Disordered eating… what to do and when to worry

Griffin Stout, MD
Psychiatry

Casey Levy, MD, MPH
Adolescent Medicine

Objectives

- Develop an understanding of the diagnostic criteria for eating disorders.
- Identify weight stigma and its impact on medical care.
- Learn how to recognize malnutrition in an adolescent and evaluate medical stability.
- Approach malnutrition as an energy balance problem to be solved.

Health at Every Size

Lifestyle that encourages healthy eating & enjoyable physical activity

Weight or shape are not the sole indicator of health individually

In population studies, being in the overweight range of BMI leads to longest average life expectancy.

- CDC population meta-analysis: "Grade 1 obesity was not associated with higher mortality, suggesting that the excess mortality in obesity may predominantly be due to elevated mortality at higher BMI levels. Overweight was associated with significantly lower all-cause mortality."

Many other things that can impact health:

- Genetics – set-point weight
- Activity level and diet – balanced and sufficient
- Environmental factors

https://haescurriculum.com/

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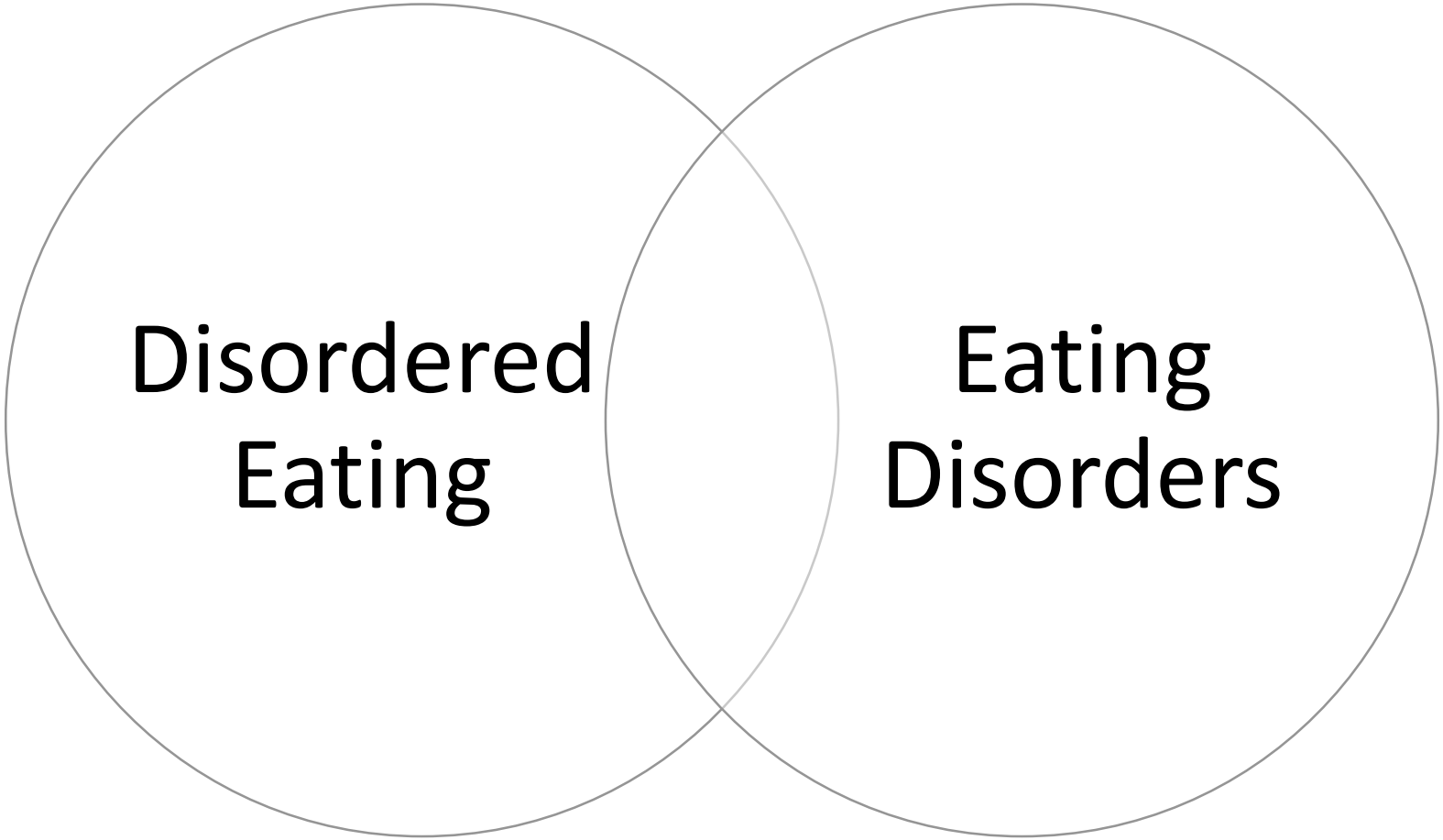
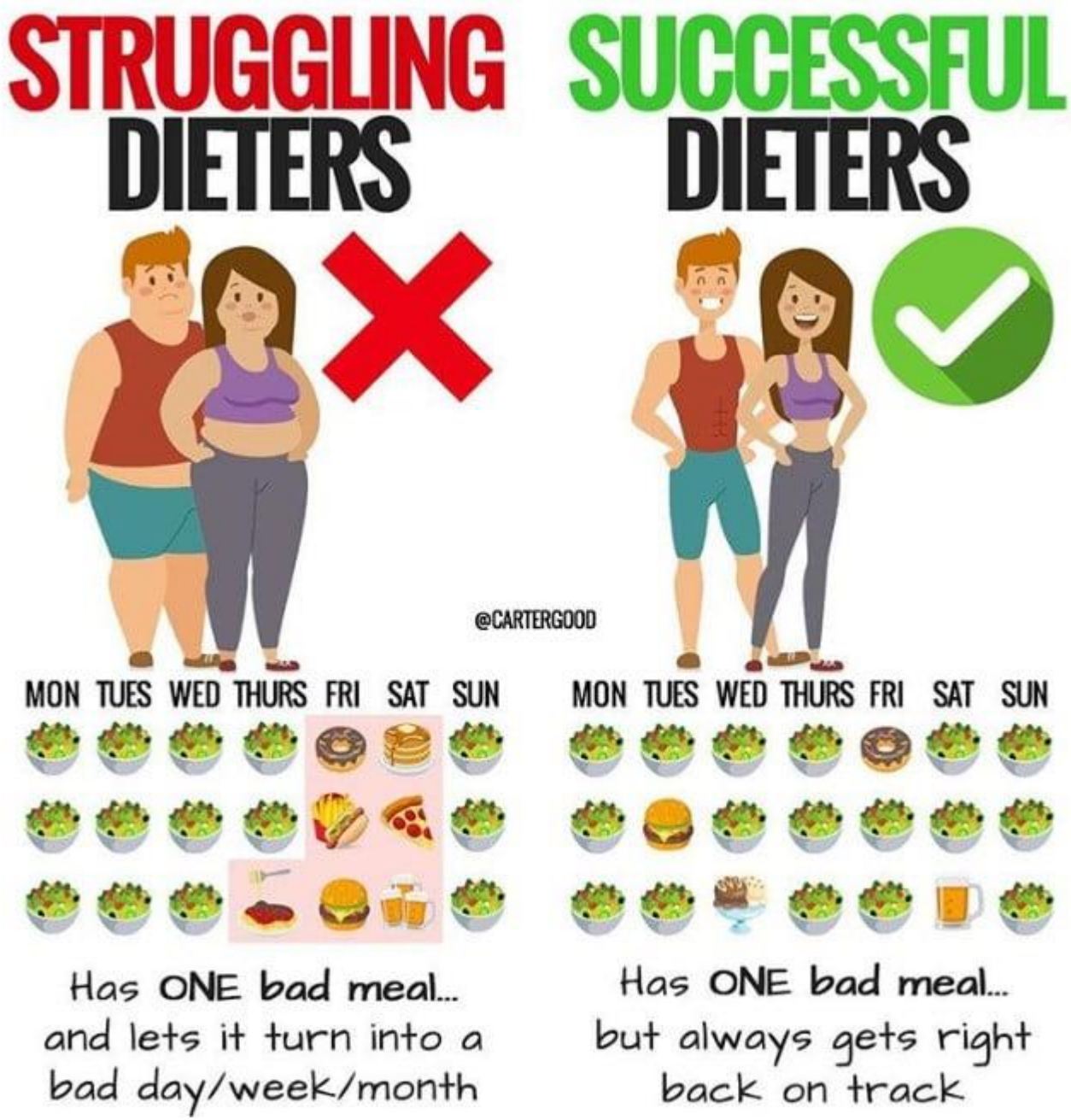
Association of All-Cause Mortality With Overweight and Obesity Using Standard Body Mass Index Categories A Systematic Review and Meta-analysis
Katherine M. Flegal, PhD; Brian K. Kit, MD; Heather Orpana, PhD; et alBarry I. Graubard, PhD Author AffiliationsJAMA. 2013;309(1):71-82. doi:10.1001/jama.2012.113905


Disordered Eating
Eating Disorders

Disordered Eating

- Fasting
- Skipping meals
- Restrictive dieting
- Restricting major food group(s)
- Binge eating
- Self-induced vomiting
- Laxative, diuretic, enema, insulin, stimulant misuse
- Using diet pills


STRUGGLING DIETERS
SUCCESSFUL DIETERS
@CARTERGOOD
MON TUES WED THURS FRI SAT SUN
MON TUES WED THURS FRI SAT SUN
Has ONE bad meal...
and lets it turn into a
bad day/week/month
Has ONE bad meal...
but always gets right
back on track

AIP Diet

#35 in **Best Diets Overall** (tie)

For people with autoimmune diseases – like rheumatoid arthritis, psoriasis or lupus – the Autoimmune Protocol diet may identify and eliminate individual

OVERALL SCORE
2.1/5.0

OVERALL WEIGHT LOSS
2.0/5.0

HEALTHINESS SCORE

Dukan Diet

#39 in **Best Diets Overall** (tie)

The Dukan Diet is too restrictive, and there's no evidence it works, experts concluded. **READ MORE »**

