**DSCI 5360**

**Executive Summary**

**Visualization of Covid Impact**

TEAM MEMBERS

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**Research:**

The current pandemic which became the part of all our life made inquisitive health impact on all of us. Our team wanted to explore the data make a note of how this impacted the daily lives of people. We are curious to explore, research and visualize how the pandemic grew across the globe and it’s shrunk by vaccinations in the years, the agonizing part the numerous deaths because of pandemic and cumbersome living of victims.

We had the data scientist work even during this time to make the people aware of the pandemic in numbers and graphs that showcases and at the same time precited the ramifications of the corona. This has helped every individual in many ways, so our team wanted to work with the post effects and demonstrate those.

To achieve the above research and cover through all the aspects of the effect we have divided our topic into 4 categories:

1. Covid victims – This category deals with the people who got effected with the covid across the globe and also people who died due to this pandemic.
2. Hospitals - This category showcases the health sector of the covid, how many people were being admitted at the time of this pandemic how the hospitals have increased their capacities with the least resources possible.
3. Health – This category is the post effect of the covid on the people, as the pandemic grew it made mankind get into their homes and shut the doors with fear. Which gave rise to lot of mental stress and physical infirm. A new experimental data system for monitoring mental health has been developed by the National Centre for Health Statistics (NCHS) and the Census Bureau. It was designed to complement the ability of the federal statistical system to respond rapidly to the occurrence of the Coronavirus pandemic within the United States.
4. Vaccination – The ray of hope across the globe, thought the pandemic didn’t get washed out with the vaccinations but it has given a health boost. We are showcasing number of people being vaccinated with dosage 1 /dose 2 / a booster shot. Based on different regions and the United States alone, how many are still unvaccinated, so that we may emphasize and raise awareness about the importance of vaccination in controlling and eradicating the epidemic

**Data:**

As the world has seen a new pandemic with no proper cure. The world got alerted and there is lot of data being collected. This has given our team an opportunity to work with the data and demonstrate the effects. We had few options available for the datasets of them we the chosen the best possible for our research goal and also the ones which had better data.

Our projects deal with the records of the vaccinations, effected peoples, covid caused deaths, hospital records, mental health so there were lot of databases required for it viz

1. Covid Vaccinations:
   1. Covid-Vaccination-Doses-Per-Capita-Book
   2. US-Vaccinated-List
   3. Vaccinations-By-Age-Group-Book
   4. Owid-covid-data
2. Covid victims:
   1. Covid-19 Activity Extract
3. Hospitals:
   1. Covid hospital capacity
4. Post covid Health:
   1. Covid stress and anxiety data

We are attaching a copy of our data sources to make this project run in any system. Also, the links for the databases stated above are:

1. <https://data.sfgov.org/COVID-19/COVID-19-Hospitalizations/nxjg-bhem>
2. <https://data.cdc.gov/NCHS/Indicators-of-Anxiety-or-Depression-Based-on-Repor/8pt5-q6w>
3. <https://www.vdh.virginia.gov/coronavirus/get-the-facts/variants-of-covid/>
4. <https://ourworldindata.org/covid-vaccinations>
5. <https://www.who.int/data/gho/>

**Description:**

1. **Covid-19 Impact on Mental Health**

Covid-19 impact on mental health in all over United States filtered by their age, sex and states. Age group from 18-29 having more anxiety or depression. Accurate form of indicator is also present more in this age group compared to any other. Phase 1 of the Household Pulse Survey data collection took place between April 23, 2020, and July 21, 2020. 8.2% of adults aged 18 and over suffered from an anxiety disorder, 6.5% experienced a depressive disorder, and 10.8% had both anxiety and depression. Mississippi is the state which had significant effect on the mental health at the short period of time which having value above 50. (Value terms the disorder score)

1. **Vaccinations:**

I discovered the most interesting element, which is the age group category, which includes countries other than the United States. People who are older are less likely to be vaccinated, which could be due to additional health hazards or a lack of regard for the elderly. Again, it is dependent on the region. This is demonstrated in the following screenshots.

Figure- a:

Map

Description automatically generated

Figure-b:

Timeline

Description automatically generated with low confidence

Figure-c: The United States has got a large number of vaccinated people of all ages; they have increased vaccine awareness and availability in places such as pharmacies, schools, offices, counties, and open tents.

Map

Description automatically generated

1. **Covid 19 Hospital Capacity:**

The Visualization shows that, monthly available & surge bed count in both acute and intensive care. During the early 2020, beds available in the hospital are comparatively less than second half of the year. Until June 2021, there was a consistent availability of beds in the hospitals of San Francisco

Figure-a: This dashboard has the parameters Month, Bed Type, count of status and Count of beds.

Graphical user interface, text, application

Description automatically generated

Figure-b:

Graphical user interface, application

Description automatically generated

1. **Covid-19 Victims:**

From the sheets and the dashboards that have been designed, the conclusion that we could draw is the highest number of covid cases are recorded in the North America regions that too mostly in the United States of America. And the trend lines that we calculated matched the results with a high accuracy. Also, there were the greatest number of deaths in the United States region followed by Brazil.

**Conclusion:**

We have designed and visualized the research and main aim of our project. We have seen and also forecasted many cases. Also, our project helps in visualising the outcomes of post covid. Additionally, we have also animated sheets to have better perspective.