Obesity Treatment: Nutrition with Anti-Obesity Medications

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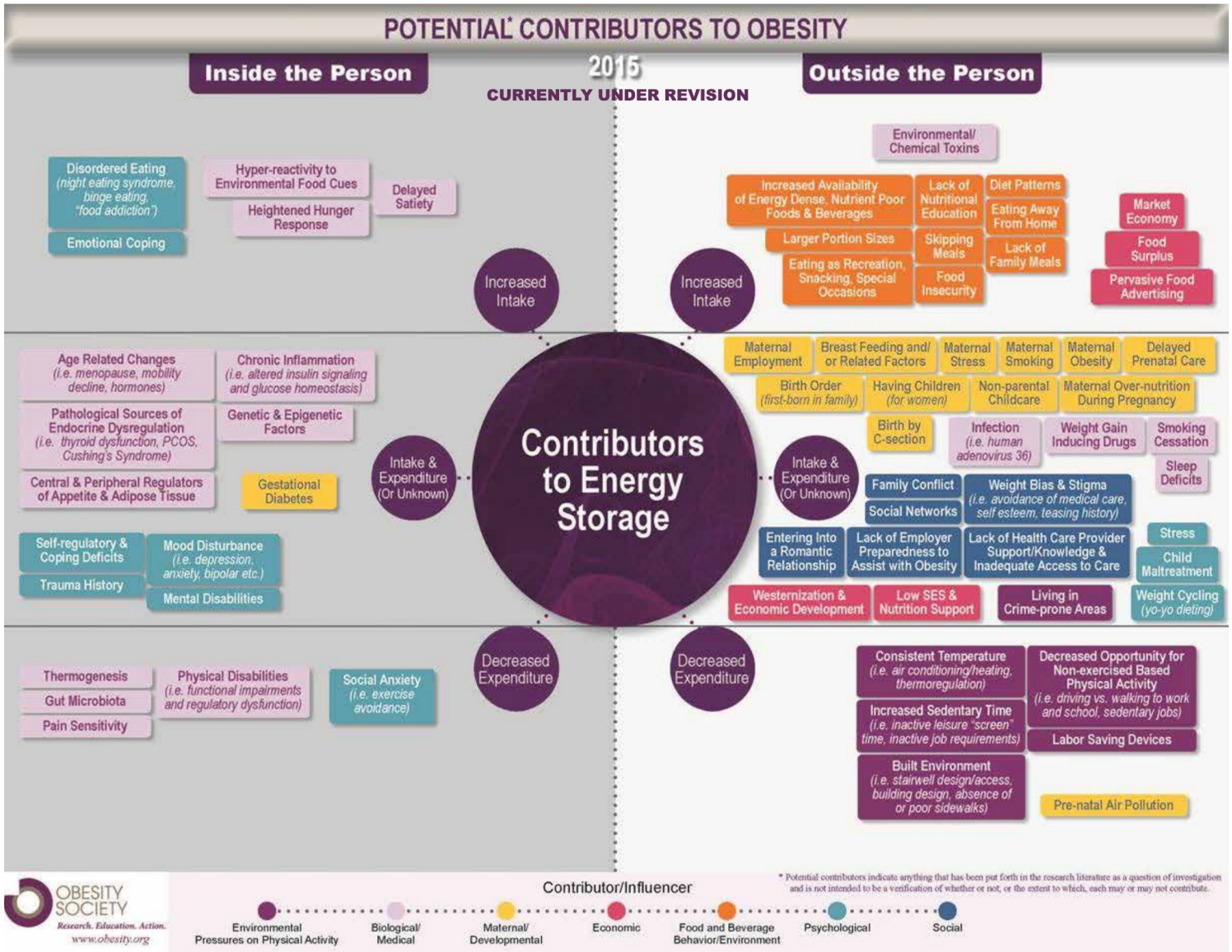
Disclosures Statement

- Nothing to disclose

The importance of nutrition interventions with Anti-Obesity Medications (AOMs)

