

OBESITY AND COVID-19: A SYNDEMIC IN NEED OF EFFECTIVE TREATMENT

Angela Fitch, MD, FACP, Dipl. ABOM
CO-DIRECTOR MGH WEIGHT CENTER
PRESIDENT-ELECT OBESITY MEDICINE ASSOCIATION
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Afitch@mgh.harvard.edu



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Disclosures

- MsMedicine advisory board
- Found Health advisory board
- Gelesis advisory board
- Jenny Craig Science Advisory Chair
- NovoNordisk advisory board

Objectives

Define

- Syndemic of obesity and COVID-19

Understand

- Understand pillars of obesity treatment and apply them to effective obesity care

Educate

- About effective obesity treatment options in the workplace and beyond

Propose

- A new paradigm for workplace wellness as it relates to obesity care

OBESITY IS A **CHRONIC TREATABLE** DISEASE

- Obesity
 - a disease in which excess body fat has accumulated to a level that may have an adverse effect on health.

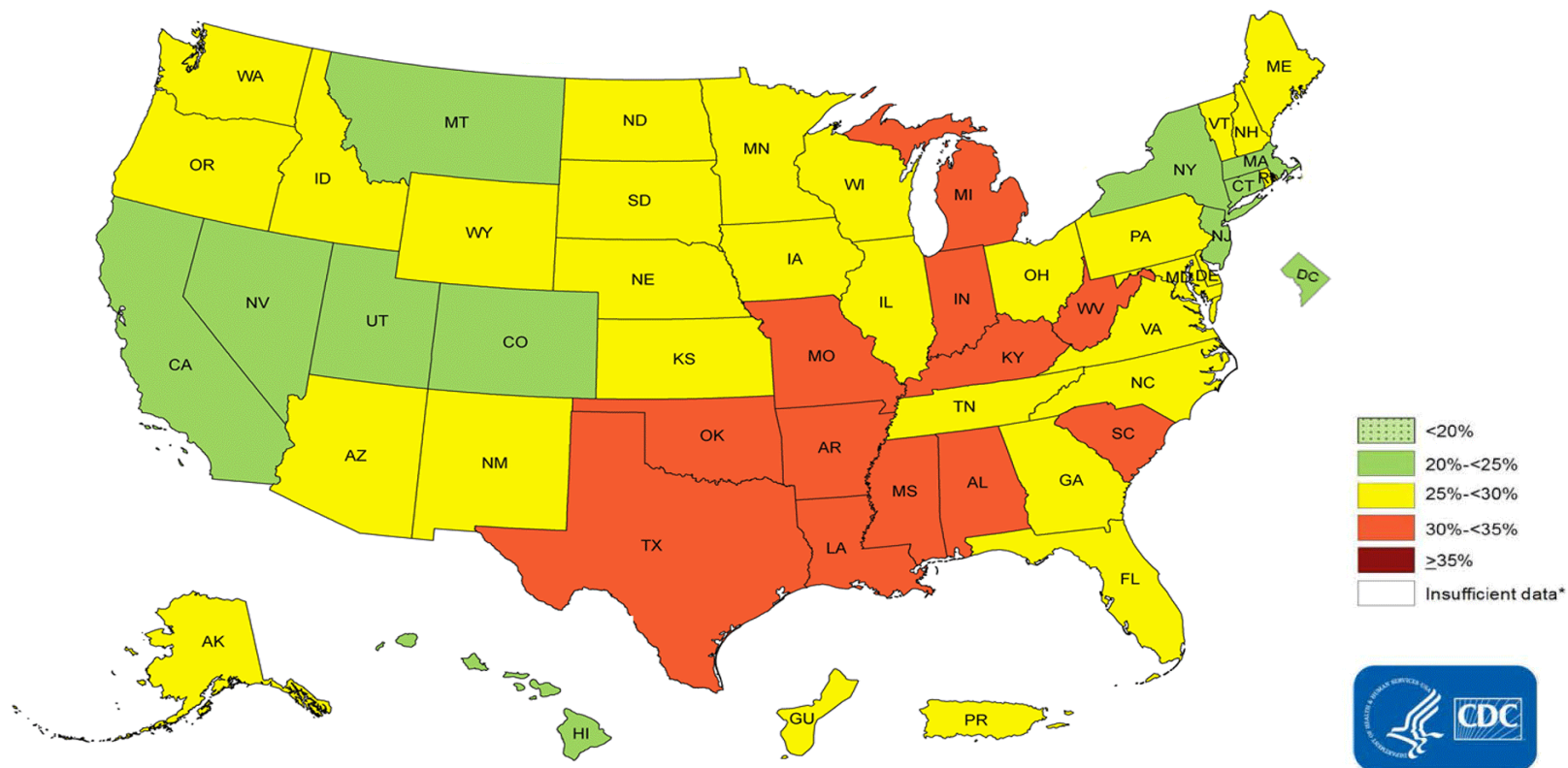


STATE OF OBESITY

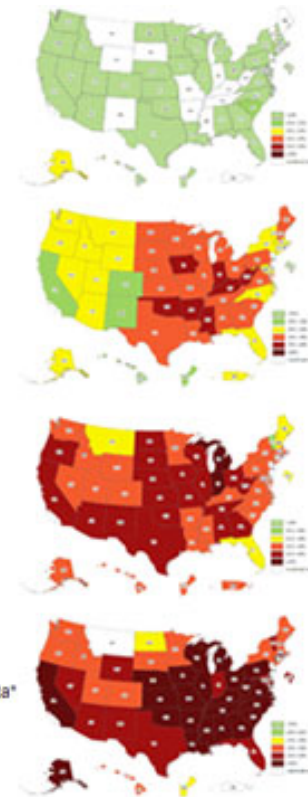
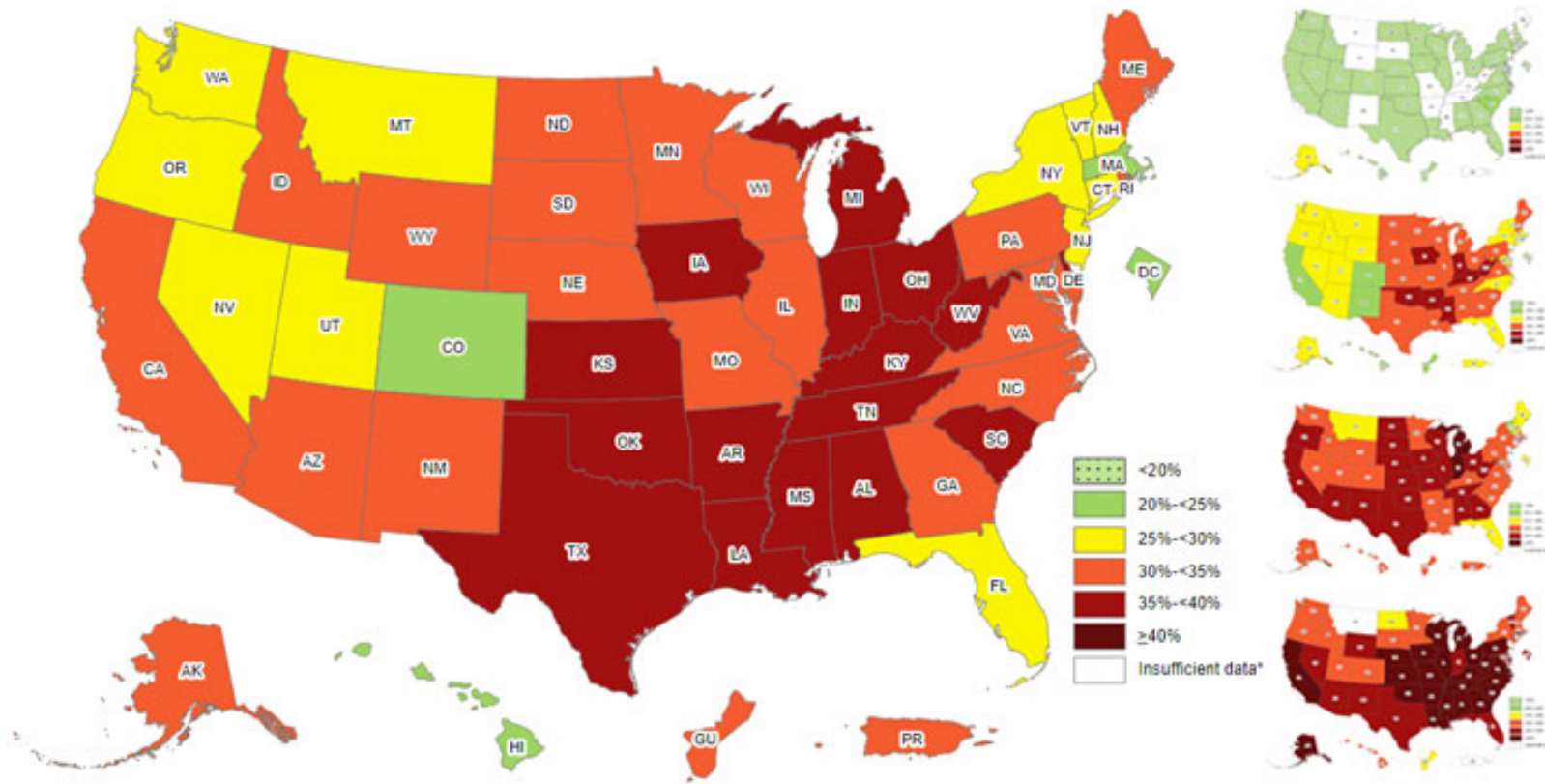
Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS

