

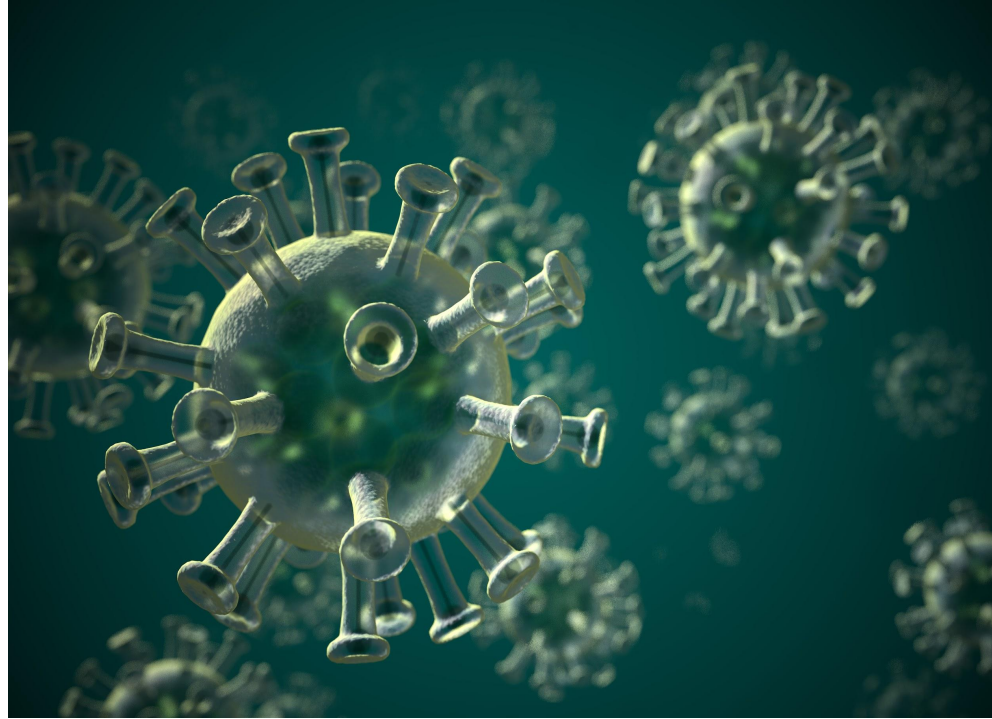
Effectiveness of COVID VACCINE in USA

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Research Question

**How has COVID 19
vaccination impacted
the daily death cases
and new cases in
USA?**





Data Information

- The COVID-19 dataset is from Kaggle
- 774 observations
- 14 Variables

```
<class 'pandas.core.frame.DataFrame'>
```

```
Int64Index: 774 entries, 157222 to 157995
```

```
Data columns (total 14 columns):
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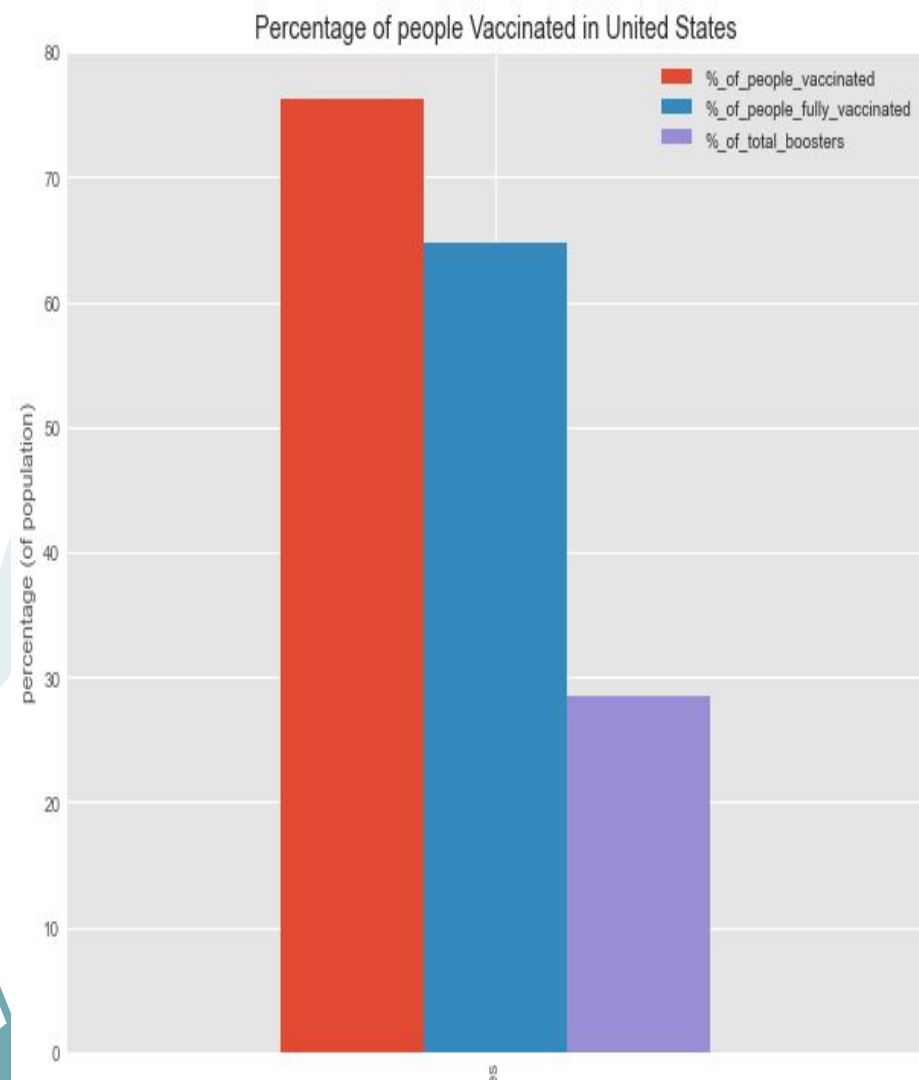
#	Column	Non-Null Count	Dtype
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0	location	774 non-null	object
1	date	774 non-null	object
2	population	774 non-null	float64
3	total_deaths	736 non-null	float64
4	new_deaths	736 non-null	float64
5	total_cases	774 non-null	float64