OVERALL SCORE
1.9/5.0

OVERALL WEIGHT LOSS
2.4/5.0

HEALTHINESS SCORE
2.0/5.0

GAPS Diet

#39 in **Best Diets Overall** (tie)

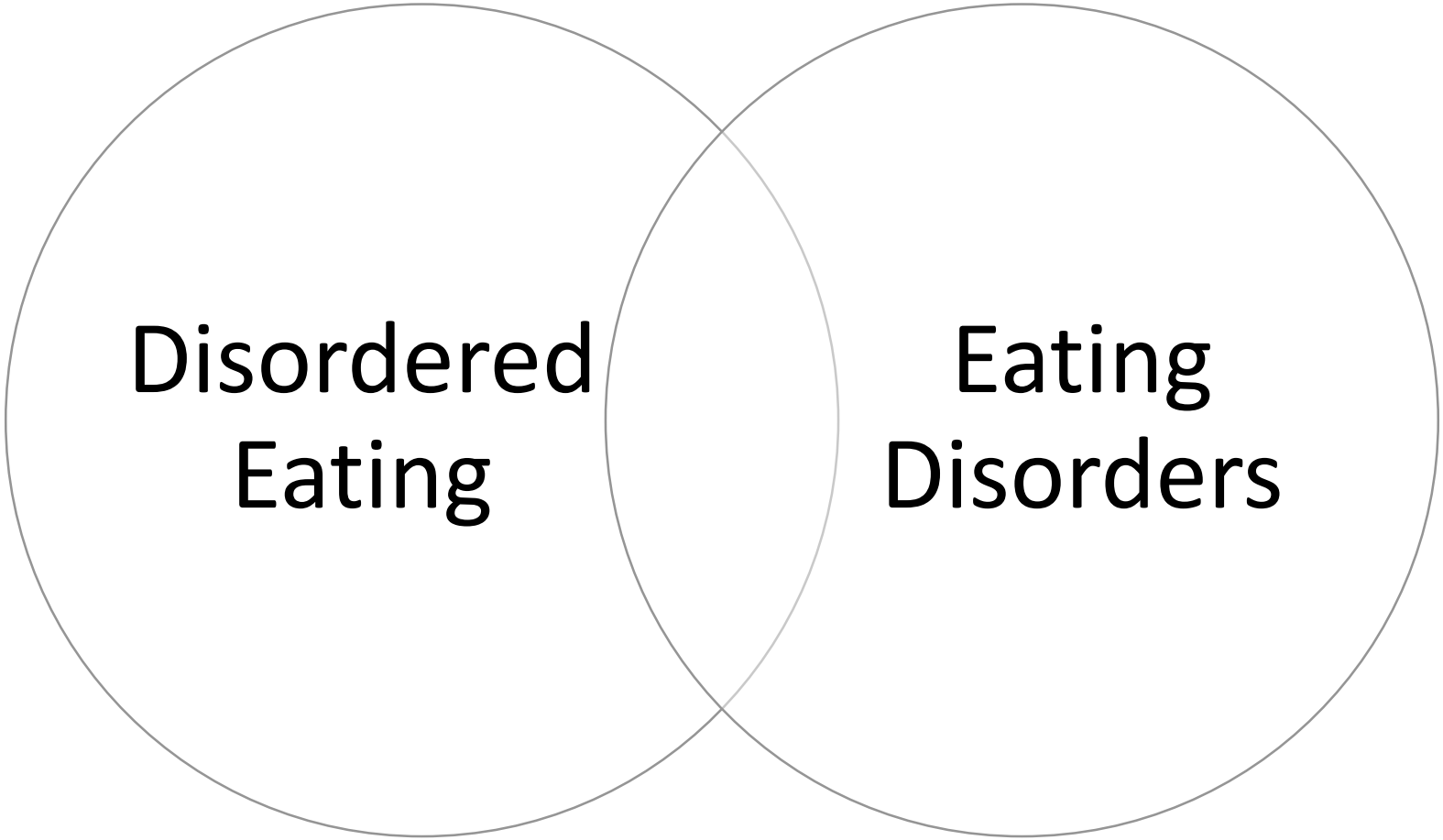
With the Gut and Psychology Syndrome (GAPS) diet, the idea is that eliminating hard-to-digest foods like grains and sugars can detoxify the body and heal the gut to improve brain-related health conditions. **READ MORE »**

OVERALL SCORE
1.9/5.0

OVERALL WEIGHT LOSS
2.0/5.0

HEALTHINESS SCORE
2.2/5.0

HEALTHINESS SCORE
1.9/5.0



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Causes/Risk Factors are Biopsychosocial

Genetic predisposition

- 7 to 12 fold increase for AN and BN

Psychiatric predisposition

- Psychiatric comorbidities
- Personality traits

Environment

- Family and friends
- School environment and sports
- Current diet culture

Berrettini W. The genetics of eating disorders. Psychiatry (Edgmont). 2004 Nov;1(3):18-25. PMID: 21191522; PMCID: PMC3010958.

Anorexia Nervosa

A. Restriction of intake, leading to significantly low body weight in the context of age, sex, developmental trajectory and physical health.
B. Intense fear of weight gain, persistent behavior interfering with weight gain, despite significant low weight.
C. Disturbance in the way one's body weight or shape is experienced, and persistent lack of recognition of seriousness of current low body weight.

Specifiers:

- **Restricting type:** in the past 3 months, no binge/purge, only restriction or excessive exercise
- **Binge Eating/Purging Type type:** recurrent episodes of binge/purging (laxatives, vomiting, diuretics, enemas)

- **In partial remission:** no criterion A for a sustained period, but continued B and C
  - Still working on mental recovery
- **In full remission:** no criteria have been met for a sustained period

Anorexia Nervosa

Typical course: most commonly develops during adolescence/young adulthood

- If discovered and treated as adolescent – *80% recover*
- If discovered and treated as adult – *50% recover*

2nd highest mortality of any psychiatric illness

- **5% per decade**
- Deaths due to medical complications or suicide
  - *1/5 die by suicide*
- 86 deaths per 100,000 for 15- to 24-year-olds
  - *5 times higher than general population*

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Bulimia Nervosa

A. Recurrent episodes of binge eating with both:
   1. Eating larger amounts than what most would eat
   2. Lack of control of overeating

B. Inappropriate compensatory behaviors to prevent weight gain

C. Above occurs once per week for 3 months

D. Self-evaluation is unduly influenced by body shape/weight

E. Does not exclusively occur in episodes of anorexia

Specifiers:

- **Partial remission** – some criteria have been met
- **Full remission** – no criteria have been met for sustained period of time

Severity	Mild	Moderate	Severe	Extreme
Purges/Week	1-3	4-7	8-13	14+

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Binge Eating Disorder

A. Recurrent episodes of binge eating in a discrete period of time
   1. Eating a larger amounts than most people would eat
   2. Lack of control over eating

B. Binge episodes associated with 3 or more of:
   1. Eating much more rapidly
   2. Feeling uncomfortably full
   3. Eating large amounts when not feeling hungry
   4. Eating alone because of embarrassment about how much eaten
   5. Feeling disgusted, depressed or guilty afterwards

C. Marked distress associated with Binge episodes

D. Once per week for 3 months

E. Not associated with inappropriate compensatory behavior

Avoidant Restrictive Food Intake Disorder

A. Failure to meet nutritional/energy needs as associated with 1 or more of the following:
   1. Significant weight loss
   2. Significant nutritional deficiency
   3. Dependence on enteral feeding or nutritional supplements
   4. Marked interference with psychosocial functioning
B. Not better explained by lack of food or culturally sanctioned process
C. Does not occur exclusively during course of anorexia or bulimia
D. Not attributable to another medical or mental disorder

ARFID

- Most commonly develops in infancy or early childhood and can persist into adulthood
- Equally common in males/females
- Anxiety is a common comorbidity/can predispose
- Often due to sensory issues or aversive consequences to eating (traumatic eating experience, vomiting phobia)

Screening for Eating Disorders

Screening for Eating Disorders

NEDA Eating Disorders Screening Tool

Free, Available online

Likely high sensitivity & specificity

Sick, Control, One, Fat, & Food (SCOFF)

Freely accessible, 5 questions

Originally sensitivity 85% and specificity of 90%

Newer studies with sensitivity 54% and specificity of 94%

Patient Health Questionnaire (PHQ)

Freely accessed and downloaded, 3 pages

Bonus: depression, anxiety, alcohol use, somatoform disorders

Sensitivity 89% and Specificity of 96%

Eating Attitudes Test (EAT-26)

Free but does require permission to reproduce or download

Uncertain sensitivity/specificity for pediatric population

Eating Disorder Screen for Primary Care

1) Are you satisfied with your eating patterns?
   "No" response is considered abnormal.
2) Do you ever eat in secret?
   "Yes" response is considered abnormal.
3) Does your weight affect the way you feel about yourself?
4) Have any members of your family suffered from an eating disorder?
5) Do you currently suffer with or have you ever suffered in the past with an eating disorder?

