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COVID-19 Data Visualization & Analysis

Coronavirus Villages Rapid Testing:

Data preprocessing and cleansing using Python and Jupyter Notebook
Seaborn, Matplotlib and Tableau were used for data analysis and visualization for
valuable insights on COVID data.

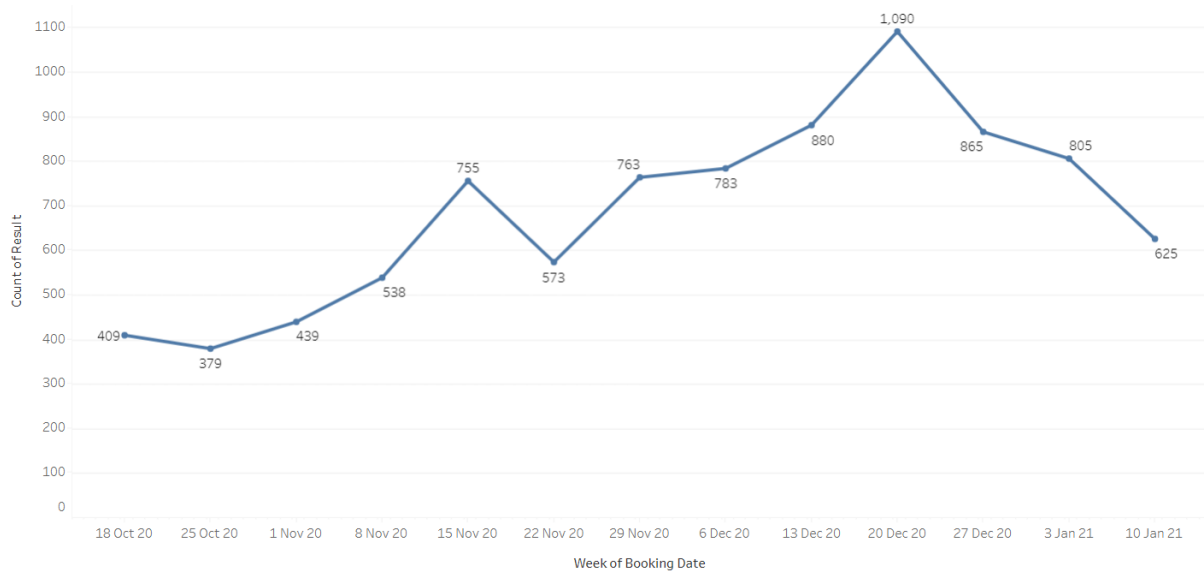
Summary

The updated dataset had a total of 8922 Abbott Rapid Tests that were completed from Oct 19th, 2020, till Jan 14th, 2021, at the primary Care Centers. Out of these samples, **882** samples have tested positive for COVID-19 with an overall positivity rate of **9.89%**.

