test

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Part 2: Datasets and Modeling Framework

We utilize fifteen (15) independent variables and one (1) dependent variable for our analysis, which are as follows:

Table T1: Variable Descriptions

Table 1: Table S1: Variable Descriptions. * = dependent variable

Variables	Description	Data Source
Socioeconomic Status	Index which represents income, poverty, employment, and education.	Social Vulnerability Indices (SVI) taken from the US Census agency for toxic substances and disease registry (ATSDR)
Household Composition and Disability	Index with represents age, single parenting, and disability.	
Minority Status	Index which represents race and ethnicity.	
Housing Type and Transportation	Index which represents housing structure, crowding and vehicle access.	
Obesity	Number of people who are obese, at a county level.	University of Wisconsin's Population Health Institute
Unemployment	Number of unemployed adults per county.	
Uninsured Adults	Number of uninsured adults per county.	
Social Associations	Number of people who are members of a social organization (churches, clubs, etc).	
Diabetes	Number of people with diabetes at a county level.	
Food Insecurity	Index indicating the relative level of food insecurity in a county.	
Broadband Access	Number of people without broadband access.	
Population Density	Population density at a county level.	2020 US Census
Population Age 65+	Number of people age 65 or older in a county.	
Democratic Voting Percentage	Represents voting outcomes from the 2020 presidential general election.	Massachusettes Institute of Technology's (MIT) Election Lab
Vaccination Rate	CDC data for two dose vaccination rates at a county level, ending in April 1, 2022.	US Centers for Disease Control (CDC)
Population adjusted COVID-19 deaths*	Population-adjusted COVID-19 deaths per county.	

Using this framework, we constructed three (3) temporal model time frames:

1. Alpha variant time window (deaths calculated from December 1, 2019 to May 1, 2021)
2. Delta variant time window (deaths calculated from May 1, 2021, to December 1, 2021)
3. Omicron variant time window (deaths calculated from December 1, 2021 to April 1, 2022)