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

2011 2012 2013 2014 2015 2016 2017 2018 2019



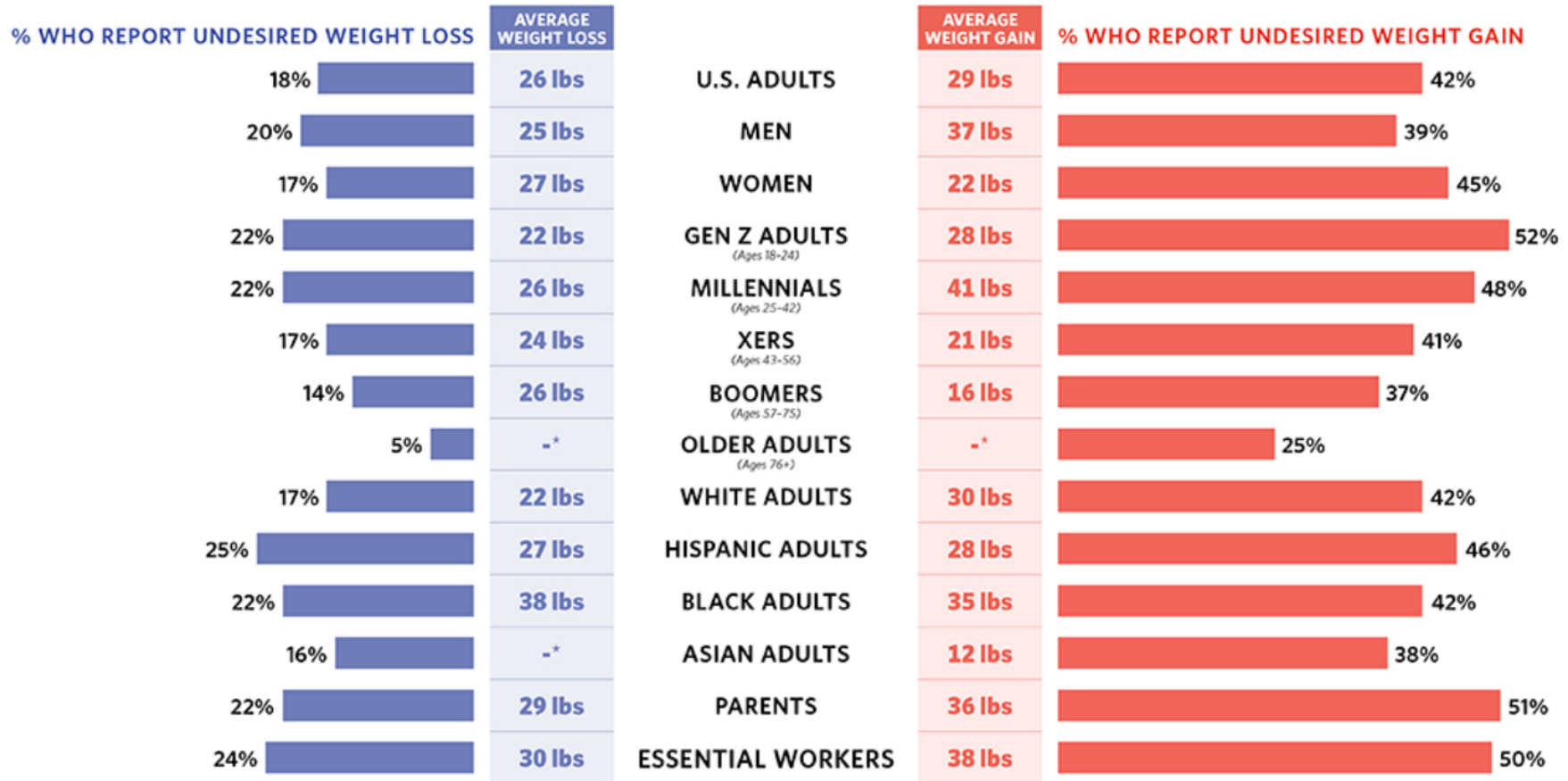
*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.