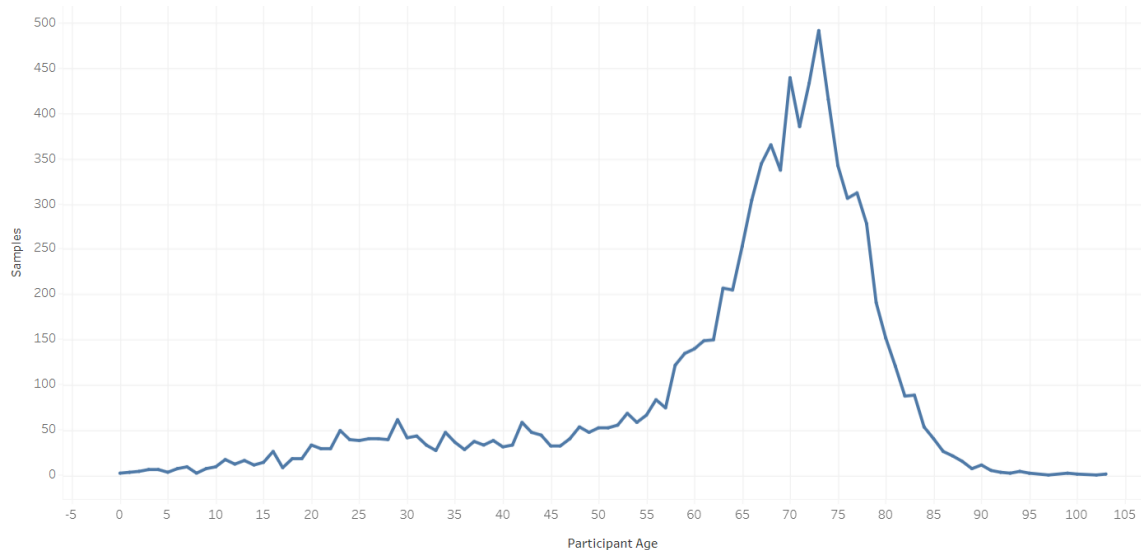
Test Results of COVID Data

Cases	Instances	Total Samples	% Value
Positive	882	8922	9.89
Negative	8040	8922	90.11

