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Audience: The primary audience is scholars with expertise in areas including medicine, social sciences, and economy. The secondary audience is Individuals interested in improving their quality of life through changes in their body condition. Individuals looking for viable and effective solutions to the obesity problems. The level of expertise of the academic audience is high. Some of the readers likely have peer edited publications touching on the topics presented in this paper. The level of expertise is high. Some of the readers likely have peer edited publications touching on the topics presented in this paper. The level of expertise of the general public varies. Some are familiar with the existing research, others may just be entering the conversation. A tone slightly more casual than one that is commonly used in science writing will be used, to make this paper accessible to the secondary audience.

Writer: To appeal to my general audience I am going to use definitions and use a tone that is a little less formal than a strict academic tone. To establish ethos with my primary audience I plan to support my argument with plenty of peer review research.

Context: There are plenty of statistics citing the harmful effects of obesity, yet even with some measures in place to help prevent it, the rates are still forecast to climb. Therefore it is necessary to formulate a new plan, and where possible, to amend existing regulations to ensure a sound economic future for the American health care system and a high quality of life for its citizens.

## The National Obesity Problem and a Proposal for a Cure

It can be easy to put on an extra few pounds around the holidays. Who doesn't have a persistent relative that insists you try some of everything at a family meal? Who doesn't indulge in just one more slice of pie after Thanksgiving dinner or share some of the cookies that got left out for Santa? Unfortunately for obese Americans, who now comprise one-third of the adult population, the problem lies beyond seasonal weight gain. These obesity rates not only place strain on our economy, they also diminish the quality of life for American citizens that suffer from this body condition. Yet, there are ways in which we can improve the treatment of this issue.

What is the problem with obesity? Sure, the numbers are high, but just what are the large-scale implications of a society where so many adults (and an increasing amount of children) are obese? Kenneth Thorpe, chairman of the department of health policy and management at Emory University in Atlanta, through his use of Census data and medical spending statistics, found that “if the percentage of obese adults ... stays at the current rate of 34%, then excess weight will cost the nation about \$198 billion by 2018” (Hellmich 2) However, the rate will likely not stay the same: 65 million more American adults are forecast to become obese by 2030, in addition to the 90 million currently in that state (Henry 2). These numbers can not be ignored, especially in a time where the whole world faces some degree of economical struggle. While it is without a doubt a sensitive topic, the social and economic implications of such high rates make obesity a national, and not a personal problem. Our country's health spending can be reduced and the life quality of its citizens greatly improved by lessening obesity rates and the harmful effects of obesity associated diseases.

There is a multitude of federal, commercial, and personal efforts aimed at creating a slimmer, more fit, healthier you. With that said, how can obesity rates still be on the rise? Are the current solutions to combat obesity effective? What can be done to improve them or be put in their place, and whose jurisdiction do they fall under? Until recently, obesity in the United States has been seen as a problem to be treated by a physician using methods including behavioral therapy, diet, exercise, and surgical intervention. With the exception of surgical intervention, the other methods have not met with universally positive results (Eisenberg 1496). Dr. Mark Eisenberg, an expert from a Division of Cardiology and Clinical Epidemiology, introduces a legislative approach that “places responsibility at the societal and population levels and focuses on modifiable environmental contributors to obesity” in his home country: Canada (1497). He proposes three levels of legislature to combat obesity: government (nationwide legislation), corporate (programs instituted for the employees), and school (programs targeted at youth and children) (1497). I propose we employ these ideas here in America to curb our national obesity problem.

In this paper I plan to show you my findings regarding obesity and use them to explain how serious of a problem it is, in particular in the United States. I hope to persuade you to join the effort to incorporate some of the changes proposed into our state and federal legislature, in order to keep our health care system from overspending on obesity and associated diseases, and so that American citizens can continue to enjoy a high quality of life in the future.

