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SYMPOSIUM

Primum Non Nocere: Obesity Stigma and Public Health

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Abstract Several recent anti-obesity campaigns appear to embrace stigmatization of obese individuals as a public health strategy. These approaches seem to be based on the fundamental assumptions that (1) obesity is largely under an individual's control and (2) stigmatizing obese individuals will motivate them to change their behavior and will also result in successful behavior change. The empirical evidence does not support these assumptions: Although body weight is, to some degree, under individuals' personal control, there are a range of biopsychosocial barriers that make weight regulation difficult. Furthermore, there is accumulating evidence that stigmatizing obese individuals decreases their motivation to diet, exercise, and lose weight. Public health campaigns should focus on facilitating behavioral change, rather than stigmatizing obese people, and should be grounded in the available empirical evidence. Fundamentally, these campaigns should, first, do no harm.

Keywords Obesity · Stigma · Public health · Health campaign

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Stigmatization of overweight and obese people appears to be one of the last socially acceptable forms of discrimination. Attitudes toward obese people have become more negative over time (Latner and Stunkard 2003), and reports of obesity stigma now appear to be as common as stigma based on race (Puhl, Andreyeva, and Brownell 2008). There is also evidence that, in contemporary society, obese people are evaluated more negatively than are a wide range of other social groups, including homosexuals, homeless people, and the mentally ill. In fact, in one study, obese people were rated behind only smokers and drug addicts as the least liked groups (Vartanian 2010a). Although there has been increasing attention paid in academic circles to the pervasiveness and to some of the negative consequences of obesity stigma (see, for example, Puhl and Heuer 2009, 2010), it is clear that the conclusions drawn from this research are not filtering down to those entities in a position to change the status quo. For example, stereotypical representations of obese people persist in the media (Heuer, McClure, and Puhl 2011), and weight-based discrimination is widespread in employment settings (Roehling 1999; Rudolph et al. 2009).

Most pertinent to discussions about the role of obesity stigma in public health, however, is the disturbing trend of public health campaigns explicitly endorsing obesity stigma as a strategy to combat obesity. For example, in 2010, public health officials in the United Kingdom and in Australia made statements supporting the use of a "tough love" approach to shame obese people into changing their behavior (Betts 2010; Triggle 2010), although these statements were criticized by medical practitioners and academics. In addition,

various campaigns to combat childhood obesity, such as the Strong4Life campaign in the United States (www.stopchildhoodobesity.com), attempt to promote a healthy lifestyle by encouraging behavioral change, but do so by using stigmatizing images and messages, often resorting to blaming the obese individual or the parents of obese children. In this paper, we examine the rationale underlying these types of stigmatizing campaigns and ask whether they are consistent with current empirical evidence and, more generally, whether they uphold a basic ethical tenet of medicine: *primum non nocere*, or "first, do no harm."

What's in a Name?

In 2010, the U.K.'s public health minister stated that health care practitioners should stop using the term "obese" with their patients and should instead call them "fat" (Triggle 2010). This sentiment was echoed by the Australian Medical Association's Victorian president (Betts 2010). The presumption underlying these statements appears to be that calling patients fat will have more sting than referring to them as obese and will consequently motivate them to change their behavior and lose weight. Two aspects of this issue bear consideration—the precision of the terms being used and the assumption that negative labeling will enhance motivation. First, we address the question of what terminology should be used when working with patients. We would argue that it is poor practice to recommend that health care professionals use a subjective, pejorative, and poorly operationalized term ("fat") when discussing health concerns with a patient. The term "obese" has an internationally recognized definition: The World Health Organization (2012) defines obesity in adults as having a body mass index (BMI; kg/m^2) of 30 or higher. Furthermore, the scientific literature has identified serious health consequences associated with having a BMI above that range. In contrast, the term "fat" has no specific definition in this context. Fat can refer to adipose tissue, and there are health risks associated with excess adipose tissue (e.g., Berg and Scherer 2005), but there are no criteria that health professionals can use to define someone as "fat."

Another problem with the public health minister's suggestion that the term "fat" is worse (and therefore more motivating) than the term "obese" is that it is not supported by research. For example, research with obese patients indicates that they dislike being referred to as obese (Thomas et al. 2008; Wadden and Didie 2003) and may even prefer to be called fat instead (Thomas et al. 2008). Other research has shown that "obese people" are generally viewed more negatively than are "fat people" (Vartanian 2010b), even though perceptions of their respective body size do not differ (Crimin and Pinel 2011). More important, however, is the fact that both the terms fat and obese are negative and can be demotivating. For example, Puhl, Peterson, and Leudicke (2012a) surveyed a large representative sample of Americans about their view of various labels used to describe weight. The terms fat and obese were among those that were seen as most stigmatizing and most blaming. In contrast, terms such as overweight and unhealthy weight were seen as being more desirable and more motivating. It should be possible to develop a language to use with patients that avoids stigmatizing them and that actually motivates them at the same time. We suggest that public health officials should rely on the research literature to help guide decisions in this regard.

