

# New Waves in Obesity Medicine

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# Objectives

- Understand obesity as a disease
- Impact of obesity
- Advances in obesity treatment

# Obesity as a Disease

- AMA, 2013: RESOLVED, That our American Medical Association recognize obesity as a disease state with multiple pathophysiological aspects requiring a range of interventions to advance obesity treatment and prevention.
- Obesity defined: Abnormal or excessive fat accumulation that presents a risk to health

# Evaluation for other causes of obesity

- Excess calories...without proper physical activity
  - Alcohol, processed/high fat foods, eating away from home, large portion sizes, other liquid calories, comfort eating
- Genetics: environmental vs genetic make-up; rare conditions, Prader-Willi Syndrome
- Underactive thyroid, Cushing's Syndrome
- Medications: steroids, insulin, antidepressants, antipsychotics

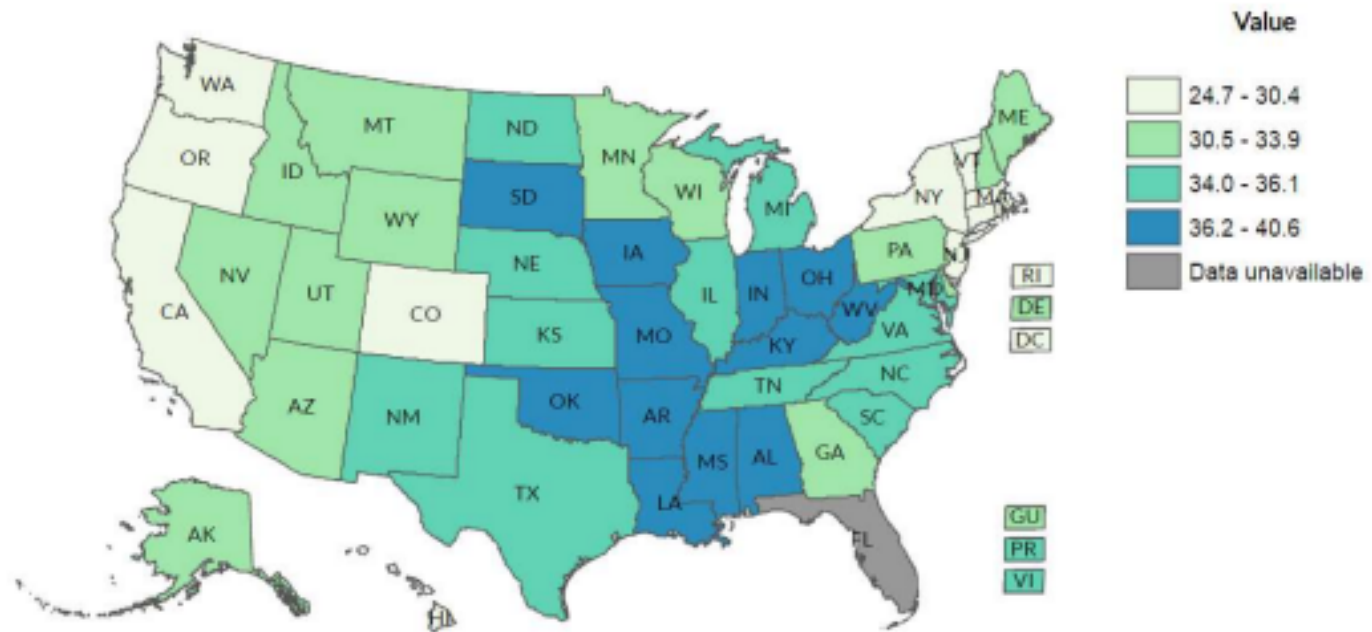
- [Obesity - Causes - NHS \(www.nhs.uk\)](http://www.nhs.uk)

# Screening for medical complications of obesity

- High blood pressure
- Metabolic co-morbidities, like high cholesterol, diabetes, high triglycerides
- Fatty liver
- Sleep apnea
- Psychological consequences

# Obesity statistics

~108 MILLION ADULTS HAVE OBESITY



And the prevalence continues to grow...