3 or more abnormal responses are considered

a positive screen for eating disorder

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Medical Management of Malnutrition

Medical Complications

- Directly tied to the eating disorder behaviors rather than specific diagnosis
- Loosely there are 3 categories of concern:
  - Malnutrition Concerns
  - Purging Concerns
  - Bingeing Concerns

Malnutrition Concerns

Cardiovascular Bradycardia Hypotension Sudden Death Mitral Valve Prolapse Pericardial Effusion	Endocrine/Metabolic Amenorrhea Osteopenia & Osteoporosis Thyroid Testing Abnormalities Hypoglycemia Electrolyte Abnormalities
Dermatologic Alopecia Lanugo Pruritis Acrocyanosis	Gastrointestinal Constipation & Variety of GI sensations Delayed gastric emptying Elevated Transaminases Dysphagia Superior Mesenteric Artery Syndrome
Hematologic Neutropenia Anemia Thrombocytopenia	Pulmonary Aspiration Pneumonia Spontaneous Pneumothorax Pneumomediastinum
Neurologic Cerebral atrophy	Ophthalmic Lagopthalmos

Hornberger, L, et al. 2021. *Pediatrics.*

Purging Concerns

Cardiovascular
- Arrhythmia
- Diet Pill Toxicity
- Palpitations
- Emetine Cardiomyopathy

Endocrine
- Irregular Menses

Dermatologic/Other
- Russel's Sign
- Dental erosions

Gastrointestinal
- Mallory-Weiss tear
- Gastroesophageal reflux
- Constipation & Variety of GI sensations
- Rectal Prolapse

Metabolic
- Hypokalemia
- Dehydration
- Sodium abnormalities
- Metabolic alkalosis
- Non-Anion Gap acidosis
- Pseudobartter's Syndrome

Pulmonary
- Aspiration Pneumonia
- Pneumomediastinum

Hornberger, L, et al. 2021. *Pediatrics.*

Bingeing Concerns

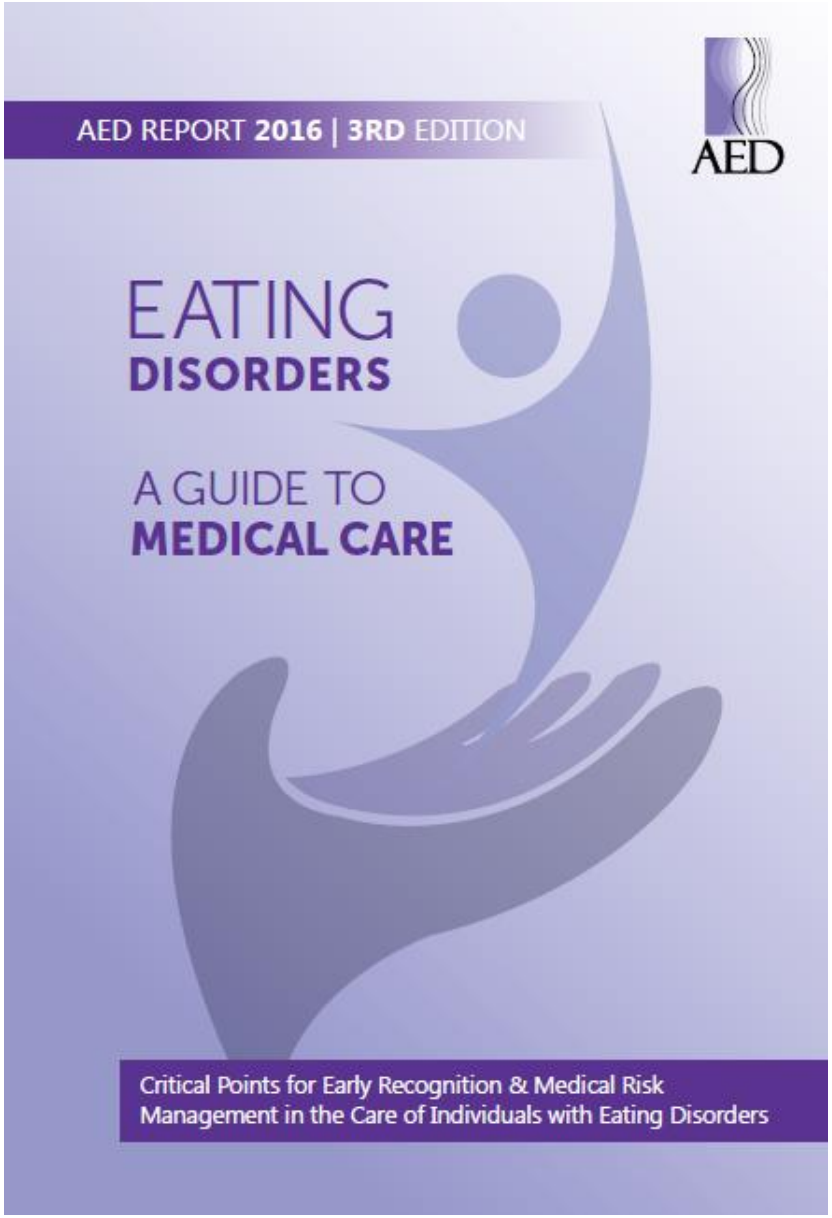
Cardiovascular
- Hypertension
- Coronary Artery Disease
- Stroke

Endocrine/Metabolic
- Obesity
- Irregular Menses
- Type 2 Diabetes Mellitus

Sleep Disorders
- Obstructive Sleep Apnea

Gastrointestinal
- Gall bladder disease
- Non-Alcoholic Steatohepatitis (NASH)

Hornberger, L, et al. 2021. *Pediatrics.*



https://www.aedweb.org/index.php/education/eating-disorder-information/eating-disorder-information-13

The guide offers:

- Presenting signs & symptoms
- Medical Concerns
- Goals of treatment
- Timely interventions
- Tips on ongoing management

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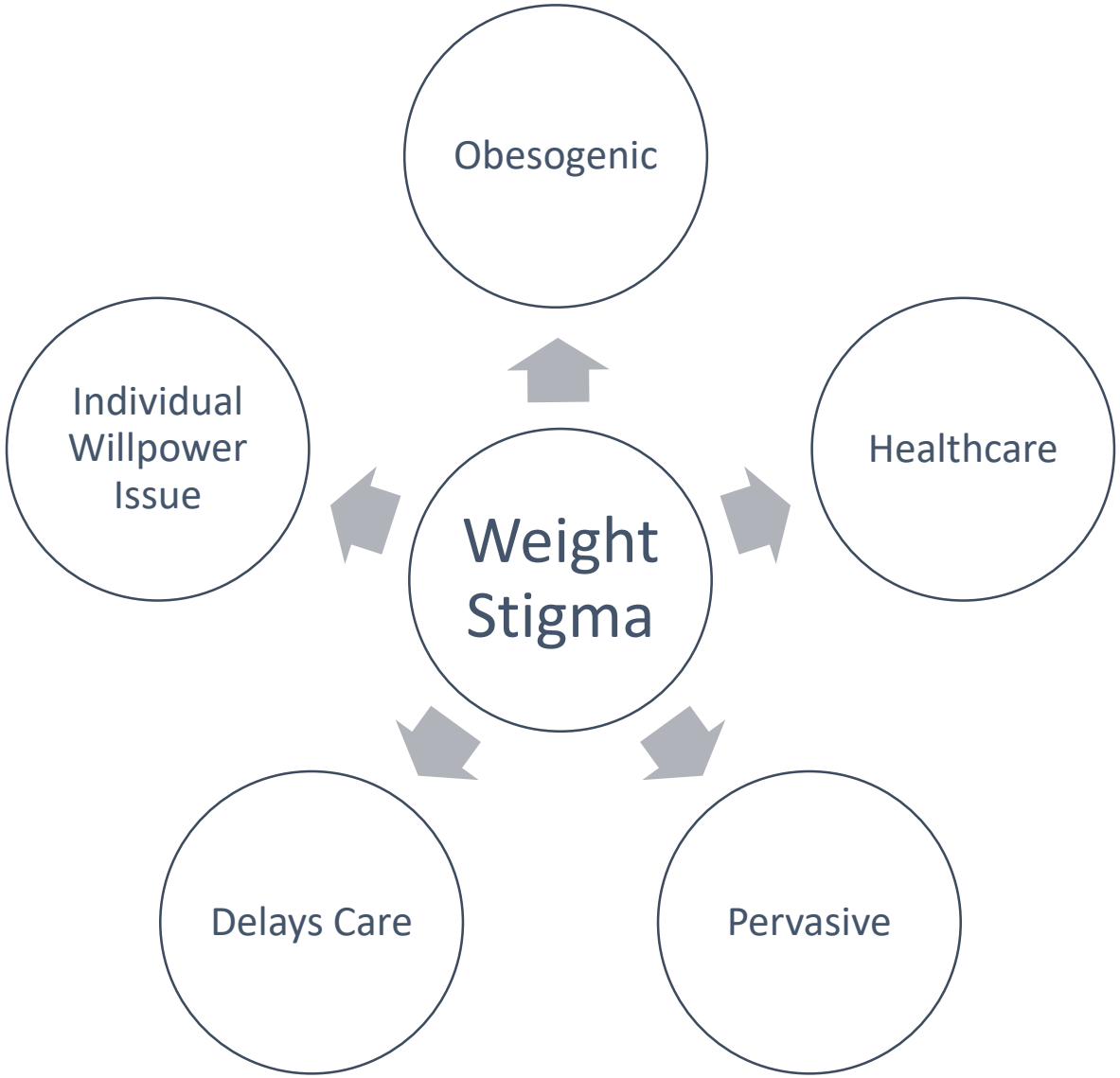


Talumaa B, Brown A, Batterham RL, Kalea AZ. Effective strategies in ending weight stigma in healthcare. Obesity Reviews. 2022;23(10):e13494. doi:10.1111/obr.13494

Tomiyama et al, How and why weight stigma drives the obesity 'epidemic' and harms health. *BMC Medicine* (2018) 16:123 doi:10.1186/s12916-018-1116-5

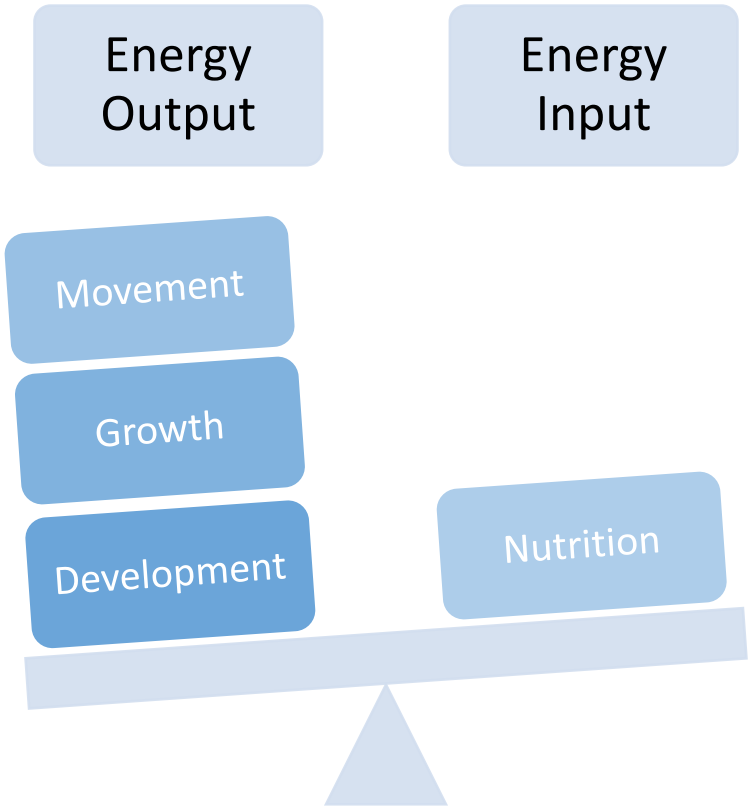
What to do?

