

Diabetes Prevalence In the United States

The Miner League Non-Technical Summary Report

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Diabetes is a lifelong disease that affects how your body handles glucose, the sugar in your blood. Your pancreas produces insulin to handle the glucose, but the disease causes your cells not to utilize it properly. The insulin tries to get the glucose into the cells to store energy but is unable to keep up, so the glucose keeps building up in the blood which results in symptoms such as hunger, fatigue, dehydration, and blurred vision. According to a 2015 American Diabetes Association study, 30.3 million people had diabetes in United States. This represents a national prevalence rate of 9.4%. In order to understand some of the contributory factors to diabetes prevalence on a county level, our team compiled county level socioeconomic and lifestyle indicators to study their relationship with diabetes prevalence.

The county level socioeconomic indicators include unemployment rate, household median income, median age, percentage of adults with less than a high school diploma, percentage of adults with a high school diploma only, percentage of adults completing some college or associate's degree, and percentage of adults with a bachelor's degree or higher. The county level lifestyle indicators include obesity prevalence percentage and leisure time physical inactivity prevalence. The source of the socio-economic indicators come from the U.S. Department of Agriculture (USDA) and U.S. Census data. The source of the lifestyle indicators along with the variable we are studying, diabetes prevalence percentage on a county level, comes from the Center for Disease Control and Prevention (CDC).

From our study we established that all of the socioeconomic and lifestyle indicators are significant but not all indicators are equally important. The strongest of our indicators are obesity prevalence, leisure time physical inactivity rate, median age, and unemployment rate. This tells us that counties with higher obesity prevalence, higher leisure time physical inactivity prevalence, older in terms of median age, and higher unemployment rate are more at risk for a higher diabetes prevalence than other counties. Additionally, we can conclude that public funds should be allocated to areas with these demographics in order to raise awareness of contributory factors to diabetes in order to lower the overall diabetes prevalence in the United States.