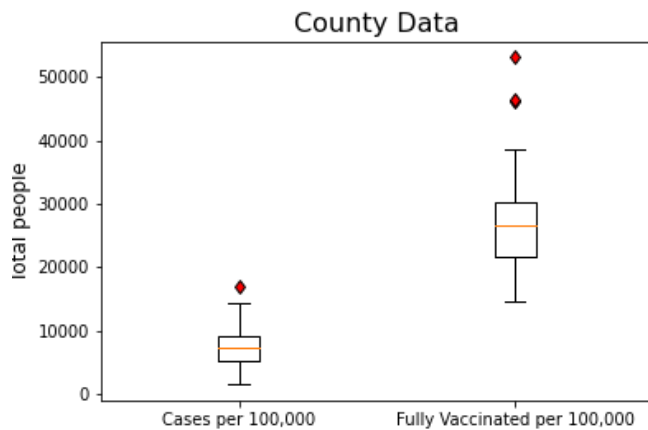


Covid-19 California

Graphs and Figures

Data Cleaning/Exploration

Figure C.1

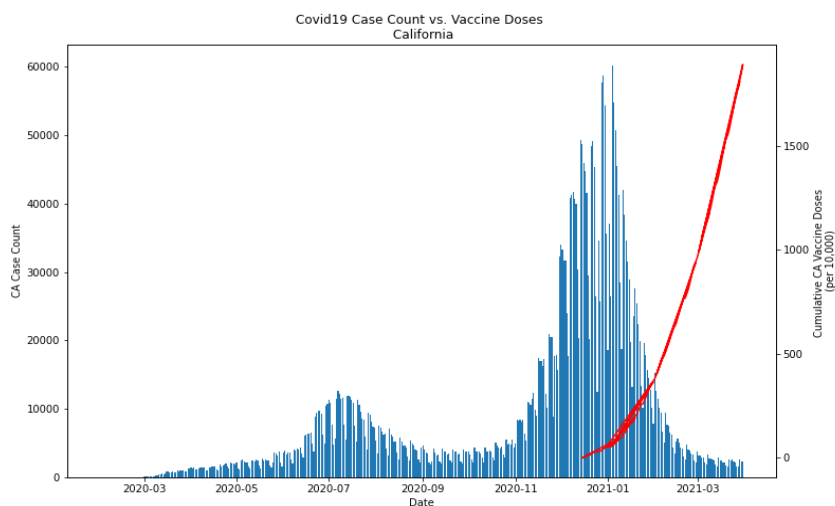


This box plot illustrates the numbers of cases and fully vaccinated individuals per county. Populations are per 100,000 to normalize data.

Data Analysis

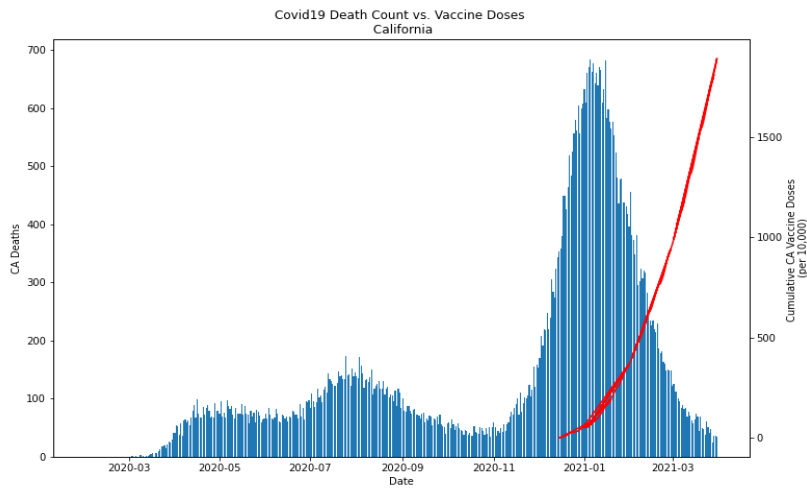
Research question 1: How has the introduction of the Covid vaccine affected case/death rate in California?