2020 STATE OF OBESITY

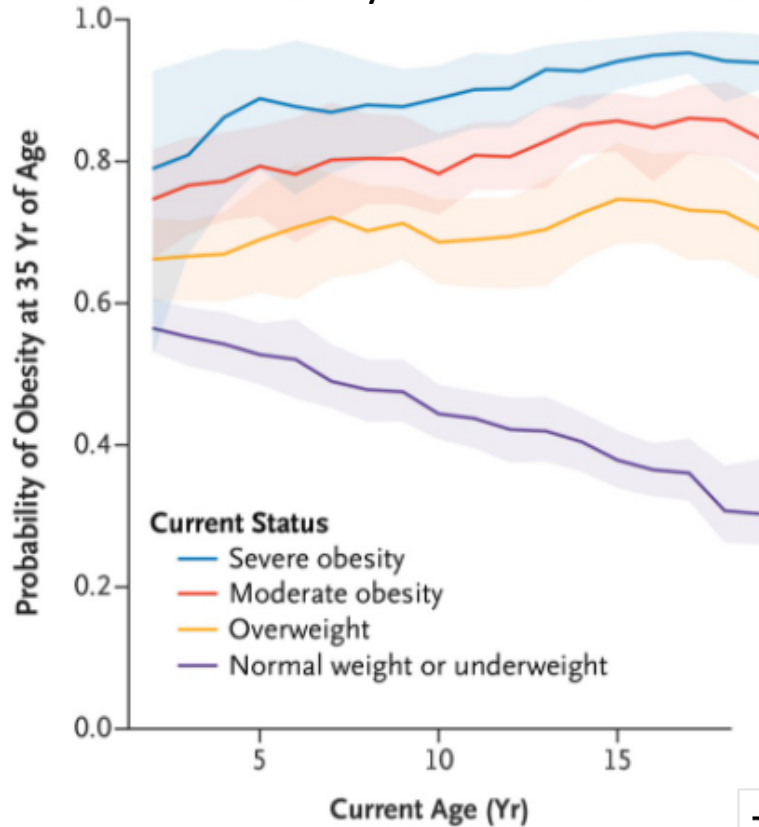
PANDEMIC WEIGHT CHANGES

JAMA scale data showed
1.5lb weight gain per month

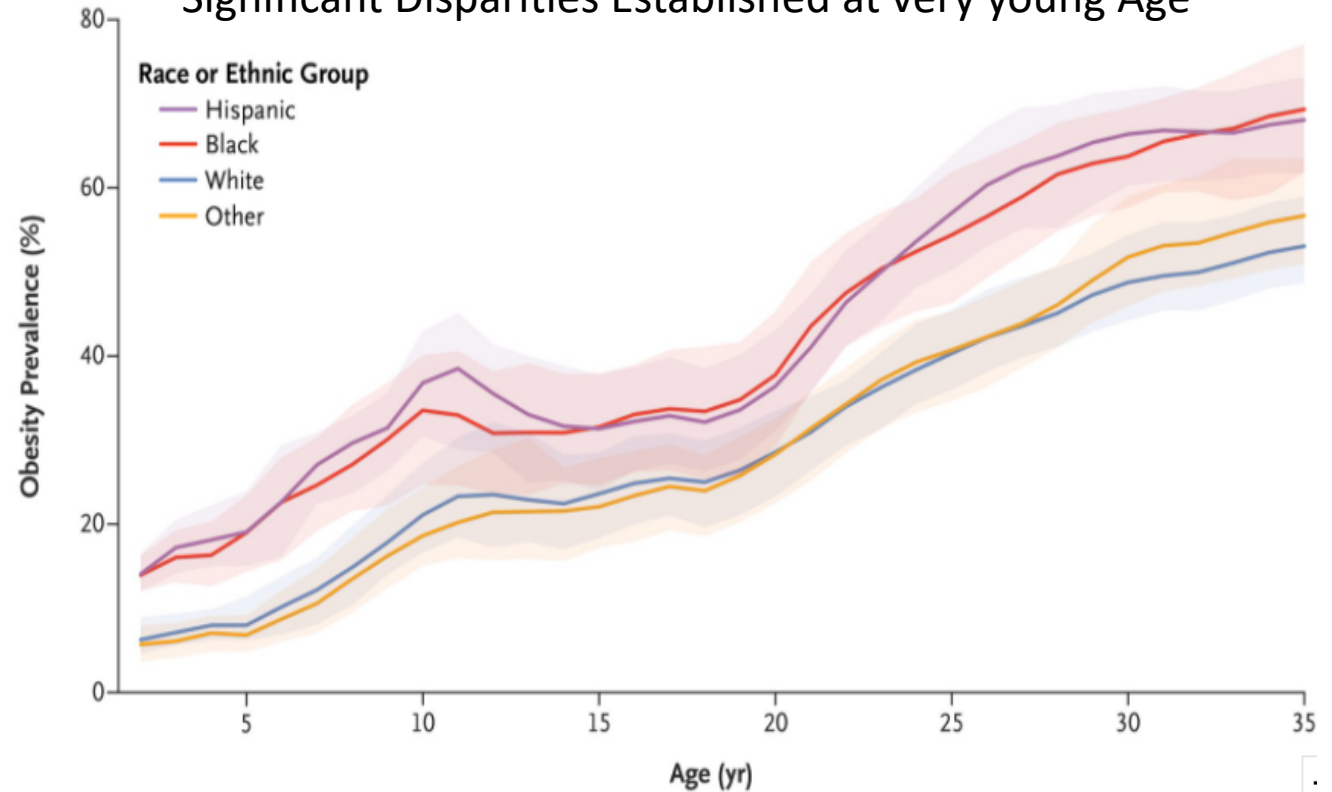


ADULT OBESITY IS A PEDIATRIC DISEASE

Childhood Obesity Tracks into Adulthood



Significant Disparities Established at very young Age

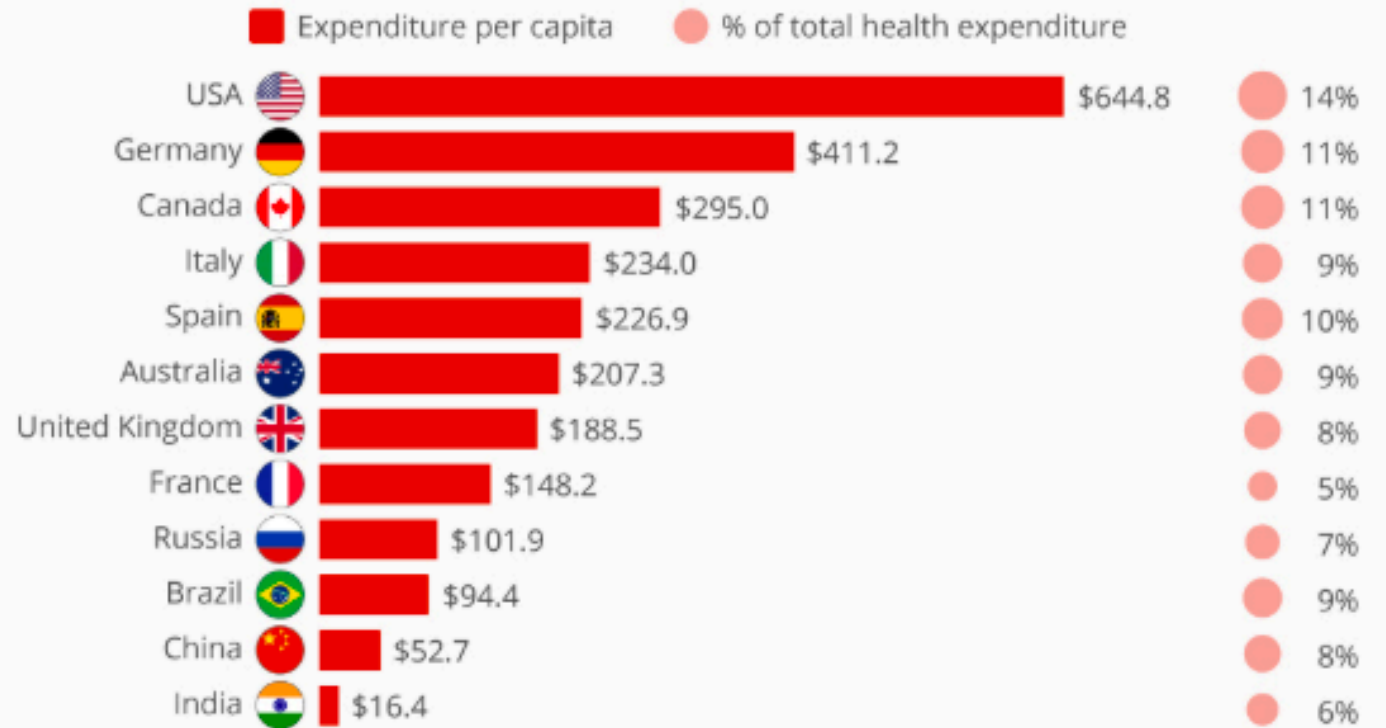


DISEASE OF OBESITY IS COSTLY!

- 2/3 of diabetes cost
- 1/4 of cardiovascular spending
- 9% of all cancer care

Where Obesity Places The Biggest Burden On Healthcare

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



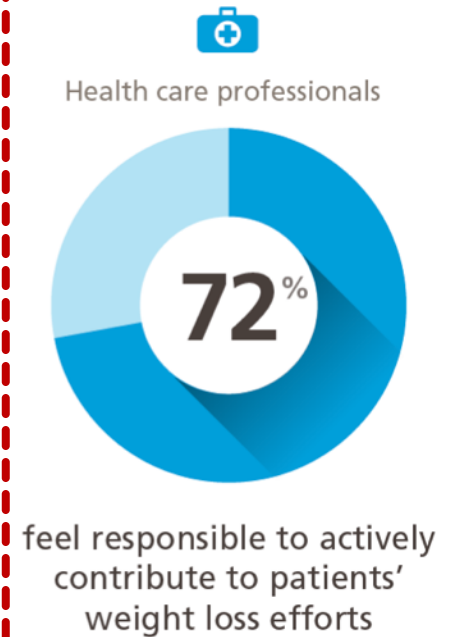
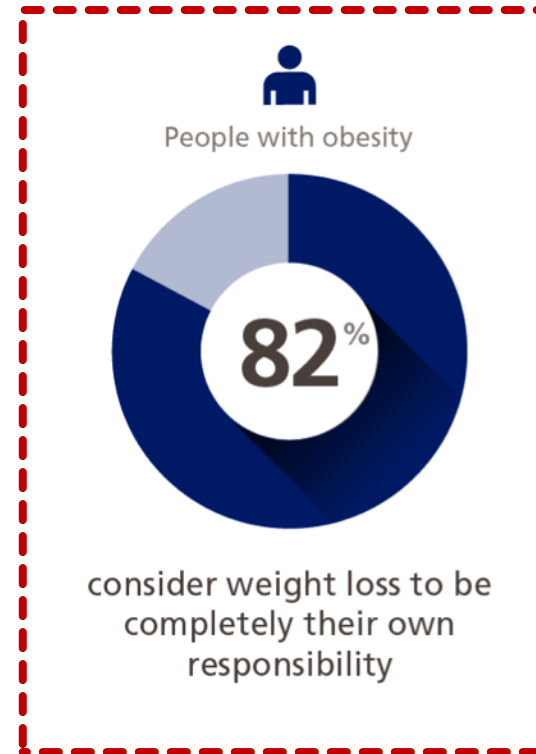
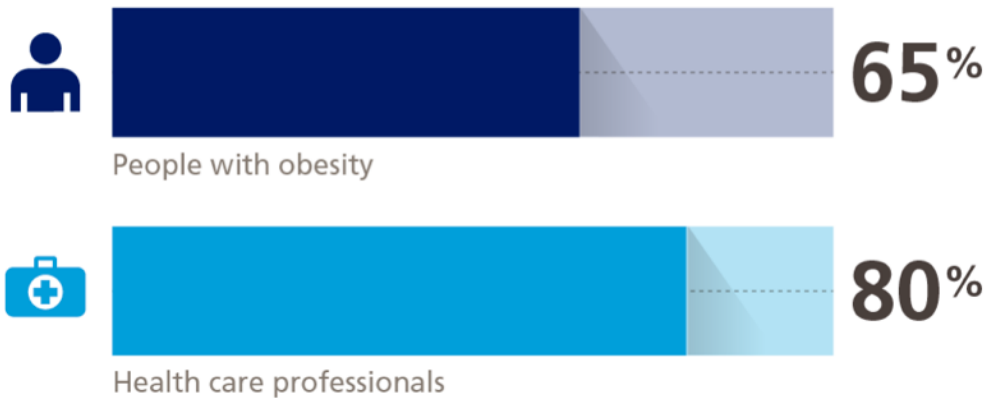
* U.S. dollars - purchasing power parity.