CDC Web Site, Data for 2021, Accessed 2-26-2023.

# Financial Impact

OBESITY COSTS AMERICA \$1.72 TRILLION A YEAR

9.3% of GDP /  
47.1% of the cost of  
chronic disease

3,400,000  
Deaths Worldwide

5% Weight Loss  
for those with BMI  $\geq$  40  
saves \$2137 / year

[https://milkeninstitute.org/sites/default/files/reports-pdf/Mi-Americas-Obesity-Crisis-WEB\\_2.pdf](https://milkeninstitute.org/sites/default/files/reports-pdf/Mi-Americas-Obesity-Crisis-WEB_2.pdf) Accessed 4/12/2023

# PENNSYLVANIA DATA

- Est total population (2010) 12,702,379
- Adults 18 years or older, 78%
  - 65% overweight (BMI 25 or higher)
  - 28.6 % obese (BMI 30 or higher)
- 35.5% consume 2 or more fruits per day; 25.1% 3 or more vegetables per day
- 44.3% participated in recommended fitness guidelines (300 minutes per week of moderate-intensity exercise)

Centers for Disease Control and Prevention. National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity, and Obesity. Data, Trend and Maps [online]. [accessed Sep 02, 2019]. URL: <https://www.cdc.gov/nccdphp/dnpao/data-trends-maps/index.html>.

# Impact of Obesity

## YEARS OF LIFE LOST

Obesity <sup>1</sup>	Obesity
Women age 20-39, BMI of 35 or more	Men age 20-39, BMI of 35 or more



6.4 Years



8 Years

<sup>1</sup>Lancet Diabetes Endocrinol. 2015;3(2):114-122.

<sup>2</sup>Cardiovasc Endocrinol Metab. 2020 Dec; 9(4): 183–185.

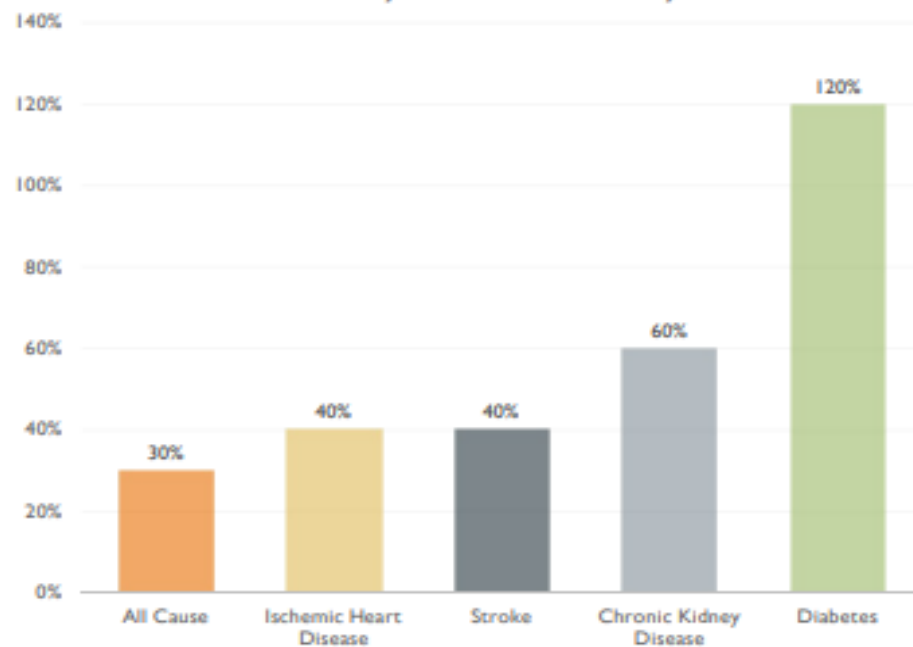
# Impact of Obesity

## OBESITY AFFECTS HEALTH

In a study of 900,000 adults, mortality was lowest for those with a BMI between 22.5 kg/m<sup>2</sup>-25 kg/m<sup>2</sup>.