Fig 1.1



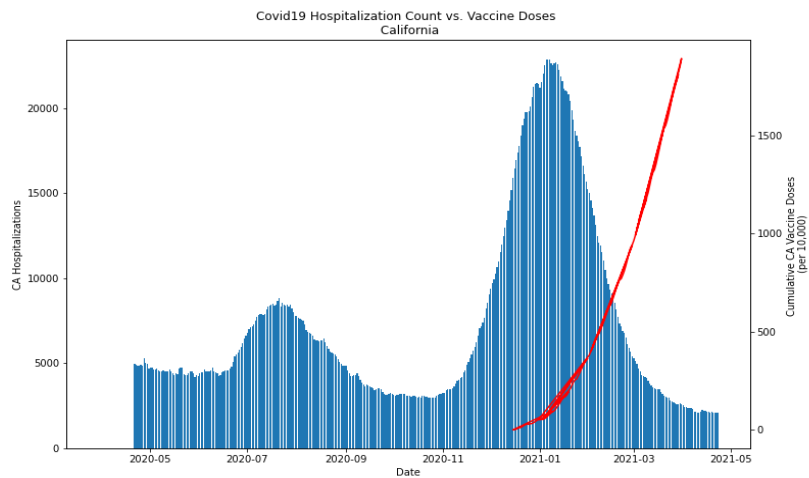
The bar graph illustrates the number of cases state-wide. State-wide vaccine doses are illustrated by the red curve.

Fig 1.2



The bar graph illustrates the number of deaths state-wide. State-wide vaccine doses are illustrated by the red curve.

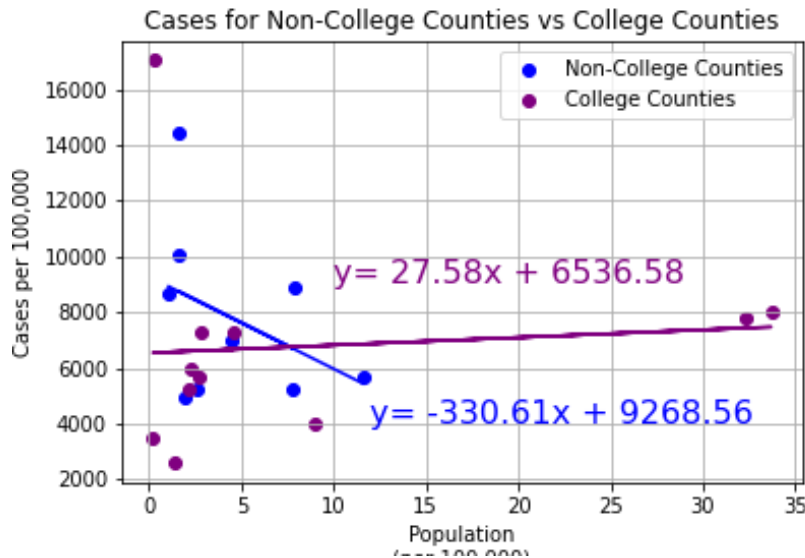
Fig 1.3



The bar graph illustrates the number of hospitalizations state-wide. State-wide vaccine doses are illustrated by the red curve.

Research Question 2: Do “college” towns play a larger role in case surges?