- Educate yourself on weight stigma
- Challenge what you thought you knew about BMI, weight, genetics
  - Side note – BMI was never created to actually measure health status (look it up)
- Focus on wellbeing & behaviors
- Approach our patients with empathy, respect, and humanity avoiding assumptions or automatic judgements

Talumaa B, Brown A, Batterham RL, Kalea AZ. Effective strategies in ending weight stigma in healthcare. Obesity Reviews. 2022;23(10):e13494. doi:10. 1111/obr.13494

Tomiyama et al, How and why weight stigma drives the obesity 'epidemic' and harms health. *BMC Medicine* (2018) 16:123 doi:10.1186/s12916-018-1116-5

Energy Equation



Gaudiani, J. 2019. Sick Enough

Hornberger, L, et al. 2021. *Pediatrics.*
Hay, P. 2021. *Int J Internal Med.*
AED. 2016. https://www.aedweb.org/resources/online-library/publications/medical-care-standards

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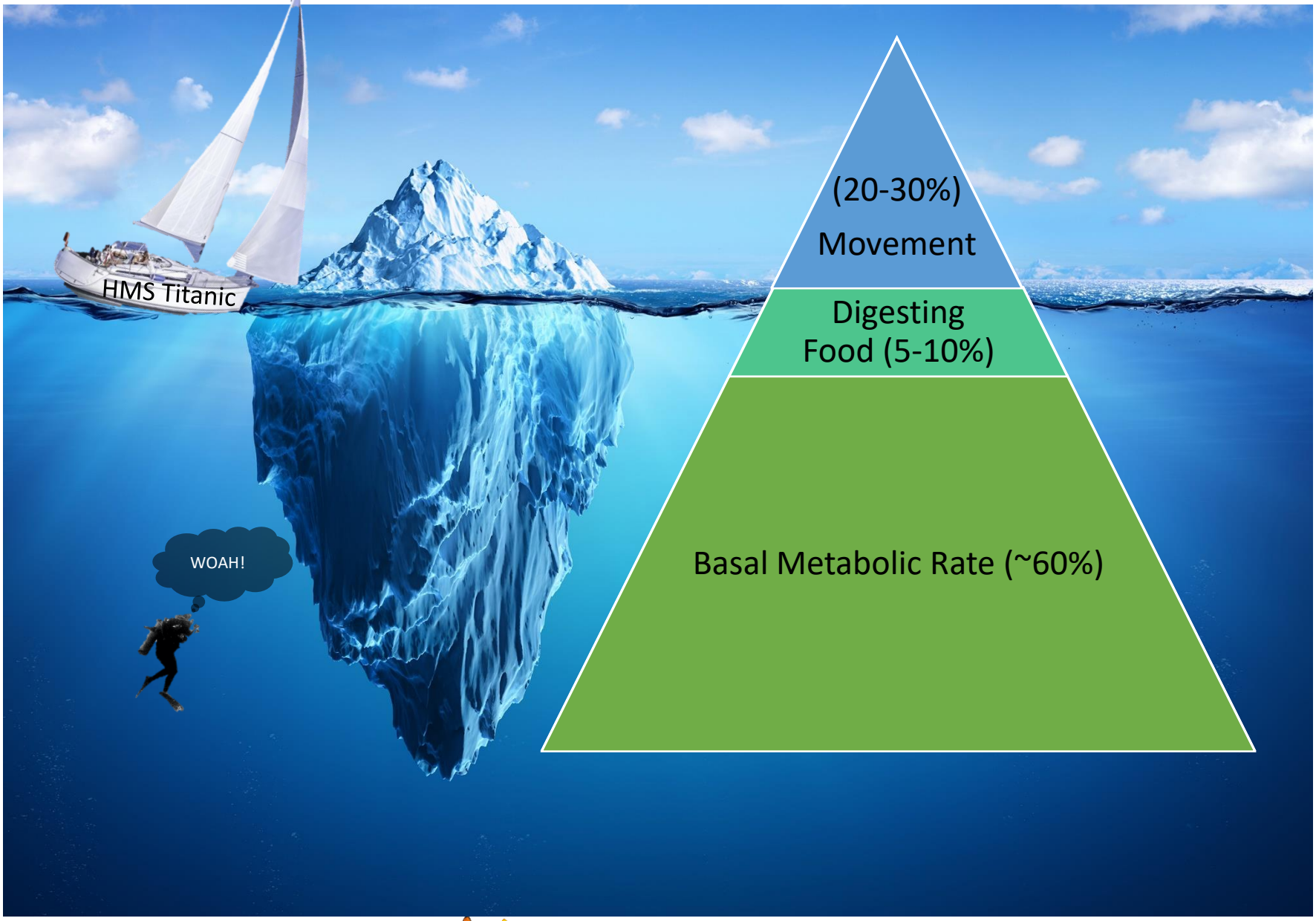

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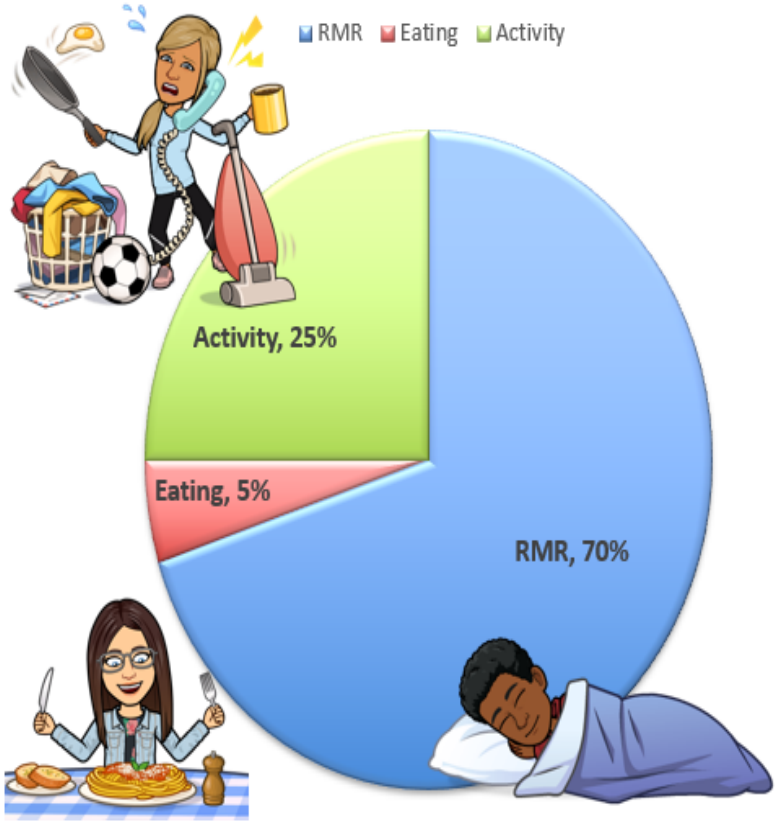
Total Daily Energy Expenditure

Movement and Exercise

Fidgeting
Walking
Dressing & Undressing
Standing
Working
Swimming
Running
Walking up stairs
Age-appropriate play
Sports



Resting Metabolic Rate (RMR)

Energy needed at rest for the body to perform essential functions, such as breathing, blood circulation, brain function, temperature regulation, growth and development (bone, brain, puberty), & cell repair.

Each organ below consumes energy:

- Lungs Heart & Vessels
- Brain
- Liver
- GI Tract
- Kidneys
- Skeletal Muscle

Thermic Effect of Food

Energy needed to digest food

ASPEN Malnutrition Guidelines Pediatric (2-18 years)

Indicator	Mild	Moderate	Severe
BMI for Age Z-score	-1 to -1.9	-2 to -2.9	-3 or less
Height Z-score	-	-	-3 or less
MUAC Z-score (up to 5y, WHO)	-1 to -1.9	-2 to -2.9	-3 or less
Weight Loss	5% usual body weight	7.5% usual body weight	10% usual body weight
Decline in BMI Z-score	Decline of 1 Z-score	Decline of 2 Z-scores	Decline of 3 Z-scores
Inadequate Nutrient Intake	51-75% of energy/protein needs	26-50% of energy/protein needs	≤ 25% of energy/protein needs

Reference: CDC, excluding Mid-Upper Arm Circumference (MUAC)