Part 3: Data Analysis and Regression: United States

Figure S5: Fatality Rate vs. Population Density

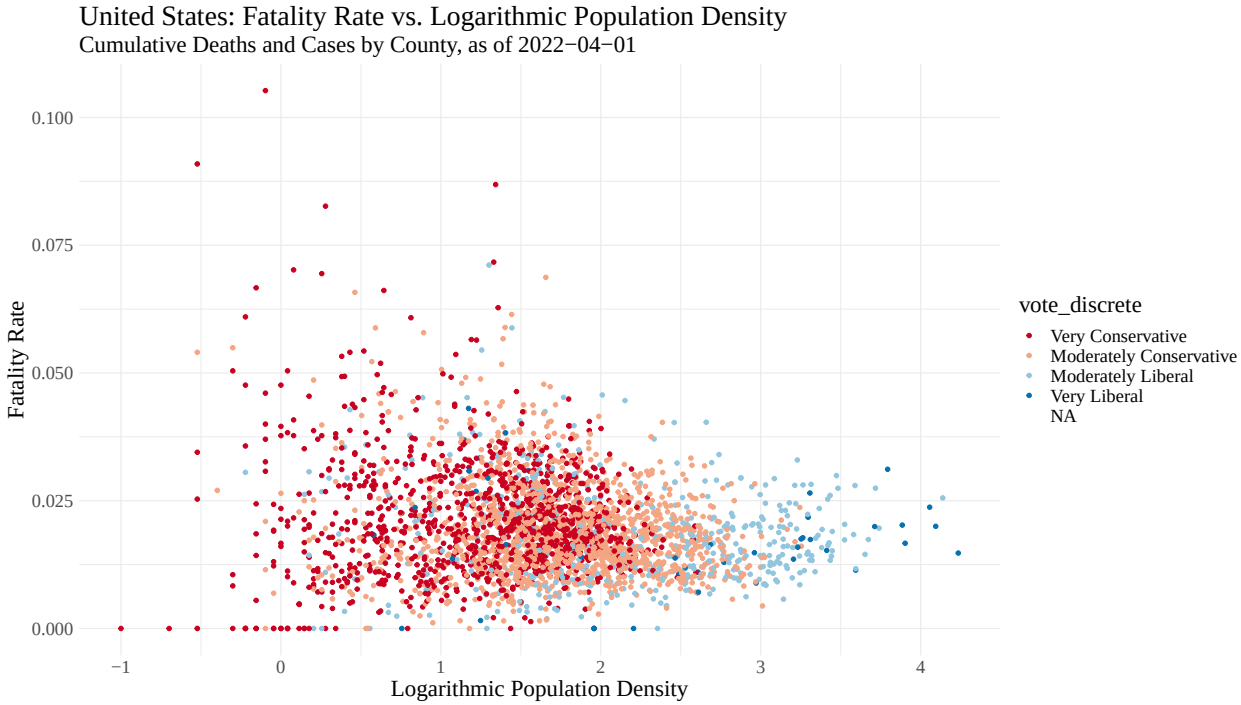

Figure S6: County Level Cumulative Cases vs. Cumulative Deaths

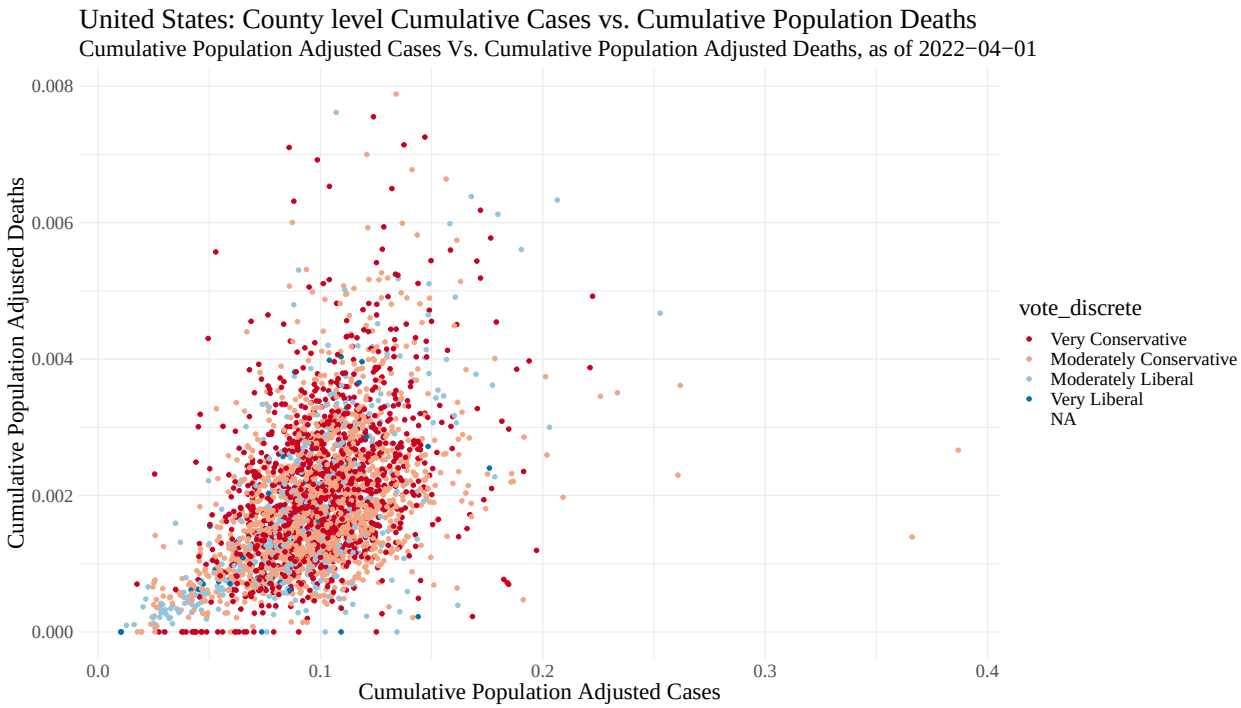

Figure S7: Population Adjusted Cumulative Deaths vs Ideology over time

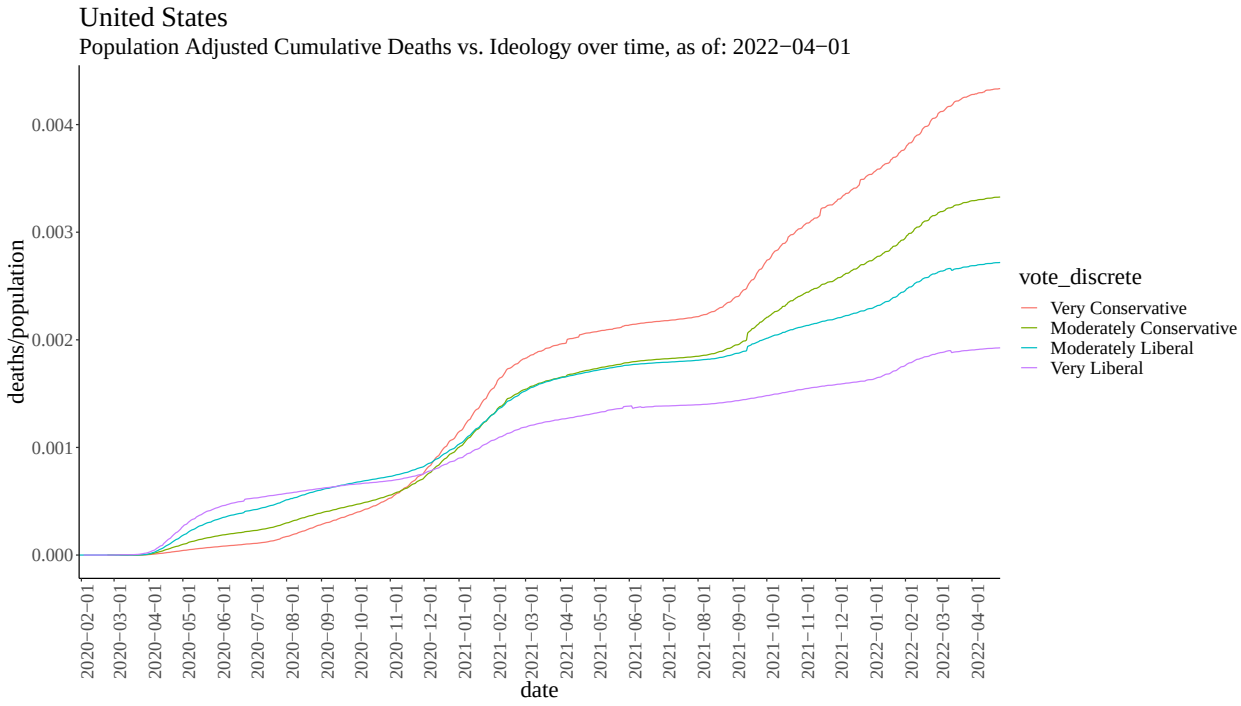

Table T2: United States: Regression Model Results

	Alpha Wave Deaths		**Delta Wave Deaths**		**Omicron Wave Deaths**	
Predictors	*Estimates*	*p*	*Estimates*	*p*	*Estimates*	*p*
Intercept	-0.00070	**<0.001**	0.00115	**<0.001**	0.00053	**<0.001**
Socioeconomic	-0.00000	0.984	0.00017	**0.010**	0.00041	**<0.001**
Household Composition & Disability	0.00026	**0.002**	0.00022	**<0.001**	0.00019	**<0.001**
Minority Status & Language	0.00038	**<0.001**	-0.00019	**<0.001**	-0.00029	**<0.001**