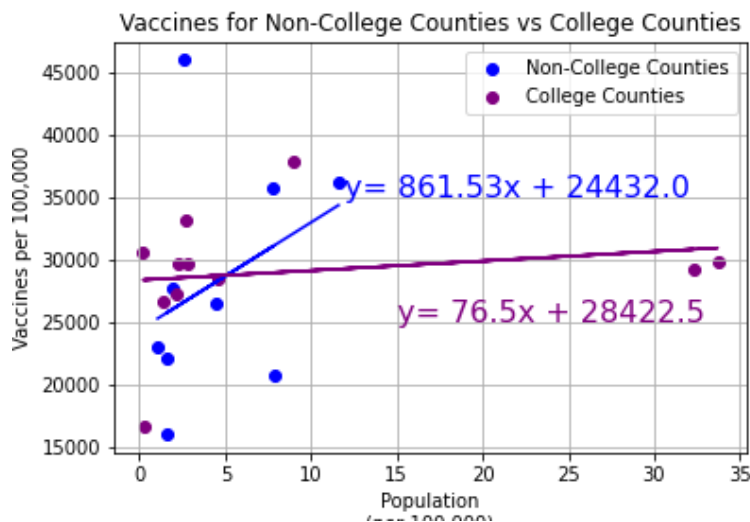
Fig 2.1



The correlation coefficient for non-college counties is -0.39.
The correlation coefficient for college counties is 0.09.

A scatter plot was used to compare cases in non-college counties to college counties. The correlation coefficients suggest that population is not a factor for college counties but may influence non-college counties. Additional testing is needed to determine significance.

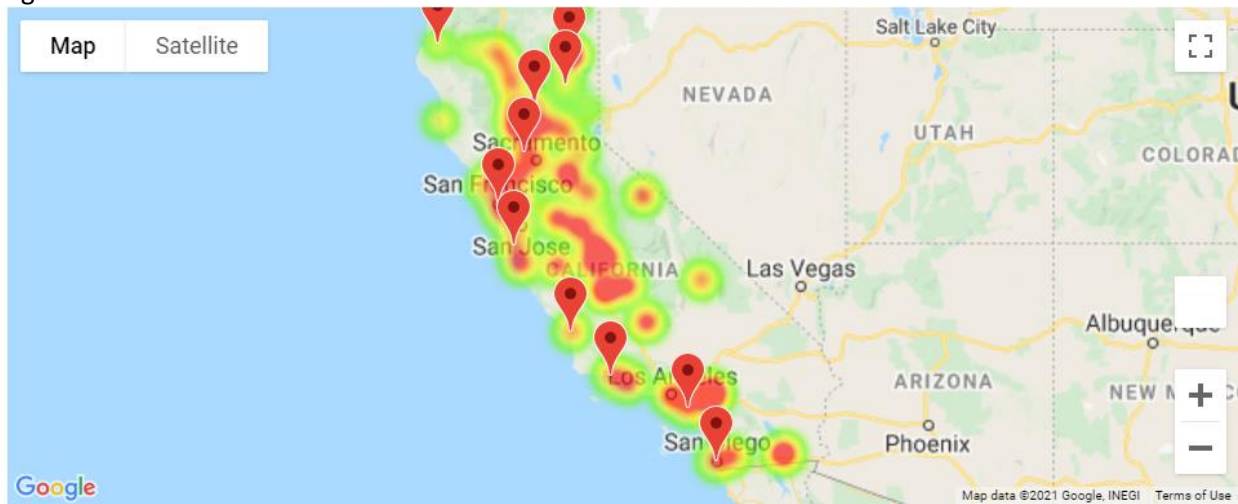
Fig 2.2



The correlation coefficient for non-college counties is 0.34.
The correlation coefficient for college counties is 0.19.

We see similar results when comparing fully vaccinated individuals.

Fig 2.3



This heatmap is weighted by number of Covid cases. The pins represent counties with the highest student population percentage.

