

## **Introduction**

### **What is Obesity?**

Obesity is one of the largest lifestyle-related diseases in the U.S.. It is one-hundred percent preventable, but continues to grow at a rapid pace within almost all age groups, income brackets and race demographics. Generally, obesity is defined as having excessive fat tissue. Technically, obesity is defined as having a body mass index (BMI) greater than or equal to 30 percentage points. BMI is the ratio of an individual's mass to an individual's height. A BMI between 25-30 is considered overweight; a BMI less than 25, but greater than 18.5 is considered healthy; and a BMI of less than 18.5 is considered underweight (Obesity Society, 2016).

### *Evolution of Obesity in America*

Obesity has been increasing almost exponentially since the late 1970s (Yang, 2010). In 1980, the obese population was between 16-17% (Yang, 2010). Currently, it is estimated to be nearly 37% of the entire U.S. population (Odgen, et al., 2015).

The crisis is an indirect effect of technological innovations in food preparation and processing that revolutionized our lifestyle in the late 20th century. Many people believe the main culprits of the rise in obesity to be lack of physical activity, increased restaurant portion sizes, TV and fast food. They're not completely wrong; those factors have contributed to some extent, but the most prominent and direct effect is the increased caloric intake of processed snack food (Cutler, 2003).

The goals of reducing food costs (to consumers), making more food available to everyone at any given time and preserving foods longer for transportation and distribution all contributed to the mass processed food movement. New preservatives were added to food to make them last longer and innovations in mass food preparation enabled for more processed foods to become widely available. Processed snack foods were popularized for their convenience; however, they led to serious consequences. People began to cook less, which meant they were eating less "agricultural product" (farm grown produce and meat). People also began to increase their overall snack intake, eating processed food ("low-farm value") throughout the day (Cutler, 2003). With the increase in snack food and decrease in agricultural food, people were increasing their daily caloric intake while decreasing their daily nutrient intake.

### *National and Statewide Demographic Statistics*

The national prevalence of obesity among U.S. adults was estimated to be around 36.5% in 2014, while the prevalence among children (19 and younger) was estimated to be 17% in 2014 (Odgen, et al., 2015). The prevalence of obesity among adults in New York State was estimated to be 25.4% and the prevalence of unhealthy weight (overweight or obese) among youth was estimated to be about 33% in 2013 (NY Department of Health, 2014).

African Americans and Hispanics are disproportionately affected by obesity nationally and within each state. The prevalence of obesity among “Non-Hispanic Blacks” is estimated to be around 38.1%, while the prevalence of obesity among Hispanics is estimated to be around 31.9% nationally (CDC, 2016). In New York State, the prevalence of obesity among African Americans and Hispanics is between 30-35%. However, 34 other states have obesity proportions above 35% among African Americans (CDC, 2016). African-American adult women suffer most severely, with 56% of their demographic affected by obesity nationally (CDC, ....).

Low income individuals are also disproportionately affected by obesity nationally. An estimated 42% of individuals (adults 20 and older) that make an income below 130% of the poverty level are obese (Odgen, et al., 2010).

### *Economic Concern*

Figures for obesity’s effect on national medical care expenditures varies from source to source. According to the CDC, obesity costs are estimated to be around \$147 billion (2016), Cawley and Meyerhoefer estimated it to be closer to \$209.7 billion (2012) and a study published by the National Institute of Health (NIH) have estimated the total cost to be around \$113 billion (Tsai, 2011) (all expressed in 2008 dollars). Generally, obesity-related medical care expenditures range anywhere from 10%-20% of the total U.S. medical care budget.

### *Health Risks*

Obesity increases probability of becoming inflicted by numerous conditions (many of which can be fatal. These include, but are not limited to: heart disease, Type 2 Diabetes, high cholesterol (high LDL, “bad” cholesterol), stroke, asthma, Osteoarthritis, high blood pressure, sleep apnea, Obesity Hypoventilation Syndrome, colon cancer, breast cancer, gallbladder cancer, endometrial cancer, gallstones and infertility in women (NHLBI, 2012).

### *National and Statewide Lifestyle Statistics*

52% of American adults (18 and older) do not engage in the recommended amount of physical activity; 47% of American adults have at least one major risk factor for heart disease; 36% of adolescents eat fruit less than once a day, while 38% of adolescents eat vegetables less than once a day; 38% of adults eat fruit less than once a day, while 23% of adults eat vegetables less than once a day (CDC, 2016). The median intake of fruit among adults in New York State is 1.2 times per day and the median intake of vegetables among adults in New York States is 1.6 times per day. The median intake of fruit among adolescents in New York State is 1.3 times per day and the median intake of vegetables among adolescents in New York States is unknown (CDC, 2013). Obese children have a 70% probability of being obese or overweight into adulthood (CDC, 2008).

