2017 Engineers Week Essay Competition

What is a current problem facing West Virginia citizens, and how can engineers help to solve this problem?

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West Virginia is currently ranked as one of the most obese states in the nation. Obesity poses a threat to the welfare of people as it is linked to heart disease, cancer and mortality. It is critical to educate the citizens of West Virginia of the dangers of obesity and how to prevent this dreadful disease. West Virginia needs to drastically lower the number of obese people within the state and engineers can be instrumental in paving a leaner and healthier future.

Obesity is defined as being grossly overweight or as having the presence of excess fatty tissue on the body. This condition can have negative effects on the body while placing undue stress on organs such as the heart and liver. Obesity is estimated by the State of Obesity Organization to affect 35.6% of adults in West Virginia. This percentage continues to steadily rise causing it to be defined as a chronic disease by the American Medical Association. With this in mind, it is critical to stop the spread of obesity and prevent future cases. Biomedical engineers who study adipose tissue and energy balance can help unlock preventative measures for our future generations. Drugs can and are being developed by engineers to help combat slow metabolisms and to push the system to properly use nutrients by the human body.

According to the National Health Service, obesity is the direct result of a poor diet, lack of physical activity and, in some cases, genetics. The short-term physical effects of obesity are shortness of breath, lack of energy, joint stress and more. The long-term physical effects include heart disease, diabetes, sleep apnea and potential death. It is important to change the lifestyles that cause obesity, not only to help the
present generation but also to set an example for future generations. Engineers work on a daily basis to help humans reduce calories with unique ingredients that mimic foods and flavors. In addition, engineers are continuously developing medications that help combat the conditions that are a direct result of obesity. For those with genetic predispositions, engineers can continue to study DNA markers in which carry this trait and work towards a solution.

With all factors of obesity “on the table”, the calorie equation, as defined by Harvard Health Publications, is the number one reason for weight gain. Simply put, if you take in more calories than you expend, you will gain weight. Software and mechanical engineers can help individuals regulate calorie intake and expenditures through the development of programs, equipment and applications. Knowledge, tools and resources are keys to getting this epidemic under control.

Maintaining a long-term healthy weight can be challenging, but West Virginia can no longer stand to be one of the most obese states in the nation. Obesity places strains on the healthcare system and overall productivity. Through increased research and the work of our state’s engineers, lowering the obesity rate is a feasible goal. It is the duty of West Virginia citizens to help heal the state that has been afflicted with this pervasive disease. The engineers of today and tomorrow must study and innovate together in order to create a brighter future.