Obesity Stigma as a Public Health Strategy

Public health campaigns that promote obesity stigma are grounded on several underlying assumptions: First, obesity is a *modifiable* medical risk factor, and therefore individuals can and should take personal responsibility for their weight. Second, obesity stigma is an effective means of motivating people to change. In other words, if it were sufficiently unpleasant to be obese, this should result in people losing weight and should reduce the overall public health burden due to obesity. Here we examine these issues.

Control and Blame

A key question to understanding obesity and obesity-related stigma, and one that is central to the types of anti-obesity campaigns described above, revolves around the degree to which body weight is controllable. At some basic level, nearly everyone would agree that body weight is a modifiable risk factor—that people do have control over their body weight. The important question, however, is *how much* control do people have? Anecdotes abound about individuals who successfully lost weight and maintained that

weight loss, and the weight loss industry goes to great lengths to sell that same promise to would-be customers. The empirical evidence, however, is much less encouraging. Numerous studies have demonstrated that the vast majority of people who lose weight will regain the lost weight within two to five years (e.g., Crawford, Jeffery, and French 2000; Franz et al. 2007; Wadden et al. 1989). Furthermore, a randomized control trial testing the effectiveness of several popular diet programs found that the average weight loss was only 3.5 kg, even under relatively optimal conditions (Dansinger et al. 2005). Overall, then, losing weight and sustaining that weight loss are exceptionally difficult for most people.

It is also the case that there are a number of external pressures that can actually make controlling one's weight more difficult, creating what is often called an "obesogenic" environment (e.g., Lake and Townshend 2006). Such factors include, but are not limited to, urban sprawl and/or crime making leisure-time physical activity less likely (Ewing et al. 2003) and the lack of supermarkets (Lopez 2007) and increasing presence of fast-food outlets (Jeffery et al. 2006) that can make access to healthy foods more difficult and more expensive.

More recent research evidence has also started to identify underlying neural, physiological, and genetic features and processes that contribute to obesity and that can make weight loss difficult (e.g., Appelhans et al. 2011; Bell, Walley, and Froguel 2005; Cummings and Schwartz 2003). By way of example, obesity appears to be highly genetically hereditary (approximately 50–90 percent; see Barsh, Farooqi, and O'Rahilly 2000). In fact, twin studies have found that BMI is much more similar in identical twins (74 percent concordant) than in fraternal twins (32 percent concordant), despite largely shared environments (Barsh, Farooqi, and O'Rahilly 2000; Stunkard et al. 1990). Overall, the evidence suggests that obesity is a modifiable risk factor, but we also must recognize the limits of the extent to which obesity is in fact modifiable. Following from the available evidence, we assert that obesity may be less controllable than many lay beliefs suggest, and this is particularly true for the efficacy of behavioral weight-loss efforts (both formal and informal).

Does Obesity Stigma Enhance Motivation and Facilitate Weight-Loss Efforts?

The presumptive rationale behind promoting obesity stigma as a public health policy approach is that such a strategy will motivate people to change their behavior and to lose weight. Once again, we must examine the evidence. Several correlational studies have shown that, in response to obesity stigma, obese individuals are more likely to overeat and avoid dieting than they are to go on a diet (Myers and Rosen 1999; Puhl and Brownell 2006). Stigma experiences are also associated with avoidance of exercise among university students and among overweight and obese community adults (Vartanian and Shaprow 2008; Vartanian and Novak 2011). Other research has found similar effects among children. For example, children report that they are reluctant to become involved in physical activities at school because of concerns over the teasing that they might experience due to their weight (Bauer, Yang, and Austin 2004; Zabinski et al. 2003); and teasing about weight among children is in turn related to lower involvement with physical activity and a preference for sedentary activities (Hayden-Wade et al. 2005).