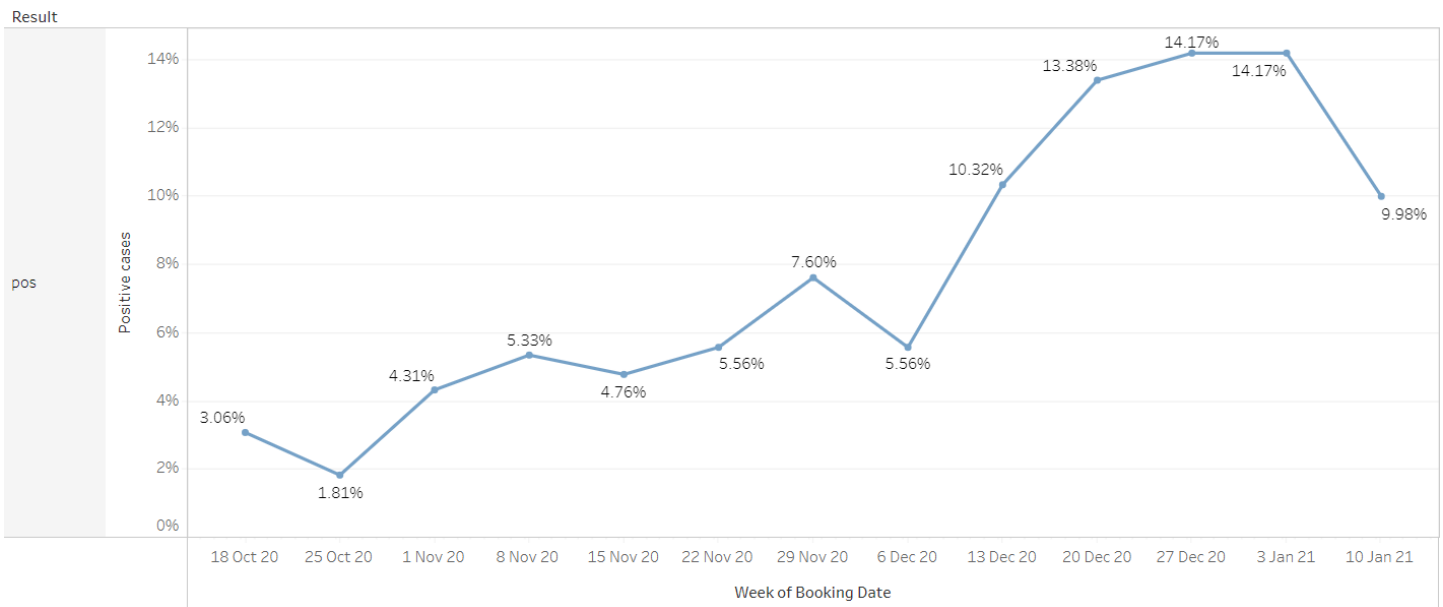
Number of Samples Tested Weekly



Age vs Samples



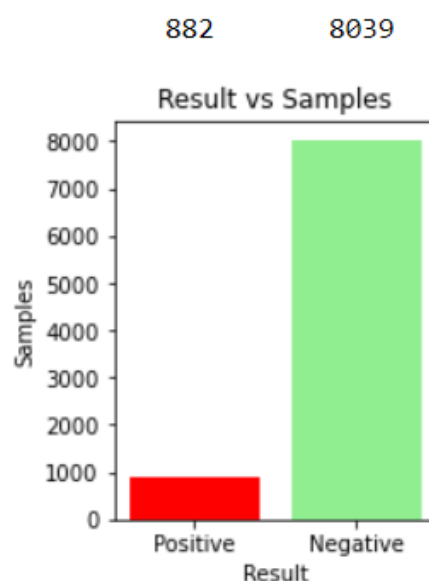
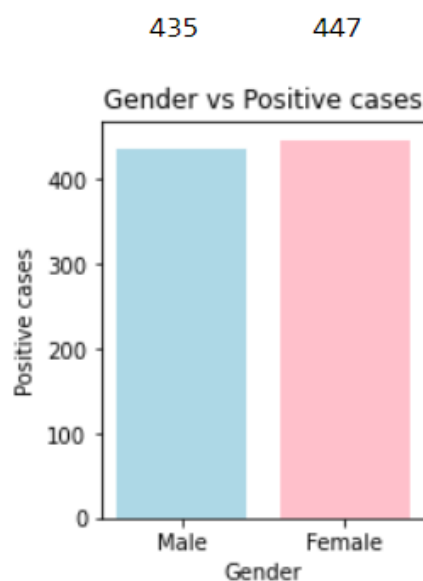
Postive cases by Week



From the above graphs, we can infer some useful insights about the data provided,

- The number of test samples recorded, and the COVID-19 positivity rate peaked in the second half of December around the 2nd and 3rd week.
- Although there was a dip in the number of positive cases there has been a rise in the month of December before declining again.
- Majority of the samples were from people ageing between 55-85 years and peaked to about 500 samples in the 70 to 75-year range.

Summary and other insights based on various Demographics



Effect of Living Arrangement in Positive cases

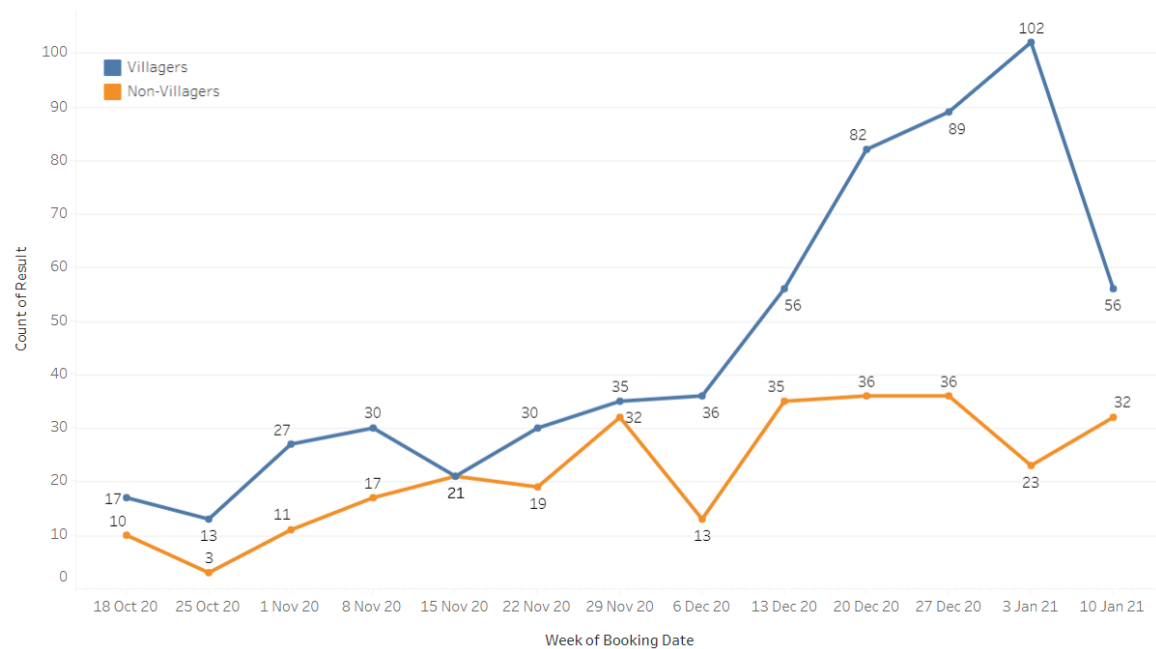
Living Arrangement	Positive	Negative	Total Sample data	Positivity Rate %
Living Alone	81	856	937	8.64
Living with atleast one person	652	5796	6448	10.11
Data Unavailble	149	1369	1519	9.81

