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Executive Summary

Around 8 million Americans suffer from clinically significant eating disorders that drive them to develop and maintain unhealthy, and sometimes fatal, eating habits. The American public are well aware of the dangers of dietary overconsumption, overweight, and obesity. Yet, despite its deadly consequences, restrictive and disordered eating gets little attention when it comes to public policies that could exacerbate these conditions.

Restrictive eating disorders (RED) like anorexia and bulimia nervosa have among the highest mortality rates of any psychiatric disorders, with those suffering from anorexia four times more likely to die than even those with major depression. Treating these devastating diseases is extremely difficult, and the majority of sufferers never fully recover. Even for those who do, most experience relapses that can last for years.

As with other behavioral disorders, part of the difficulty in treating those with RED stems from the patients' unwillingness to recognize their behaviors as problematic. And the images and messages about diet and weight to which we are routinely exposed, even when they are intended to promote a healthy relationship with food, can trigger disordered thinking and behaviors in restrictive eating disorder sufferers.

Because of these facts, the public discourse has shifted toward a more inclusive portrayal of healthy bodies and away from a system that values thinness at all costs. However, government dietary guidelines have not followed suit. Policies focused on reducing obesity are often implemented without evaluating their potential effect on people with restrictive eating disorders. As this paper explores, this failure to consider the unintended effects that blanket dietary policies may have on RED sufferers can have deadly consequences.

Both the Dietary Guidelines for Americans and mandatory calorie listings implemented under the Patient Protection and Affordable Care Act are aimed at providing people with guidance and information meant to encourage healthier dietary choices. However, for those with restrictive eating disorders, these one-size-fits-all programs can have the opposite effect.

For decades, the Dietary Guidelines for Americans have provided the public with crude and almost moralistic advice about a healthy diet by telling us what foods we should eat and what foods or nutrients to limit. While this may prove useful to individuals with little nutritional knowledge, for those with restrictive eating disorders it can provide justification for eliminating foods and nutrients they are already inclined to avoid.

Similarly, mandatory calorie disclosures on food labels might seem like a simple way to provide the public with information about their food choices, but it can also be a trigger for those with eating disorders. Unlike those without disordered eating, RED sufferers develop fear-based responses to anything that appears to threaten their desires for thinness or purity. This is why treatment of pathologies like bulimia, anorexia, and orthorexia (an obsession with eating a "perfect diet") involves limiting exposure to stimuli that might trigger this anxiety and prompt compensatory or restrictive behaviors. It for this reason that avoiding calorie counts, diet talk, and body shaming are essential to preventing eating disorder relapse. Unfortunately, as the Patient Protection and Affordable Care Act required most foods to have

prominently displayed calorie listings, avoiding this potential trigger is now much more difficult, if not impossible, for RED sufferers.

Food choices are highly personal and nutritional advice ought to be as well. Rather than rely on ineffective and potentially harmful one-size-fits all approaches like the Dietary Guidelines for Americans or mandatory calorie posting, public policy should shift toward recognizing that individual needs, desires, and motivations around food vary from person to person.

Instead of trying to force people to make government-approved food choices, health programs should encourage a greater understanding of nutritional concepts. This will more effectively help people make the choices that best serve their individual needs and would not harm at-risk individuals.

Introduction

Around 8 million Americans have a clinically significant eating disorders that drive them to develop and maintain unhealthy, and sometimes fatal, eating habits.[1] The American public are well aware of the dangers of dietary overconsumption, overweight, and obesity. Yet, despite its deadly consequences, restrictive and disordered eating gets little attention in public health discourse.

Restrictive eating disorders (RED) like anorexia and bulimia nervosa have among the highest mortality rates of any psychiatric disorders. Individuals with anorexia are at particular high risk, with a four times greater risk of death than even individuals suffering from major depression.[2] For this reason, they should be afforded greater consideration in matters of public policy. Individuals with anorexia and bulimia are most likely to die due to complications from their disorder or by suicide.[3] Even those who survive their disorders often develop debilitating physiological complications. These include but are not limited to cardiac wasting, irregular heartbeat, gastrointestinal abnormality, and premature osteoporosis.[4]

Treating these devastating diseases is difficult. The majority of those suffering from restrictive eating disorders never fully recover, but even of those who do, most suffer through multiple relapses.[5] While they struggle to maintain a healthy relationship with food, they routinely encounter images, messages, and pressures that can trigger disordered eating behaviors. Diet culture, social pressure to eat healthily, and messages in the media—including social media—can act as triggering mechanisms for the development of eating disorders among individuals at risk.[6] Because of these facts, the public discourse has shifted toward a more inclusive portrayal of healthy bodies and away from a system that values thinness at all costs. However, government dietary guidelines have not followed suit.

Despite the severity of eating disorders and increased public awareness about them, government nutritional policies not only overlook the interests of people with eating disorders, but arguably exacerbate these conditions. Both the Dietary Guidelines for Americans and rules implemented under the Patient Protection and Affordable Care Act (ACA)—including requirements to prominently list calories on restaurant menus and advice to avoid foods or nutrients that eating disorder sufferers are already inclined to restrict—have the potential to be detrimental to people with restrictive eating disorders.

These programs and policies, though well-intentioned, may be harmful in practice. They aim to encourage individuals to develop a healthy

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relationship with food, but for those with restrictive eating disorders they can have the opposite effect. These programs treat nutritional advice as one-size-fits-all proposition, and therefore do not reflect the reality of nutrition, which is highly personal.

The Dietary Guidelines provide a positive, moralistic justification for those behaviors, for two reasons. First, the Dietary Guidelines explicitly recommend the restriction of certain food groups (for example, fat), and thus legitimize the anxieties of those with restrictive eating disorders toward those food groups. Second, the Guidelines increasingly link dietary patterns, specifically those that avoid animal fats as not only healthful, but virtuous.

Rules instituted under the Affordable Care Act may harm those who are in recovery from a restrictive eating disorder. In particular, a provision that requires restaurants and chain food stores to post the caloric content of their foods may act as a trigger for people with restrictive eating disorders. During recovery, it is important for individuals with restrictive eating disorders to avoid obsessing over the calorie and nutrient content of their foods and instead focus on eating a healthy variety and amount of foods. Avoiding looking at nutritional facts panels or calorie counts helps those in recovery ward off the anxieties and thoughts that often lead to relapse.

This paper details the threat that one-size-fits-all nutritional policies pose to individuals with restrictive eating disorders and how moving toward more individualized nutritional advice can benefit not only those with restrictive eating disorders, but also the whole nation.

First, it discusses the nature and consequences of restrictive eating disorders. It then provides an overview of the ways in which certain nutritional policies may affect individuals with these conditions. Finally, it proposes steps that government agencies can take to institute individualized nutritional care that would benefit the health of the general public and improve outcomes for those with eating disorders.

Restrictive Eating Disorders

Upwards of 1 percent of the population is estimated to have one (or a combination of) restrictive eating disorders, such as anorexia, bulimia, or orthorexia.[7] While different, all of these diseases are characterized by an undue preoccupation with body image and food intake.

Anorexia nervosa (AN) is typified by a severe restriction of food quantity. A diagnosis of AN entails:

1) Having a significantly low body weight;
2) Being intensely fearful of gaining weight or becoming fat; and
3) Having a distorted image of one's body weight or shape.

There are two types of diagnosis associated with AN: a) binge-eating/purging, with recurrent episodes of binge eating or purging behavior in the preceding three months, and b) restricting, in which the patient does not engage in binging or purging behavior. The only diagnostic distinction between an individual with binge-eating/purging type AN and an individual with bulimia nervosa is that the latter has a significantly low body weight.