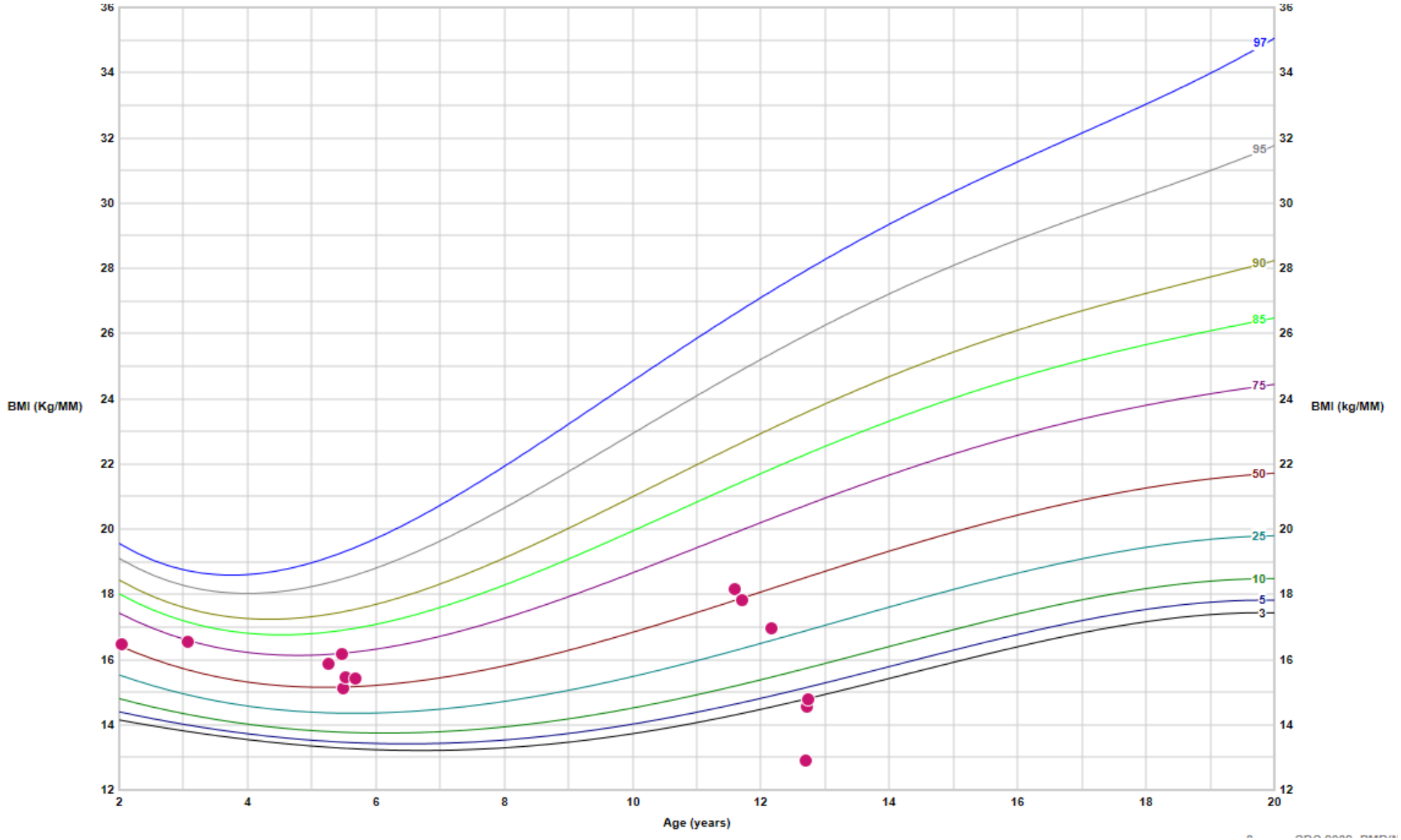
Becker, P, et al, 2015, *Nut Clin Pract* https://doi.org/10.1177/0884533614557642

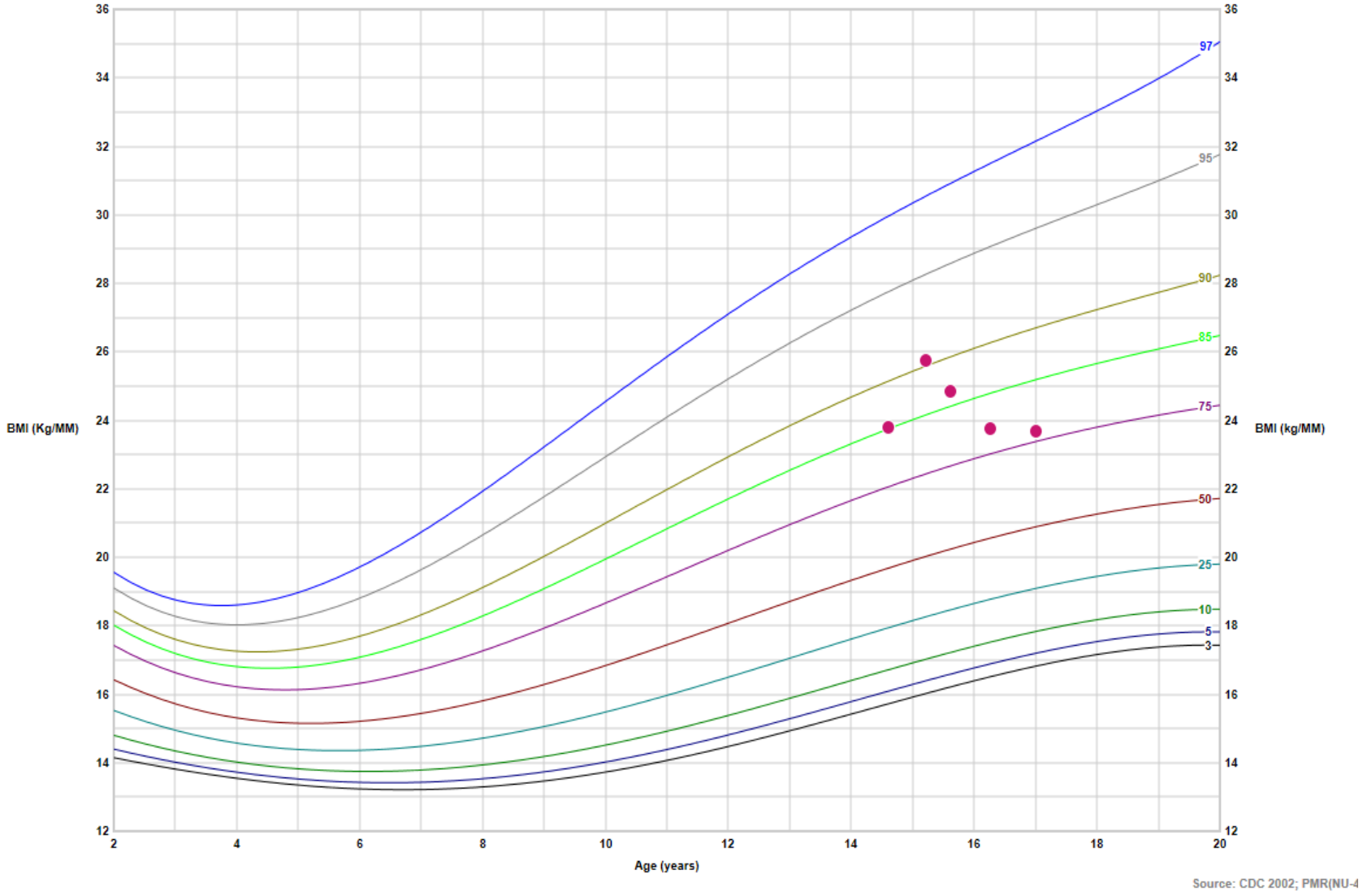
Strong Reactions

"I, for the record, fundamentally disagree with your diagnosis."

"My child is not malnourished – that happens to kids in other countries."

"He eats all the time – there is no way he is malnourished. You are wrong."





Source: CDC 2002; PMR(NU-4

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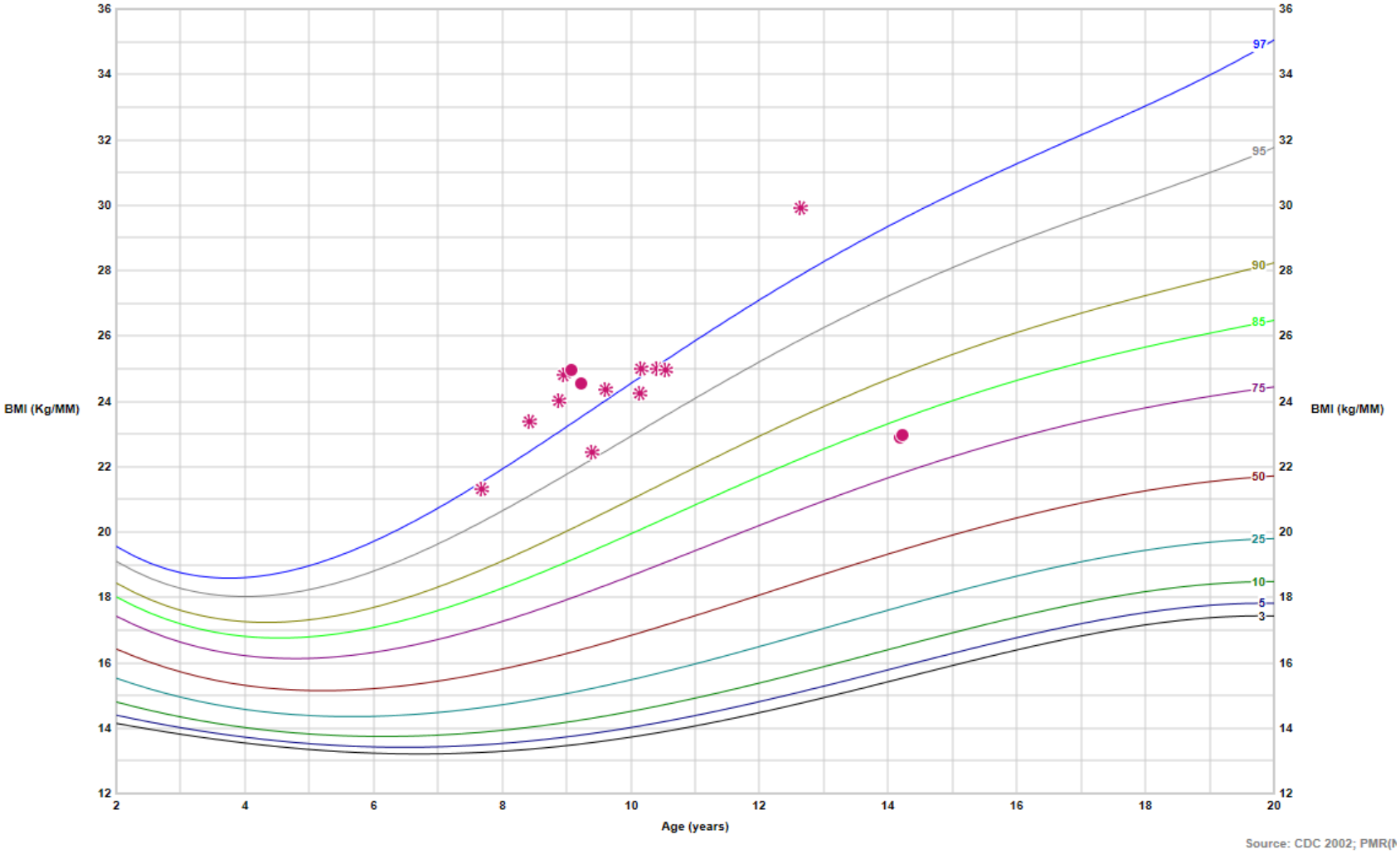

