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3 Ideas for Predictive Modeling

1. Health of the community in high-opioid overdose areas

According to the CDC, more than 130 people in the US die every day from an opioid overdose, and the costs of healthcare, lost productivity, addiction treatment, and criminal justice involvement related to opioid misuse amounts to $78.5 billion per year. One of the five major responses of the U.S. Department of Health and Human Services (HHS) to this crisis is strengthening the understanding of this epidemic through better public health surveillance. This project seeks to increase that understanding through the analysis of socioeconomic metrics available in the City Health Dashboard dataset. This project will examine whether positive factors (ex. park access, walkability and preventative services) are less prevalent and negative factors (ex. high unemployment rate, income inequality, limited access to healthy foods) are more prevalent in cities with high rates of opioid overdose deaths. This information could provide insights into another possible approach to addressing this crisis, where investment in the health of the community would have a positive impact on reducing opioid misuse.

2. Prevalence of cognitive decline in state populations

Prevalence of Alzheimer's disease is the fifth most common cause of death for Americans ages 65 years and older, and the CDC estimates that the US burden of Alzheimer's disease and related dementias (ADRD) will double by 2060. Given the significant demands on the healthcare system in order to maximize quality of life for this population, understanding prevalence rates is vital for states to ensure adequate support. This project will use data from the CDC's Health Aging dataset to identify the proportion of older adults with cognitive decline by state. States with higher proportions can then plan to allocate appropriate resources, and private firms providing memory care services can better understand the landscape of their marketplace.

3. Trends in leading cause of death by state

As the country faces the passing of its largest generation to date, understanding trends in the leading causes of death is necessary for states with large proportions of older adults to assess and respond to demands on their healthcare infrastructure to support their population. Using data from the National Center for Health Statistics and the US Census Bureau, this project will identify significant changes in these trends by state. Having this information could allow more accurate planning by hospitals, hospice care facilities, dialysis facilities, at-home oxygen suppliers, nursing homes and other members of the healthcare infrastructure at the state level.