So, what is obesity and how can it be defined? Generally, obesity is the specific name for the extreme overweight state of individuals with a BMI over 30 (Friedman 340). BMI (body mass index) is a ratio between a person's height and weight, and while it does not actually

indicate body fat percentage, it remains a popular system to assess an individual's body condition. BMI for overweight individuals lies in the 25-30 range, while the normal weight BMI falls between 18.5 and 25.

In order to understand how to prevent and possibly even reverse obesity, we need to have a good understanding of its causes. Among other experts, the National Cancer Institute lists that the “chief causes of obesity are a sedentary lifestyle and overconsumption of high-calorie food” (“Obesity and Cancer”). When one considers that travel by automobile (whether private or public transportation) has become the prevalent form of getting around (I even drive to the park to walk my dog there), the connection with obesity becomes clear. Similarly, the abundance of inexpensive calories that are easily available (few people hunt/gather anymore these days) may cause people to consume more than would be necessary for sustenance.

Supporters of other causality studies of obesity would claim that not enough effort is being devoted to the possibility of obesity of viral origin. There exists research whereby primates infected with a human adenovirus showed a significant weight gain in comparison to their healthy counterparts. An adenovirus is typically associated with respiratory infections and is transmitted via respiratory and other routes that are shared with communicable diseases (Gray 871). In a study conducted by the Pennington Biomedical Research Center, marmoset monkeys were inoculated with the adenovirus Ad-36 . After being separated into similar groups based on age and weight, and being housed separately to prevent the transmission of the virus, one group was infected with Ad-36, while the second group remained as the control (Dhurandhar, et al. 3166). The effects of the virus were then observed over a test period. The control was shown to be virus-free throughout the experiment, but the infected primates showed a threefold weight

gain over the control (Dhurandhar, et al. 3166). While these numbers are not enough to scientifically establish causation, they certainly support correlation, and more research would be necessary in order to use this information for the purposes of formulating a viable plan to combat obesity.

While such findings as mentioned above can not be dismissed off hand, there are problems with basing a program to combat obesity on a nationwide scale in large (or even in part) on research that is incomplete. As the author admits, a causal relationship has not been established between the specified pathogen and weight gain. In the event that such a relationship becomes scientifically proven in the future, the case will still remain that the major contributors to obesity are aforementioned lack of exercise and poor diet choices. Therefore, in order to institute a program that can be effective and yield consistent results to the largest number of people, the focus must lie on those two factors.

Some may argue that other causes are at work, such as heredity in particular. Heredity may be a contributing factor, however family members that live together share not only genetic material: they also tend to share habits and lifestyle and eating choices, all of which, as mentioned above, have been shown to have strong ties to obesity. “Genetic changes are not the cause of increased obesity ... Rather, changes in the energy balance are key: consuming more calories than are expended leads to weight gain,” says Sara Bleich, from the Department of Health Policy and Management at Johns Hopkins School of Public Health. Additionally, even individuals for whom hereditary obesity may be a factor would equally benefit from the multi-faceted approach I am advocating.

Some legislation meant to encourage healthy living already does exist. In 2006, New

York City banned trans fats in their restaurants. Several states also impose what is called a “soda tax,” a tax on nutritively sweetened soft drinks to discourage overconsumption in an attempt to cut down on the economic burden of obesity. Nutritional labels are printed on all the packaged food items sold in stores. These efforts are worthwhile, and certainly a step in the right direction to help the public make the right dietary choices. With the obesity rates on the rise, however, it is evident that these measures alone are not enough to quell the rise of this problem.

One major issue that becomes relevant when a tax on soft drinks or junk/fast food comes into play is the socioeconomic effect of such a tax. In his article “Obesity, diets, and social inequalities,” Adam Drewnowski from the Center for Public Health Nutrition talks about how social status influences diet. “The low cost and high palatability of energy-dense foods – mainly sugars and fats – along with the easy access to such foods can help explain why the highest obesity rates are found among the most disadvantaged groups” says Drewnowski (37). A tax on junk food, including fast food and sugary drinks, could possibly even be detrimental (Eisenberg 1497). There are too many extraneous socio-economic factors preventing this policy from being effective in curbing obesity. The demand for junk and fast food is relatively inelastic, meaning that a marginal increase in cost will not influence consumption. However, such legislation can have a profound effect on the lower social classes that rely on such foods for nutrition. Better alternatives are: clear nutritional content labeling (which is already implemented to some degree, leaving room for improvement only in the case of restaurant menus), as well as education that will enable people to improve their food choices as much as possible within their means.