Those earlier studies were based on correlational, cross-sectional designs, which limit the inferences that can be drawn about the causal effects of obesity stigma. More recent research provides a clearer picture of the direct impact that obesity stigma has on health-related behaviors. For example, one study randomly assigned children to be socially included or excluded during an online ball-tossing game. Results showed that overweight children ate more cookies after being socially excluded, but that normal-weight children did not (Salvy et al. 2011). Another study similarly found effects of simulated ostracism on reduced physical activity time among children (Barkley, Salvy, and Roemmich 2012). Obesity stigma has comparable negative effects on adults. For example, a study with overweight adult women found that those who watched a stigmatizing video (i.e., a video showing stereotypical media representations of obese people) ate more in a subsequent task than did normal weight women and overweight women who watched a neutral control video (Schvey, Puhl, and Brownell 2011). Another recent study used ecological momentary assessment (see Smyth and Heron 2011) to track people's experiences with obesity stigma in their daily lives (Vartanian, Pinkus, and Smyth, under review). That study found that daily experiences with stigma were associated with decreased motivation to diet, exercise, and lose weight. These studies provide the strongest evidence to date that obesity stigma experiences can have a direct negative impact on people's

weight-related behaviors and contrast with the view that stigma experiences would be motivating.

Although the preponderance of evidence indicates that obesity stigma has negative consequences for weight-related behaviors, there is some evidence to the contrary. One study found that, among women enrolled in a weight-loss treatment program, those who reported experiencing more frequent obesity stigma in their lives lost more weight over the course of the six-month treatment program and were more likely to maintain the lost weight (Latner et al. 2009). It is unclear why these individuals managed to lose more weight given the preponderance of evidence indicating that obesity stigma interferes with weight-related behaviors. It should be noted, however, that the women in this program were carefully selected in that they were included only if they were able to achieve specific monthly weight-loss goals. Thus, participants in that study might not be typical of most women trying to lose weight. For example, it is possible that, despite reports of frequent obesity stigma, these women had not internalized negative societal attitudes toward obesity. Vartanian and Novak (2011) found that personal endorsement of societal attitudes toward obesity exacerbated the negative motivational effects of obesity stigma. Thus, it may be that the women in Latner et al.'s (2009) study did not endorse these attitudes and were therefore relatively immune to the negative behavioral impacts of their obesity stigma experiences. Alternatively, women who experience stigma and find the motivation to join a weight loss program, despite those experiences, may have a resiliency and fortitude that make it easier for them to stick to the program and maintain their weight-loss behavior. It should also be noted that another study found that experiences with obesity stigma were associated with worse weight-loss outcomes in a behavioral weight-loss treatment program (Wott and Carels 2010).

Overall, the evidence indicates that obesity stigma experiences are generally *de*motivating, which contrasts with the assumptions made by individuals or organizations promoting stigma as a public health policy. In fact, evidence suggests that, insofar as obesity stigma leads to behavior that would be counterproductive to healthy weight management, targets of obesity stigma will be less likely to successfully lose weight and will therefore be less likely to experience the health benefits associated with losing weight.

Additional Unintended Consequences of Obesity Stigma

There is another potential consequence of obesity stigma that is related to public health and that is worthy of further discussion: the potential for the experience of obesity stigma itself to be an adverse risk factor for health. First, stigma can impact health outcomes through what we may call "indirect" pathways, such as the effects of stigma on health behaviors described above or the potential for obesity stigma to interfere with patient–provider relationships and health care utilization (Puhl and Heuer 2009). Second, there may be a direct physiological effect of obesity stigma on health outcomes. Although there is relatively little evidence regarding the health risks resulting from obesity stigma experiences, there is considerable evidence that stigma experiences of other kinds increase health risk. For example, the literature on the impact of racial and ethnic discrimination indicates a strong link between experiencing discrimination and negative health outcomes, including worse self-reported global health, increased blood pressure and blood pressure reactivity to stress, abdominal obesity, glucose intolerance, and the development of atherosclerotic disease (Guyll, Mathews, and Bromberger 2001; Lepore et al. 2006; Matthews et al. 2005; Williams, Neighbors, and Jackson 2003). Similarly, albeit speculatively at this point, the stress of obesity stigma might also be associated with these risk factors for poor health. Given the already increased risk of cardiovascular and other diseases among obese individuals, these physiological effects of obesity stigma would be particularly iatrogenic.

Another "direct" path through which obesity stigma can impact health outcomes is via the stress hormone cortisol. Cortisol is secreted in reaction to stressful events, including psychological stressors and social or evaluative threats (e.g., Blackhart, Eckel, and Tice 2007; Dickerson and Kemeny 2004). Work has also shown that stress-induced cortisol responses are greater in women with central fat distribution (higher waist-to-hip ratios) (Epel et al. 2000). Although adaptive for coping with stress in the short-term, chronic stress and persistently elevated cortisol levels can have a number of potentially harmful long-term somatic effects (McEwen 2004). Cortisol is associated with inhibited immune response, hypertension, insulin resistance, and increased energy intake (Björntorp and Rosmond

2000; Girod and Brotman 2004; McEwen 1998). If stigma experiences produce frequent and persistent elevated cortisol secretion that is in turn associated with somatic processes such as insulin resistance and elevated blood pressure, then experiences with obesity stigma could have a direct impact on the health of obese individuals.