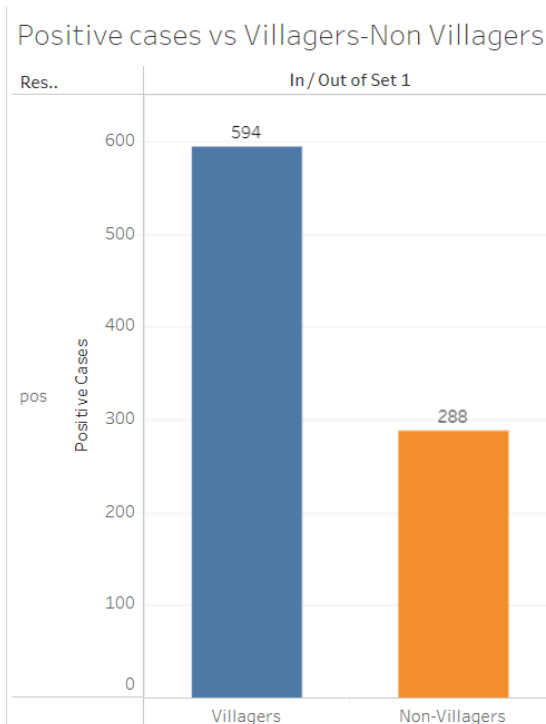
Positive Data Analysis and Visualization

Villagers vs Non-Villagers

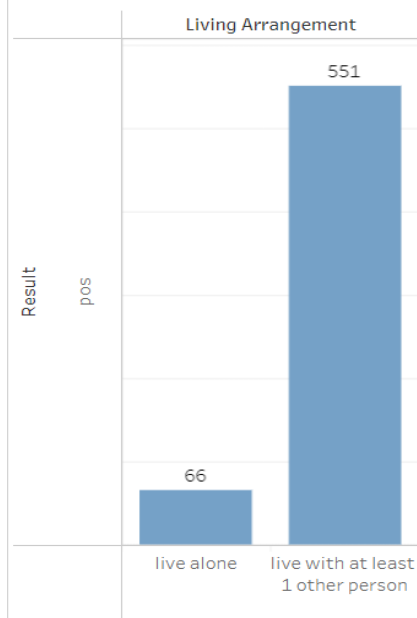
	Positive	Total Samples	Positivity Rate %
Villager	594	6050	9.82
Non-Villager	288	2452	11.75