- Understand the under-use of medical nutrition therapy
- Recognize nutritional deficiencies and unique nutrition needs with AOMs
- Develop methods for spotting nutritional concerns in patients prescribed AOMs
- Expand the obesity treatment toolbox


POTENTIAL* CONTRIBUTORS TO OBESITY
2015
CURRENTLY UNDER REVISION
Inside the Person
Outside the Person
Disordered Eating (night eating syndrome, binge eating, "food addiction")
Emotional Coping
Hyper-reactivity to Environmental Food Cues
Heightened Hunger Response
Delayed Satiety
Increased Intake
Increased Intake
Environmental/ Chemical Toxins
Increased Availability of Energy Dense, Nutrient Poor Foods & Beverages
Larger Portion Sizes
Eating as Recreation, Snacking, Special Occasions
Lack of Nutritional Education
Skipping Meals
Food Insecurity
Diet Patterns
Eating Away From Home
Lack of Family Meals
Market Economy
Food Surplus
Pervasive Food Advertising
Age Related Changes (i.e. menopause, mobility decline, hormones)
Pathological Sources of Endocrine Dysregulation (i.e. thyroid dysfunction, PCOS, Cushing's Syndrome)
Central & Peripheral Regulators of Appetite & Adipose Tissue
Chronic Inflammation (i.e. altered insulin signaling and glucose homeostasis)
Genetic & Epigenetic Factors
Gestational Diabetes
Intake & Expenditure (Or Unknown)
Contributors to Energy Storage
Intake & Expenditure (Or Unknown)
Maternal Employment
Breast Feeding and/ or Related Factors
Maternal Stress
Maternal Smoking
Maternal Obesity
Delayed Prenatal Care
Birth Order (first-born in family)
Having Children (for women)
Non-parental Childcare
Maternal Over-nutrition During Pregnancy
Birth by C-section
Infection (i.e. human adenovirus 36)
Weight Gain Inducing Drugs
Smoking Cessation
Sleep Deficits
Family Conflict
Social Networks
Weight Bias & Stigma (i.e. avoidance of medical care, self esteem, teasing history)
Entering Into a Romantic Relationship
Lack of Employer Preparedness to Assist with Obesity
Lack of Health Care Provider Support/Knowledge & Inadequate Access to Care
Stress
Child Maltreatment
Weight Cycling (yo-yo dieting)
Westernization & Economic Development
Low SES & Nutrition Support
Living in Crime-prone Areas
Self-regulatory & Coping Deficits
Trauma History
Mood Disturbance (i.e. depression, anxiety, bipolar etc.)
Mental Disabilities
Thermogenesis
Gut Microbiota
Pain Sensitivity
Physical Disabilities (i.e. functional impairments and regulatory dysfunction)
Social Anxiety (i.e. exercise avoidance)
Decreased Expenditure
Decreased Expenditure
Consistent Temperature (i.e. air conditioning/heating, thermoregulation)
Increased Sedentary Time (i.e. inactive leisure "screen" time, inactive job requirements)
Built Environment (i.e. stairwell design/access, building design, absence of or poor sidewalks)
Decreased Opportunity for Non-exercised Based Physical Activity (i.e. driving vs. walking to work and school, sedentary jobs)
Labor Saving Devices
Pre-natal Air Pollution
OBESITY SOCIETY
Research. Education. Action.
www.obesity.org
Contributor/Influencer
Environmental Pressures on Physical Activity
Biological/ Medical
Maternal/ Developmental
Economic
Food and Beverage Behavior/Environment
Psychological
Social
* 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.

Use-Cases for Medical Nutrition Therapy (MNT)

- Optimize success with AOMs
- Preserve lean body mass while reducing adipose tissue
- Prevent nutrient deficiencies
- Improve gut microbiome
- Lifestyle modification & behavior change support
- Nutrition is a major factor for survival
- Nutrition is a significant component of the treatment and prevention of most diseases

MNT

- Moving beyond calorie deficits
- Focus on quality of calories
- Behavioral counseling
- Focus on health goals of the individual
- Balance individual cultural preferences, circumstances, health history, and current health needs
- Reduce risk of eating pathology or eating disorder
- Work within limitations, including social determinants of health

MNT

- Listen actively to the person, avoid assumptions
- Assess nutrition status
- Plan for challenges: travel, events, holidays
- Support gut health
- Identify symptoms related to certain foods or allergies
- Guidance on food preparation
- Problem-solving: set reminders, schedule certain activities
- Anticipatory guidance

Why aren’t more patients benefiting from MNT?