@StatistaCharts Source: OECD

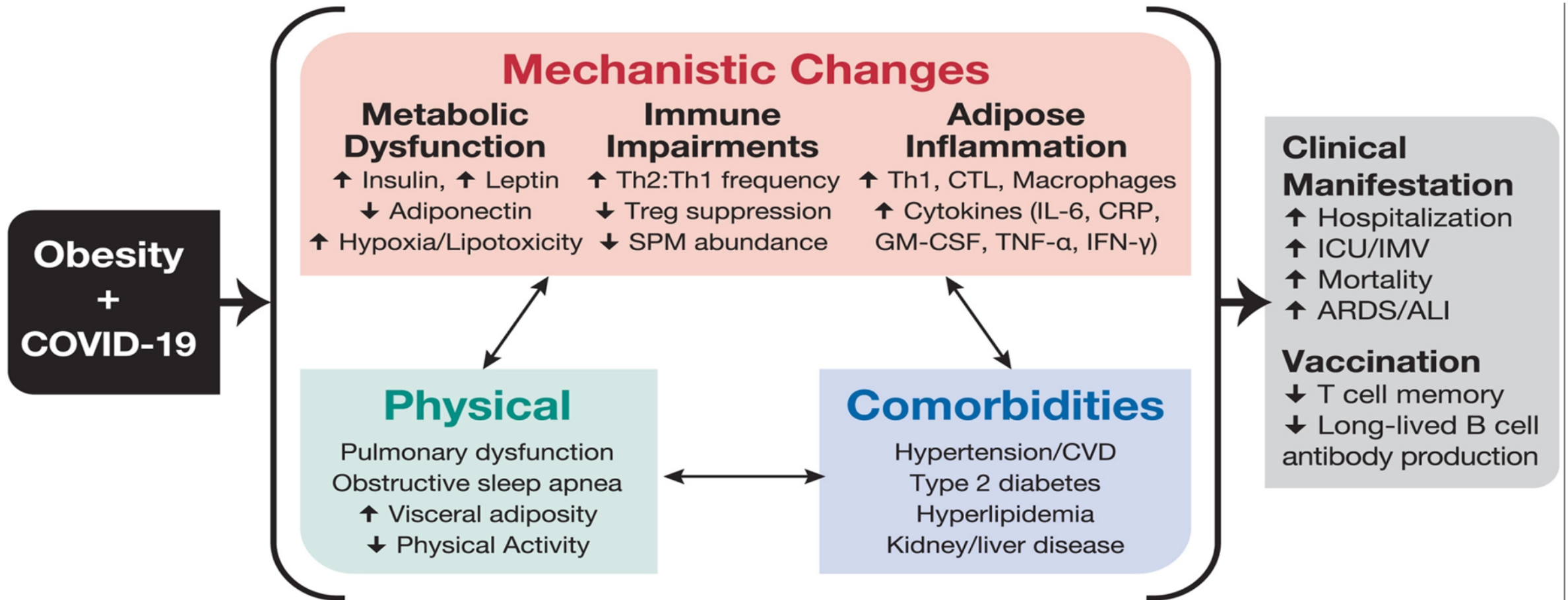
statista

ULTIMATE CHALLENGE

% that believe obesity "is a disease"



COVID-19 AND OBESITY

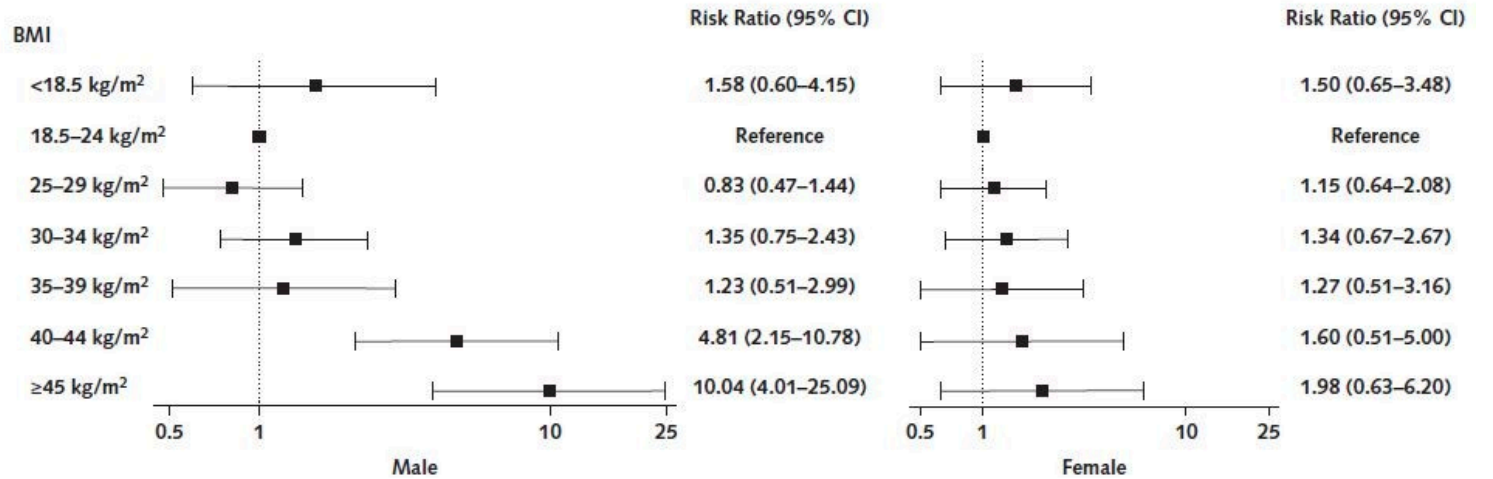
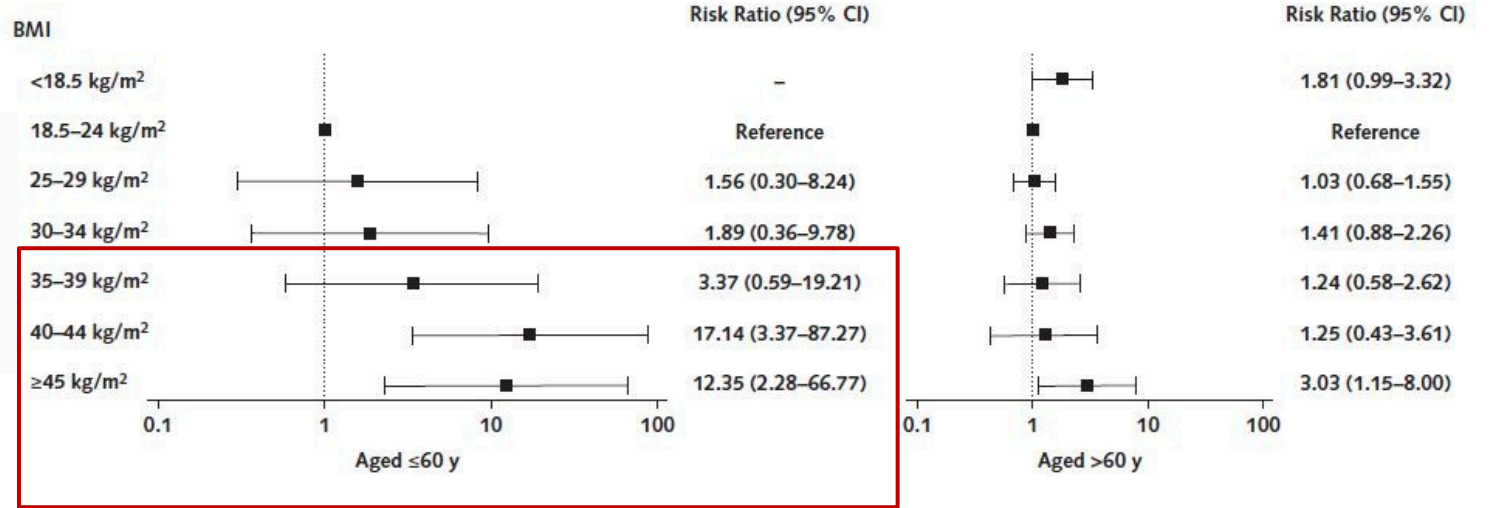


Original Research | 12 August 2020

Obesity and Mortality Among Patients Diagnosed With COVID-19: Results From an Integrated Health Care Organization