In his seminal 1873 paper on anorexia, British physician, Sir William Withey Gull differentiated it from other wasting disorders by the fact that it was not caused by gastric malady or some physiological complication. Rather, the absence of appetite in these individuals was attributed to "a morbid mental state."[8] Since the publication of Gull's work, many other psychologists have taken up this observation and applied it to the other restrictive eating disorders.[9] More recently, it has been conjectured that the psychological pathology of such disorders stems from the sufferers' inability to integrate an experience of their body into their self.[10] Rather than viewing themselves as a whole, individuals with restrictive eating disorders see and treat their bodies as objects that can be willfully manipulated without proper discretion.

Bulimia Nervosa (BN), like anorexia, is a restrictive eating disorder typified by an extreme preoccupation with body image and regulating food intake. However, BN differs from anorexia in several ways, most notably by recurrent periods of binging on food followed by purging.[11] According to the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), the internationally recognized reference work for psychological disorders, BN has three key features:

1) Recurrent episodes of binge eating, defined as uncontrollably consuming an abnormally large quantity of food in a discrete period of time;
2) Recurrent episodes of inappropriate compensatory behaviors undertaken in the pursuit of preventing weight gain, such as self-induced vomiting, laxative abuse, and over-exercise; and

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3) Self-evaluation is unduly influenced by body shape and weight.

These recurrent episodes of binging and purging must occur at least once a week for three months for the individual in question to be diagnosed with BN.

Orthorexia nervosa (ON) is characterized as an obsession with eating a "perfect diet" made up of only those foods or nutrients deemed "good" while eliminating or restricting those deemed "bad." This restriction of food choice on the basis of quality often leads to malnutrition comparable to that occurring in cases of anorexia and bulimia. It is distinct from other restrictive eating disorders in that the main concern of sufferers is not in restricting food quantity intake so much as severely regulating food *quality*. Dr. Steven Bratman first coined the term orthorexia in 1997 to describe a pathological obsession with food purity for health purposes.[12] Those with ON do not avoid food altogether; rather, they avoid foods that have negative moral ascriptions and embrace foods that are super-healthy and, by association, morally "good."[13] Ironically, this obsession leads to malnutrition, illness, and sometimes death.

Orthorexia sufferers are particularly important to consider in the enactment of public policy regulating and providing recommendations with respect to diet and nutrition. Given the fact that it can easily affect individuals unbeknownst to them because of its insidious manifestations, policy ought to be especially sensitive to the ways in which it might have potential for exacerbating the condition. Even though ON is not a formally diagnosable clinical disorder in the DSM, there have been proposals for formal diagnostic criteria. In 2005, a team of Italian researchers validated a diagnostic questionnaire for ON by the name of ORTO-15. Questions that are part of the ORTO-15 include "Do you think that the conviction to only eat healthy increases self-esteem?" and "Do you allow yourself any eating transgressions?" The developing criteria seek to identify whether an individual has an obsessive-compulsive relationship with consumption of foods perceived as healthy.[14]

Orthorexia, unlike anorexia and bulimia, is not categorized as a recognized eating disorder by *The Diagnostic and Statistical Manual of Mental Disorders*. However, it has received increasing attention and shares features in common with both anorexia and bulimia.

Consequences of Eating Disorders

The health effects of eating disorders have enormous costs for the sufferers,

their families, and society. As a result of the emaciation and malnutrition caused by the disorder, anorexics often suffer compromised heart functioning, hypoalbuminemia (a kind of protein deficiency), anemia, amenorrhea (loss of normal menstruation that may cause infertility), and orthostatic hypotension.[15] Individuals with AN are also susceptible to developing hypoglycemia (low blood sugar) so severe that they may lapse into a hypoglycemic coma and die.[16] These complications have earned AN the dubious distinction of being the most fatal mental disorder, with a mortality rate of approximately 10 percent.[17] While sufferers of depression are roughly 1.5 times more likely to die than the general population, anorexics' risk of death is nearly six times greater.[18]

Among individuals with bulimia, the most readily observed effects are oral manifestations of the disease, such as dental erosion and salivary gland inflammation caused by repeated vomiting and exposure to gastric acid.[19] Harder to see and more dire are the effects of BN on the esophagus, stomach, and gastrointestinal tract, which include laceration and erosion. Individuals with BN are also susceptible to chronic constipation and rectal prolapse. But the complication most likely to kill those suffering with BN are those related to the cardiovascular system. Cardiac wasting, congestive heart failure, and death are all consequences of BN that arise from electrolyte imbalances caused by self-induced vomiting.[20]

Individuals with ON are susceptible to developing medical complications similar to those associated with anorexia and bulimia, such as potentially fatal electrolyte imbalances, anemia, hypoproteinemia, and pancytopenia (low blood cell count of all three kinds of blood cells).[21] Many of these medical complications strip individuals of their ability to live normal, functional lives. For this reason, it is important that individuals with restrictive eating disorders seek medical attention.

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Treating Eating Disorders

The medical consequences associated with restrictive eating disorders are notoriously difficult to treat and recover from. Within 18 months of release from treatment of anorexia, approximately 35 percent of patients relapse.[22] Even following a comprehensive relapse-prevention program, about 30 percent of patients relapse into harmful patterns of caloric restriction.[23] Similarly, even though bulimia has a fatality rate of almost 4 percent, most who receive treatment relapse within two years.[24]

Lasting, positive behavioral changes stem not from external motivations, but from patients' own internal logic, values, and drives.

The difficulties in helping sufferers with restrictive eating disorders recover are due in large part to the fact that sufferers are often unwilling to admit they have a problem.[25] Many different theories exist to explain what motivates people's behavior and what can affect positive changes in those behaviors. However, most of those theories share an understanding that interventions based on outside factors are almost always doomed to failure. Lasting, positive behavioral changes stem not from external motivations, but from patients' own internal logic, values, and drives. In other words, once patients leave treatment, they cannot be forced to make certain choices if they are determined on doing exactly the opposite.

Eating disorder sufferers have a pathological internal drive to lose weight or maintain a dangerously low body weight. They often do not view their behaviors as problematic and may even perceive them as positive. Even among those who do seek treatment, most remain ambivalent about recovering—recognizing the negative aspects of their disorder and willingly giving up what they feel are its rewards.[26] This makes treating eating disorders particularly challenging and may explain why relapse is so common and why, with anorexia for example, there is on average an 18-month delay from when symptoms first appear to when individuals seek treatment, followed by cycles of multiple relapses and more treatment, lasting an average of six years.[27] It is this pattern that makes eating disorders, like anorexia and bulimia, such costly diseases for suffers, families, and society.[28]

In addition to individual psychological and neurological factors, external stimuli play a role in the development of restrictive eating disorders and relapse. Those suffering from restrictive eating disorders develop a fear-based response to anything that appears to threaten their desires for thinness, or purity, in the case of orthorexia. Therefore, during and after recovery, it is important that patients limit their exposure to stimuli that might trigger their anxiety and prompt them to engage in compensatory or restrictive behaviors. It for this reason that avoiding calorie counts, diet talk, and body shaming are essential to preventing eating disorder relapse.[29]

Research indicates that media messages that stigmatize weight (such as headlines about the obesity epidemic) and fear-based anti-obesity campaigns trigger anxiety not only among overweight, but also among normal-weight and underweight individuals. Such messages increase negative feelings toward body weight and body dissatisfaction, potentially triggering the onset of eating disorders like anorexia, bulimia, and orthorexia

or relapse in those recovering from these diseases.[30]

Given the intensive nature of treatment for individuals with restrictive eating disorders at any level of care, policy makers ought to be weary of exacerbating the conditions of these individuals.[31] The onset of a restrictive eating disorder profoundly affects an individual's ability to lead a meaningful life. In that regard, public policy should first seek to do no harm. Unfortunately, there are at least two federal programs that appear to threaten harm for those who suffer from restrictive eating disorders.