Positive Cases - Villagers and Non-Villagers



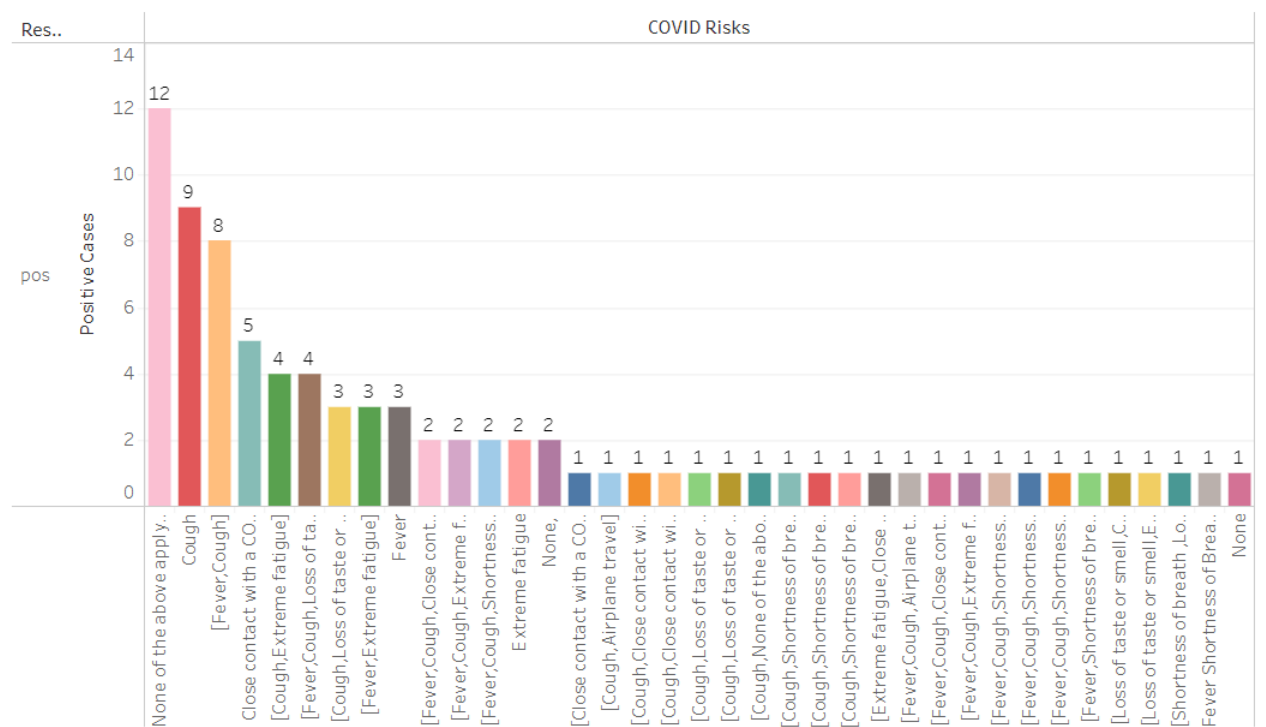


Positive cases vs Living Arrangements

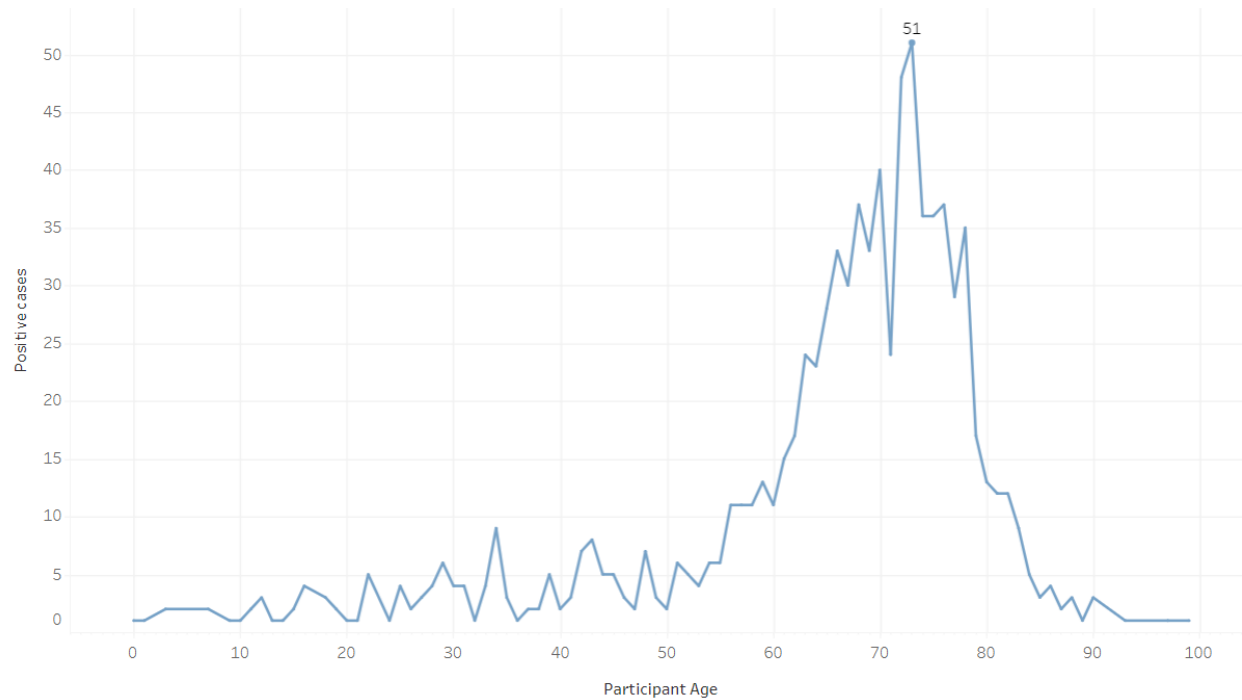


- The number of number of villagers who tested positive is quite higher than the non-villagers.
- Also, most of the people who tested positive live with at least one other person, thus, the risk analysis of those who live alone can be used to understand this better.

