

Research Methods Assignment 2

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Table 1: Lung Hospitalizations & Vaping Laws

	Model1	Model2
Treatment Group Dummy	-14,856 (47,563)	-4,918*** (166)
Year	46*** (17)	
Year Treatment Interaction	6.2 (24)	
Policy Implementation Time Dummy		975*** (110)
Vaping Ban		-4,030*** (65)
Constant	22,671 (33,933)	115,705*** (137)
R-squared	0.6542	0.9630
Number of observations	550	1050

Notes *** p<0.01, ** p<0.05, * p<0.1.

Description: Policy Implementation is a dummy indicating the year when the treatment started (2021). Treated Group is a dummy identifying the countries exposed to the treatment (i.e. adopted anti-vaping laws).

Model 1 evaluates the parallel trends requirement of a difference-in-difference estimate by regressing on year and the interaction between year and treatment for the pre-policy time period. The coefficient for the interaction term is very close to 0, which suggests that the parallel trends requirement is met for the pre-treatment time period.

Model 2 is a fixed effects regression, as we control for year and state fixed effects. The coefficient for Vaping Ban - the interaction between the time dummy and treatment dummy- shows a negative effect of the enactment of anti-vaping laws and lung disease-related hospitalizations, statistically significant to the 1 percent level.

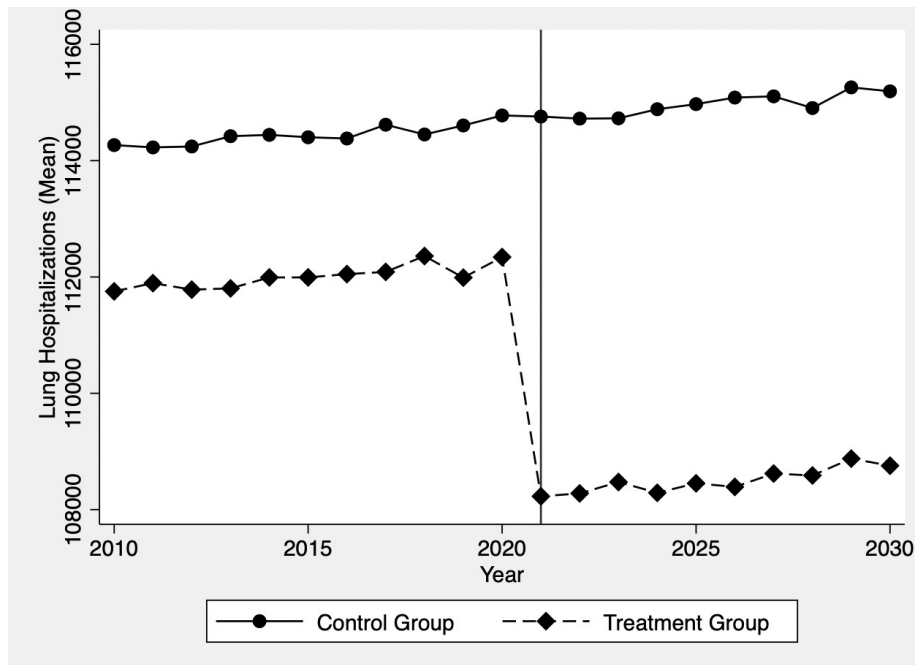


Figure 1: This figure depicts the parallel trends assumption between the treatment and control groups. In the pre-policy time period (2010-2020), the difference between the treatment and control groups' hospitalizations is constant over time. In the post-policy time period (after 2020), when anti-vaping laws were enacted in the treatment states, we can see that lung-disease related hospitalizations in treatment states dropped significantly compared to the control states. Since the two lines are roughly parallel in the pre-policy time period, the assumption is that the untreated states provide the appropriate counterfactual of the trend that the treated states would have followed if they hadn't passed anti-vaping laws.