POLICY BRIEF

PUBLIC HEALTH NEEDS TO DECOUPLE WEIGHT AND HEALTH

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What are the issues?

Public Health's focus on "obesity" prevention has increased exponentially within the last few decades, and with it an increase in weight stigma and negative attitudes towards people in larger bodies. In the past decade, weight discrimination has increased by 66%, and is one of the only forms of discrimination actively condoned by society (1,2). Decades of research have shown that experiencing weight stigma increases one's risk for diabetes, heart disease, discrimination, bullying, eating disorders, sedentariness, lifelong discomfort in one's body, and even early death (2,3,18,25,26).

Additionally, "obesity" related public health approaches can be harmful because they are based on limited or poor quality evidence, they focus on preventing one outcome at the expense of another outcome, they lack community engagement and they ignore the root cause of problems (4). However, the public health field has not taken a critical look at this research, focusing on the narrative that weight is controllable and a personal responsibility. If the goal is to find the most ethical and effective strategies to achieve optimal public health, there needs to be an alternative to "obesity" and weight focused approaches and a shift in understanding of weight stigma as a social justice issue.

Purpose of this brief:

1.Recognize examples of weight bias and weight stigma in public health settings, including PHD and research.

2. Detail the history and consequences of using body mass index (BMI) and weight as a measure of health.

3. Describe the adverse consequences of weight stigma on patients' emotional and physical health.

4. Develop public health strategies, campaigns and research design that are free from weight bias/stigma and are inclusive of all body types.

5. Identify strategies to improve accessibility and comfort for patients in larger bodies within all aspects of public health.

When the focus is on weight and body size, it's not "obesity" that damages people. It's fearmongering about their bodies that puts them at risk for diabetes, heart disease, discrimination, bullying, eating disorders, sedentariness, lifelong discomfort in their bodies, and even early death.

LINDO BACON & AMEE SEVERSON, 2019

11 reasons why we should not use weight-based approaches to health

1.The focus on body size is rooted in racism

Around 81% of societies historically have favored people in larger bodies (5). Larger bodies signified wealth and prosperity while thinness signified poverty and weakness. However, this began to change due to racism and eugenics. Charles Darwin and other race scientists created a hierarchy of civilization, placing white men on top and people of color, specifically black people, at the bottom, considering them to be "less civilized." Fatness and differing body characteristics were used to justify lack of civilization- fatness used as a marker of "uncivilized behavior" while thinness was "more evolved". This idea was maintained throughout the United States in the 19th and 20th centuries, as a way to justify slavery, racism and classism, and control women through "temperance". This ideology has perpetuated Desirability Politics- where thinness and whiteness are given more access to social, political and cultural capital (6,7).

2. The BMI is flawed (and you can't tell someone's health by their body size)

The BMI was developed by Adolph Quetelet in the 1830's, with the goal of finding the "perfect human" (5,8). Quetelet was not in the medical field and did not intend for the BMI to be used for medical purposes. His sample population only included white French and Scottish men, thus, the BMI is not representative of the entire human population. It rose in popularity in the early 20th century when it was discovered by life insurance companies, who used it to set insurance premiums for their clients (5). The company found a relationship between weight and mortality, though the sample included only insurance company clients who self-reported their heights and weights. Nevertheless, it set off an interest in the use of the BMI as a tool to assess health. The BMI was determined to be the best tool to assess health not for its accuracy, but for its ease of use in medicine and research (9). The BMI does not consider health behaviors (e.g. stress, nutrition, physical activity) or body composition (e.g. bone, muscle, and fat mass). Therefore, it does not give an accurate picture of health.

3. Focusing on weight underdiagnoses thin people and misdiagnoses larger people

A study of 40,420 U.S. adults using National Health and Nutrition Examination Survey (NHANES) data from 2005-2012 looked at health stratified by BMI and found:

- Nearly half of overweight individuals, 29% of obese individuals and 16% of obesity type 2/3 individuals were "metabolically" healthy
- Over 30% of normal weight individuals were "metabolically unhealthy" (10)

If extrapolated to the US population, an estimated 74,936,678 US adults are misclassified as unhealthy or healthy if based on BMI alone. Another analysis of NHANES data showed that those in the overweight BMI category actually have the greatest longevity out of any BMI group, again contradicting the idea that BMI directly indicates health status (11,12).

