

Preparing for Influenza Season in the United States



Project Goal

To determine when and where to send medical staff, and how many, to each state.



Tools used

Microsoft Word
Microsoft Excel
Microsoft PowerPoint
Tableau



Data Sets

➤ [CDC](#)
➤ [CDC Flu View](#)
➤ [Surveys of Flu Shots](#)



Skills used

Data cleaning
Spatial analysis
Textual analysis
Visualizations and Forecasting
Storytelling with Tableau
Presenting findings to stakeholders

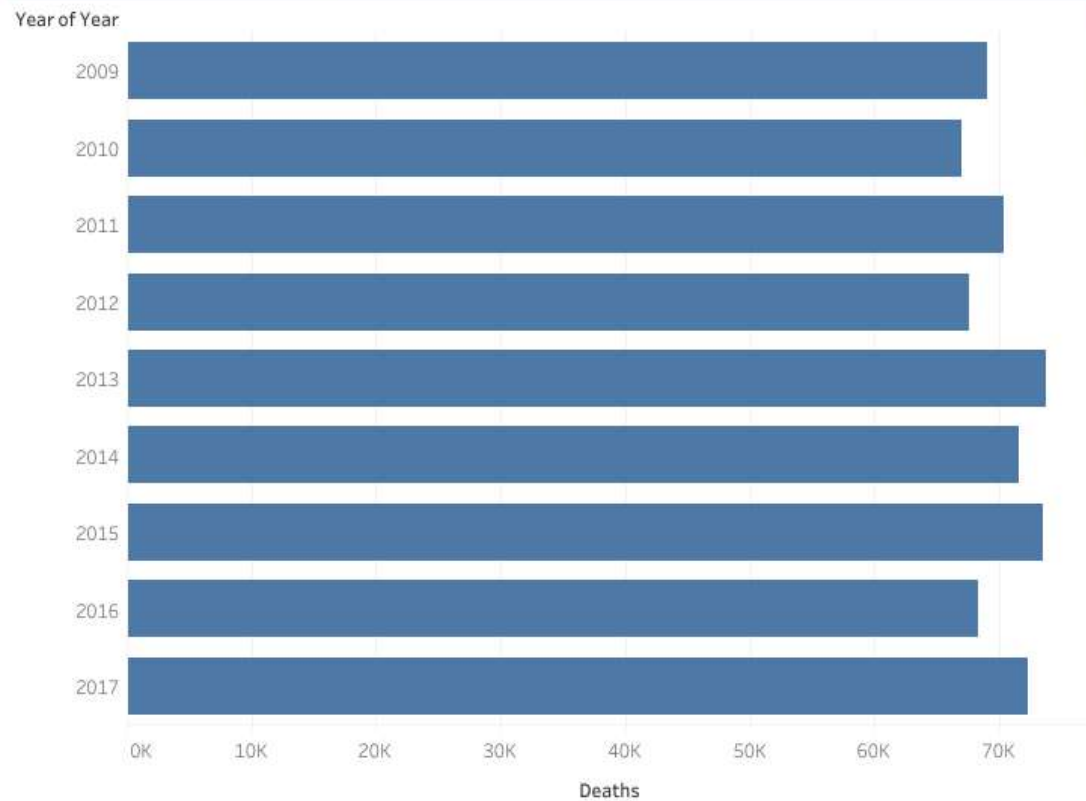
Project Overview

- ▶ **Motivation** : The United States has an influenza season where more people than usual suffer from the flu. Some people, particularly those in vulnerable populations, develop serious complications and end up in the hospital. Hospitals and clinics need additional staff to adequately treat these extra patients. The medical staffing agency provides this temporary staff.
- ▶ **Objective** : Determine what age group has the highest medical staff demand, which areas affected most and when to send staff.
- ▶ **Scope** : The agency covers all hospitals in each of the 50 states of the United States, and the project will plan for the upcoming influenza season.
- ▶ **Duration** : It takes 30 days to analyze the project using the data analytics tools and to complete the visualization part.

Providing Medical Staff in Influenza season

To help a medical staffing agency that provides temporary workers to clinics and hospitals on an as-needed basis. The analysis will help plan for influenza season, a time when additional staff are in high demand. The final results will examine trends in influenza and how they can be used to proactively plan for staffing needs across the country.