Policies with the Potential for Harm

The Dietary Guidelines for Americans. When people think of the U.S. Department of Agriculture's (USDA) Dietary Guidelines for Americans, they often think of the food pyramid that was developed to help Americans understand how to eat healthily. However, the general public is largely unaware of the expansive influence that the USDA and the Dietary Guidelines have on how our nation understands and relates to food.

Long before the first Dietary Guidelines for Americans, the USDA had published advisories about how to maintain a healthful diet. These 19th century bulletins focused mainly on providing advice to maintain a balanced diet.[32] By the 1970s, growing public awareness of the role of diet in human health led to the idea that the government should provide more comprehensive dietary advice to promote health and reduce disease. This led to multi-year hearings held by the U.S. Senate Select Committee on Nutrition and Human Needs. In 1977, the Committee published what has come to be known as the McGovern Report, the first report to provide detailed, quantitative, nutrient-focused dietary recommendations to the American public.[33]

The McGovern Report marked a shift in the use of nutrition science in public policy. Before the report, government dietary recommendations were based on the best available science on the prevention of nutritional deficiency with diet. After the report, policy shifted toward efforts to engineer public behavior in order to prevent the noncommunicable diseases related to diet, such as cardiovascular disease. At the time, however, the science on diet and disease was still in its infancy and inconsistent on how the McGovern Report's diet recommendations might impact public health. Rather than relying on sound scientific facts to establish dietary recommendations that might benefit the general population, the McGovern Committee relied on rhetoric to justify unfounded recommendations advocated for by politically connected experts.[34]

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The McGovern Report served as the basis for the Dietary Guidelines for Americans, a publication revised by the USDA every five years. Not only were the Guidelines ineffective in providing the public with beneficial recommendations for dietary practices, they have the potential to harm those with restrictive eating disorders. More recently, the Guidelines moved in the direction of moralizing dietary patterns in ways beyond how personal dietary choices affect individual health. This is in part because the Guidelines wrongly admonished the consumption of foods that those with restrictive eating disorders are inclined to avoid.

Since the first Dietary Guidelines for Americans were first published in 1980, they have provided guidance that has been less than scientifically accurate. For example, the first edition, cautioned against consuming "too much fat, saturated fat, and cholesterol," "too much sugar," and "too much sodium."[35] Even as scientific research cast increasing doubt on the wisdom of such advice, it remained in subsequent Guidelines.[36] It was not until the 2015 Guidelines that the USDA finally revised its position on the consumption of dietary cholesterol after decades of contrary research and significant public pressure.[37]

The American public was convinced (and still is to some degree) that dietary fats were nutritional kryptonite. From the 1980s through the 1990s, dietary fat was increasingly blamed for coronary heart disease, overweight, and obesity. This was owed in large part to the contributions made by nutrition "experts" to the McGovern Report, and to the subsequent inclusion of this information in the Dietary Guidelines for Americans.

For example, University of Minnesota physiologist Ancel Keys developed the renowned lipid-heart-hypothesis, which drew upon observational studies of populations with high and low fat intake, as well as experiments he conducted on mice, to conclude that dietary fat led to increased levels of blood cholesterol and heart disease. Keys's spirited testimony before the Senate Select Committee on Nutrition and Human Needs, backed by advocacy by other proponents of the lipid-heart-hypothesis, led to the inclusion in the Dietary Guidelines of the recommendations that Americans limit saturated fat in the diet to no more than 10 percent of total energy intake, reduce overall fat intake to less than 30 percent of the diet, and reduce cholesterol consumption to about 300 milligrams a day.[38] Consequently, as fat calories must be replaced with calories from either protein or carbohydrates, this ultimately led the Guidelines' recommendation to increase daily carbohydrate intake to

approximately 60 percent of total daily caloric intake. Many Americans listened to this advice, and reduced average fatty acid consumption from 55 to 46 grams per day, while increasing carbohydrate consumption from 380 to 510 grams per day between 1960 and 2000.[39] This change in diet reduced neither obesity nor heart disease. In fact, both rose significantly over this period, with obesity escalating after the issuance of the Dietary Guidelines.[40]

These recommendations were made and maintained despite research that points to the contrary about the relationship between dietary fat and coronary health. Studies have shown that one's intake of total fat is not correlated with an increased risk for total mortality.[41] While specific fatty acids may be relevant to the onset of coronary heart disease, studies have found that total fat as percentage of energy is irrelevant to such conditions.[42] In fact, some studies indicate potential benefits for significantly increasing dietary fats and decreasing carbohydrate intake for certain groups of people.[43] This is not to say that carbohydrates are the culprit for the decline of Americans' health, but that there is no conclusive evidence to suggest that fats are deleterious to health in the ways that the USDA recommendations would have us believe.

Similarly, the Guidelines have cautioned against consuming "too much" dietary cholesterol, sugar, and sodium. For decades, it was widely accepted that dietary cholesterol directly affected blood serum cholesterol, which in turn adversely affected cardiovascular health.[44] This never had a firm scientific basis and studies since have largely debunked it.[45] The USDA implicitly acknowledged the inappropriateness of its cholesterol recommendation when, in the 2015 Guidelines, it omitted the recommendation entirely. With respect to sugar and sodium, the USDA has failed to take into account the importance of sugar in a balanced diet and the potential harm that sodium restriction can have for individuals without hypertension.[46]

The USDA also has consistently failed to take into account the potential effect the Guidelines may have for those with restrictive eating disorders. As noted, individuals with restrictive eating disorders tend to have an aversion toward calorically dense foods. Fat is the macronutrient with the greatest number of calories per gram, meaning that foods that are high in fat content are often high in calories.[47] The USDA cautioning against "too much fat" validates restrictive eating disorder sufferers' reservations about eating certain food groups at all.

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More troublingly, in recent years the Guidelines have been increasingly informed not by science but by ethical concerns.

Furthermore, these dietary recommendations can provide a justification for patients' restrictive and compensatory eating behaviors. For individuals without a history of disordered eating, these recommendations may not have a significant effect. More likely than not, they will continue listening to the cues their body provides them. However, those with restrictive eating disorders may be triggered by recommendations that tell them to restrict their food intake. A recommendation to restrict fats, or any food group for that matter, is essentially an invitation to relapse.[48] While we cannot prevent the materialization of any situation that could trigger eating disorder relapse, we *can* prevent state-sponsored policies and programs from helping to trigger these behaviors. There exists more than just the concern with false science informing the Dietary Guidelines and giving credence to harmful, restrictive behaviors.

More troublingly, in recent years the Guidelines have been increasingly informed not by science but by ethical concerns. In the Dietary Guidelines for Americans Committee Report of 2015 (used to inform dietary recommendations), members of the committee made contributions to the report that strayed from the effects of diet on individual health. Among these scientific findings were those that analyzed the ways that dietary choices of individual Americans affected carbon emissions and the sustainability of global food systems.[49] The mere inclusion of these findings in the Committee Report could prove detrimental to those with eating disorders because of the ways in which these concerns moralize food choice.