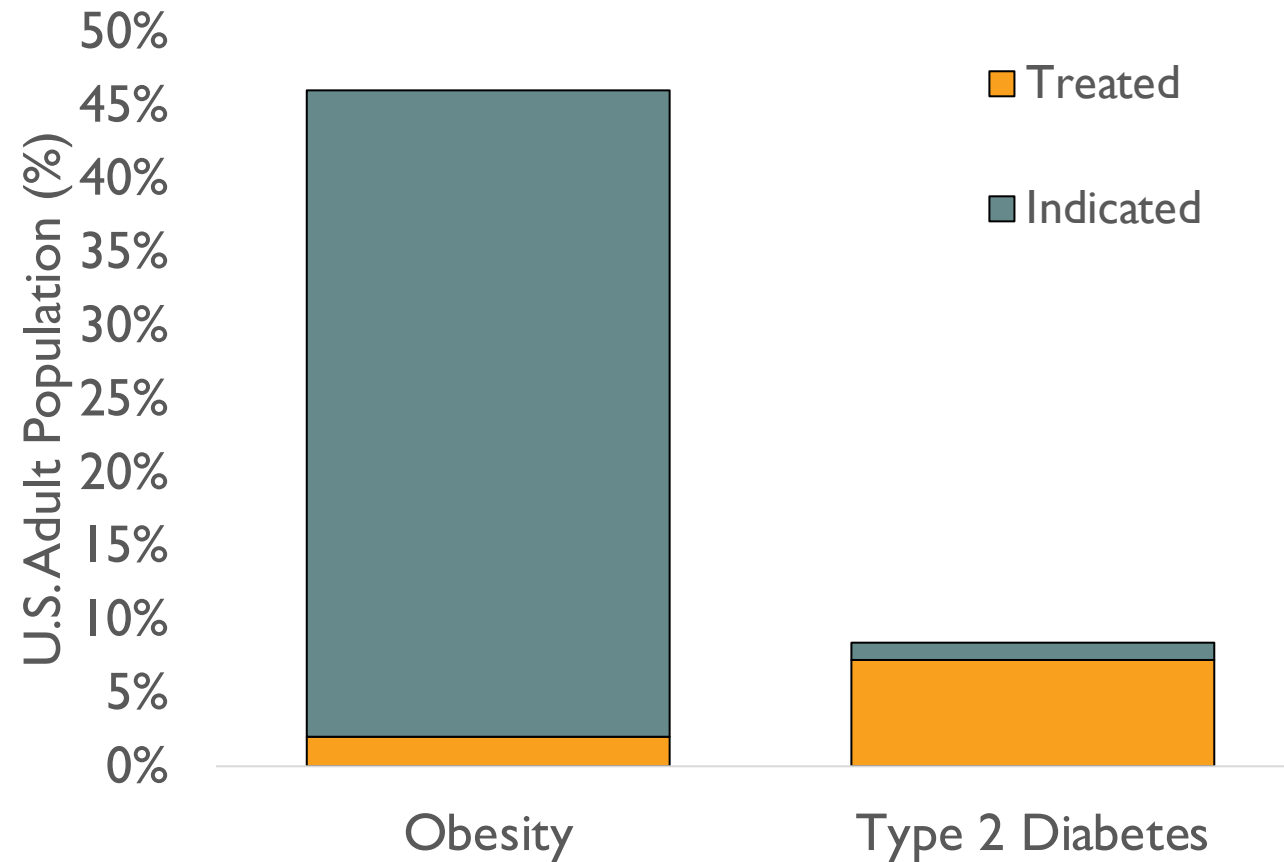
Sara Y. Tartof, PhD, MPH, Lei Qian, PhD, MS, Vennis Hong, MPH, Rong Wei, MA, ... [View all authors](#)

Annals of Internal Medicine



RISK OF DEATH FROM COVID-19

Relative Utilization of Anti-obesity vs Diabetes Pharmacotherapy



Thomas CE, et al. *Obesity*. 2016;24:1955-1961.

June 2012



**SCREENING FOR AND MANAGEMENT OF OBESITY IN ADULTS
CLINICAL SUMMARY OF U.S. PREVENTIVE SERVICES TASK FORCE RECOMMENDATION**

Population	Adults aged 18 years or older
Recommendation	Screen for obesity. Patients with a body mass index (BMI) of 30 kg/m² or higher should be offered or referred to intensive, multicomponent behavioral interventions. Grade: B

Intensive multicomponent behavioral interventions:

12-26 sessions: RD, PT, OT, behaviorist

Behavioral management activities, such as setting weight-loss goals

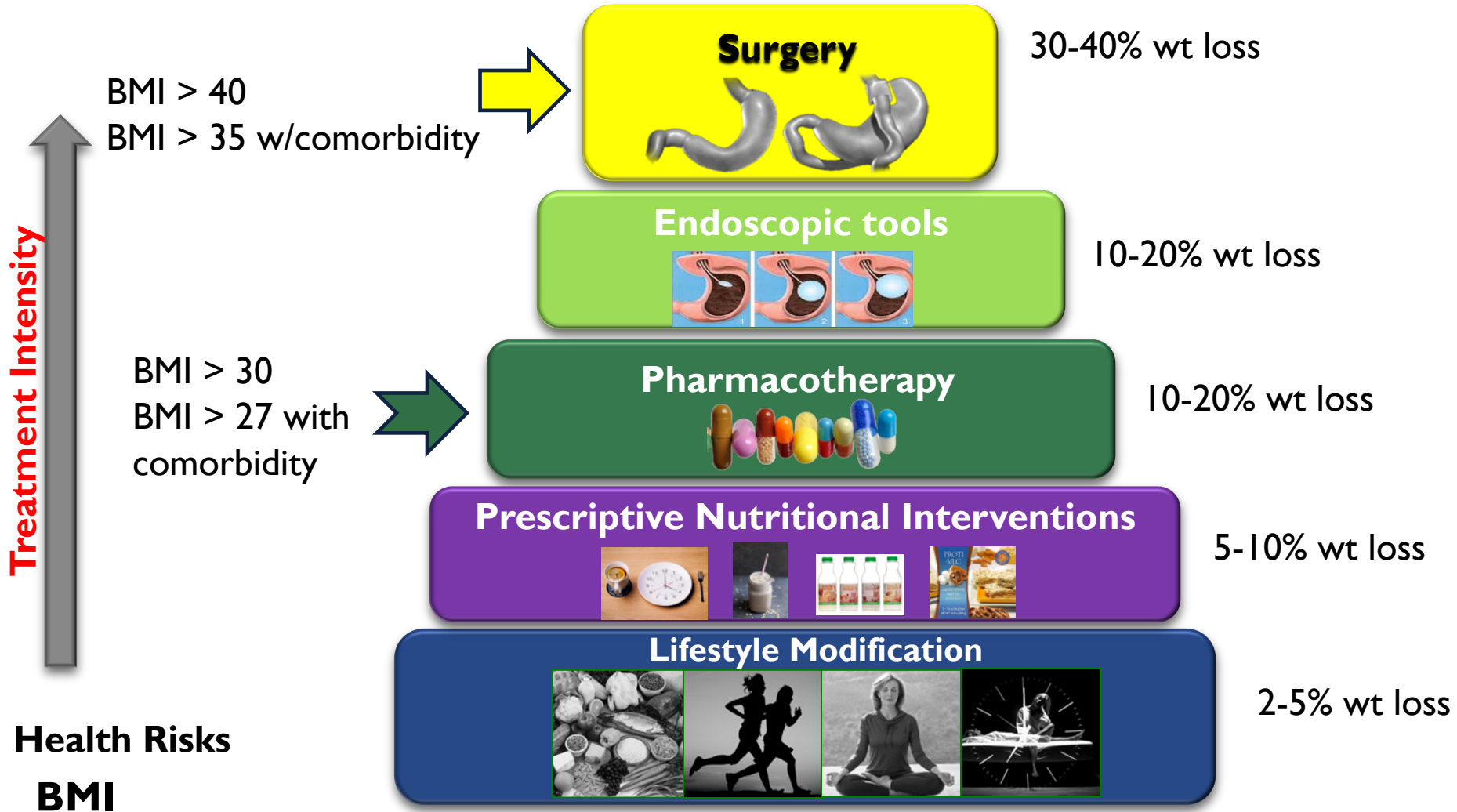
Improving diet or nutrition and increasing physical activity