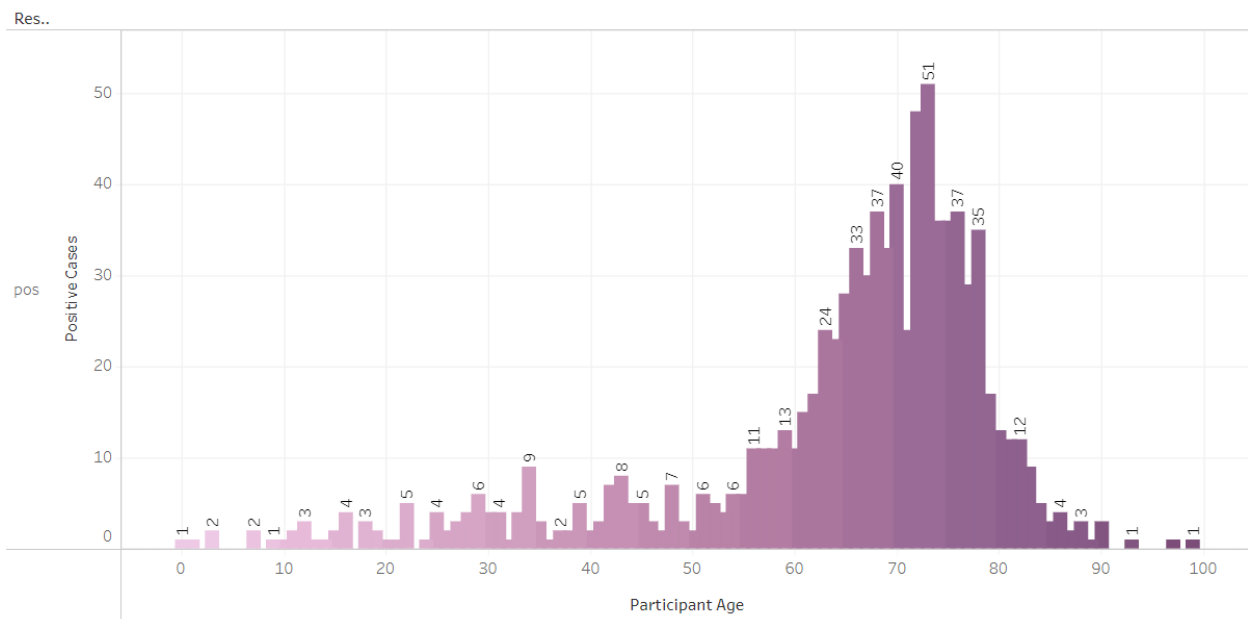
Positive cases vs Risks (Lives Alone)