As noted, restrictive eating disorders are exceptionally difficult to treat because the pathological desire to lose weight is embedded in the value system of the sufferer. Conflating health concerns with ethical concerns when developing dietary recommendations allows individuals with disordered tendencies to have more reason to believe they are "in the right" when they engage in restrictive behavior. Individuals with orthorexia, particularly, have been known for using food choice as a means by which to ascertain moral superiority over peers.[50] When they can attribute their dietary choices to anything other than compulsion and mental illness, individuals with restrictive eating disorders are likely to worsen.[51]

The Dietary Guidelines for Americans are susceptible to disseminating factually inaccurate and nutritionally irrelevant information. For individuals with restrictive eating disorders, this can pose a major obstacle to full

recovery. Telling restrictive eating disorder sufferers to avoid certain food groups can set them on the path to relapse. To make a full recovery, it is important for individuals with eating disorders to develop non-restrictive eating attitudes.[52] Blanket recommendations do individuals with restrictive eating disorders no favors.

The Patient Protection and Affordable Care Act. In 2010, President Barack Obama signed the Patient Protection and Affordable Care Act into law. The ACA has three primary goals: 1) to make health insurance available to more people, 2) to expand the Medicaid program, and 3) to lower health care costs via innovative medical care delivery methods.[53] However, buried in the 2,700-page document is a provision that can negatively affect those with restrictive eating disorders.

Section 4205 of ACA requires food establishments with 20 or more locations to disclose "in a clear and conspicuous manner' the number of calories contained in their menu items.[54] This provision is meant to encourage individuals to make "healthier" (read: lower-calorie) food choices in order combat the prevalence of overweight and obesity in America.[55]

However, there is no consensus on whether or not calorie counts actually affect consumer behavior.[56] Even if it did, it is not always the case that lower calorie foods are the healthier food option. This is for two reasons.

First, it is not always the case that lower calorie foods are healthier in that they may lack necessary micronutrients and minerals. For example, a medium-sized banana, at 110 calories, is more calorific than a 90-calorie bag of chips, but the banana is a great source of carbohydrates, potassium, vitamin B6, and magnesium, while the chips are not.[57]

Second, while the effects of calorie counts on consumers at large is unclear, their effects on individuals with restrictive eating disorders are more evident. Individuals suffering from anorexia and bulimia have been observed to decrease the amount of calories they order out when they see calorie counts on menus.[58] People in the weight restoration phase of recovery from anorexia need to eat large amounts of calorically dense foods and would benefit from not knowing the calories in the foods so as not to be triggered into relapse.[59] Similarly, people in bulimia recovery are encouraged to eat satiating foods without feeling the need to deliberately restrict food intake.[60] Calorie counting is one of the primary means through which eating disorder sufferers pathologically regulate food intake. The last thing someone in recovery from a restrictive eating disorder

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needs is a reminder at dinner of how much weight it is possible to gain.[61]

Clearly, there would still be restaurants that provide their consumers with nutritional information, but Section 4205 of the ACA strips restaurant owners of the choice to make decisions that take into account the interests of vulnerable consumers. When it comes to individuals with restrictive eating disorders, ignorance is bliss.

A Possible Solution

It is clear that government nutrition education policy has long overlooked the potential effects on those with restrictive eating disorders. This happens largely due to the fact that public policy treats nutrition as a one-size-fits-all proposition. For the most part, people are assumed to have similar interests, preferences, and goals when it comes to nutrition. That is far from the case. We see this in the variable dietary practices that individuals choose to adopt and in the fact that people have different goals with respect to their bodies, weight, and health. Some struggle to lose weight, others fare better when maintaining their weight, and others need to gain weight in order to live. Policy ought to respect individualized nutritional needs.

The best way to accomplish this is to encourage individuals suffering from eating disorders to meet with professionals who could provide personalized nutrition advice—a registered dietitian, nutritionist, or other nutrition counselor. Unlike government recommendations, these professionals can come to understand individuals' needs and provide personalized, relevant guidance. One way to encourage healthy eating behavior while respecting individuals' autonomy is to create positive financial incentives, for example, through tax breaks. Financial incentives of this kind produce favorable results when they are used to encourage participation in preventative care measures, such as meeting with a nutritional specialist on a regular basis.[62]

In addition to early spotting of nutritional problems, like eating disorders, nutrition professionals could also impart a better understanding of nutritional concepts that could improve overall dietary habits and potentially decrease disordered eating behaviors.[63] It is important that adolescents, particularly teenage girls, have access to proper nutritional guidance in schools. This demographic is most susceptible to developing and experiencing clinically significant eating disorders; identifying and treating it early could significantly improve long-term recovery chances.[64] Therefore, it would be beneficial, both to individuals and the nation as a

whole, to incentivize the inclusion of nutritional resources and education in public schools.

Students at large would benefit as well. Studies have shown that nutritional counseling is helpful to those overcoming any sort of eating pathology.[65] Moreover, it would encourage students early in life to respect their unique physical makeup and appreciate their individual nutritional needs. When people understand how certain dietary recommendations affect them personally, they are more likely to adhere to a healthy eating pattern long-term.[66]

One approach to accomplishing this goal is through education tax credits.[67] Education tax credits could be provided to public sector workers who want to go back to school and become registered dietitians or nutritionists. These credits may be structured such that certain public school employees like nurses or guidance counselors are provided the greatest financial incentive to obtain a proper nutrition education. With this knowledge, nurses and guidance counselors would be able to encourage healthy approaches to eating, identify the signs of a developing eating disorder, and assist families in seeking specialized treatment. Importantly, policy makers should ensure that newly trained nutrition professionals do not face increased barriers to entry into the field, such as protectionist licensing requirements.

Conclusion

However well-intentioned, government dietary interventions like the Dietary Guidelines and calorie posting mandates are based on questionable science and fail to account for the unintended effects they might have on vulnerable populations such as those with eating disorders or recovering from such disorders. By recommending restriction of certain foods or ingredients, the Guidelines may unintentionally justify the disordered behaviors of those with eating disorders. Calorie mandates may also trigger disordered eating behaviors among those suffering from such disorders, at risk for restrictive eating behaviors, or recovering from them. Given the high risks associated with restrictive eating disorders, like anorexia, the costs may outweigh the benefits for the general population.

Rather than continuing to rely on ineffective and potentially harmful one-size-fits all approaches like the Dietary Guidelines for Americans or mandatory calorie posting, public policy should shift toward an approach that treats nutrition as highly personal, because it is. Encouraging a better understanding of nutritional

Government dietary interventions like the Dietary Guidelines and calorie posting mandates are based on questionable science and fail to account for unintended effects.

concepts and a healthy, personalized approach to dietary behaviors would help individuals better understand how to make the food choices that best serve their needs and goals. This would allow people to make their own informed dietary choices and more effectively manage their own health, while respecting their autonomy and individual needs. Moreover, it would be much more cost-effective than programs that treat the nutritional interests of Americans as homogeneous and monolithic.

NOTES

1 "Eating Disorder Statistics," Mirasol Recovery Centers, accessed November 18, 2019, https://www.mirasol.net/learning-center/eating-disorder-statistics.php.

2 Jon Arcelus, Alex J Mitchell, Jackie Wales, and Søren Nielsen, "Mortality rates in patients with anorexia nervosa and other eating disorders: a meta-analysis of 36 studies," *Archives of General Psychiatry,* Vol. 68, Issue 7 (July 2011), pp. 724-731, https://www.researchgate.net/publication/51465450_Mortality_Rates_in_Patients_With_Anorexia_Nervosa_and_Other_Eating_Disorders_A_Meta-analysis_of_36_Studies.