Addressing barriers to change

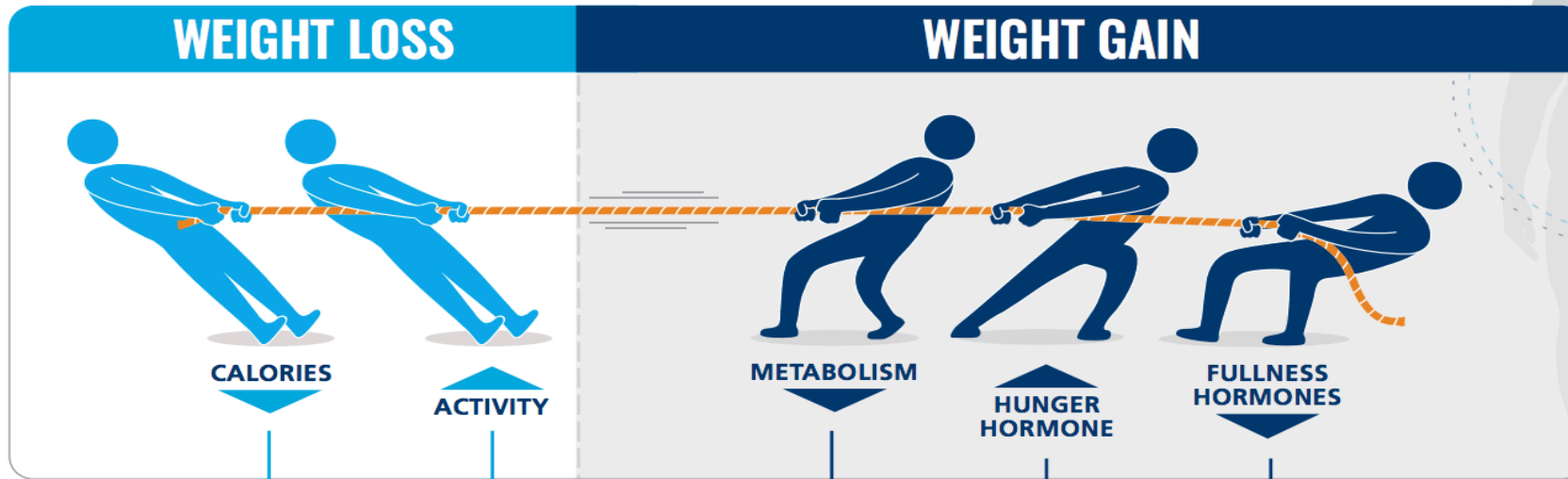
Self-monitoring

Strategizing how to maintain lifestyle changes

Obesity Treatment Pyramid



The "Tug-of-War" of Weight Management



Decreased Calories

People may see results when they limit calories, by reducing the size of meals, for example.

Increased Activity

And find ways to increase physical activity, like taking regular walks around the block. But the body reacts to weight loss by trying to regain weight.

Slower Metabolism

Metabolism (burning calories) slows down and gets more efficient, requiring fewer calories to do its job.

Increased Hunger Hormone

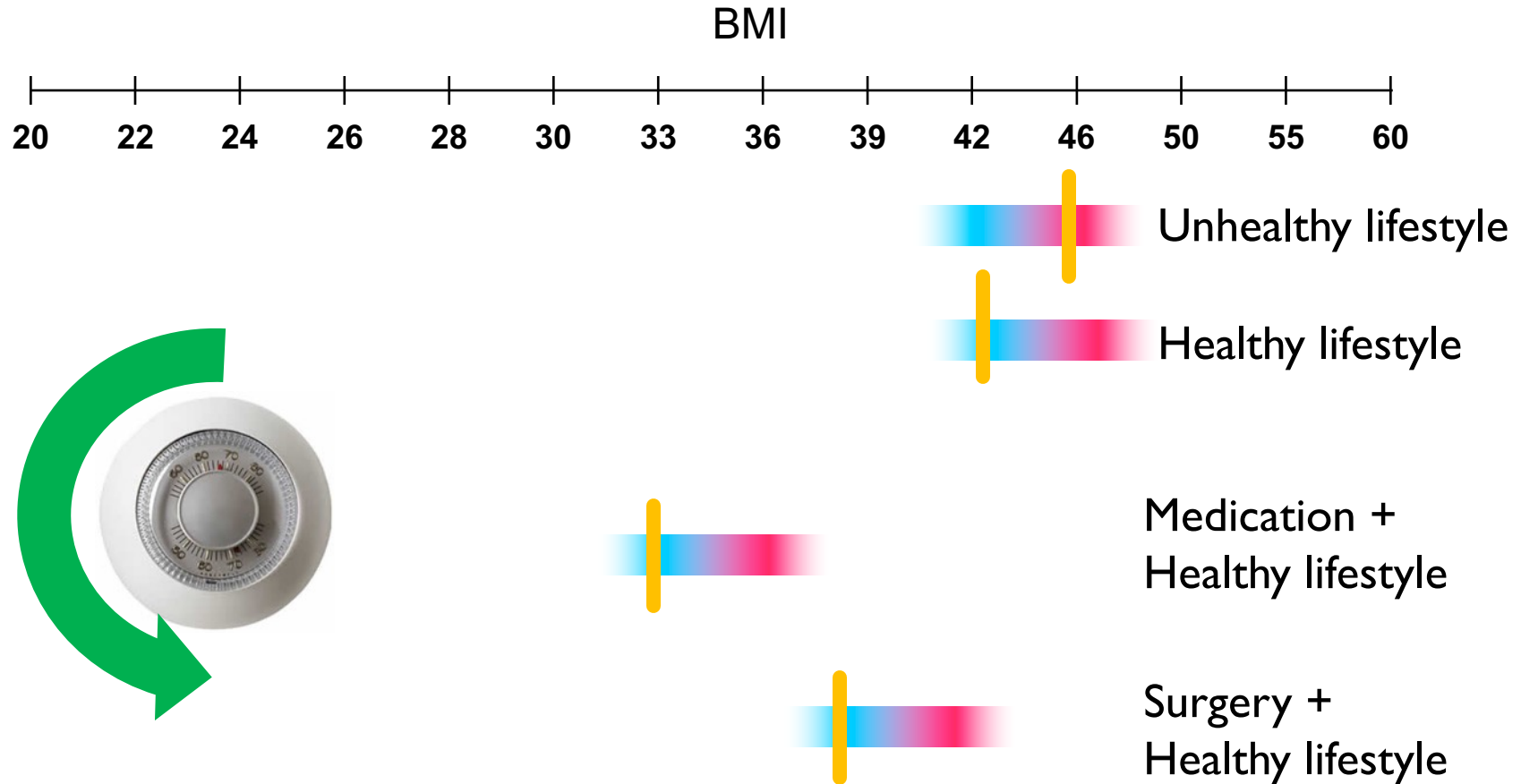
Hormonal signals can also change. The body increases a hunger hormone, called the ghrelin hormone, which tries to get you to eat more calories.

Decreased Fullness Hormones

And the hormones that tell the brain it's time to stop eating, the "feeling full" signals, decrease.

These are just some of the factors that make weight regain so common.

EFFECTIVE TREATMENT WORKS BY CHANGING “SET POINT”



WHAT WORKS FOR OBESITY TREATMENT?

■ Structure

- Programs, meal replacements

■ Accountability

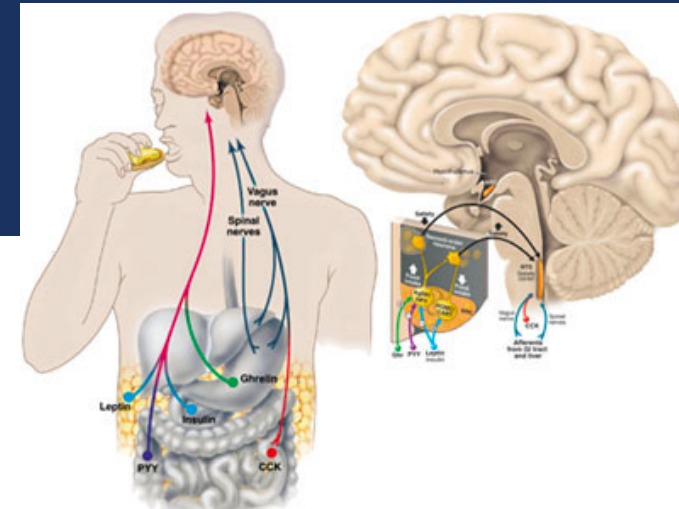
- Programming, follow up visits, virtual care, technology