- Medicare reimburses MNT only for diabetes and chronic kidney disease or kidney transplant in the last 36 months
- Medicaid may cover as part of preventive counseling, varies state to state
- Commercial insurance ranges from no coverage to 2 visits per month or more
- Covered as a requirement prior to bariatric surgery
  - Some programs prepare patients starting certain AOMs in a similar manner

Legislation

Treat and Reduce Obesity Act (TROA) reintroduced into Congress July 2023

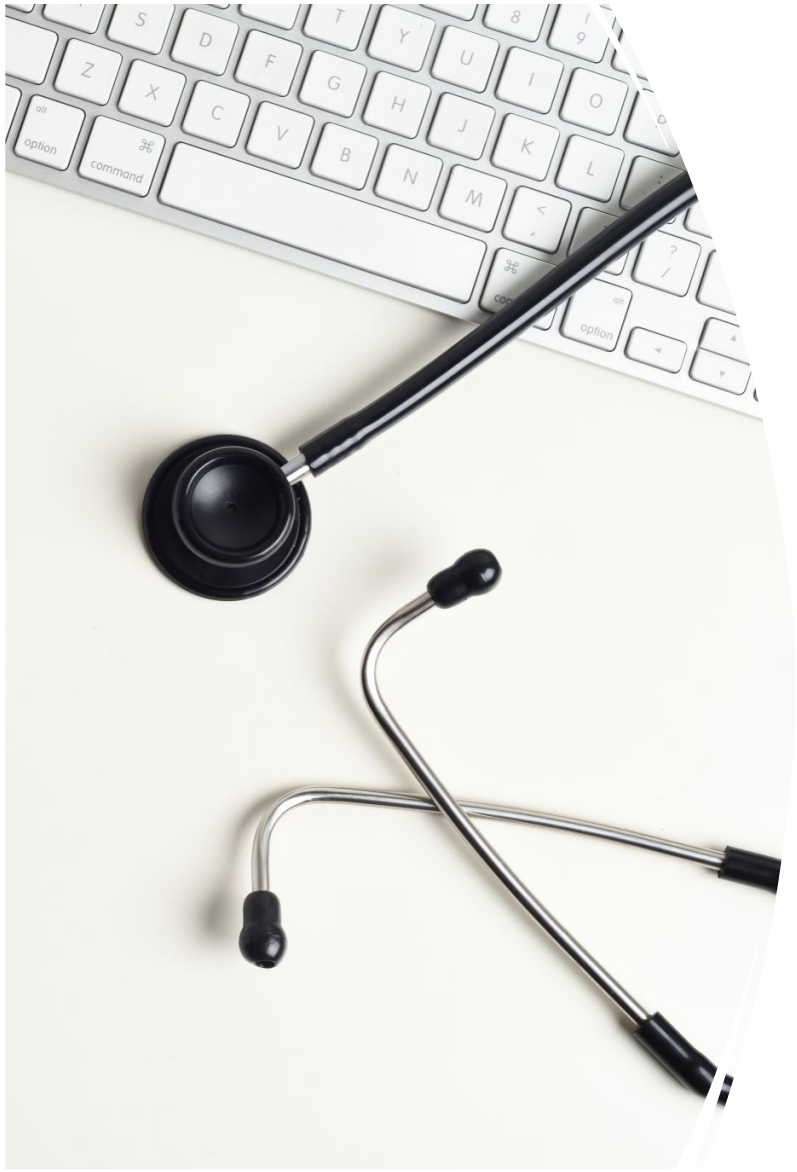
- Expand Medicare to include: Obesity screening, intensive behavioral counseling from a range of providers, FDA-approved medication for chronic weight management