3 G.C. Patton, "Mortality in eating disorders," *Psychological Medicine*, Vol. 18, No. 4 (November 1988), pp. 947-951, https://www.cambridge.org/core/journals/psychological-medicine/article/mortality-in-eating-disorders/D1E32483AF2FC998E6054D3371810B83.

4 National Institute of Mental Health, "Eating Disorders," accessed November 17, 2019, https://www.nimh.nih.gov/health/topics/eating-disorders/index.shtml#part_145414.

5 Sahib S. Khalsa, Larissa C. Portnoff, Danyale McCurdy-McKinnon, and Jamie D. Feusner, "What happens after treatment? A systematic review of relapse, remission, and recovery in anorexia nervosa," *Journal of Eating Disorders*, Vol. 5, No. 20 (2017), https://jeatdisord.biomedcentral.com/track/pdf/10.1186/s40337-017-0145-3. Martin B. Keller, David B. Herzog, Philip W. Lavori, Isabel S. Bradburn, and Elizabeth S. Mahoney, "The naturalistic history of bulimia nervosa: Extraordinarily high rates of chronicity, relapse, recurrence, and psychosocial morbidity," *International Journal of Eating Disorders*, Vol. 12, No. 1 (1992), pp. 1-9, https://onlinelibrary.wiley.com/doi/pdf/10.1002/1098-108X%28199207%2912%3A1%3C1%3A%3AAID-EAT2260120102%3E3.0.CO%3B2-E.

6 Andrew J. Hill, "Pre-Adolescent Dieting: Implications for Eating Disorders," *International Review of Psychiatry*, Vol. 5, No. 1 (1993), pp. 87-100, https://www.tandfonline.com/doi/abs/10.3109/09540269309028297. Jennifer Rollin, "The Problem with 'Clean Eating' in Eating Disorder Recovery," Jennifer Rollin, MSW, LCSW-C blog, April 21, 2018, https://www.jenniferrollin.com/blog/the-problem-with-clean-eating-in-eating-disorder-recovery. Christopher J. Ferguson, Monica E. Munoz, Adolfo Garza, and Mariza Galindo, "Concurrent and Prospective Analyses of Peer, Television, and Social Media Influence on Body Dissatisfaction, Eating Disorder Symptoms and Life Satisfaction in Adolescent Girls," *Journal of Youth and Adolescence,* Vol. 43, Issue 1 (January 2014), pp. 1-14, http://christopherjferguson.com/BodyImageProspective.pdf.

7 National Institute of Mental Health, "Eating Disorders," accessed November 17, 2019, https://www.nimh.nih.gov/health/topics/eating-disorders/index.shtml#part_145414.

8 William Withey Gull, "Anorexia Nervosa (Apepsia Hysterica, Anorexia Hysterica," Read October 24, 1873, *Obesity Research*, Vol. 5, No. 5 (September 1997), pp. 498-502, https://onlinelibrary.wiley.com/doi/pdf/10.1002/j.1550-8528.1997.tb00677.x.

9 H. Bruch, "Anorexia Nervosa: therapy and theory," *American Journal of Psychiatry*, Vol. 139, No. 12 (1982), pp. 1531-1538, F. Skarderud, "Eating one's words, part I: 'Concretised metaphors' and reflective function in anorexia nervosa—an interview study," *European Eating Disorders Review*, Vol. 15, No. 3 (2007), pp. 163-174, https://www.ncbi.nlm.nih.gov/pubmed/17676686. Skarderud, "Eating one's words, part II: The Embodied Mind and Reflective Function in Anorexia Nervosa," *European Eating Disorders Review*, Vol. 15, No. 3 (2007), pp. 243-252, https://www.ncbi.nlm.nih.gov/pubmed/17676695. Anna Oldershaw, Helen Startup, and Tony Lavender, "Anorexia Nervosa and a Lost Emotional Self: A Psychological Formulation of the Development, Maintenance, and Treatment of Anorexia Nervosa," *Frontiers in Psychology,* Vol. 10 (March 2019) pp. 219-241, https://www.frontiersin.org/articles/10.3389/fpsyg.2019.00219/full. Ellen E. Fitzsmimmons-Craft, Anna M. Bardone-Cone, and Kathleen A. Kelly, "Objectified body consciousness in relation to recovery from an eating disorder," *Eating Behavior*, Vol. 12, Issue 4 (December 12, 2011), pp. 302-308, https://www.ncbi.nlm.nih.gov/pubmed/22051364. Lauren M. Schaefer and Kevin J. Thompson, "Self-objectification and disordered eating: A meta-analysis," *International Journal of Eating Disorders,* Vol. 51 Issue 6 (June 2018), pp. 483-502, https://www.researchgate.net/publication/12064472_Body_image_across_the_life_span_in_adult_women_The_role_of_self-objectification.

10 Frederico Amianto, Georg Northoff, Giovanni Abbate Daga, Secondo Fassino, and Giorgio A Tasca, "Is Anorexia Nervosa a Disorder of the Self? A Psychological Approach," *Frontiers in Psychology*, Vol. 7 (June 14, 2016), pp 849-858, https://www.frontiersin.org/articles/10.3389/fpsyg.2016.00849/full.

11 American Psychiatric Association, "Feeding and Eating Disorders: Bulimia Nervosa," in the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition.

12 Steven Bratman, "Health Food Junkie," Orthorexia blog, October 1997, pp. 42-50, https://www.orthorexia.com/original-orthorexia-essay.

13 Jonathan R. Scarff, J.R. "Orthorexia Nervosa: An Obsession with Healthy Eating," *The Federal Practitioner*, Vol. 34 Issue 6 (June 2017), pp. 36-39, https://www.mdedge.com/fedprac/article/139623/mental-health/orthorexia-nervosa-obsession-healthy-eating. Steven Bratman, "Orthorexia: an update," Orthorexia blog, February 5, 2016, https://www.orthorexia.com/orthorexia-an-update.

14 Lorenzo M. Donini, Daniela Marsili, Maria P. Graziani, Michele Imbriale, and Christian Cannela, "Orthorexia nervosa: Validation of a diagnosis questionnaire," *Eating and Weight Disorders,* Vol. 10 Issue 2 (June 2005), pp. e28-e32, https://www.orthorexia.com/wp-content/uploads/2010/06/Donini-Orthorexia-Questionaire.pdf.

15 Enrica Marzola and Walter H. Kaye, "Anorexia Nervosa," pp. 169-173 in Dennis M. Bier, Jim Mann, David H. Alpers, H.H. Este Vorster, and Michael J. Giney, eds., "Nutrition for the Primary Care Provider," *World Review of Nutrition and Ddietetics,* Vol. 111 (November 2014). Michele K. Surbey, "Anorexia nervosa, amenorrhea, and adaptation," *Ethology and Sociobiology,* Vol. 8 Issue 1 (1987) pp. 47-61, https://www.sciencedirect.com/science/article/pii/0162309587900185. Ellen S. Rome and Seth Ammerman, "Medical complications of eating disorders: an update," *Journal of Adolescent Health,* Vol. 33 Issue 6 (December 2003), pp. 418-426, https://www.jahonline.org/article/S1054-139X(03)00265-9/abstract.

16 Lisa M. Rich, Marc R. Caine, James W. Findling and Joseph L. Shaker, "Hypoglycemic Coma in Anorexia Nervosa," *Archives of Internal Medicine*, Vol. 150, Issue 4 (April 1990), pp. 894-195, https://www.ncbi.nlm.nih.gov/pubmed/2183736.