6	new_cases	773 non-null	float64
7	people_vaccinated	448 non-null	float64
8	people_fully_vaccinated	448 non-null	float64
9	total_boosters	205 non-null	float64
10	new_vaccinations	447 non-null	float64
11	people_fully_vaccinated_per_hundred	448 non-null	float64
12	new_deaths_per_million	736 non-null	float64
13	new_cases_per_million	773 non-null	float64

dtypes: float64(12), object(2)

memory usage: 90.7+ KB

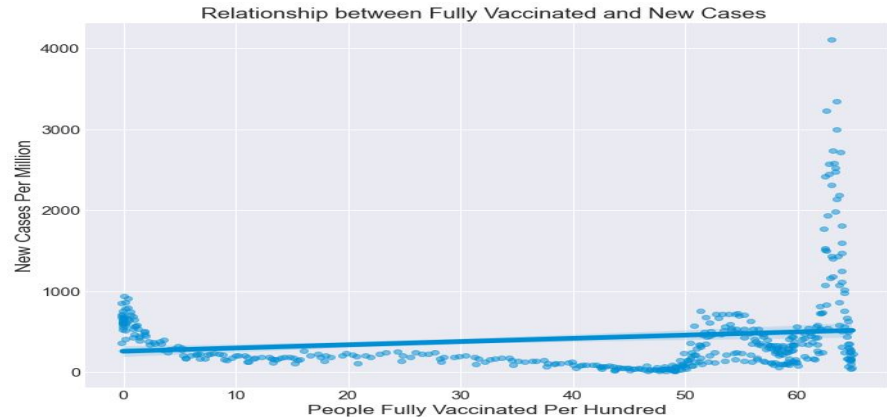
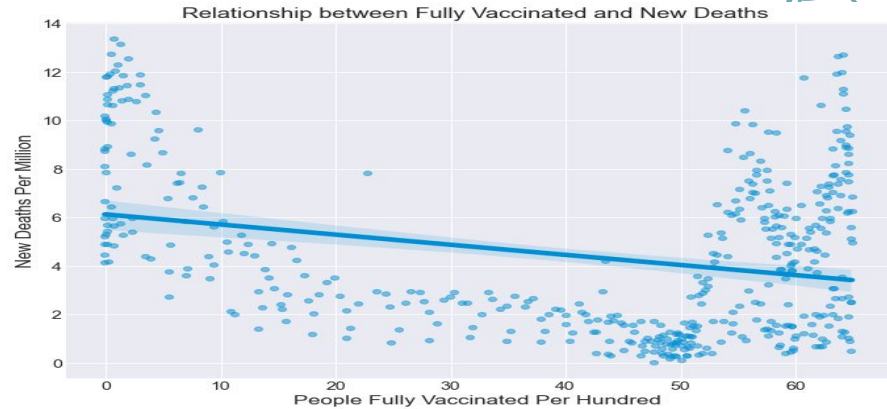
Vaccination Percentage

- Vaccination started since December 2020.
- Until the month of March, approximately 76% people were vaccinated.
- Approximately 64% were completely vaccinated.
- Lastly, approximately 28% received booster shots.

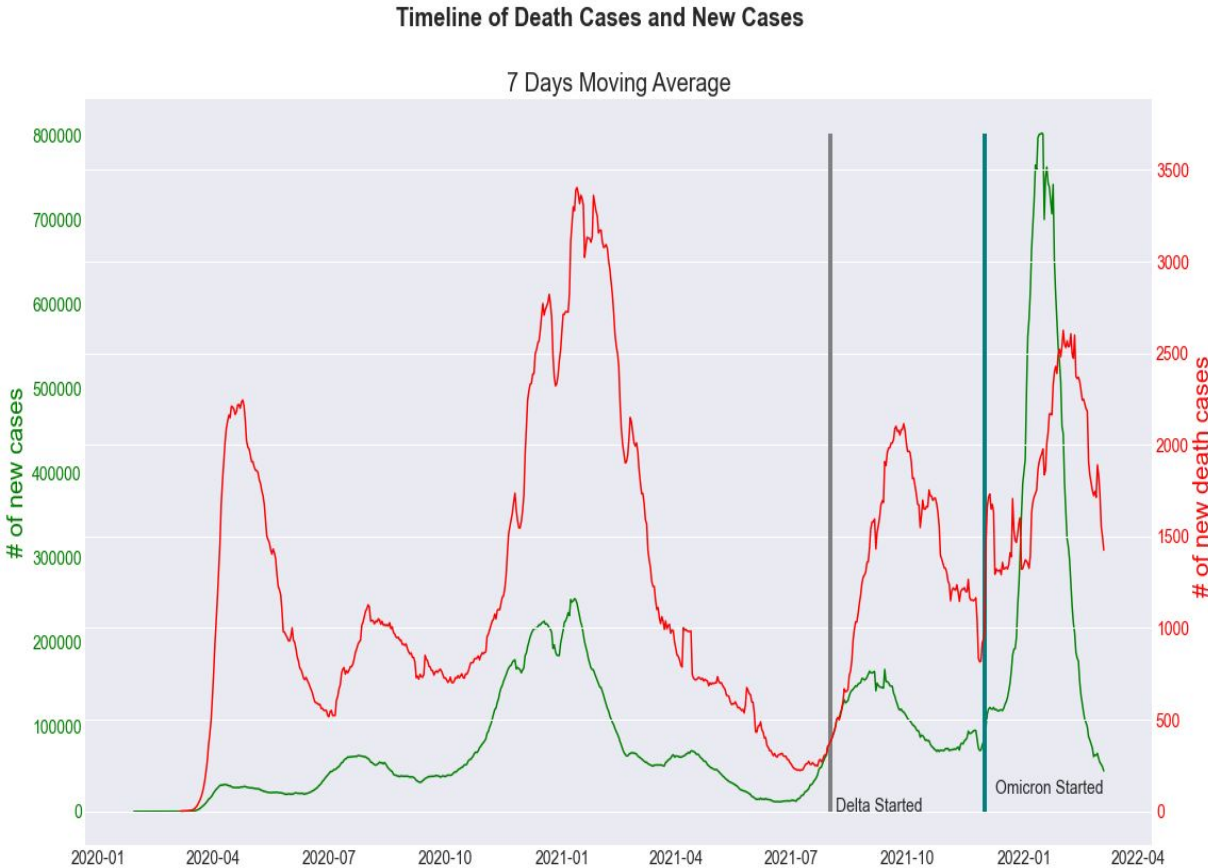


Covid19 Vaccine Impact on Daily Death Cases and New Cases

- The general pattern is a U shape.
- The death cases and new cases were gradually decreasing until new variants came out.



Timeline of 7 Day MA of Daily Death Cases and New Cases



- Vaccination has aided in lowering the number of deaths.
- However, as the delta and omicron variants emerged, the number of new cases in the U.S was over 4 times greater than the previous peak.
- Therefore, compared to before vaccination, even though the new cases didn't significantly reduce, the daily death cases lowered which proves that vaccination has made covid less life-threatening.

Limitations



- The data didn't provide information on basis of vaccination status.
- Which is why it will be difficult to differentiate if the majority of those that have covid or died have been vaccinated or not.



Thank you