July 2023

Nov. 2023

Medical Nutrition Therapy Act S.3297 reintroduced in Senate November 2023

- Expand Medicare to include: prediabetes, obesity, HTN, GI disorders, malnutrition, eating disorders, cancer, HIV/AIDS, hyperlipidemia, and cardiovascular disease. Allow more providers to refer for MNT (PA, NP, Psychology, etc)



Guidelines for obesity treatment

- Chronic, relapsing disease
- Treatable with old and new tools
- Weight/BMI are a small part of the picture
- ABCD – adiposity-based chronic disease
- AOM Rx guidelines are still BMI-based
  - BMI >30 kg/m^2
  - BMI > 27 kg/m^2 with adiposity-related complication
- Use AOMs in conjunction with lifestyle modifications
- AND, OMA, AACE guidelines
- Trauma-informed care

Pediatric considerations for obesity treatment

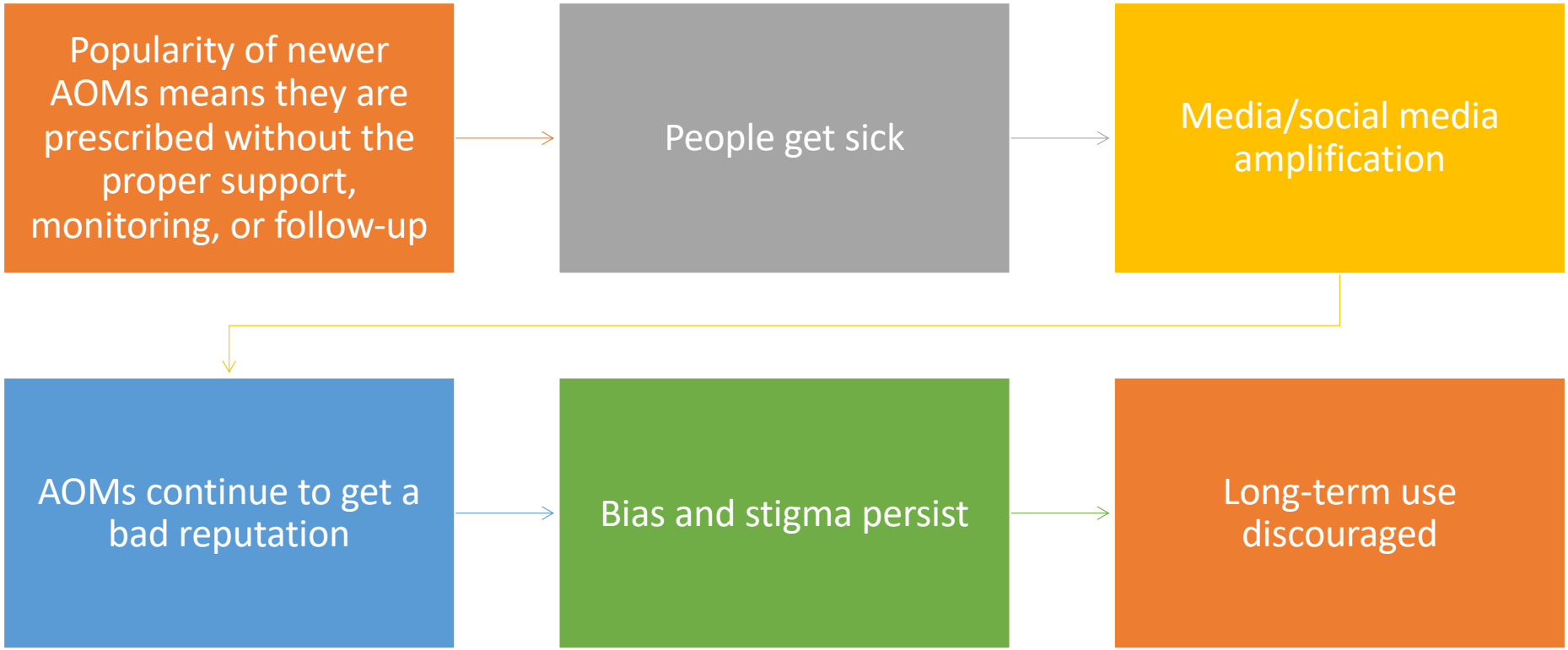
- Family-based interventions
- Improving quality of nutrition
- Improving relationship with food
- Improving response to internal signals
- Reducing risk of disordered eating
- Consider genetic components