Frequency of Positive Cases by Age



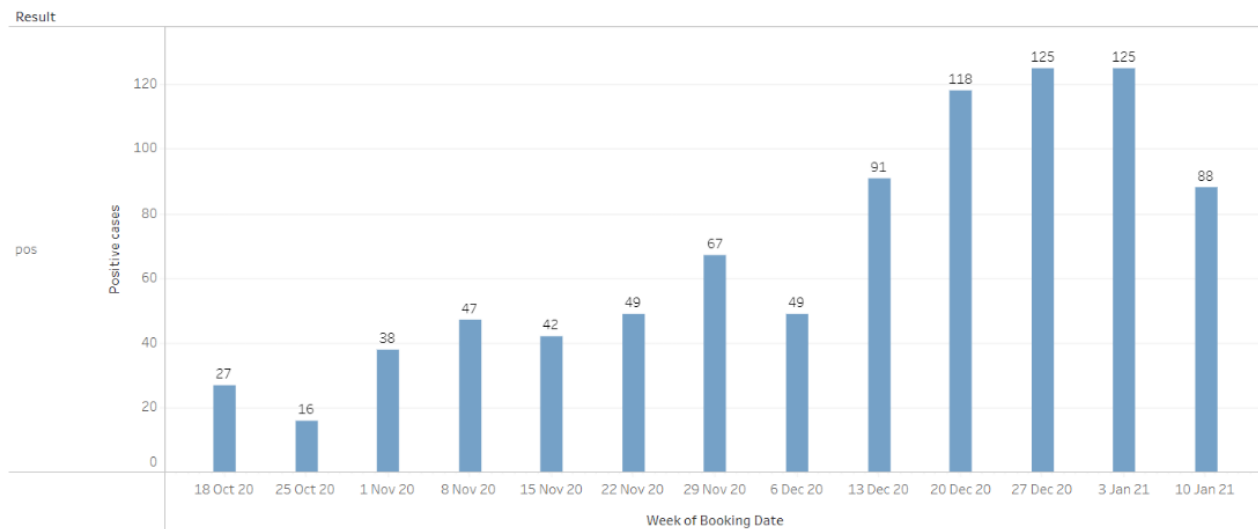
Positive cases vs Age Graph



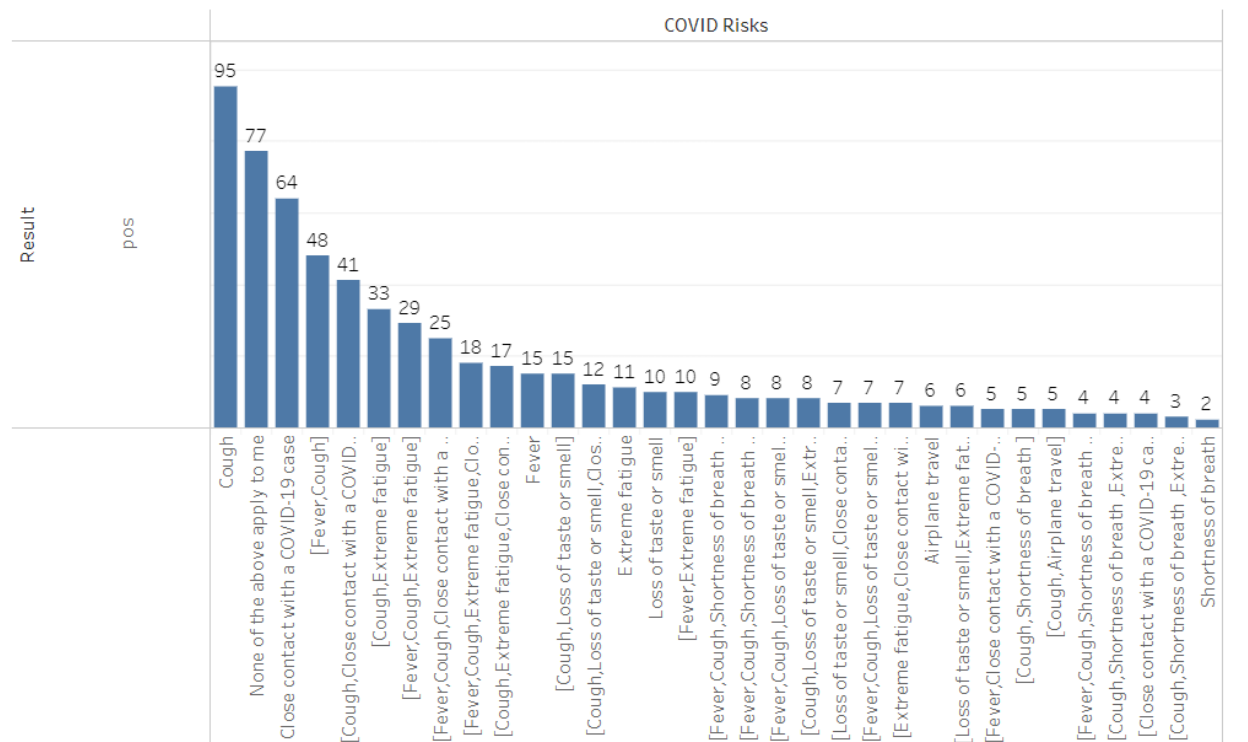
- As we observe even the frequency of positive cases is high for older people ranging between 50 to 80 in proportion to the number of samples that were tested above.

- The highest number of positive cases is 51 at the age of **72 years** in the dataset and we can infer that people who are older are effected the most by COVID-19 as per the sample data.

Postive cases by Week



COVID Risks Analysis



- From the weekly positive cases barplot, we see the number of new cases arising every week and a highest of **125 cases** in the last two weeks of December when it peaked.

- The most important insight about the potential COVID-19 Risks and the symptoms can be seen that the people who tested positive topmost risk/symptoms are **Cough**, followed by **Close contact with a COVID-19 case** and **Fever and Extreme fatigue**.