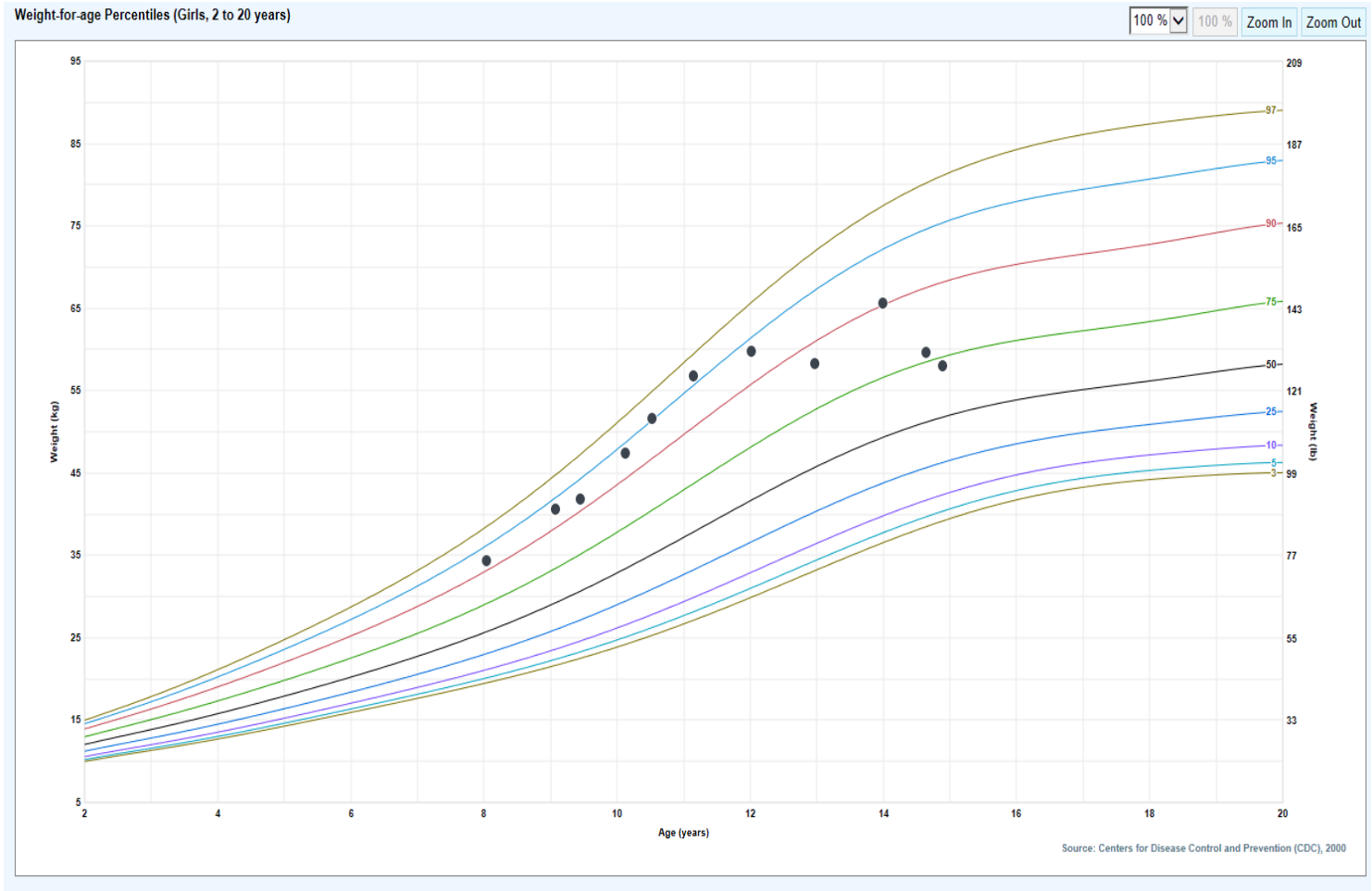

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Medical Stability Assessment

- Orthostatic Vital Signs
  - (recumbent, relaxing x 5 minutes then collect orthostatic vital signs)
- Growth History
- Consider evaluation if malnutrition and/or compensatory behaviors:
- CBC, CMP, Magnesium, Phosphorous, Free T4/TSH, Amylase, Lipase, ESR, Gonadotropins, and EKG

Hospitalization Considerations

OBJECTIVE

- HR < 45 bpm
- Systolic BP < 90
- Orthostatic hypotension
  - >20 mmHg ↓ systolic
  - >10 mmhg ↓ diastolic
- K <3 mmol/L
- Phos <2.5 mg/dL
- Prolonged QTc on EKG (>455 ms)
- Other significant electrolyte abnormalities
- Abnormal EKG
- Syncope

SUBJECTIVE

- Food refusal >48 hours?
- Liquid refusal >24 hours?
- Suicidal Ideation?
- Non-Suicidal Self-Harm?
- Psychiatric instability?

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Hornberger, L, et al. 2021. *Pediatrics.*
Hay, P. 2021. *Int J Internal Med.*
AED. 2016. https://www.aedweb.org/resources/online-library/publications/medical-care-standards

Anosgnosia

Lack of insight or understanding of the severity of illness or disease

Anosgnosia

"I've learned I just can't trust my eyes."

~ 19yo with Anorexia Nervosa, Binge-Purge Type

"My friends and family tell me they are worried, and I just can't see what they are talking about. I just don't see anything wrong with me – I wish I could just step into them and see what they see so I could understand."

~ 18yo with Anorexia Nervosa, Restricting Type

Word choice can have huge impact on our patients.

• Weight gain	✓Weight Restoration
• Calories	✓Nutrition
• High Calorie	✓Energy Density
• Healthy	✓--
• Good Food	✓Nutrition
• Bad Food	✓Nutrition
• Junk Food	✓Nutrition

https://www.aedweb.org/resources/online-library/publications
Gaudiani, J. Sick Enough

Questions????


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BH TIPS Overview

Behavioral Health Treatment Insights and Provider Support (BH-TIPS program)

Scheduled video consultations for community providers

Provide Support to PCPs

- Medication management
- Diagnostic clarification
- Treatment planning
- Resources and linkages

Improve Quality of Care

- Improve BH competencies
- Connecting specialists with local providers and resources

Mitigate Current Challenges of Limited Access

- Improve access
- Reduce ED visits & hospitalizations
- Support community

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Scheduled Video Consultations for Community Providers

BH-TIPS Virtual consultation

PCP with consult needs

- Short form about consult filled by PCP
- Virtual schedule with 15 min slots 12 pm – 2 pm
- Consultation with psychiatrist

Mon	Tue	Wed	Thu	Fri
Psychiatrist 1	Psychiatrist 2	Psychiatrist 3	Psychiatrist 4	Psychiatrist 5

Linkage and referral to local resources added by care manager clinician

Consultation summary and resources sent to PCP by email

No PHI is discussed during consultation

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Example visit

- PCP: Chief complaint of impairing anxiety and depression. Failed 2 SSRIs. Currently on maximum dose of an SSRI. What medication to try next?
- Visit: discuss any other co-morbid symptoms or diagnoses.
- Recommendation: augment with Wellbutrin SR 100mg or BuSpar 10mg first then consider cross titration to an SNRI

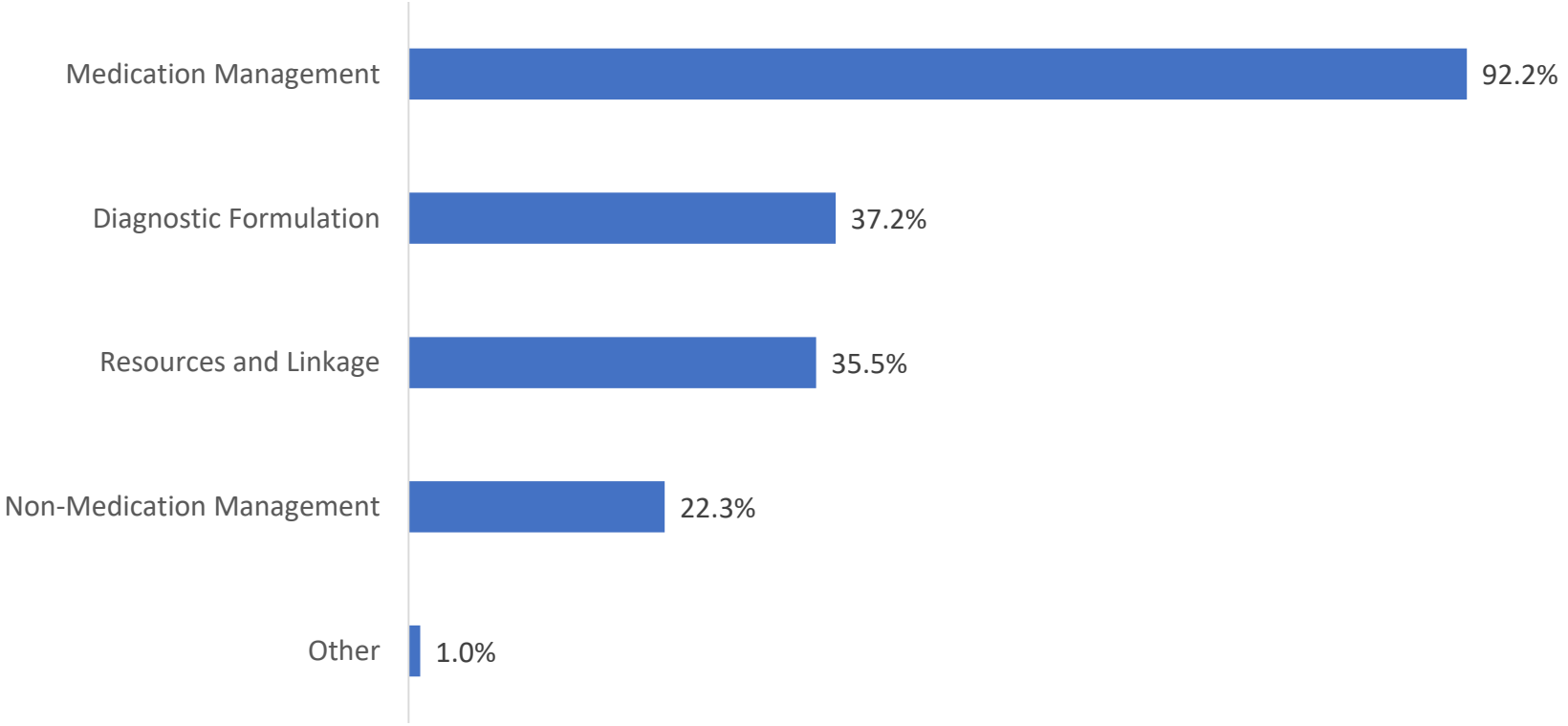
- Common questions
  - Already on SSRI with minimal/no benefit. Give more time, increase, augment, or switch?
  - At maximum dose of a medication, whats next?