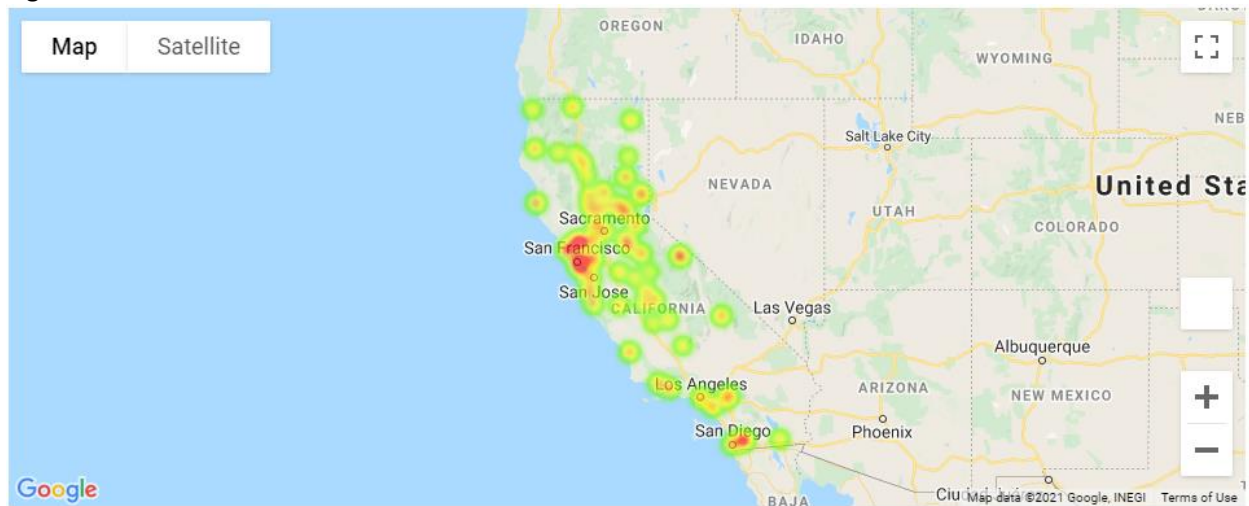
Fig 2.4



This heatmap is weighted by number of fully vaccinated persons. The colors have been inverted, so higher vaccines are green. The pins represent counties with the highest student population percentage.

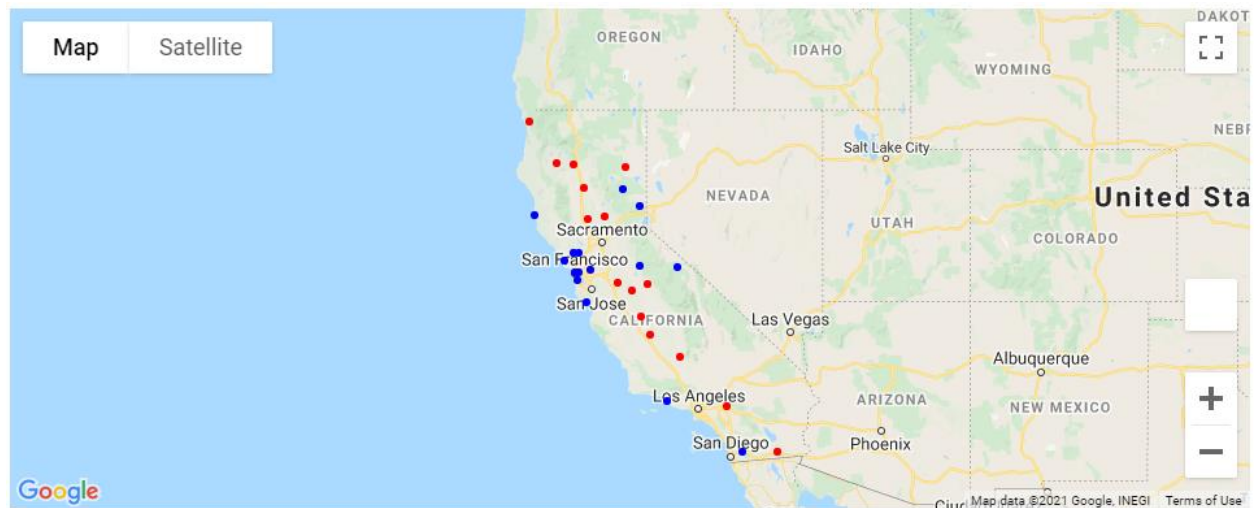
Research Question 3: Did a county's Covid-19 case numbers affect it's vaccination rates?