When the medical system uses BMI as a health indicator, it can lead to misdiagnosis for people in larger bodies- with the risk of real medical concerns being overlooked as the focus is placed on weight or weight loss. Similarly, people in thinner bodies are often under diagnosed due to an assumption of good health.

4. Evidence shows that diets don't work and weight loss research is problematic

Short term weight loss studies indicate that participants lose ~5-10% of their baseline weight (13). However, long term studies indicate that regardless of initial weight loss, most people regain that weight after 2 years, with up to 2/3 of dieters likely to regain more weight than they lost on their diets (14). Intentional weight loss has a 90% failure rate (5). If it were any other drug, it would never be considered for use.
In addition, much of the weight loss data is flawed with many studies featuring (14):

- High attrition rates (up to 70%) that often are not reported
- Multiple interventions (e.g., diet, exercise, smoking cessation) or rigorous (not realistic) interventions
- Short study length (many studies only last ~6 months)
- Errors in data analysis

Much of the obesity research in the U.S. is funded by weight loss and drug companies, such as Weight Watchers and Abbot Laboratories- thus influencing the types of studies that are funded and published (2).

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5. Food restriction is harmful

Food restriction (via intentional weight loss) has detrimental effects on our physiology (13,15). Our bodies, designed to keep us alive at any cost, do not understand the societal importance of dieting. Rather, our bodies interpret food restriction as starvation, and adapt resiliently to keep us from losing important stores. When we restrict food, we weaken our body's natural hunger and fullness cues, making us more susceptible to outside food cues. In addition, our body's hormones change in attempt to reduce weight loss, producing more hormones that make us feel hungry and increase our cravings for carbohydrate foods, and less hormones that make us feel full.

Ancel Keys' Minnesota Starvation Experiment found that men who spent 3 months on a semi-starvation diet (1700 kcal/day) had (15):

- significant decreases in strength/stamina, body temp, heart rate, sex drive and mental ability
- Increases in fatigue, irritability, depression and apathy
- Obsession with food (dreaming/fantasizing about food, reading and talking about food nonstop)

6. Weight cycling is bad for our health

People who are dieting often experience weight cycling: the repeated loss and regain of weight (14). Weight cycling is associated with increased all-cause mortality, mortality from cardiovascular disease, risk for heart attack, stroke, diabetes, high blood pressure, and suppressed immune function.

Weight cycling is more commonly seen in people in larger bodies, due to the societal expectations that they lose weight or be "working on their health" (16). Despite weight cycling's detrimental effects on health, it is often not considered as a confounding factor in research that investigates the relationship between body size and health (17). Therefore, it is hard to say for certain whether worse health outcomes in larger-bodied people are due to weight itself, or due to confounders such as weight cycling.

7. Rates of eating disorders/disordered eating are increasing (and it's becoming normalized)

Dieting is a strong risk factor for disordered eating and eating disorders (18). Disordered eating differs from an eating disorder in that it does not have a diagnosis. However, both disordered eating and eating disorders can have profound negative effects on mental and physical health.
Disordered eating is defined by characteristics such as (19):

- Frequent dieting, including fasting, chronic restrained eating, restricting major food groups, bingeing, and/or using vomiting and laxatives
- Anxiety associated with specific foods or feelings of guilt and shame associated with eating
- Chronic weight fluctuations
- Rigid rituals and routines surrounding food and exercise
- Preoccupation with food, weight and body image that negatively impacts quality of life
- A feeling of loss of control around food, including compulsive eating habits
- Using exercise, food restriction, fasting or purging to "make up for bad foods" consumed

68% of Americans have dieted in some form (5). 65% of American women ages 25-45 have disordered eating, and 10% have a diagnosed eating disorder (20). U.S. children are 242 times more likely to have an eating disorder than Type 2 Diabetes, and by age 9, 50% of girls have considered restricting food (18,21).