17 Thomas Insel, "Post by Former NIMH Director Thomas Insel: Spotlight on Eating Disorders," National Institute of Mental Health, February 24, 2012, https://www.nimh.nih.gov/about/directors/thomas-insel/blog/2012/spotlight-on-eating-disorders.shtml.

18 Edward Chesney, Guy M. Goodwin, and Seena Fazel, "Risks of all-cause and suicide mortality in mental disorders: a meta-review," *World Psychiatry,* Vol. 13 Issue 2 (June 2014), pp. 153-160, https://www.ncbi.nlm.nih.gov/pubmed/24890068.

19 Laura M. Lasater and Philip S. Mehler, "Medical complications of bulimia nervosa," *Eating Behaviors*, Vol. 2, Issue 3 (2001), pp. 279-292, https://www.sciencedirect.com/science/article/pii/S1471015301000368. Philip S. Mehler and James A. Wallace, "Sialadenosis in Bulimia: A New Treatment," *Archives of Otolaryngology-Head and Neck Surgery*, Vol. 119, Issue 7 (July 1993), pp. 787-788, https://www.ncbi.nlm.nih.gov/pubmed/8318210.

20 K. Jean Forney, Jennifer M. Buchman-Schmitt, Pamela K. Keel, and Guido K.W. Frank, "The medical complications associated with purging," *International Journal of Eating Disorders,* Vol. 49, Issue 3 (March 2016), pp. 249-259, https://onlinelibrary.wiley.com/doi/10.1002/eat.22504. Marion P. Olmsted, Allan S. Kaplan, and Wendi Rockert, "Rate and prediction of relapse in bulimia nervosa," *American Journal of Psychiatry,* Vol 151, Issue 5 (May 1994), pp. 738-743, https://www.ncbi.nlm.nih.gov/pubmed/8166317.

21 Eating Recovery Center, ""Partial Hospitalization Program for Adults with Eating Disorders*,"* accessed November 17, 2019, https://www.eatingrecoverycenter.com/recovery-centers/levels-of-care/adult/adult-partial-hospitalization.

22 David B. Herzog, David J. Dorer, Pamela K. Keel, Sherrie E. Selwyn, Elizabeth R. Ekeblad, Andrea T. Flores, Daran N. Greenwod, Rebecca A. Burwell, and Martin B. Keller, "Recovery and Relapse in Anorexia and Bulimia Nervosa: A 7.5-Year Follow-up Study," *Journal of the American Academy of Child & Adolescent Psychiatry,* Vol. 38, Issue 7 (July 1999), pp. 829-837, https://www.jaacap.org/article/S0890-8567(09)66531-X/abstract.

23 Tamara Berends, Berno van Meijel, Willem Nugteren, Mathijs Deen, Unna N. Danner, Hans W. Hoek, and Annemarie A. van Elburg., "Rate, timing and predictors of relapse in patients with anorexia nervosa following a relapse prevention program: a cohort study," *BMC Psychiatry,* Vol. 16, Issue 1 (September 2016), pp. 316-323, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5017136.

24 Marion P. Olmsted, Allan S. Kaplan, and Wendi Rockert, "Rate and prediction of relapse in bulimia nervosa," *American Journal of Psychiatry,* Vol 151, Issue 5 (May 1994), pp. 738-743, https://www.ncbi.nlm.nih.gov/pubmed/8166317. Scott J. Crow, Carol B. Peterson, Sonja A. Swanson, et al., "Increased Mortality in Bulimia Nervosa and Other Eating Disorders," *American Journal of Psychiatry,* Vol. 166, Issue 12 (December 2009), pp. 1342-1346, https://ajp.psychiatryonline.org/doi/full/10.1176/appi.ajp.2009.09020247.

25 Caroline Davis and Gordon Claridge, "The eating disorders as addiction: a psychobiological perspective," *Addictive Behaviors,* Vol. 23, Issue 4 (July-August 1998), pp. 463-475, https://www.sciencedirect.com/science/article/abs/pii/S0306460398000094.

26 Walter Vandereycken, "Denial of Illness in Anorexia Nervosa—A Conceptual Review: Part 2 Different Forms and Meanings," *European Eating Disorders Review,* Vol. 14, Issue 5 (September 2006), pp. 352-368, https://onlinelibrary.wiley.com/doi/pdf/10.1002/erv.722?casa_token=6_Z56J2s8F4AAAAA:NDmD9xJ9KXkIMJ1rxnHK1RJWl2KrbiwbtWQCqW6cn4RAf3B2EYofWFsx3-e3KJBYmT3GHtoaifEzjVNIzQ.

27 Anita Singh, "Eating disorder sufferers face unacceptable wait for treatment, says report," *The Telegraph,* February 23, 2015, https://www.telegraph.co.uk/news/health/news/11428132/Eating-disorder-sufferers-face-unacceptable-wait-for-treatment-says-report.html.

28 Magnus Sjogren, "Anorexia Nervosa and Motivation for Behavioral Change—Can it be Enhanced?" *Journal of Psychiatry and Clinical Psychology,* Vol. 8, Issue 3 (December 2017), pp. 2-5, https://pdfs.semanticscholar.org/2230/f4e7d32b7095769f68387328ace6c0c6e129.pdf.

29 Anna Oldershaw, Helen Startup, and Tony Lavender, "Anorexia Nervosa and a Lost Emotional Self: A Psychological Formulation of the Development, Maintenance, and Treatment of Anorexia Nervosa," *Frontiers in Psychology,* Vol. 10 (March 2019), pp. 219-241, https://www.frontiersin.org/articles/10.3389/fpsyg.2019.00219/full. Courtney C. Simpson and Suzanne E. Mazzeo, "Calorie counting and fitness tracking technology: Associations with eating disorder symptomatology," *Eating Behaviors,* Vol. 26 (August 2017), pp. 89-92, https://www.ncbi.nlm.nih.gov/pubmed/28214452. Nica Stepien, "Coping with Triggers: 'I Didn't Ask to Feel This!'" Eating Recovery Center, May 11, 2018, https://www.eatingrecoverycenter.com/blog/may-2018/how-to-deal-with-eating-disorder-triggers-nica-stepien.

30 Courtney C. Simpson, "Investigating the Effects of Obesity Prevention Campaigns," thesis, Virginia Commonwealth University, April 2015, https://scholarscompass.vcu.edu/cgi/viewcontent.cgi?article=4743&context=etd.

31 Elizabeth A. Joy, Claudia Wilson, and Steve Varechok, "The multidisciplinary team approach to the outpatient treatment of disordered eating," *Current Sports Medicine Reports,* Vol. 2, Issue 6 (January 2003), pp. 331-336. Sarah D. Pritts and Jeffrey Susman, "Diagnosis of Eating Disorders in Primary Care," *American Family Physician,* Vol. 67 Issue 2 (January 2003), pp. 297-304, https://www.aafp.org/afp/2003/0115/p297.pdf. Eating Recovery Center, "Outpatient Treatment for Adults with Eating Disorders," accessed November 17, 2019, https://www.eatingrecoverycenter.com/recovery-centers/levels-of-care/adult/adult-outpatient-services. Eating Recovery Center, "Intensive Outpatient Program for Adults with Eating Disorders," accessed November 17, 2019, https://www.eatingrecoverycenter.com/recovery-centers/levels-of-care/adult/adult-intensive-outpatient. Eating Recovery Center, "Partial Hospitalization Program for Adults with Eating Disorders," accessed November 17, 2019, https://www.eatingrecoverycenter.com/recovery-centers/levels-of-care/adult/adult-partial-hospitalization. Eating Recovery Center, "Residential Eating Disorder Treatment for Adults," accessed November 17, 2019, https://www.eatingrecoverycenter.com/recovery-centers/levels-of-care/adult/adult-residential. Eating Recovery Center, "Inpatient Eating Disorder Treatment for Adults," accessed November 17, 2019, https://www.eatingrecoverycenter.com/recovery-centers/levels-of-care/adult/adult-inpatient. Sarah D. Pritts and Jeffrey Susman, "Diagnosis of Eating Disorders in Primary Care," *American Family Physician,* Vol. 67, Issue 2 (January 2003), pp. 297-304, https://www.aafp.org/afp/2003/0115/p297.pdf.