Influenza Death rate by Year



Which states has most vulnerable population to hospitalization and deaths due to Influenza?



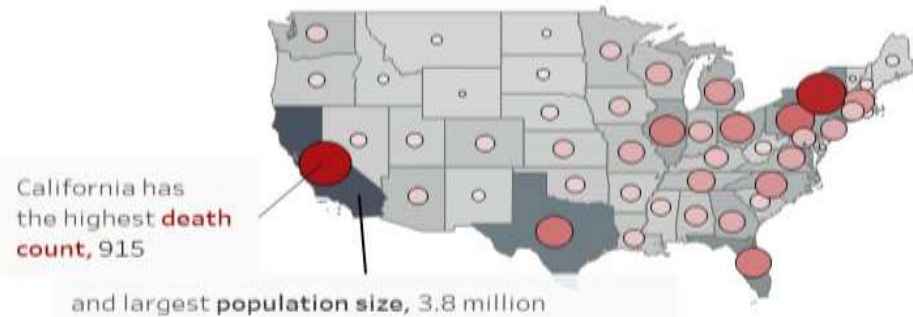
Aim is to provide additional medical staff to the places which affected more by Influenza and also to the places where more deaths happened.

Project Analysis

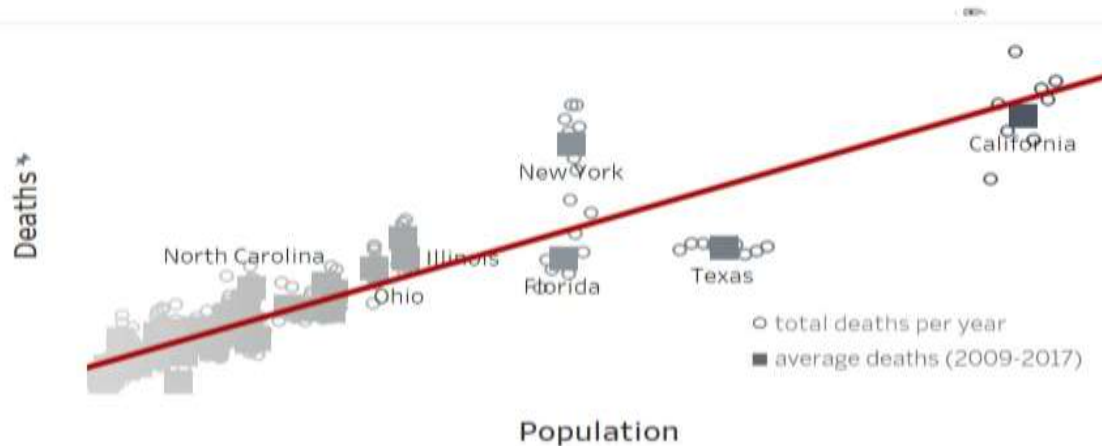
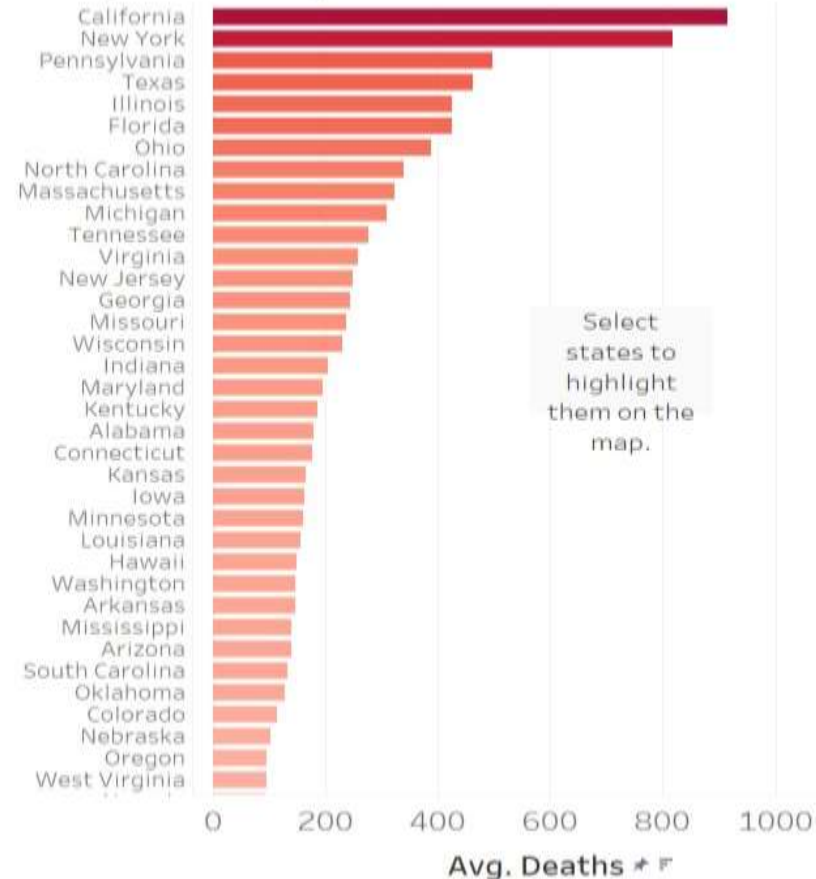
- **Data Immersion methods** : Started with requirements like collecting data, by doing data analysis in MS excel by using pivot tables and statistical analysis, I got to know that the 65+ years age group has the highest number of deaths.
- **Data Visualization (Tableau)** : During Visualization part, using tableau I analyzed the answers to the questions like
 - Which states that have the highest number of 65 years and above age populations?
 - When does the flu season begin and end in each state?
 - Which states has the highest rate of flu related deaths?
 - Are 65+ people have more Influenza cause deaths or affects in winter season?