■ Metabolic alterations to promote fat loss

- Surgery, medications, dietary patterns, exercise intensity, sleep

■ Environmental stimulus control

- Meal replacements, CBT, Acceptance based therapy



ANTI-OBESITY MEDICATIONS

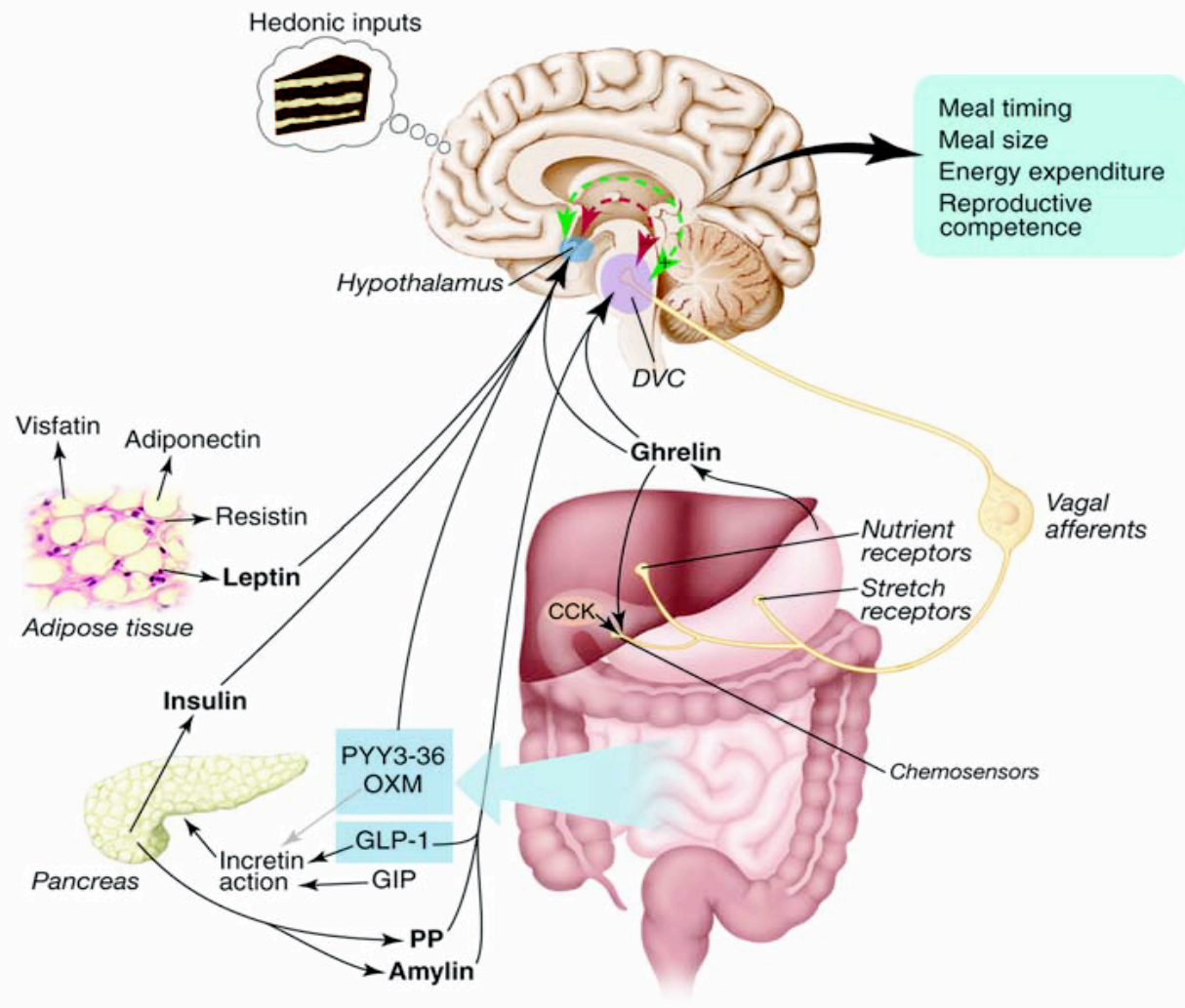
Objectives:

- Treat disease
 - Adiposopathy or sick fat disease (SFD)
 - Fat mass disease (FMD)
- Facilitate management of eating behavior
- Slow progression of weight gain/regain
- Improve the health, quality of life, and body weight of the patient with overweight or obesity

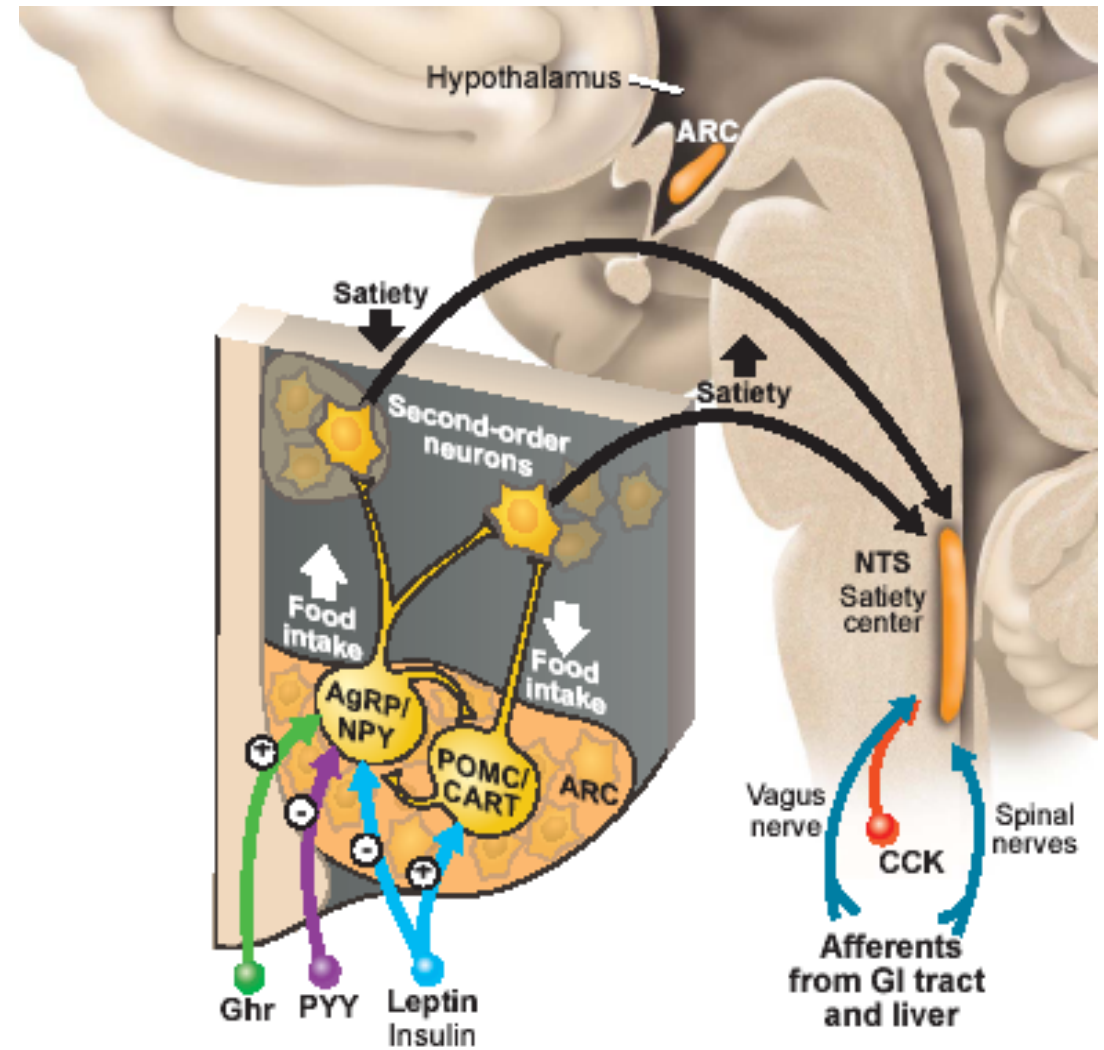
Adjunct to nutritional, physical activity, and behavioral therapies for patients with BMI ≥ 30 or BMI ≥ 27 with co-morbidities

