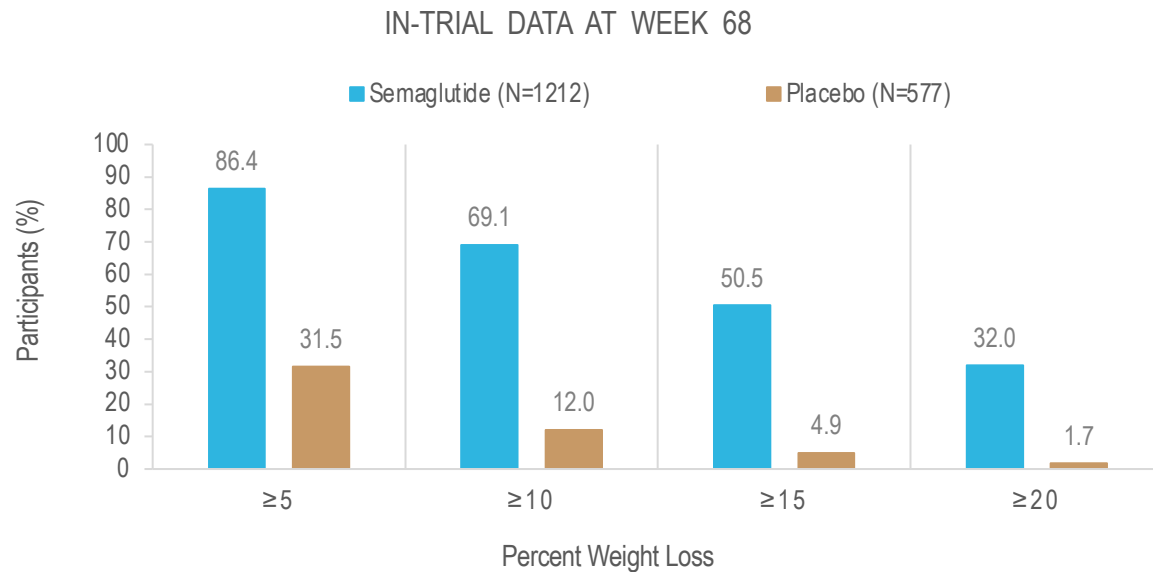
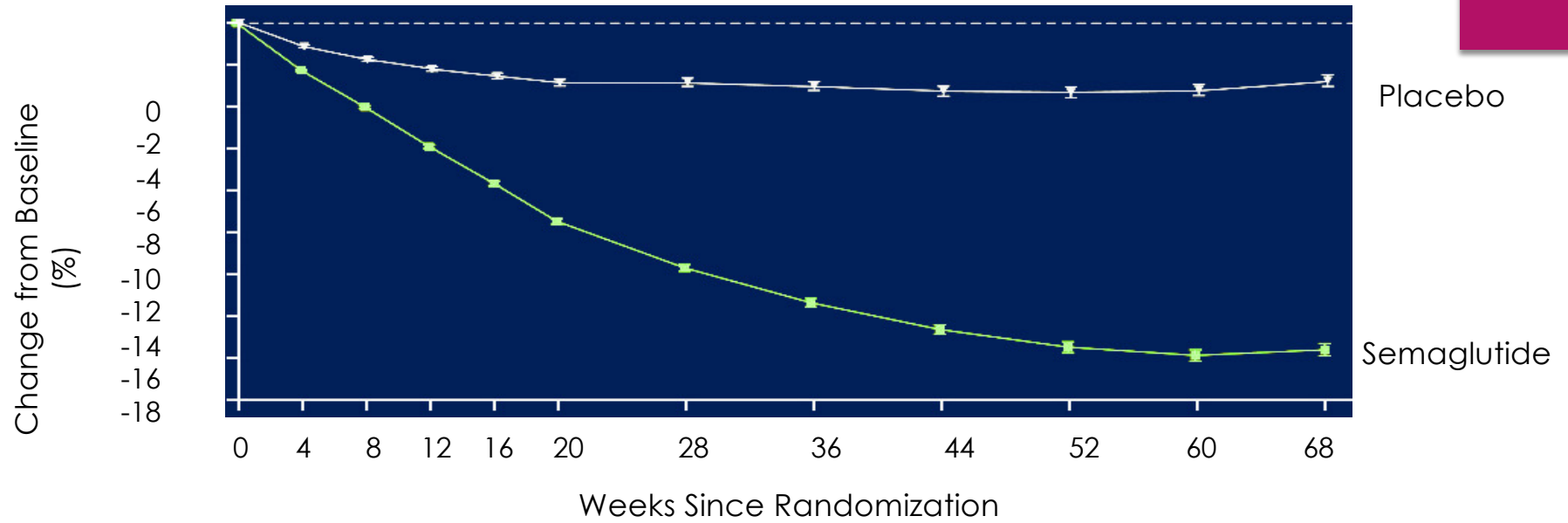
WW=weight watchers; IBT=intensive behavioral therapy.