Focus on Weight or on Behavioral Change?

Many public health campaigns justifiably emphasize the negative consequences of obesity on health outcomes. Indeed, the evidence clearly points to the fact that excess weight (particularly a BMI of 30 or higher) is associated with increased risk of a number of diseases and overall mortality (e.g., Adams et al. 2006; Allison et al. 1999; Prospective Studies Collaboration 2009). What is often lost in presentations of this evidence, however, is that "obesity" represents a cluster of risk factors, including—but not limited to—excess adiposity, activity level, and diet-related factors. For example, there is considerable evidence that abdominal obesity is a stronger predictor of multiple health outcomes than is overall BMI (e.g., Folsom et al. 2000; Lakka et al. 2002), and some health campaigns have thus specifically focused on waist measurement rather than on BMI, such as the Measure Up campaign in Australia (www.measureup.gov.au). There is also evidence that activity level, physical fitness, and overall diet quality might be more important determinants of health than one's body weight status. For example, Lee, Blair, and Jackson (1999) tested the notion of what has been referred to as the "fit fat"—individuals who are physically fit despite being at a higher-than-ideal weight. In that study, participants were classified based on their weight status as lean, normal weight, and obese, and were further categorized as being fit or unfit (with "fit" defined as being above the bottom 20^{th} percentile in cardiorespiratory fitness). With respect to all-cause mortality, this research shows that physical fitness is a protective factor irrespective of one's weight status. More specifically, physically fit obese individuals had lower risk of mortality than did unfit lean individuals and did not differ from the lean fit individuals. A later study, however, found that although fitness was protective for all-cause mortality, BMI was still an important predictor of risk (Stevens et al. 2002). Other research has also shown that eating a healthy diet (such as a Mediterranean diet) is associated with decreased risk of all-cause mortality even when controlling for BMI (e.g., Knoops et al. 2004).

Overall, then, although it is true that obesity is a public health risk factor, it is very important to consider the complexities of what "obesity" means in this context. In particular, it is important to recognize that behavioral and fitness indicators may be just as important determinants of health outcomes as obesity and should represent more immediate targets of intervention efforts. That is, we should be focusing on the specific behaviors that increase and decrease risk, and not on obesity itself. Many of the available public health campaigns do appropriately address the behavioral components. Some campaigns attempt to do so without derogating or blaming the individual, such as Michelle Obama's campaign "Let's Move" (www.letsmove.gov). However, for other programs, stigma and blame appear to be at the core of their messaging strategy (such as the Strong4Life campaign). The available evidence would suggest that the former approach is more effective and motivating than the latter (Puhl, Peterson, and Luedicke 2012b), and our resources should therefore be invested in supporting those types of programs.

Obesity Surgery: A New Stigma?

For obese individuals, losing weight can bring about a number of improvements in health and also has the potential to reduce the frequency with which they experience obesity stigma. Unfortunately, as noted above, the evidence for the effectiveness of behavioral weight-loss attempts is not very encouraging. In contrast, evidence for the effectiveness of obesity surgery among extremely obese individuals (BMI>40) is mounting. Meta-analytic reviews have shown that the average amount of weight lost through bariatric surgery was approximately 50–60 percent of excess weight. Moreover, in a majority of patients, diabetes, hypertension, and sleep apnea were resolved (Buchwald, Avidor, et al. 2004; Buchwald, Estok, et al. 2009). Obesity surgery does result in rapid weight loss, but the success of these treatments is dependent on patients also making significant changes in their diet and exercise routines. Indeed, research suggests that noncompliance with postoperative diet recommendations is associated with weight regain following initial weight loss (Sarwer,

Wadden, and Fabricatore 2005). Despite the strict diet and exercise protocols to which surgery patients must adhere, the public's perception of obesity surgery is that it is a lazy option (as can often be heard from commentaries on talk radio). Because weight loss through surgery is not seen as requiring any effort on the part of the patient, this may perpetuate the stereotype that obese people are lazy and lack willpower.