Such education can begin with school age children. In addition to the nutritional education that they should receive, it is as important to teach good habits. Alan Greenblatt

suggests that schools will be reluctant to terminate contracts with food vendors since the contracts bring in revenue, and many schools are in need of additional funds (5). If this is the case, it becomes doubly important, then, to continue physical education programs in school so that children may develop exercise habits that they will with them into adulthood.

Lastly, the largest contributor to our overly sedentary lifestyle is the change in occupations that have shifted to demand less and less physical labor. Many Americans that adhere to the 40 hour workweek commute to work in a vehicle and come home to relax in front of the TV. The American Time Use Survey tells us that an American adult will spend 2.7 out of his daily 5 leisure hours in front of the TV (“American Time Use Survey”). How, in such an environment, can we gain the benefits of regular exercise? Companies that employ many workers for positions that are mostly sedentary are in a good position to encourage their employees to exercise. This can be achieved through a variety of means.

Already, some companies are organizing group events, such as 5k walks and runs for charity. Some other programs have been initiated by individual companies whereby employees are given pedometers to help track their daily walks. Physicians already advocate taking frequent, short breaks from a desk job to stretch, and there is no reason why one or more of these breaks cannot involve a walk around the office or some other brief period of mild activity. To encourage participation, companies need to provide incentives to its employees, and in turn, should receive incentives from the government in form of a tax break or subsidy.

Another great idea that Eisenberg proposes is the improvement of urban areas. Since travel by vehicle can be attributed as a significant cause of obesity, neighborhoods with sidewalks, access to parks, trails and bike paths tend to have a lower obesity rate overall, in

comparison with developments that do not have these amenities (1498). I wholeheartedly support this proposal. “Rising urbanization is associated with increased opportunities for eating and reduced opportunities for physical activity.” says Sara Bleich (275). But cities are here to stay, so what can be done to provide citizens with more exercise opportunities? Not much can be done in regard to this particular aspect for well established areas, but newer, up-and-coming neighborhoods have options. Sometimes developments do take parks or trails into account. Many “luxury” developments provide on-site gyms as an amenity to their residents. However, just as importantly, such developments need to make sure to build safe sidewalks and crosswalks. Oftentimes, they get omitted for a varieties of reasons including city regulations, and attempts to save at costs among others. The initial investment would be greatly outweighed by the benefit to the residents who would have the option to actually walk safely for pleasure or exercise.

More physicians are now also advising their patients not to focus on weight loss as a number. Even though it is evident that with long term weight gain comes a great difficulty (if not an impossibility) of returning to the starting weight, it is not a universal excuse to abandon all efforts at maintaining a healthy lifestyle. Jeffrey Friedman submits that even modest lifestyle changes have disproportionately large health benefits, in addition to reducing risks for many associated diseases (such as heart disease and type II diabetes) (341). Therefore, even with the proposed legislative aid, it would still lie within each individual's power to take the initiative to seize control.

The causes for obesity: sedentary lifestyle and overconsumption of nutritionally lacking food are powerful driving forces. With a focused and multifaceted effort, however, we can treat this problem on a national level. With the help of legislation to aid us in making the correct



dietary choices, programs at the workplace to encourage us to exercise, and with thorough education starting with the youth, it is possible to control this problem. The quality of life of the citizens of the United States should be the main focus of future obesity related legislation. The cost benefit of a more economically sound health care spending system will be an additional benefit, once the initial cost is factored in. It wouldn't be fair, however, to leave the entirety of our well being to others. We are responsible for our everyday choices, so let's work to push the obesity numbers in the opposite direction.

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