For each increase in BMI of 5 points above this range, there was increased mortality risk.

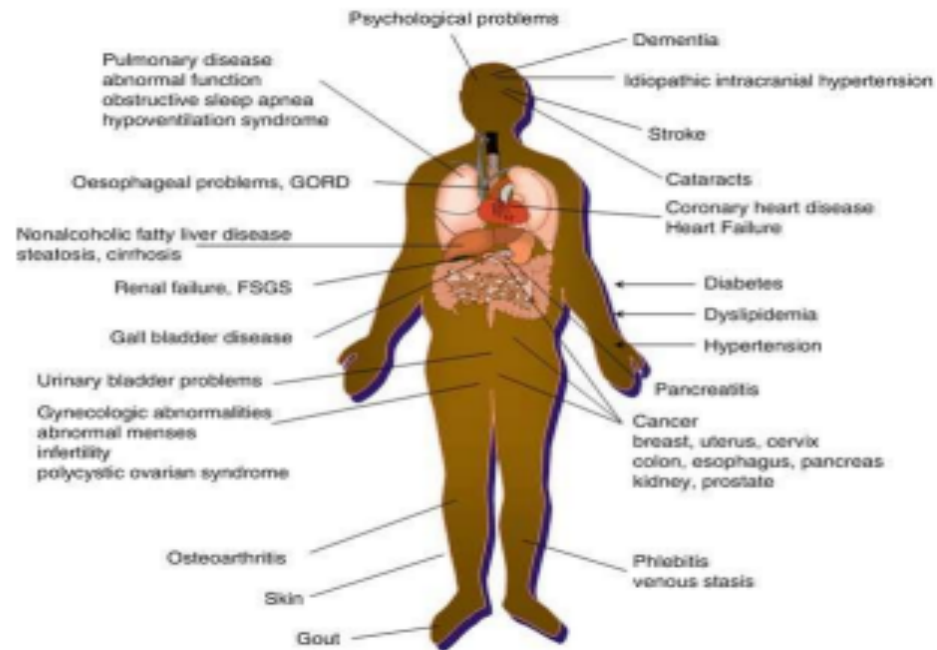
For each 5 point increase in BMI  
Mortality risk increases by:



Lancet 2009, DOI: [https://doi.org/10.1016/S0140-6736\(09\)60318-4](https://doi.org/10.1016/S0140-6736(09)60318-4)

# Impact of Obesity

OBESITY IS ASSOCIATED WITH OVER 236 OTHER COMORBIDITIES



KAPLAN 2016 POSTER PRESENTATION TOS ANNUAL MEETING. [HTTPS://IMAGES.APP.GOO.GL/AZC5FTVGCUPCQNKH6](https://images.app.goo.gl/AZC5FTVGCUPCQNKH6)

# Is BMI Still Relevant?

- “Due to significant limitations associated with the widespread use of BMI in clinical settings, the AMA suggests that it be used in conjunction with other valid measures of risk such as, but not limited to, measurements of visceral fat, body adiposity index, body composition, relative fat mass, waist circumference and genetic/metabolic factors.”
- [AMA adopts new policy clarifying role of BMI as a measure in medicine | American Medical Association \(ama-assn.org\)](https://www.ama-assn.org)