People of color experience eating disorders such as bulimia and binge eating disorder at higher rates than their white counterparts (22,23), often as a mediating factor from experiencing racism or other acculturative stressors (32). However, they are more likely to be underdiagnosed, which can occur due to misconceptions about who gets eating disorders (24,32). LGBTQ+ individuals also have higher rates compared to cisgender, heterosexual individuals, most likely as a way to mediate stressors (20).

"A child is 242 times more likely to have an eating disorder than they are to have type II diabetes.

Yet the vast majority of our public health education is spent warning parents (and kids) about "childhood obesity"

ALISSA RUMSEY, RD, 2021

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8. Weight stigma is harmful to health (and not controlled for in research)

Weight stigma is the discrimination or stereotyping based on a person's weight. It is reported at rates comparable to racism and is one of the last types of discrimination still condoned and carried out by public health and medical experts (2). The incidence of weight stigma has increased by 66% with the rise of public health campaigns to end the "obesity epidemic" (18)

Examples of weight stigma include:

- Receiving negative comments or "health concerns" about your weight from anyone, including health care professionals
- Complimenting someone on their weight loss
- Receiving poor treatment because of your size or being denied/ required to lose weight because of your size in order to receive a medical treatment
- Not having comfortable chairs, airplane seats, etc.

Weight stigma is a risk factor for (25,26):

- Inflammation, stress, and high blood pressure
- Increased blood sugar and risk of Type 2 Diabetes
- Depression, anxiety, lower self-esteem, & higher body image dissatisfaction
- Disordered eating behaviors, eating disorder symptoms, and weight gain

Experiencing weight stigma not only increases one's risk for negative health outcomes, it also leads to health care avoidance by people in larger bodies, increasing the chances that they do not receive preventative care services (e.g. cancer screenings) (27).

In children, weight-based bullying is one of the most frequent types of bullying experienced in school (26). Often, this type of teasing is a stressor children will face for years, throughout their childhood and into adulthood. Experiencing weight-based bullying often leads to coping though avoidance of physical activity and increased emotional or binge eating.

9. When we focus on weight, we're not being trauma informed

Rates of eating disorders are often higher in people who have experienced trauma or Post Traumatic Stress Disorder (PTSD) (28,29). People who have experienced trauma may use food as a safe and secure coping mechanism, both to distance themselves from unsettling thoughts or to reduce their attractiveness as defined within a society that equates thinness with beauty. Assessing the relationship between eating and trauma is essential.

10. Higher weight is not causal to worse health outcomes

Overall, there is a correlation between higher BMI and worse health outcomes, yet this does not imply causation (14,17). Research studies exploring this relationship should be assessed not only for quality in terms of study length and attrition length, but also whether they evaluate confounders including weight cycling, weight stigma, and trauma, factors often experienced by folks in larger bodies and which can have considerable impacts on health outcomes.

11. Focusing on weight ignores systemic injustices

Though lifestyle factors such as nutrition and exercise are important, it is essential to note the historical racism and injustices within our current food environment. As presented by Soul Fire Farm (33), the U.S. food system is built on stolen land using stolen labor from black and latinx indigenous people. Not only has this created a large scale food apartheid and trauma for people indigenous to this land, it has caused a disconnection of indigenous people from their cultural practices and identities.

7 out of 10

larger bodied patients report having experienced weight stigma from doctors

"You say "food apartheid" and you get to the root cause of some of the problems around the food system. It brings in hunger and poverty. It brings us to the more important question: What are some of the social inequalities that you see, and what are you doing to erase some of the injustices?

KAREN WASHINGTON
CO-FOUNDER OF BLACK URBAN GROWERS & RISE AND ROOT FARM (34)

The **weight-inclusive approach** rests on the assumption that everybody is capable of achieving health and well-being independent of weight, given access to non-stigmatizing health care. This approach challenges the belief that a particular BMI reflects a particular set of health practices, health status, or moral character.

Under this paradigm, weight is not a focal point for medical treatment or intervention. Weight is not viewed as a behavior, but eating nutritious food when hungry, ceasing to eat when full, and engaging in pleasurable (and thus more sustainable) exercise are self-care behaviors that can be made more accessible for people.