5-10 percent weight loss may improve both metabolic and fat mass disease

INTERACTING PATHWAYS OF ENERGY REGULATION

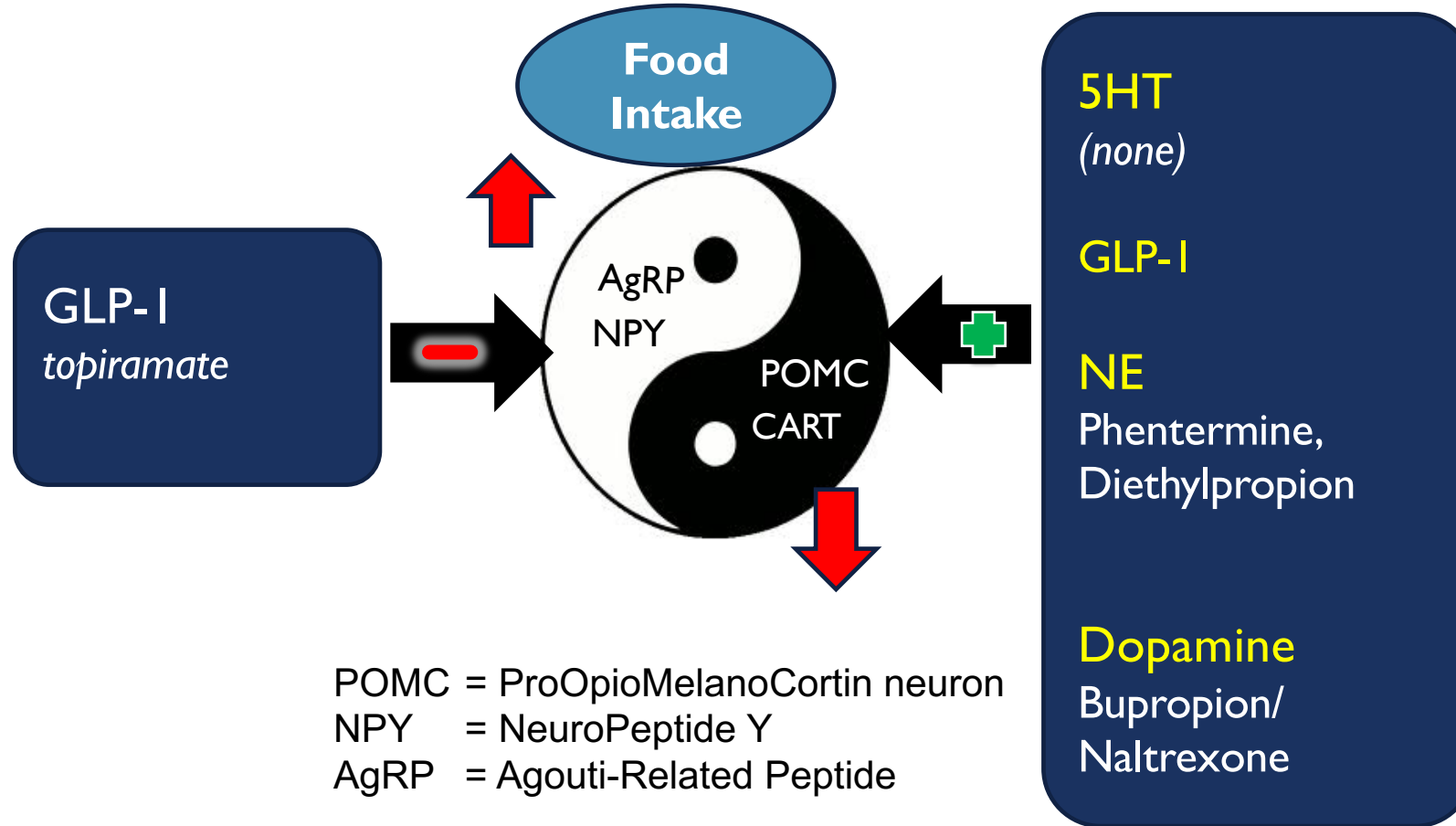


Badman MK, Flier JS. *Science* 2005;307: 1909-1914



Marx J. *Science*. 2003; 299. 846-9

CENTRAL MECHANISMS OF ACTION OF ANTI-OBESITY MEDS





Weight loss %	% of patients in behavior programs (WW [®] , IBT)	% of patients in Virta [®] program	% of patients with surgery at 10 years	% patients on liraglutide 3 mg (Plus IBT)	% patients on semaglutide 2.4 mg weekly	% patients on phentermine/topiramate 15/92 mg	% patients on bupropion/naltrexone (Plus IBT)
>5%	48%	74%	96.6%	63% (74%)	90%	67%	42% (66%)
>10%	25%	49%		33% (52%)	75%	47%	21% (41%)
>15%	12%			(36%)	56%	32%	10% (29%)
>20%	10%		72%		36%	15%	
>30%	4%		40%				

IBT = intensive behavioral therapy.

Wilding JPH, et al. *N Engl J Med.* 2021;384(11):989-1002. Jebb SA, et al. *Lancet.* 2011;378(9801):1485-1492. Maciejewski ML, et al. *JAMA Surg.* 2016;151(11):1046-1055. Wadden TA, et al. *Obesity* (Silver Spring). 2011;19(1):110-120. Wadden TA, et al. *Obesity* (Silver Spring). 2019;27(1):75-86. Athinarayanan et al. *Front. Endocrinol.*, 05 June 2019 | <https://doi.org/10.3389/fendo.2019.00348>

SUPERABSORBENT HYDROGEL (GELESIS-100)

The adjusted odds ratio (95% CI) for achieving

≥5% weight loss was 2.0 (1.3-3.0),
≥7.5% was 2.1 (1.3-3.3), and
≥10% was 2.1 (1.2-3.8)

Average weight loss 10% (22lbs)

59% with clinically meaningful
weight loss (> 5%)



ADJUVANT THERAPY

[Surg Obes Relat Dis.](#) 2019 Jul;15(7):1039-1043. doi: 10.1016/j.soard.2019.04.017. Epub 2019 Apr 19.

Use of phentermine-topiramate extended release in combination with sleeve gastrectomy in patients with BMI 50 kg/m² or more.

[Ard JD¹](#), [Beavers DP²](#), [Hale E³](#), [Miller G⁴](#), [McNatt S⁵](#), [Fernandez A⁵](#).

- Perhaps using medication and surgery is better for some patients
- Higher BMI with sleeve surgery and adjuvant therapy:
 - mean BMI 33.8 vs 42
- ? Diabetes and sleeve or severity of diabetes and any surgery ?

CHOOSING MEDICATION

Is it covered by insurance?

- Medicare does not cover AOMs
- Medicaid is state dependent
- Phentermine, topiramate, bupropion, naltrexone, GLP-I

Assess for contraindications/risks

- GLP-I - pancreatitis
- Topiramate - kidney stones, severe depression
- Phentermine – cardiovascular risk, anxiety, bipolar d/o
- Bupropion – seizure disorder
- Naltrexone – opioid use

Assess for double benefits

- Topiramate for migraine or BED
- Bupropion for depression/ADHD

Does patient have diabetes, prediabetes or insulin resistance

- Consider metformin, SGLT-2 and GLP-I first
- Off label use of GLP-I with semaglutide, liraglutide or covered GLP-I

Original Article

Pharmacotherapies for Post-Bariatric Weight Regain: Real-World Comparative Outcomes

Chellse L. Gazda , John D. Clark, Ildiko Lingvaj, Jaime P. Almandoz

First published: 04 April 2021 | <https://doi.org/10.1002/oby.23146>

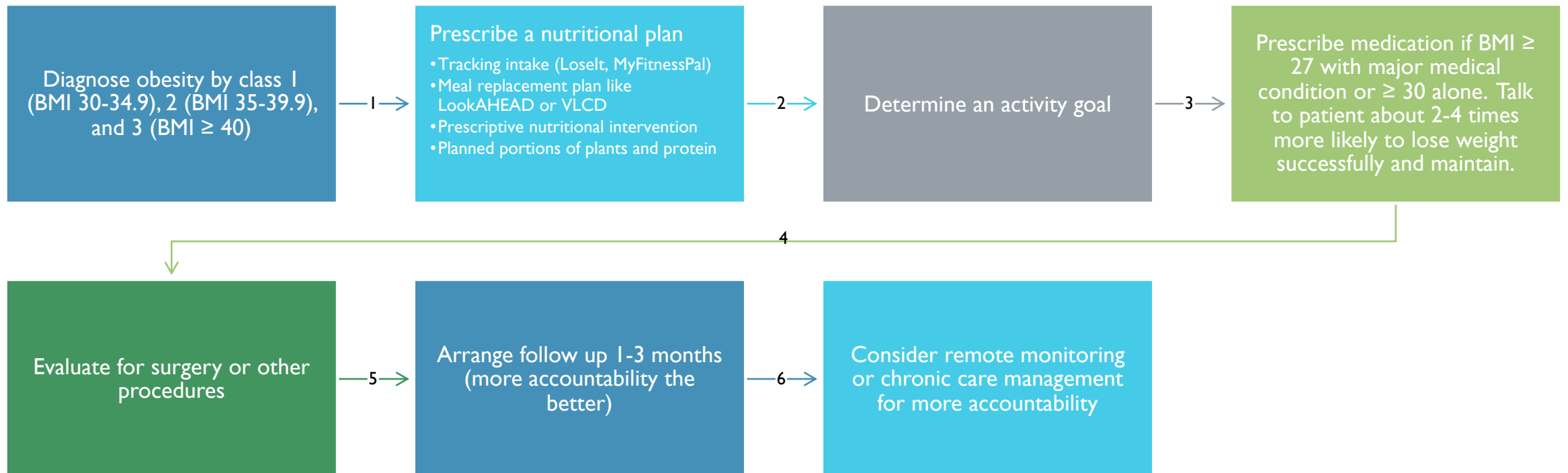
Weight loss by treatment type after post-bariatric surgery weight gain:

	3 months	6 months	9 months
Lifestyle modification	1.4%	0.8%	-1.6%
Non-GLP-1 receptor agonists	2.2%	2.9%	5.6%
GLP-1 receptor agonists	4.5%	6.7%	6.9%

Healio 

Adults prescribed GLP-1 receptor agonists had a greater weight loss at 3, 6 and 9 months than those receiving an intensive lifestyle modification or adults taking other obesity drugs. Data were derived from Gazda CL, et al. *Obesity*. 2021;doi:10.1002/oby.23146.

CREATE AN OBESITY TREATMENT CARE PLAN



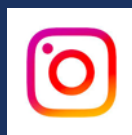
CHANGE THE PARADIGM

*don't create
limitations*

- Focus on the whole person and optimal outcome not one treatment or another
- Educate patients on this approach in a shared decision making model so they are realistic about expectations and aware of options
- Treat obesity as a chronic disease to optimize outcomes
- Offer treatment with medication, surgery and lifestyle management tools
- AI, precision medicine, predictive analytics need to be more broadly researched so we can optimize treatment for each person and prevent a future syndemic.



QUESTIONS?



@angelakfitch



@drangelafitch



@AngelaFitchMD

Thank You!

afitch@mgh.harvard.edu