Medication	Approval for use	Potential Adverse Side Effects	Contraindications
Phentermine	1959 Ages 16 and over	Increased HR/BP, Constipation, dry mouth, headache, bruxism	Glaucoma, hyperthyroidism, pregnant
Phentermine/Topiramate (Qsymia)	2012 Ages 12 and over	Above, plus: mood change, paresthesia, kidney stones	Glaucoma, hyperthyroid, pregnant
Bupropion/naltrexone (Contrave)	2014 Ages 18 and over	Nausea, dizziness, constipation, headache	Opioid use, uncontrolled HTN or seizures, pregnant
Liraglutide (Saxenda)	2014 Ages 12 and over	Increased HR, nausea or vomiting, constipation	Medullary thyroid cancer, MEN 2 syndrome, preg
Semaglutide (Wegovy)	2021 Ages 12 and over	nausea or vomiting, constipation or diarrhea	Medullary thyroid cancer, MEN 2 syndrome, preg
Tirzepatide (Zepbound)	2023 Ages 12 and over	nausea or vomiting, constipation or diarrhea	Medullary thyroid cancer, MEN 2 syndrome, preg
Orlistat	1999 Ages 8 and over	Diarrhea, gas, leakage of oily stools, stomach pain	Chronic malabsorption and cholestasis, monitor warfarin, levothyroxine
Setmelanotide	2020 Ages over 6 with specific rare genetic conditions	Nausea, vomiting, headache, diarrhea, abdominal pain, fatigue, depression, back pain	Pharmokinetics unknown in >65 years of age, pregnancy, hepatic impairment

Nutrition in clinical trials

Trial	Nutrition intervention	Additional guidance
Bupropion/naltrexone – 56 weeks Apovian et al.	500-calorie/day deficit with counseling at baseline, 12, 24, 36 & 48 weeks	Increase activity and behavior modification advice
Liraglutide – 56 weeks Pi-Sunyer et al.	Counseling on lifestyle modification	
Phentermine – 104 weeks, currently in Phase 4 NCT05176626	Commercial digital app for nutrition plan, tracking, & coaching	12 clinic visits with obesity provider
Phentermine/topiramate – 56 weeks Gadde et al.	500- calorie/day deficit well-balanced recommended	Nutritional and lifestyle modification counseling offered
Semaglutide – 68 weeks Rubino et al.	500-calorie deficit/day with individualized counseling q4 weeks	150 minutes activity (walking) per week, nutrition and activity recorded on app or paper
Tirzepatide – 72 weeks Wilding et al.	500-calorie deficit/day with counseling on healthful and balanced meals	150 minutes activity per week

What could go wrong?



Potential nutrient deficiencies

- Calories
- Protein
- B12, other B vitamins
- Iron
- Calcium/Vitamin D
- Fiber
- Electrolyte disturbance or B1 depletion related to nausea/vomiting or diarrhea

Monitoring

Body composition	Labs	CGM	Food or activity logs/other data
Identify barriers	Avoid weight-only focus	Reflect on the patient's health goals	Adverse side-effect management

Adverse Side Effect Management

- Can occur with any AOM, usually short-term with improvement over time
- Hydration important
- Room temp, cold or hot beverages may be better tolerated
- Ginger, ginger chews, ginger tea, herbal tea
- Smaller portions, smaller more frequent meals
- Eating more slowly, avoid overeating
- Avoid high-fat meals, avoid snacks with highly concentrated sugar

Considerations

Pre-surgical adjustments: Some medications should be held longer prior to surgery

Lifestyle modifications, includes more than nutrition and physical activity

Disordered eating recognition: SCOFF screen, orthorexia

Considerations

Is this the best medication?

Weight-promoting medication?

Other benefits of medication?

Obesity Treatment Toolbox

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