TYLKA ET AL, 2014

Public Health Needs a weight-inclusive approach. Here's Why:

1. Appreciate that bodies come in all different shapes and sizes, and that fat people can be just as healthy as thin people. Remember, you cannot tell someone's health on the inside by looking at their size on the outside. It is the responsibility of those in public health to create environments for every person to thrive in whatever body they live in.

2. Use a Health At Every Size (HAES) approach. When we call for weight loss, we shift blame onto individuals and make health and weight a "personal responsibility," when often they are the result of uncontrollable genetic or environmental factors (4). The HAES approach rests on the evidence that while extremes of weight and health problems are correlated, evidence for the role of factors other than weight in people's health is stronger.

3. Focus on root causes of health and social determinants of health, to develop long-term, sustainable solutions to improved population health.

4. Where possible, work to increase health access, autonomy, and social justice for all individuals along the entire weight spectrum. Trust that people move toward greater health when given access to stigma-free health care and opportunities (e.g., gyms with equipment for people of all sizes; medical facilities that do not weigh patients).

5. Weight is not a behavior. Focus on behaviors that impact health, such as eating, movement, stress management, sleep, smoking cessation, etc.

6. Don't moralize foods (e.g., "You need to stop eating X"). Instead, promote eating for pleasure, hunger, satiety and nutrition, not weight. Evidence shows that people who eat more intuitively eat more nutritious foods and keep their weight more stable over time (18).

7. Promote mindful movement focused on what brings people joy and connection, not weight loss. A meta-analysis of 16 studies found that regardless of BMI, mortality indicators improved with exercise, indicating that movement can be healthy without a goal of losing weight (31).

8. Critically evaluate the evidence for weight loss treatments and incorporate sustainable, empirically supported practices into prevention and treatment efforts. Call for more research where the evidence is weak or absent (4).

9. Have discussions about fatphobia and weight stigma in your classroom and in your research. Engage students and researchers in critical thought about how to best measure health, without using weight as a marker, and how using weight as a marker of health can be harmful.

So where do we go from here? Consider...

- **What language do you use?**
  - The term "obesity" is extremely stigmatizing. Instead, use terms such as "people in larger bodies."

- **How does fatphobia show up in your classroom?**
  - Replace assignments connecting “obesity” and health or that focus on weight loss.
  - Use weight loss research as a tool to think critically about what counts as good research to use when developing public health interventions. Consider: Who is most harmed by the use of BMI? How do racism, capitalism, and the use of BMI intersect? What would it look like to center the dignity, safety, and needs of fat folks in health interventions instead? Instead, have students explore other ways to promote health that are not focused on weight and are inclusive of all communities.
  - Use research that isn’t rooted in fatphobia. Research may be fatphobic if it uses BMI as a marker for health, does not critically assess the role of confounders such as weight stigma, weight cycling, or trauma, has a goal of working to reduce the “obesity epidemic” or regards weight as a personal or moral responsibility.

- **How does fatphobia show up in your research?**
  - Stop using BMI in research or contributing to/funding research that is fatphobic.
  - Consider a broad range of research about the impact of weight on health when forming a research question. Public health interventions focused on weight loss are often rooted in shame, rather, use your research to explore interventions that are uplifting for all people and inclusive of all body sizes.
  - Are you using BMI to look for differences in health? Unless you are using weight to dismantle fatphobia, consider using a different marker to indicate health.
  - Ensure that you are creating an environment that is safe for fat folks. Do you have equipment like blood pressure cuffs or chairs that are comfortable for people in larger bodies? Are you requiring people to be weighed or report their weight? Consider how these aspects may be harmful or stigmatizing to people in larger bodies. Are you creating situations where fat folks are able and encouraged to participate in the study?

- **How does fatphobia show up for you internally?**
  - Explore your own internalized fatphobia. What biases do you have towards your family, friends, colleagues or students who have larger bodies?
  - What types of conversations do you have with your family, friends and colleagues about body size, dieting, or what being healthy looks or acts like? Do they prioritize thinness?
  - When you speak about your experience with the BMI or your body, are you looking for reassurance that you're not fat?
  - If you live in a thin body, consider the privileges this brings. Keep in mind intersectionality, and how other identities such as race and ability may play a role in the oppression of bodies. How can you be a better advocate for people in oppressed bodies?