# Other Measures of Health and Wellness

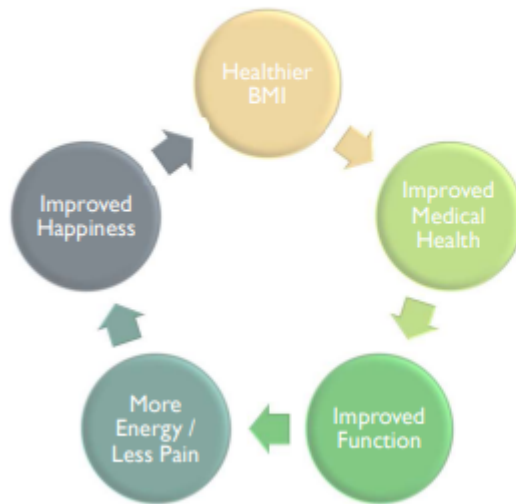
- American College of Sports Medicine- normal body fat % based on age:

<b>Age</b>	<b>20-29</b>	<b>30-39</b>	<b>40-49</b>	<b>50-59</b>	<b>60+</b>
<b>Female</b>	16-24%	17-25%	19-28%	22-31%	22-33%
<b>Male</b>	7-17%	12-21%	14-23%	16-24%	17-25%

- Control of chronic health conditions
- Quality of life and ADLs
- Mental Health
- Self-confidence

# Obesity Treatment

## WHY TREAT OBESITY?

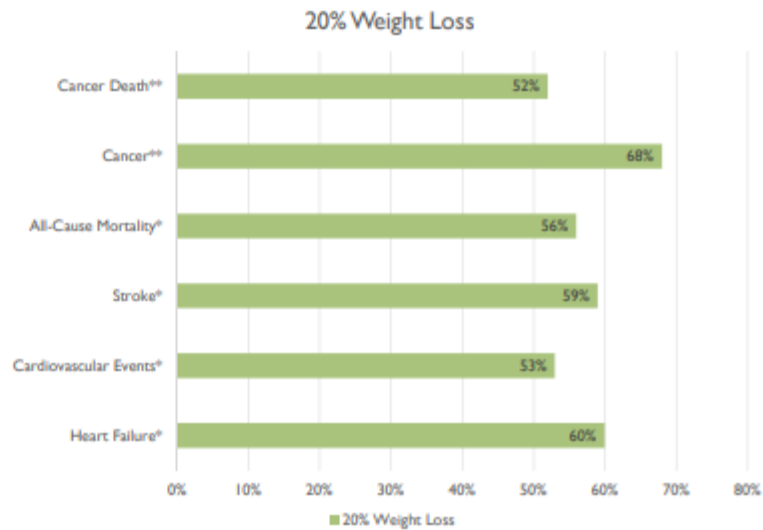


- Improve **medical** comorbidities including hypertension and diabetes.
- Improve **physical** comorbidities like fatigue and pain.
- Improve **functional** comorbidities like inability to walk or take the stairs.
- Improve **psychological** comorbidities like depression and anxiety.
- Improve **financial** comorbidities by decreasing the direct costs of excess body weight.
- Improve **quality of life**.
- Potentially, to **restore lifespan**.

# Improved Health and Wellness

## LOSING WEIGHT DECREASES HEALTH RISKS ASSOCIATED WITH OBESITY

Two important studies published in JAMA 2022 and 2023 showed dramatic reductions in health risks in patients after achieving ~20% weight loss.



\*JAMA NETW OPEN. 2023;6(4):E237188. DOI:10.1001/JAMANETWORKOPEN.2023.7188

\*\*JAMA. 2022;327(24):2423-2433. DOI:10.1001/JAMA.2022.9009

# Multidisciplinary team

- Physicians and Advanced Practice Providers
- Dietitians
- Psychologist
- Trained nursing/office staff specializing in weight management

# Indications for Obesity Medication

- BMI  $\geq 30$  with or without comorbid conditions
- BMI  $\geq 27$  with comorbid conditions
  - GERD, hypertension, hyperlipidemia, diabetes
- Trial of lifestyle modifications
  - Nutrition
  - Physical activity
  - Behavior Change
    - Required in UK prior to use of medications or consideration of weight loss surgery
    - Meaningful weight loss ( $\geq$  % after 1 year of treatment)
      - [Beyond lifestyle interventions: exploring the potential of anti-obesity medications in the UK - PMC \(nih.gov\)](#)