### *Lifestyle and Behavior Contributors*

Many individuals use food as a coping mechanism to mask their underlying psychological or emotional issues, whether that be depression or dealing with an unfulfilling career. They find food to be a temporary comfort, which may lead to overindulgence. But once that comfort wears off, as reality is unavoidable, the cycle of overconsumption begins again. The continuing of this vicious cycle inevitably leads to weight issues or worsened weight problems. People who have a genetic predisposition to obesity or who live in an unhealthy environment with a fragile social support system are more likely to use food as coping mechanism against mood disturbances (Collins and Bentz, 2004).

As mentioned previously, the main contributor to obesity is the increased consumption of processed snack food. Processed snack food has both addictive ingredients and qualities, making it very difficult for people to cut down on their consumption. One's diet determines their flavor preferences and when one eats sugary foods, they will crave more sugary food (Yang, 2010). Processed foods contain high amounts of refined carbohydrates, unhealthy fats, salt and potentially caffeine, all of which are suggested to be addictive (Ifland, et al., 2009). Subjects observed in studies dedicated to addiction of processed foods showed both signs of dependence and withdrawal symptoms (Ifland, et al., 2009). Once someone makes a habit of eating processed food, they are very likely to continue that diet and eat little nutritious or "high-farm value" food.

Home environment (exposure to junk food)...  
Junk Food Marketing...  
Food Deserts (?)....

### **Past and Current Prevention Campaigns**

*Have other health/lifestyle campaigns attempted to address this issue in the past?*

- Governmental campaigns
- Coca Cola → encourage more exercise
- How does it differ from others in past?
  - focus on multiple demographics
  - advocate and initiate action for both healthy eating and regular exercise
  - Utilize multiple platforms to engage target

### **[Organization Name] Health Campaign**

- Objective: lessening the effect of the Obesity Epidemic among low income families in the state of New York.
- Achieving Objective:
  - Creating awareness ads (print and online)
  - Designing nutrition programs that will be implemented in the workplace and educational institutions
  - Designing fitness programs that will be implemented in the workplace and educational institutions
  - Petitioning state and local governments for restrictions on the distribution and marketing of processed snack food
  - Hosting local events to raise awareness
  - Social media campaign focusing on how to eat healthy

### **Target Audience Analysis**

- Who are you trying to reach? Why?
  - Low income families/mothers
- What elements of your campaign will “speak” directly to your audience?

Kyle Jennings - Focus on previous campaigns - How have other anti-obesity campaigns approached this, what was their strategy. Examples. What demographics? Have ours been hit before (low-income families in New York).

## References

Cawley, John. Chad Meyerhoefer. "The Medical Care Costs of Obesity: An Instrumental Variables Approach". *Journal of Health Economics*. Vol 31.1 (2012): 219-230. Web.

Centers for Disease Control and Prevention. *State Indicator Report on Fruits and Vegetables, 2013*. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2013.

Cutler, M. David. Edward L. Gaeser and Jesse M. Shapiro. "Why Have Americans Become More Obese?" Harvard University. 2003

Ogden CL, Carroll MD, Fryar CD, Flegal KM. Prevalence of obesity among adults and youth: United States, 2011–2014. NCHS data brief, no 219. Hyattsville, MD: National Center for Health Statistics. 2015.

Tsai, A. G., Williamson, D. F., & Glick, H. A. (2011). Direct medical cost of overweight and obesity in the United States: a quantitative systematic review. *Obesity Reviews : An Official Journal of the International Association for the Study of Obesity*, 12(1), 50–61. <http://doi.org/10.1111/j.1467-789X.2009.00708.x>

Yang, Q. (2010). Gain weight by “going diet?” Artificial sweeteners and the neurobiology of sugar cravings: Neuroscience 2010. *The Yale Journal of Biology and Medicine*, 83(2), 101–108.

<https://www.nhlbi.nih.gov/health/health-topics/topics/obe/risks>

<http://www.cdc.gov/nchs/products/databriefs/db50.htm>

<https://www.cdc.gov/obesity/data/prevalence-maps.html>

<http://www.obesity.org/obesity/resources/facts-about-obesity/what-is-obesity>

<http://www.cdc.gov/chronicdisease/overview/#ref10>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2891924/>

<https://www.cdc.gov/obesity/adult/causes.html>

<http://www.jlgh.org/Past-Issues/Volume-4---Issue-4/Behavioral-and-Psychological-Factors-in-Obesity.aspx>

<http://www.sciencedirect.com/science/article/pii/S0306987708006427>