Indeed, recent research suggests that, even if obese people lose the excess weight, they might not lose the stigma if they have lost weight through surgery. For example, Mattingly, Stambush, and Hill (2009) provided participants with a description of a woman who, being dissatisfied with her weight, decided to follow a strict diet and exercise program or undergo obesity surgery and managed to lose 25 lbs. Participants rated the target individual as less responsible for her weight loss, as less physically attractive, and as less likeable when she lost weight through surgery than when she lost weight through diet and exercise. Similarly, Fardouly and Vartanian (2012) showed participants photographs of the same woman before and after she lost 100 lbs. Participants who were told that she had lost weight through surgery rated her as lazier and less competent than did those who were told that she had lost weight through diet and exercise. Importantly, Fardouly and Vartanian (2012) also found that evaluations of the obese target did not improve on most measures if she lost weight through surgery compared to when she was obese. These findings suggest that people can lose the weight but not the stigma if they take what is perceived as the easy way out by undergoing obesity surgery.

In light of the deleterious effects of obesity stigma on weight-loss motivation and health care utilization that we noted above, the identification of an obesity-surgery stigma raises concerns about the implications of this form of stigma for the health and well-being of extremely obese individuals. Public health campaigns that highlight the notion that obesity is under an individual's personal control, or that it is a lifestyle choice, can further exacerbate this problem. Given the growing popularity of obesity surgery and the mounting evidence of its effectiveness in producing long-term weight loss among extremely obese patients, efforts are needed to educate the public and reduce bias toward individuals who elect to undergo surgery to support their weight-loss efforts.

Summary and Conclusions

Obesity is a legitimate public health concern, and diverse approaches are needed to address the increasing rates of obesity, disease burden, and resultant costs to society. We propose, however, that accepting obesity as a condition to be stigmatized, let alone promoting obesity stigma as a public health policy, is neither ethically justifiable nor likely to produce any of the intended effects. From a social justice perspective, prejudice, bias, and discrimination undermine key social values of fairness and equity. More pertinent to the current debate, however, is the fact that there is considerable evidence that obesity stigma does not provide any benefits (e.g., enhance motivation to lose weight) and may even cause harm. Thus, from both perspectives, obesity stigma clearly violates the tenet of "first, do no harm."

We presume that people who attempt to use, or advocate for, obesity stigma do so in an effort to help others—albeit in what we believe to be a misguided fashion. If such advocates can be educated as to the evidence suggesting that obesity stigma does not help and, in fact, can have profoundly negative impacts across nearly every desirable outcome, perhaps their energies can be directed in more positive ways. We suggest that the broadest frame that can replace this view is one that recognizes that increasing the health (and happiness) of obese individuals will include being more physically active, eating a healthier diet, and losing weight as needed—in other words, treat the cause, not the outcome. As a field, we need to find ways to encourage and support those efforts, rather than stigmatizing and demotivating individuals. We would argue that the focus needs to be on behavior and other modifiable risk factors, rather than on the weight (or weight status) itself. As individual-level interventions are often not sufficient to modify and sustain healthy behavior, a coordinated and multifaceted public health policy approach that attempts to foster systems and environments that support and facilitate healthy behaviors is needed (e.g., Ebbeling, Pawlak, and Ludwig 2002; Nestle and Jacobson 2000). This shift in focus can include policy and environmental changes that facilitate healthy-weight management, minimize barriers to healthy behaviors, and increase the barriers to unhealthy behaviors. Without these broad-level changes, it will be exceedingly difficult for individuals to make the necessary lifestyle

changes. Some examples of potential changes could include the following: increasing the availability of healthy foods and physical activity in schools; adjusting the price structure of foods so that fresh, healthy foods are not prohibitively expensive; creating fitness centers that are more affordable and more size-accepting; increasing access to bike paths and footpaths to promote leisure activity; and so on. The "Let's Move" campaign has been discussed as one positive example of a multilevel, integrative approach to preventing and reducing childhood obesity (i.e., integrating personal, social, and contextual factors in an affirming and positive fashion), although clearly more remains to be done (see Wojcicki and Heyman 2010).

Finally, public health policies need to be based on the evidence of what is likely to work. Some public health campaigns—particularly those not based on scientific evidence—can be misguided. Such campaigns are unlikely to provide any benefit and even have the potential to produce harmful effects. New approaches are needed. We need to avoid stigmatizing and blaming individuals and instead look toward promoting healthy behavior, preventing obesity in the first place, and creating policies that support healthy behavioral decisions regardless of an individual's weight status. Public health campaigns need to be based on the available evidence, and public health officials need to make statements that are consistent with that evidence. Most importantly, our efforts to combat the increasing prevalence of obesity must, first, do no harm.

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