Examples of Fatphobia in Public Health:

BMI report cards in schools

"Anti-Obesity" Campaigns

Excluding fat folks from research studies

Penalizing or charging larger bodied employees who do not meet employee wellness health goals, often that include a weight loss goal

References:

1. Puhl, R. M., & Heuer, C. A. (2010). Obesity stigma: important considerations for public health. American journal of public health, 100(6), 1019–1028. https://doi.org/10.2105/AJPH.2009.159491
2. Stoll, L. C. (2019). Fat Is a Social Justice Issue, Too. Humanity & Society, 43(4), 421–441. https://doi.org/10.1177/0160597619832051
3. Bacon, L., & Severson, A. (2019, July 8). Fat is Not the Problem, Fat Stigma Is. https://blogs.scientificamerican.com/observations/fat-is-not-the-problem-fat-stigma-is/
4. Tylka, T. L., Annunziato, R. A., Burgard, D., Daníelsdóttir, S., Shuman, E., Davis, C., & Calogero, R. M. (2014). The weight-inclusive versus weight-normative approach to health: evaluating the evidence for prioritizing well-being over weight loss. Journal of obesity, 2014, 983495. https://doi.org/10.1155/2014/983495
5. Harrison, C. (2019). Anti-Diet: Reclaim Your Time, Money, Well-Being, and Happiness Through Intuitive Eating. Little, Brown and Company.
6. Strings, S. (2019). Fearing the Black Body: The Racial Origins of Fat Phobia. New York: New York University Press.
7. Sofia, M. (2020, July 21). Fat Phobia And Its Racist Past And Present. [Radio Broadcast Transcript]. NPR. https://www.npr.org/transcripts/893006538
8. Your Fat Friend. (2019, October 15). The Bizarre and Racist History of the BMI. https://elemental.medium.com/the-bizarre-and-racist-history-of-the-bmi-7d8dc2aa33bb
9. Willer, F. (Host). (2018, April 1). Ep 3: How we got here: BMI meets death. [Audio Podcast Episode]. Unpacking Weight Science. https://www.patreon.com/posts/ep-3-how-we-got-17911931
10. Tomiyama, A. J., Hunger, J. M., Nguyen-Cuu, J., & Wells, C. (2016). Misclassification of cardiometabolic health when using body mass index categories in NHANES 2005-2012. International journal of obesity (2005), 40(5), 883–886. https://doi.org/10.1038/ijo.2016.17
11. Flegal, K. M., Graubard, B. I., Williamson, D. F., & Gail, M. H. (2005). Excess deaths associated with underweight, overweight, and obesity. JAMA, 293(15), 1861–1867. https://doi.org/10.1001/jama.293.15.1861
12. McGee, D. L., & Diverse Populations Collaboration (2005). Body mass index and mortality: a meta-analysis based on person-level data from twenty-six observational studies. Annals of epidemiology, 15(2), 87–97. https://doi.org/10.1016/j.annepidem.2004.05.012
13. Bacon, Lindo. (2010). Health at Every Size: The Surprising Truth about Your Weight. Dallas, TX :BenBella Books.
14. Mann, T., Tomiyama, A. J., Westling, E., Lew, A.-M., Samuels, B., & Chatman, J. (2007). Medicare's search for effective obesity treatments: Diets are not the answer. American Psychologist, 62(3), 220–233. https://doi.org/10.1037/0003-066X.62.3.220
15. KALM, L., & SEMBA, R. (2005). They Starved So That Others Be Better Fed: Remembering Ancel Keys and the Minnesota Experiment. The Journal of Nutrition, 135(6), 1347–1352. https://doi.org/10.1093/jn/135.6.1347
16. Fildes, A., Charlton, J., Rudisill, C., Littlejohns, P., Prevost, A. T., & Gulliford, M. C. (2015). Probability of an Obese Person Attaining Normal Body Weight: Cohort Study Using Electronic Health Records. American journal of public health, 105(9), e54–e59. https://doi.org/10.2105/AJPH.2015.302773
