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Policy Implications of Demographic Impacts on COVID-19, Pneumonia, and Influenza Mortality: A Multivariable Regression Approach to Death Toll Reduction

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Abstract : Understanding the demographic factors that influence mortality from respiratory diseases like COVID-19, pneumonia, and influenza is crucial for informing public health policy. This study utilizes multivariable regression models to assess the relationship between state, sex, and age group on deaths from these diseases using U.S. data from 2020 to 2023. The analysis reveals that age and sex play significant roles in mortality, while state-level variations are minimal. Although the model's low R-squared values indicate that additional factors are at play, this paper discusses how these findings, in light of recent research, can inform future public health policy, resource allocation, and intervention strategies.

Keywords : COVID-19, multivariable regression, public policy, data science
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