What we are not

- Check existing referral status
  - Please have caregiver call intake or discharge planner
- Expedite referrals
- PDC (Physician Direct Connect)
  - Previously called PCTC

BH TIPS Call Types

Selected Reasons for Consultations Selected by Physicians*
January 4, 2021 through October 31, 2022
Total Calls = 296



*Providers can select more than one option per call
Total Selections = 557 (1.9 per consultation)

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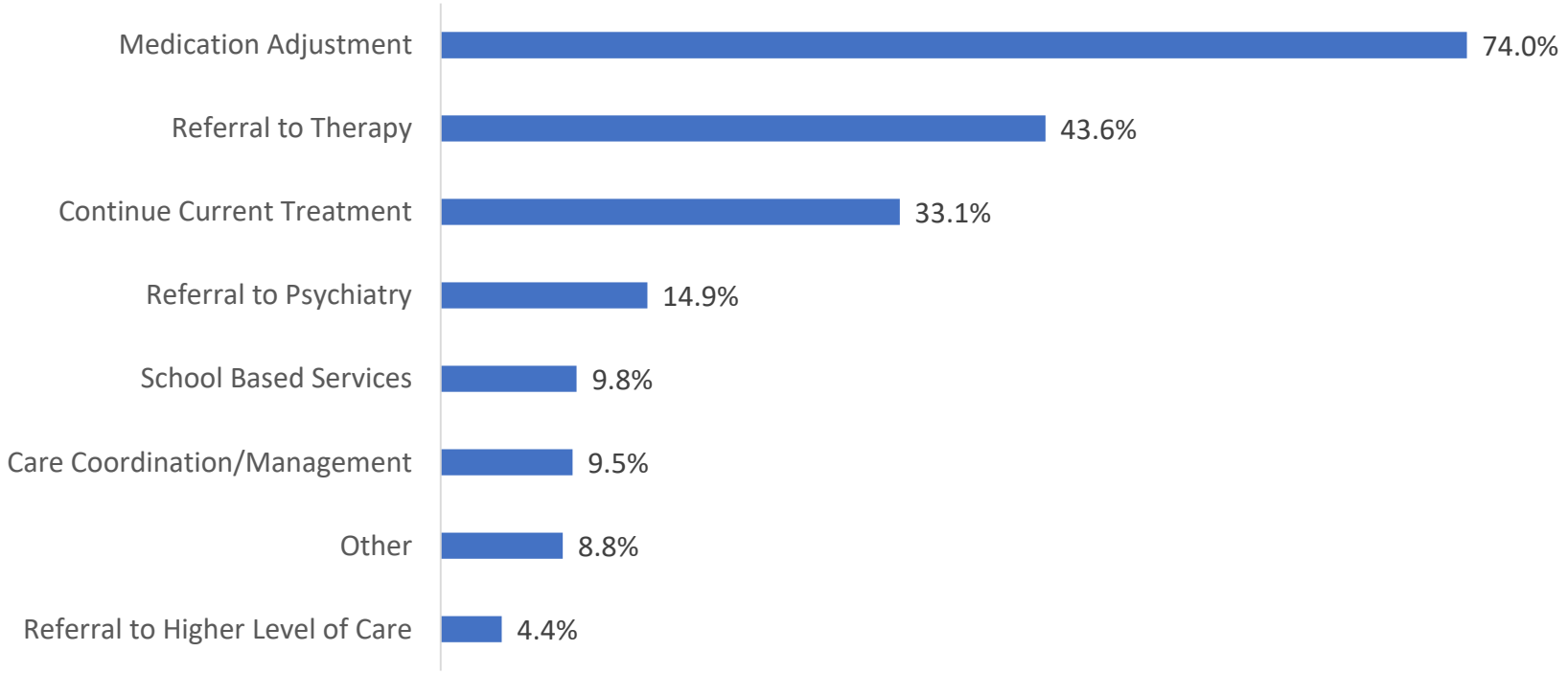
BH TIPS Intervention Suggestions

Interventions Chosen by Psychiatrist After Call*
January 4, 2021 through October 31, 2022
Total Calls = 296



*Psychiatrist can select more than one option per call
Total Selections = 586 (2.0 per consultation)

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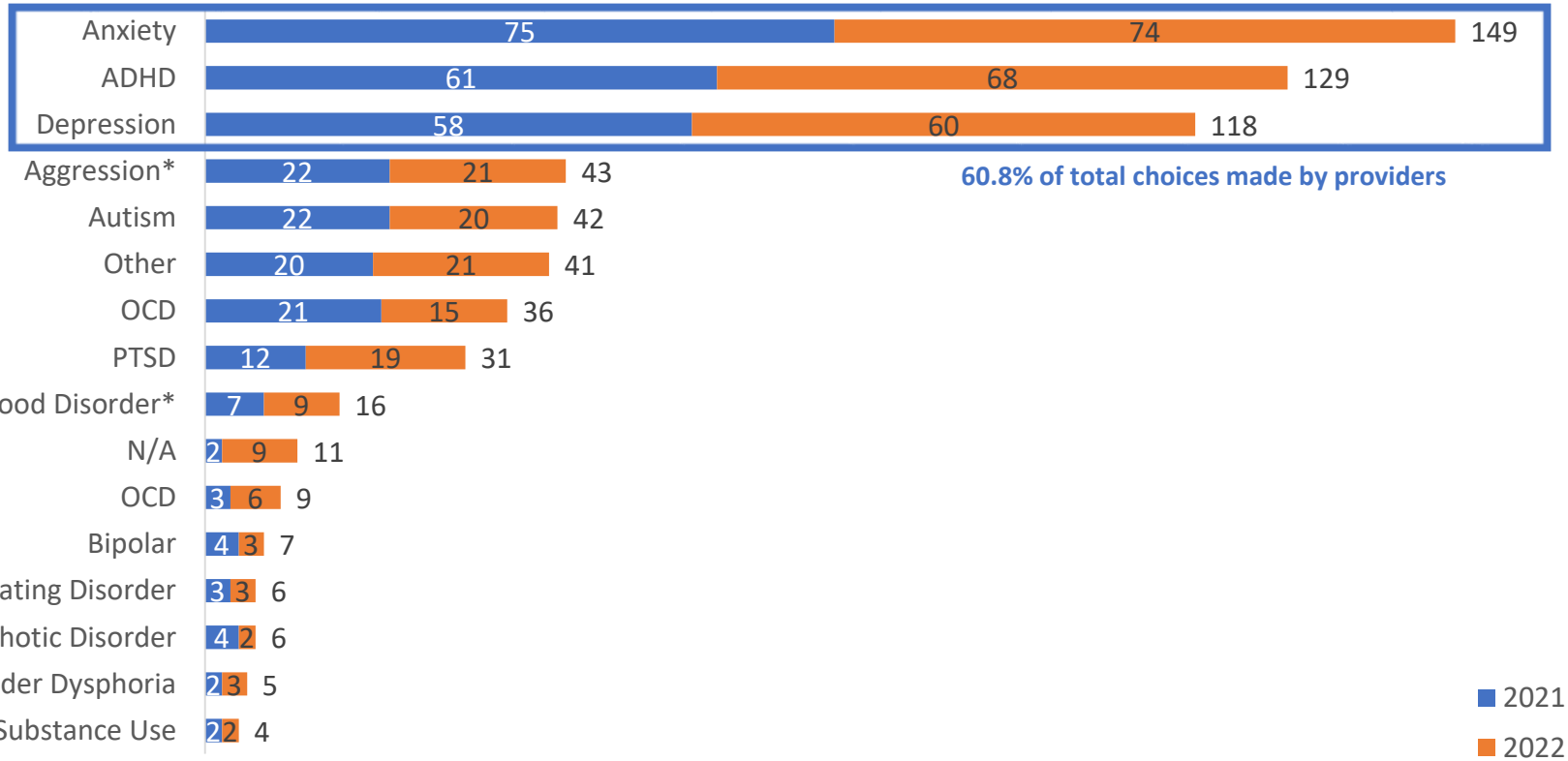
What Diagnoses Are Most Common during BH-TIPS Consults?

