

FINAL PROJECT

Module 4: Are the current National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$ adequate to protect public health with an adequate margin of safety?

You have provided evidence of significant adverse health effects that can occur from exposure to ambient levels of fine particulate matter ($PM_{2.5}$) air pollution in a large nationwide sample of older adults. The breadth and size of their Medicare study population, and the recent EPA proposal for new legal limits for this air pollutant, raise a time-critical question: **can this study be used to further test the hypothesis that the EPA proposal to set a maximum daily exposure limit of $35\mu_g/m^3$ will be sufficient to eliminate these adverse health effects?** Conduct subset analyses to test whether this newly proposed air pollution standard, if achieved, could eliminate the public health risk of excess hospital admissions from exposures to $PM_{2.5}$ air pollution.

Data:

1. Dataframe 2: Same as the one for Module 3, but now the estimates are obtained from for time series data that only includes days with $PM_{2.5}$ daily level lower than $35\mu_g/m^3$. This dataset is in the `MCAPSSsubset.rda` file.

Activity: Divide in groups of 3 people and based on statistical analyses address the above questions and develop your NAAQS for $PM_{2.5}$.