# FDA Approved Weight Loss Medications

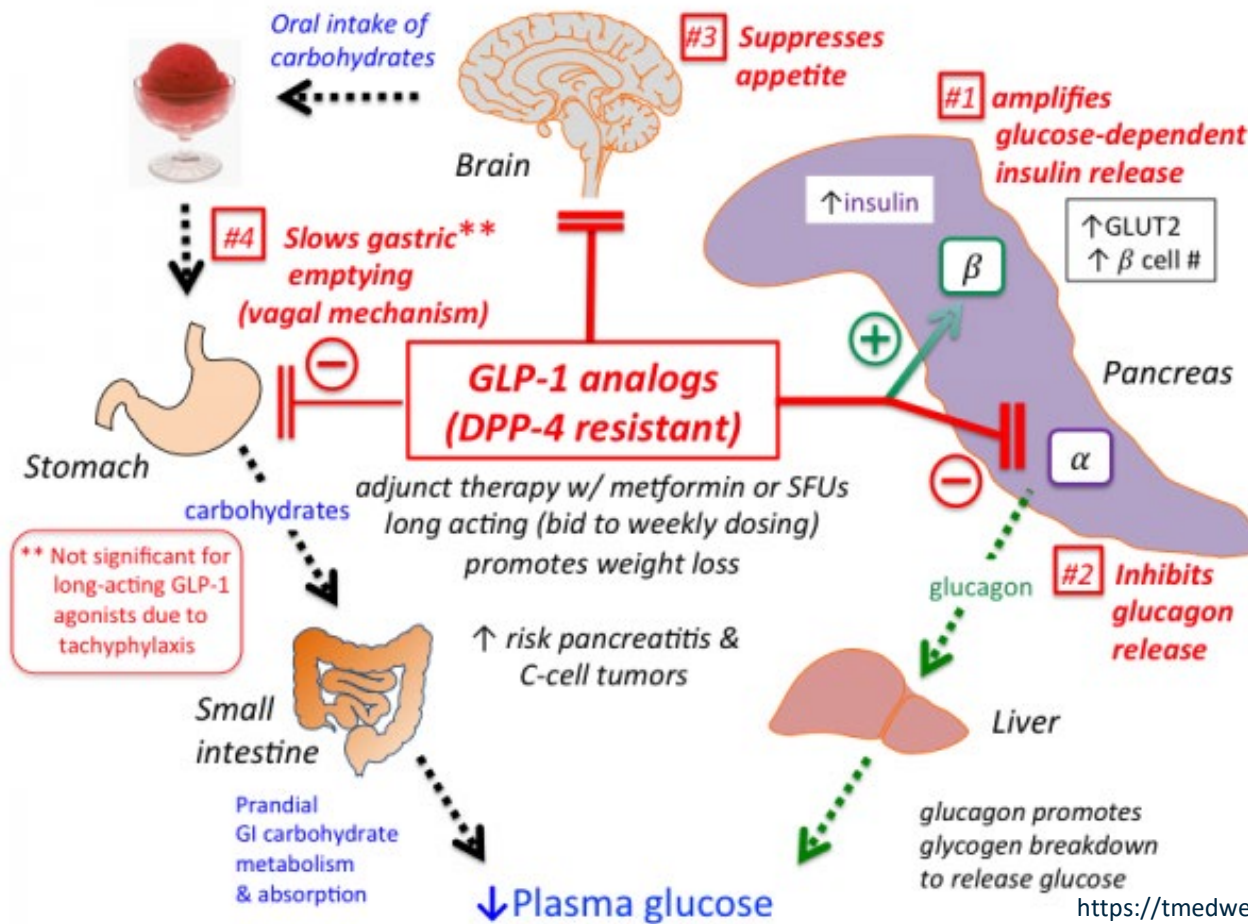
- Phentermine
  - Lomaira, Adipex
- Phentermine/topiramate (Qsymia)
- Bupropion/naltrexone (Contrave)
- Gelesis 100: cellulose/citric acid matrix (Plenity)
- Orlistat (Xenical)/ OTC Alli
- Other off label medications for weight loss:
  - Metformin, topiramate, GLP1 agonist, bupropion, naltrexone, spironolaction, SGLT2 agtagonists