1. Maciejewski ML et al. *JAMA Surgery*. 2016;151(11):1046-1055. 2. Jebb SA et al. *Lancet*. 2011;378(9801):1485-1492. 3. Pi-Sunyer X et al. *N Engl J Med*. 2015;373(1):11-22. 4. Wadden TA et al. *Obesity* (Silver Spring). 2019;27(1):75-86. 5. Wilding JPH et al. *N Engl J Med*. 2021;384(11):989-1002. 6. Wadden, TA et al. *JAMA*. 325.14 (2021):1403-1413. 7. Allison DB, et al. *Obesity* (Silver Spring). 2012; 20(2):330-342. 8. Greenway FL et al. *Lancet*. 2010;376(9741):595-605. 9. Wadden TA et al. *Obesity* (Silver Spring). 2011;19(1):110-120.

What has changed recently
and why the GLP-1 receptor
agonists

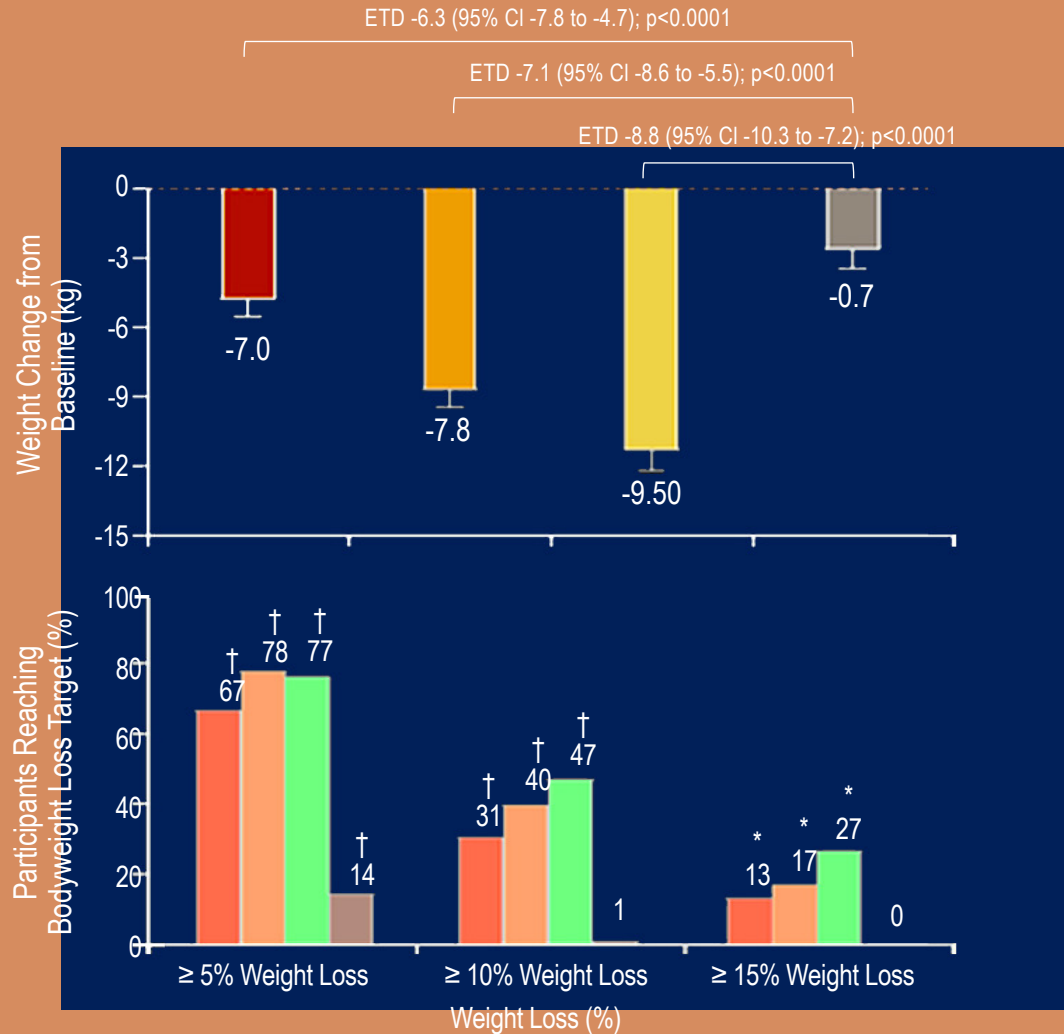


Semaglutide



Dual Agonist -Tirzepatide

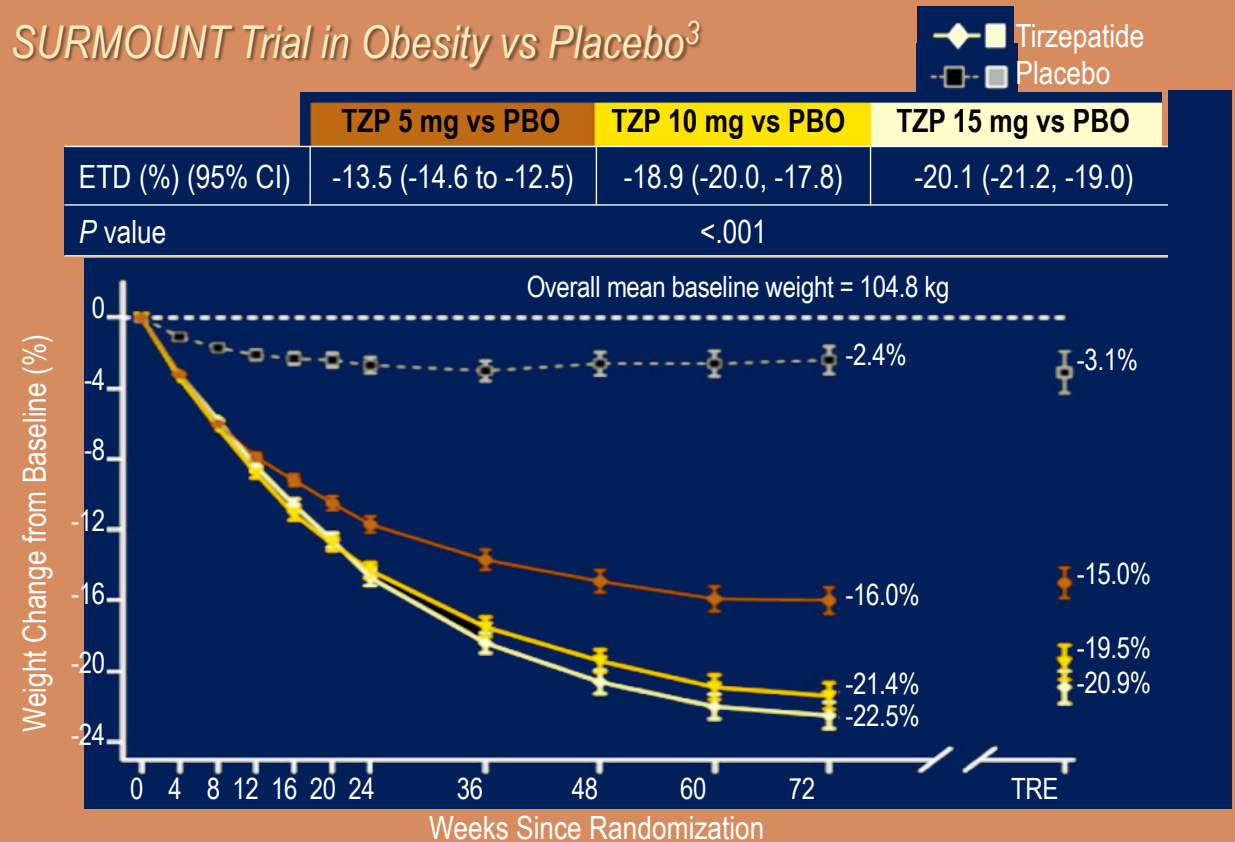
SURPASS-1 Trial in Diabetes vs Diet/Exercise¹



SURPASS-2 Trial in Diabetes vs Semaglutide²

Outcome	Tirzepatide 15 mg	Semaglutide 1 mg
Hb A1c reduction	-2.46%	-1.86%
Weight reduction	-13.1%	-6.7%

SURMOUNT Trial in Obesity vs Placebo³



Thank You For Your Time

Fatima Cody Stanford, MD, MPH, MPA, MBA,
FAAP, FACP, FAHA, FAMWA, FTOS



@askdrfatima