Housing Type & Transportation	0.00011	0.185	0.00015	**<0.001**	-0.00004	0.304
Democratic Voting Pct	-0.00066	**<0.001**	-0.00097	**<0.001**	-0.00079	**<0.001**
Vaccination Rate	0.00036	0.104	-0.00059	**<0.001**	0.00015	0.106
Population Density	0.00005	**0.003**	0.00001	0.292	0.00005	**<0.001**
Obesity	0.00075	**<0.001**	-0.00074	**<0.001**	-0.00041	**<0.001**
Uninsured Adults	0.00108	**<0.001**	0.00049	**<0.001**	-0.00011	0.124
Unemployed	0.00047	0.074	0.00059	**<0.001**	0.00018	0.109
Diabetes	0.00050	**0.016**	0.00075	**<0.001**	0.00054	**<0.001**
Food Insecurity	-0.00041	0.064	0.00040	**<0.001**	-0.00030	**0.001**
Social Associations	0.00280	**<0.001**	-0.00044	**<0.001**	0.00034	**<0.001**
Age over 65	0.00000	**0.001**	0.00000	0.580	0.00000	0.542
Broadband Access	0.00328	**<0.001**	-0.00031	0.061	0.00046	**0.001**
Observations	3093		3093		3093	
R^2 / R^2 adjusted	0.256 / 0.253		0.358 / 0.355		0.282 / 0.278	