# New Wave in Obesity Medicine

- GLP 1 receptor in CNS
- Slows gastric emptying
- Contraindications:  
Hx medullary thyroid cancer,  
Multiple Endocrine Neoplasia syndrome type 2 (MEN 2),  
pancreatitis, severe gastroparesis,  
severe hypertriglyceridemia



# How GLP1 medications work...



[https://tmedweb.tulane.edu/p/harmwiki/doku.php/glp-1\\_analogs](https://tmedweb.tulane.edu/p/harmwiki/doku.php/glp-1_analogs)

# Where Did All the Injectables Go?

- Shortages: Supply vs Demand
- Saxenda (liraglutide)- no longer available due to exclusive patent end
- Wegovy- first 2 to 3 doses not currently available; more manufacturing plants being built
- Ozempic- can see some dose shortages
- Trulicity and Victoza- not seeing as much impact

# Are they truly magic?

- Unfortunately, there is no magic pill, injection or button
- Surgery or medications are MOST successful in combination with lifestyle changes
- Metabolic study
- Labs



# Future of obesity medicine

- Mounjaro (tirzepatide)
- FDA approved for diabetes
- Same side effect profile and contraindications
- Works on both GLP1 and GIP
- Study of this medication: weight loss range 12 to 25 lbs (compared to 13 lbs on Ozempic)
- Also once weekly; starts at 2.5 mg dose and able to titrate up to 15mg max

# Orforglipron

- NEJM 9/7/2023: “Daily Oral GLP1 Receptor Agonist Orforglipron for Adults with Obesity”
- Currently, Rybelsus 7mg or 14mg tablets are FDA approved for Type 2 DM
- Orforglipron- phase 2, randomized, double-blind trial; adults with obesity and at least 1 comorbidity
- Randomly assigned 1 of 4 doses (12, 24, 36, or 45 mg) OR placebo for 36 weeks
- Percentage body weight assessed at week 26 and week 36

# Orforglipron

- 272 participants
- Mean body weight 108.7 kg with mean BMI 37.9
- Week 26: mean change -8.6% to 12.6% in dose cohort, and -2% in placebo
- Week 36: mean change -9.4% to 14.7% with dose cohort, and -2.3% with placebo
- 46 to 75% saw weight reduction of at least 10% by week 36 in dose cohort
- Most common reported events: GI (mild to moderate) during dose escalation → DC in 10 to 17% of participants in dose cohorts
- Safety profile consistent with GLP1 receptor agonist class

# Orforglipron

- Other reported effects: improvement in blood pressure and levels of circulating lipids.
- Did notice pulse increases, which has been observed with other GLP1 receptor agonists also (warning concurrent use with phentermine)
- Trials show overall net benefit in cardiovascular outcomes
- Limitations: three countries, high percentage of women and white participants.

# So, how do we choose?

- Where does the issue stem from?
  - Team treatment approach
- Financial and insurance coverage
  - Insurance coverage
  - Workplace participation
  - Medical history
- Contraindications specific to each medication
- Other comorbidities
  - Migraine HA, depression, stress/emotional eating, diabetes, binge eating

# || Thank you!

For more information regarding Tower Health, Reading Hospital, Weight Loss Surgery and Wellness Center, please log on to our website [www.thweightmanagement.org](http://www.thweightmanagement.org)

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