Diagnoses of Patient Consulted on Through BH-TIPS Consult

January 4, 2021 through October 31, 2022

N = 651 Choices (2.2 per consultation)



*Unspecified

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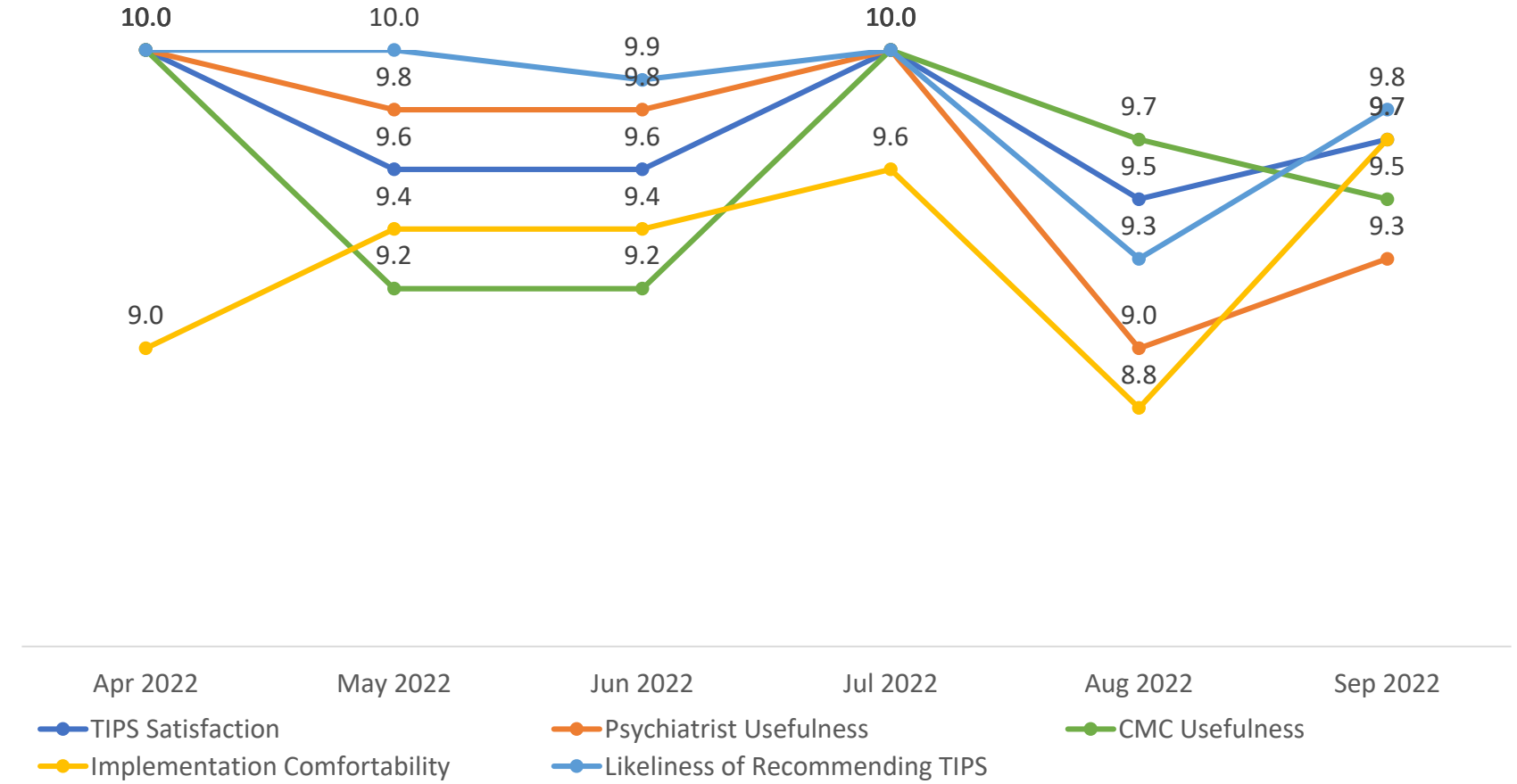
Feedback*

Provider Feedback on BH-TIPS Consultation

November 16, 2021 through October 31, 2022



*Feedback Survey first sent in November 2021 and is voluntary for providers to complete

Range of graph from 8-10

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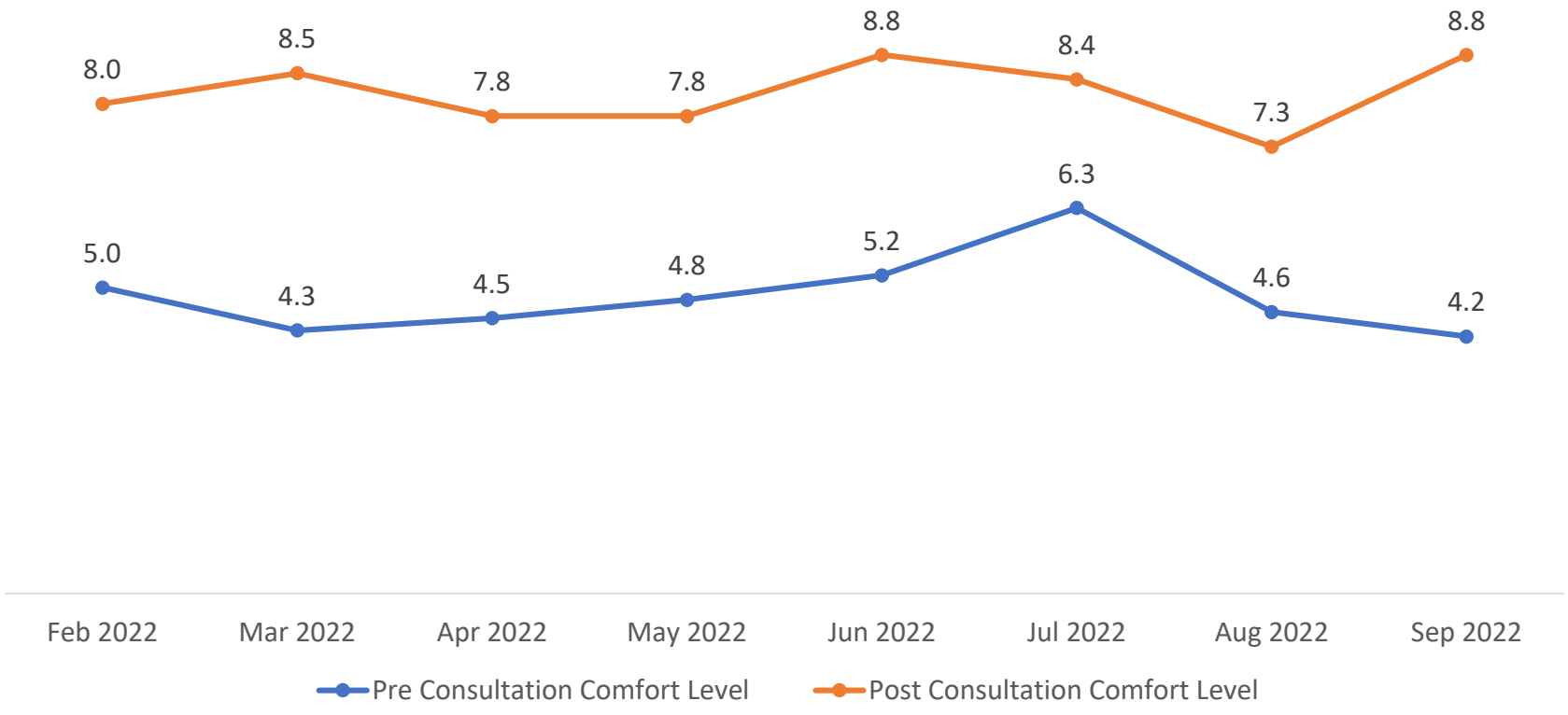
Comfort Levels*

Provider Pre and Post Consultation Comfort Levels
February 15, 2022 through October 31, 2022



*Comfort Levels were not asked until Feb 2022 and is voluntary for providers to complete

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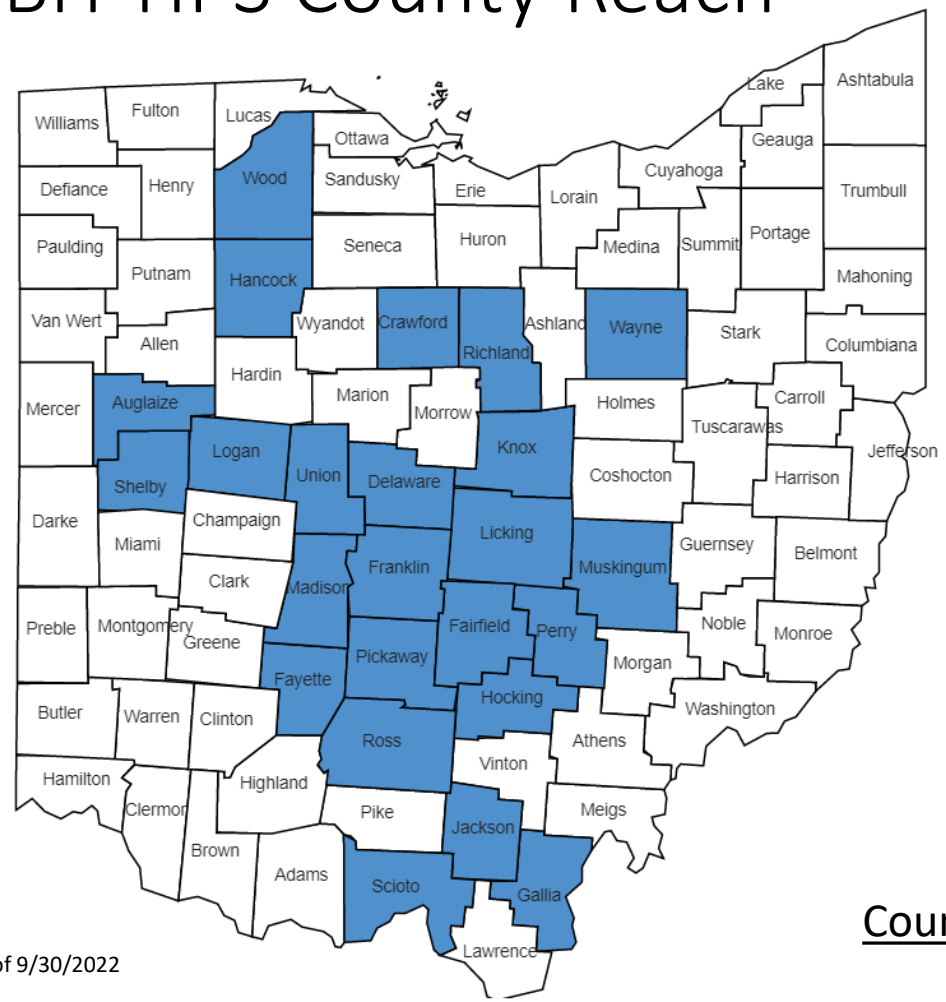
BH TIPS County Reach



As of 9/30/2022

County Reach:
25

County	County Count
Franklin	143
Union	26
Scioto	24
Delaware	22
Fairfield	14
Pickaway Hancock	12
Ross	7
Wood	6
Perry	5
Muskingum Licking Crawford	3
Auglaize Knox Gallia Jackson	2
Logan Shelby Fayette Hocking Madison Richland Wayne Greenup, KY	1

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How to get to the website

- Google: NCH BH TIPS