Introduction

In this analysis, we chose Overdose Deaths per 100,000 as the response variable due to its direct relevance to public health concerns, particularly in the context of the opioid crisis. Overdose deaths are a pressing issue in many regions, and understanding the factors that contribute to them is critical for effective policy and intervention strategies.

Discussion

The key aim of our analysis was to identify socio-economic and demographic factors that might influence overdose death rates at the county level. We selected the following predictor variables based on their potential connections to health outcomes, specifically overdose mortality.

Population Change: Population growth or decline can be an important indicator of economic and social changes within a region. Population decline could signal economic instability, lower access to healthcare, or a loss of social support structures, potentially contributing to higher overdose rates.

Veteran Population: Veterans are known to face unique health challenges, including mental health disorders, substance use issues, and limited access to healthcare. By including the veteran population as a predictor, we aimed to capture this vulnerable group's potential influence on overdose rates.

Education (Percentage of Adults 25-44 with a secondary degree by 2030): Education is a well-established determinant of health. Areas with higher levels of education tend to have lower

rates of substance abuse and overdose deaths. Additionally, more educated populations might have stronger community networks, which can provide social support and reduce the risk of overdose.