Fig 3.1



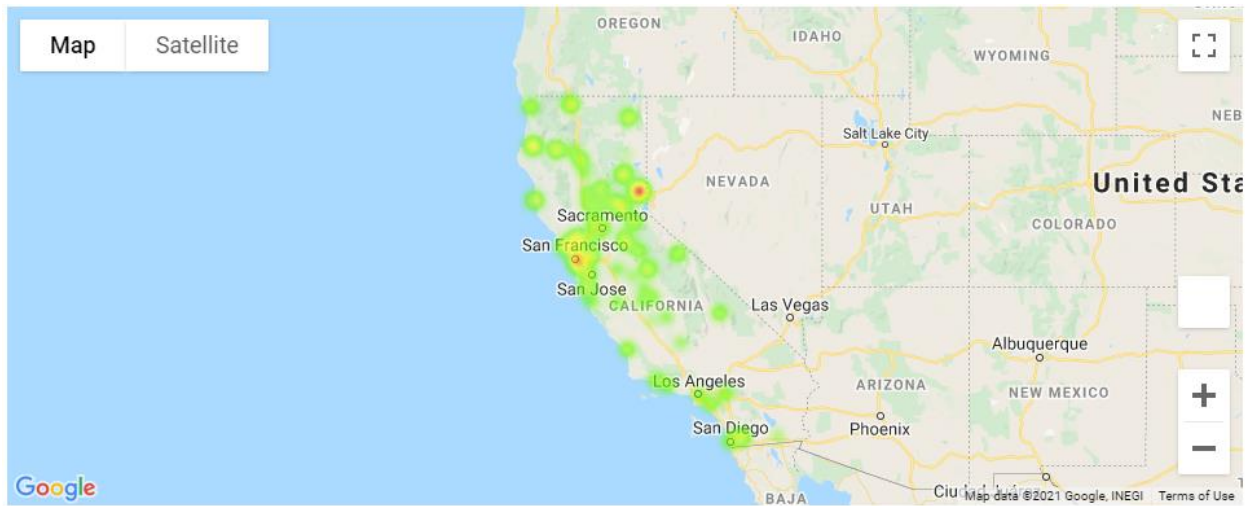
Heatmap of counties with the highest vaccinations per 100,000 people.

Fig 3.2



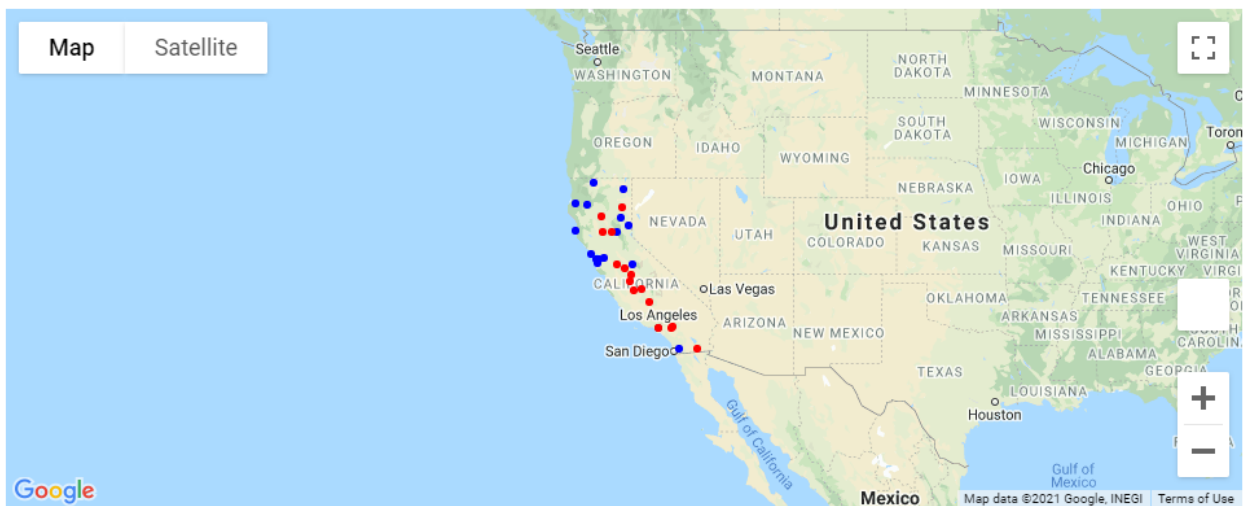
The map above shows the distribution of counties in the top 25% (blue) of vaccination rates and the bottom 25% (red) of vaccination rates.