32 Carole Davis and Etta Saltos, "Dietary Recommendations and How They Have Changed over Time," in *America's Eating Habits: Changes and Consequences* (Washington, D.C.: U.S. Department of Agriculture, Food and Rural Economics Division, Economic Research Service, 1999), https://www.ers.usda.gov/webdocs/publications/42215/5831_aib750b_1_.pdf.

33 Edward Archer, Michael L. Marlow, and Richard Williams, "Government Dietary Guidelines: Uncertain Science Leads to Questionable Public Health Policy," Mercatus Working Paper, Mercatus Center at George Mason University, April 20, 2017, https://www.mercatus.org/publications/regulation/government-dietary-guidelines.

34 Ibid.

35 Dietary Guidelines for Americans, 1980 edition, United States Department of Agriculture, http://www.health.gov/dietaryguidelines/1980thin.pdf?_ga=2.62446575.2335405.1574102693-1010134293.1574102693D.C.

36 Dietary Guidelines for Americans, 1985 edition, United States Department of Agriculture, http://www.health.gov/dietaryguidelines/1985thin.pdf?_ga=2.55768936.2335405.1574102693-1010134293.1574102693. Dietary Guidelines for Americans, 1990 edition, United States Department of Agriculture, http://www.health.gov/dietaryguidelines/1990thin.pdf?_ga=2.204140755.2335405.1574102693-1010134293.1574102693. Dietary Guidelines for Americans, 1995 edition, United States Department of Agriculture, http://www.health.gov/dietaryguidelines/dga95/?_ga=2.34750306.2335405.1574102693-1010134293.1574102693. Dietary Guidelines for Americans, 2000 edition, United States Department of Agriculture, http://www.health.gov/dietaryguidelines/dga2000/document/frontcover.htm?_ga=2.24838009.2335405.1574102693-1010134293.1574102693.

37 Dietary Guidelines for Americans, 2015 edition, United States Department of Agriculture, https://health.gov/dietaryguidelines/dga2005/document/default.htm. Patrick J. Skerrett, "Panel suggests that dietary guidelines stop warning about cholesterol in food," Harvard Health Blog, February 12, 2015, https://www.health.harvard.edu/blog/panel-suggests-stop-warning-about-cholesterol-in-food-201502127713.

38 Dietary Guidelines for Americans, 1990 edition.

39 Shi-Sheng Zhou, Da Li, Yi-Ming Zhou, Wu-Ping Sun, and Qi-Gui Liu, "B-vitamin consumption and the prevalence of diabetes and obesity among the US adults: population based ecological study," *BMC Public Health,* Vol. 10, Issue 1 (December 2, 2010), pp. 746-762, https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-10-746.

40 James E. Dalen, Joseph S. Alpert, Robert J. Goldberg, and Ronald S. Weinstein, "The epidemic of the 20th century: coronary heart disease," *American Journal of Medicine,* Vol. 127, Issue 9 (September 2014), pp. 807-812, https://www.amjmed.com/article/S0002-9343(14)00354-4/abstract. Cheryl D. Fryar, Margaret D. Carroll, Cynthia L. Ogden, "Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults: United States, Trends 1960–1962 Through 2009–2010," Centers for Disease Control and Prevention, September 2012, https://www.cdc.gov/nchs/data/hestat/obesity_adult_09_10/obesity_adult_09_10.pdf.

41 Mahshid Dehghan, Andrew Mente, Xiaohe Zhange, et al., "Associations of fats and carbohydrate intake with cardiovascular disease mortality in 18 countries from five continents (PURE): a prospective cohort study," *The Lancet,* Vol. 390, Issue 10107 (November 2017), pp. 2050-2062, https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)32252-3/fulltext.

42 Walter C. Willett, "Dietary fats and coronary heart disease," *Journal of Internal Medicine,* Vol. 272, Issue 1 (July 2012), pp. 13-24, https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2796.2012.02553.x.

43 Fred Brouns, "Overweight and diabetes prevention: is a low-carbohydrate-high-fat diet recommendable?" *European Journal of Nutrition,* Vol. 57, Issue 4 (June 2018), pp. 1301-1312, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5959976.

44 William P. Castelli, Keaven Anderson, Peter W.F. Wilson, and Daniel Levy, "Lipids and risk of coronary heart disease. The Framingham Study," *Annals of Epidemiology,* Vol. 2, Issue 1-2 (1992), pp. 23-28, https://www.ncbi.nlm.nih.gov/pubmed/1342260.

45 Maria L. Fernandez, "Rethinking dietary cholesterol," *Current Opinion in Clinical Nutrition and Metabolic Care,* Vol. 15, Issue 2 (March 2012), pp. 117-121, https://journals.lww.com/co-clinicalnutrition/Abstract/2012/03000/Rethinking_dietary_cholesterol.6.aspx. Ghada A. Soliman, "Dietary Cholesterol and the Lack of Evidence in Cardiovascular Disease," *Nutrients,* Vol. 10, Issue 6 (June 2018), pp. 780-794, https://www.mdpi.com/2072-6643/10/6/780.

46 Edward Archer, "In Defense of Sugar: A Critique of Diet-Centrism," *Progress in Cardiovascular Diseases,* Vol. 61, Issue 1 (May 2018), pp. 10-19, https://www.ncbi.nlm.nih.gov/pubmed/29727610. Michelle Minton, "Shaking Up the Conventional Wisdom on Salt: What Science Really Says about Sodium and Hypertension," *Issue Analysis* 2017 No. 1, Competitive Enterprise Institute, January 24, 2017, https://cei.org/content/shaking-conventional-wisdom-salt.

47 Harvard Medical School, "The truth about fats: the good, the bad, and the in-between," updated August 13, 2018, https://www.health.harvard.edu/staying-healthy/the-truth-about-fats-bad-and-good.

48 Mary Story, Kim Rosenwinkel, and John H. Himes, "Demographics and Risk Factors Associated with Chronic Dieting in Adolescents," *American Journal of Diseases of Children,* Vol. 145, Issue 9 (September 1991), pp.994-998, https://jamanetwork.com/journals/jamapediatrics/article-abstract/515822.

49 "Scientific Report of the 2015 Dietary Guidelines Advisory Committee," United States Department of Agriculture and United States Department of Health and Human Services, https://health.gov/dietaryguidelines/2015-scientific-report/. While these concerns were not published in the official 2015 Guidelines, there have been calls to make them transparent in future Dietary Guidelines. Nicole Tichenor Blackstone, Naglaa H. El-Abbadi, Margaret S. McCabe, Timothy S. Griffin, and Miriam E. Nelson, "Linking sustainability to the healthy eating patterns of the Dietary Guidelines for Americans: a modelling study," *The Lancet: Planetary Health,* Vol. 2, Issue 8 (August 2018), pp. 344-352, https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30167-0/fulltext.