17. Bacon, L., & Aphramor, L. (2011). Weight science: evaluating the evidence for a paradigm shift. Nutrition journal, 10, 9. https://doi.org/10.1186/1475-2891-10-9
18. Tribole, E. & Resch, E. (2020). Intuitive Eating: A Revolutionary Anti-Diet Approach. Macmillan Publishers.
19. Anderson, M. (2018, October 26). What is Disordered Eating? https://www.eatright.org/health/diseases-and-conditions/eating-disorders/what-is-disordered-eating
20. Reba-Harrelson, L., Von Holle, A., Hamer, R. M., Swann, R., Reyes, M. L., & Bulik, C. M. (2009). Patterns and prevalence of disordered eating and weight control behaviors in women ages 25-45. Eating and weight disorders : EWD, 14(4), e190–e198. https://doi.org/10.1007/BF03325116
21. Rumsey, A. (2021). Unapologetic Eating: Make Peace with Food and Transform Your Life. Victory Belt Publishing Inc.
22. Goeree, Michelle Sovinsky and Ham, John C. and Iorio, Daniela, Race, Social Class, and Bulimia Nervosa. IZA Discussion Paper No. 5823, Available at SSRN: https://ssrn.com/abstract=1877636
23. Swanson SA, Crow SJ, Le Grange D, Swendsen J, and Merikangas KR. (2011). Prevalence and correlates of eating disorders in adolescents. Results from the national comorbidity survey replication adolescent supplement. Archives of General Psychiatry, 68(7):714-23.
24. NEDA. (n.d.). https://www.nationaleatingdisorders.org/sites/default/files/marginalized_voices_social_cards_1.jpg
25. Tomiyama, A., Carr, D., Granberg, E. et al. How and why weight stigma drives the obesity 'epidemic' and harms health. BMC Med 16, 123 (2018). https://doi.org/10.1186/s12916-018-1116-5
26. Puhl, R., Suh, Y. Health Consequences of Weight Stigma: Implications for Obesity Prevention and Treatment. Curr Obes Rep 4, 182–190 (2015). https://doi.org/10.1007/s13679-015-0153-z
27. Mensinger, J. L., Tylka, T. L., & Calamari, M. E. (2018). Mechanisms underlying weight status and healthcare avoidance in women: A study of weight stigma, body-related shame and guilt, and healthcare stress. Body image, 25, 139–147. https://doi.org/10.1016/j.bodyim.2018.03.001
28. Mitchell, K. S., Mazzeo, S. E., Schlesinger, M. R., Brewerton, T. D., & Smith, B. N. (2012). Comorbidity of partial and subthreshold ptsd among men and women with eating disorders in the national comorbidity survey-replication study. The International journal of eating disorders, 45(3), 307–315. https://doi.org/10.1002/eat.20965
29. Coker Ross, C (2017). GETTING TO THE ROOT CAUSE TO TREAT EATING DISORDERS. NEDA. https://www.nationaleatingdisorders.org/blog/eating-disorders-trauma-ptsd-recovery
30. Health At Every Size. (2021). https://haescommunity.com/
31. Ross, R., Blair, S., de Lannoy, L., Després, J. P., & Lavie, C. J. (2015). Changing the endpoints for determining effective obesity management. Progress in cardiovascular diseases, 57(4), 330–336. https://doi.org/10.1016/j.pcad.2014.10.002
32. Small, Charlynn, and Mazella Fuller. Treating Black Women with Eating Disorders : a Clinician's Guide / Edited by Charlynn Small and Mazella Fuller. New York: Routledge, Taylor & Francis Group, 2020. DOI: 10.4324/9781003011743
33. Soul Fire Farm. (2021). Presentations. https://www.soulfirefarm.org/resources/presentations/
34. Brones, A. (2018, May 7). Karen Washington: It's Not a Food Desert, It's Food Apartheid. Guernica. https://www.guernicamag.com/karen-washington-its-not-a-food-desert-its-food-apartheid/