Fig 3.3



The above heatmap shows counties that administered more vaccines per Covid-19 case. The vaccine/case ratio may possibly be used as a measurement of the reaction the county had in response to how much the virus affected them.

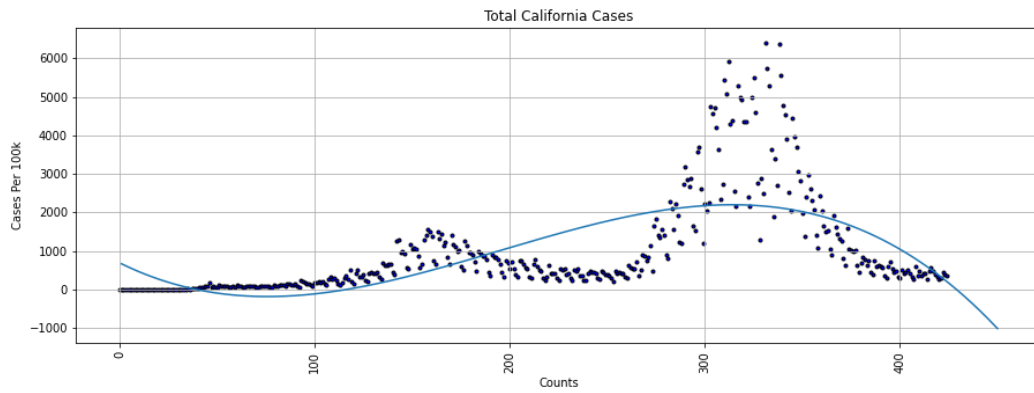
Fig 3.4



The map above shows the distribution of counties in the top 25% (blue) of vaccinations/case and the bottom 25% (red) of vaccinations/case.

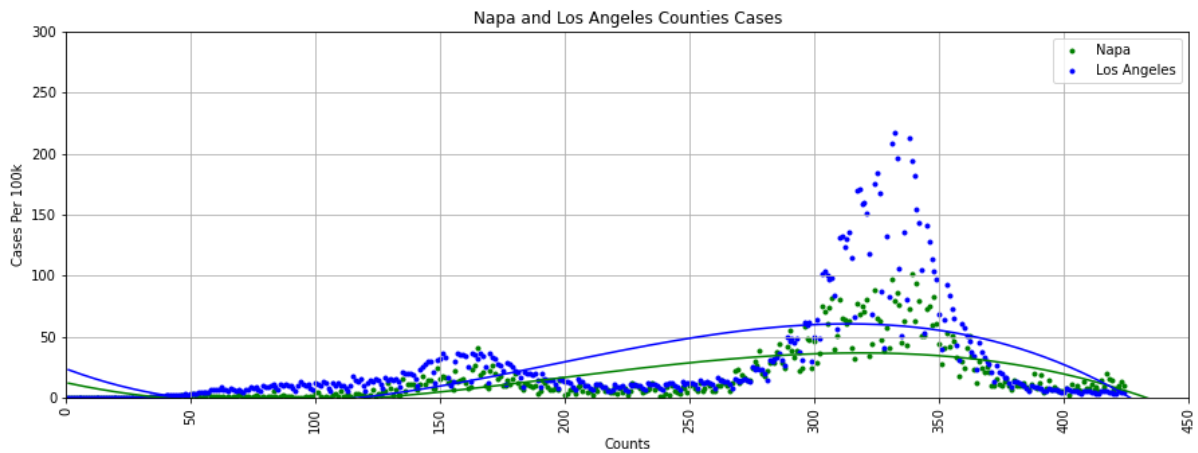
Research Question 4: Can we predict when California will return to “normal”?

Fig 4.1



A scatter plot of all California cases fit with a polynomial regression curve.

Fig 4.2



Scatter plots with polynomial regressions comparing Los Angeles County and Napa County.