50 Marie Sacco, "Orthorexia Nervosa: Disease That Masquerades as Health," *Psychiatric Times*, April 4, 2012, https://www.psychiatrictimes.com/eating-disorders/orthorexia-nervosa-disease-masquerades-health. Susan Donaldson James, "Blogger Jordan Younger reveals how extreme 'clean eating' almost killed her," Today, November 11, 2015, https://www.today.com/health/breaking-vegan-author-jordan-younger-confesses-dirty-secrets-clean-eating-t55086. Jane Ridley, "My vegan diet almost killed me," *New York Post*, November 4, 2015, https://nypost.com/2015/11/04/my-vegan-diet-almost-killed-me.

51 Crystal D. Oberle, Razieh O. Samaghabadi, and Elizabeth M. Hughes, "Orthorexia nervosa: Assessment and correlates with gender, BMI, and personality," *Appetite,* Vol. 108 (January 2017), pp. 303-310, https://www.ncbi.nlm.nih.gov/pubmed/27756637.

52 Lauren Muhlheim, "The Role of Food Variety in Eating Disorder Recovery," Very Well Mind, June 23, 2019, https://www.verywellmind.com/food-variety-in-eating-disorder-recovery-4159544.

53 Patient Protection and Affordable Care Act, Centers for Medicare and Medicaid Services, accessed November 18, 2019, https://www.healthcare.gov/glossary/affordable-care-act.

54 Patient Protection and Affordable Care Act, 42 U.S.C. § 4205 (2010), accessed November 18, 2019, https://www.govinfo.gov/content/pkg/PLAW-111publ148/pdf/PLAW-111publ148.pdf.

55 Tanya Albert Henry, "Adult obesity rates rise in 6 states, exceed 35% in 7," American Medical Association, November 26, 2018, https://www.ama-assn.org/delivering-care/public-health/adult-obesity-rates-rise-6-states-exceed-35-7.

56 Frank Bruni, "Don't Count on Calorie Counts," *New York Times,* June 22, 2013, https://www.nytimes.com/2013/06/23/opinion/sunday/bruni-dont-count-on-calorie-counts.html?pagewanted=all&_r=4.

57 Atli Arnarson, "Bananas 101: Nutrition Facts and Health Benefits," Healthline, May 7, 2019, https://www.healthline.com/nutrition/foods/bananas.

58 Ann F. Haynos and Christina A Roberto, "The effects of restaurant menu calorie on hypothetical meal choices of females with disordered eating," *International Journal of Eating Disorders,* Vol. 50, Issue 3 (March 2017), pp. 275-283, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5378635/pdf/nihms840372.pdf.

59 Anne Bargiacchi, Julia Clarke, Anne Paulsen, and Juliane Leger, "Refeeding in anorexia nervosa," *European Journal of Pediatrics,* Vol. 178, Issue 3 (March 2019), pp. 413-422, https://www.ncbi.nlm.nih.gov/pubmed/30483963.

60 Margaret M. Hagan and Eileen D. Moss, "Persistence of binge-eating patterns after a history of restriction with intermittent bouts of refeeding on palatable food in rats: implications for bulimia nervosa," *International Journal of Eating Disorders,* Vol. 22, Issue 4 (December 1997), pp. 411-420, https://www.ncbi.nlm.nih.gov/pubmed/9356889.

61 Pamela Singer, "The Government's Mandatory Calorie Counts May Be Hazardous to Your Health," *Reason*, December 13, 2014, https://reason.com/2014/12/13/calorie-counts-may-be-hazardous-to-your.

62 Gerry Fairbrother, Michele J. Siegel, Stephen Friedman, Pierre D. Kory, and Gary C. Butts, "Impact of Financial Incentives on Documented Immunization Rates in the Inner City: Results of a Randomized Controlled Trial," *Ambulatory Pediatrics,* Vol. 1, Issue 4 (2001), pp. 206-212, https://www.sciencedirect.com/science/article/pii/S1530156705600470. Hannah Katch and Judith Solomon, "Restrictions on Access to Care Don't Improve Medicaid Beneficiaries' Health," States News Service, December 11, 2018, https://www.cbpp.org/research/health/are-medicaid-incentives-an-effective-way-to-improve-health-outcomes.

63 Beata Calyniuk, Michal Gorski, Jagoda Garbicz, and Elzbieta Grochowska-Niedworok, Nutrition knowledge of people with eating disorders," *Roczniki Panstwowego Zakladu Higieny,* Vol. 70, Issue 1 (2019), pp. 41-48, http://wydawnictwa.pzh.gov.pl/roczniki_pzh/pobierz-artykul?id=1270.

64 Story, Rosenwinkel, and Himes, "Demographics and Risk Factors Associated with Chronic Dieting in Adolescents." "Adolescent Eating Disorders such as Anorexia, Bulimia and Binge Eating Disorders are treatable," The Healthy Teen Project, accessed November 18, 2019, http://www.healthyteenproject.com/adolescent-eating-disorders-ca.

65 Heather B. Breen and Dorothy L. Espelage, "Nutrition expertise in eating disorders," *Eating and Weight Disorders,* Vol. 9, Issue 2 (June 2004), pp. 120-125, https://www.ncbi.nlm.nih.gov/pubmed/15330079.

66 Hae-mi Lim, Ji-Eun Park, Young-Ju Choi, Kap-Bum Huh, and Wha-Young Kim, "Individualized diabetes nutrition education improves compliance with diet compliance," *Nutrition Research and Practice,* Vol. 3, Issue 4 (December 2009), pp. 315-322, https://synapse.koreamed.org/search.php?where=aview&id=10.4162/nrp.2009.3.4.315&code=0161NRP&vmode=FULL. Anna Brytek-Matera, "Orthorexia nervosa—an eating disorder, obsessive-compulsive disorder or disturbed eating habit?" *Archives of Psychiatry and Psychotherapy*, Issue 1 (2012), pp. 55-60, http://www.archivespp.pl/uploads/images/2012_14_1/BrytekMatera55__APP1_2012.pdf. Sabrina Rudolph, "The connection between exercise addiction and orthorexia nervosa in German fitness sports," *Eating and Weight Disorder*, Vol. 23, Issue 5 (October 2018), pp. 581-586, https://www.ncbi.nlm.nih.gov/pubmed/28884261. Valera J. Herranz, Patricia Acuna Ruiz, Borja Romero Valdespino, and Francesco Visioli, "Prevalence of orthorexia nervosa among ashtanga yoga practitioners: a pilot study," *Eating and Weight Disorders*, Vol. 19, Issue 4 (December 2014), pp. 469-472, https://www.ncbi.nlm.nih.gov/pubmed/24852286. Kaylee Tremelling, Lona Sandon, Gloria L. Vega, and Carrie J. McAdams, "Orthorexia Nervosa and Eating Disorder Symptoms in Registered Dietitian Nutritionists in the United States," *Journal of the Academy of Nutrition and Dietetics*, Vol. 117, Issue 10 (October 2017), pp. 1612-1617, https://jandonline.org/article/S2212-2672(17)30448-3/abstract. Lorenzo M. Donini, Daniela Marsili, Maria P. Graziani, Michele Imbriale, and Christian Cannela, "Orthorexia nervosa: Validation of a diagnosis questionnaire," *Eating and Weight Disorders,* Vol. 10, Issue 2 (June 2005), pp. e28-e32, https://www.orthorexia.com/wp-content/uploads/2010/06/Donini-Orthorexia-Questionaire.pdf.

67 Andrew Coulson, "Forging Consensus," Mackinac Center for Public Policy, 2004, pp. 29-35, https://www.mackinac.org/archives/2004/s2004-01.pdf.

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