Where is the Highest demand?

Average Death Counts and Average Population sizes
(2009-2017)

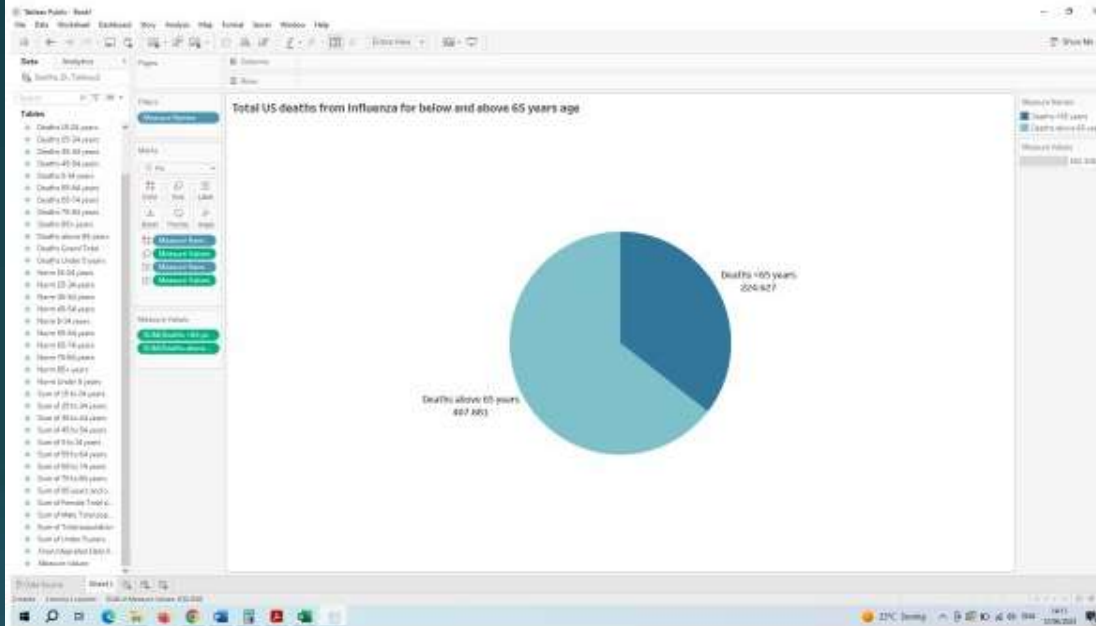


Average Deaths by State



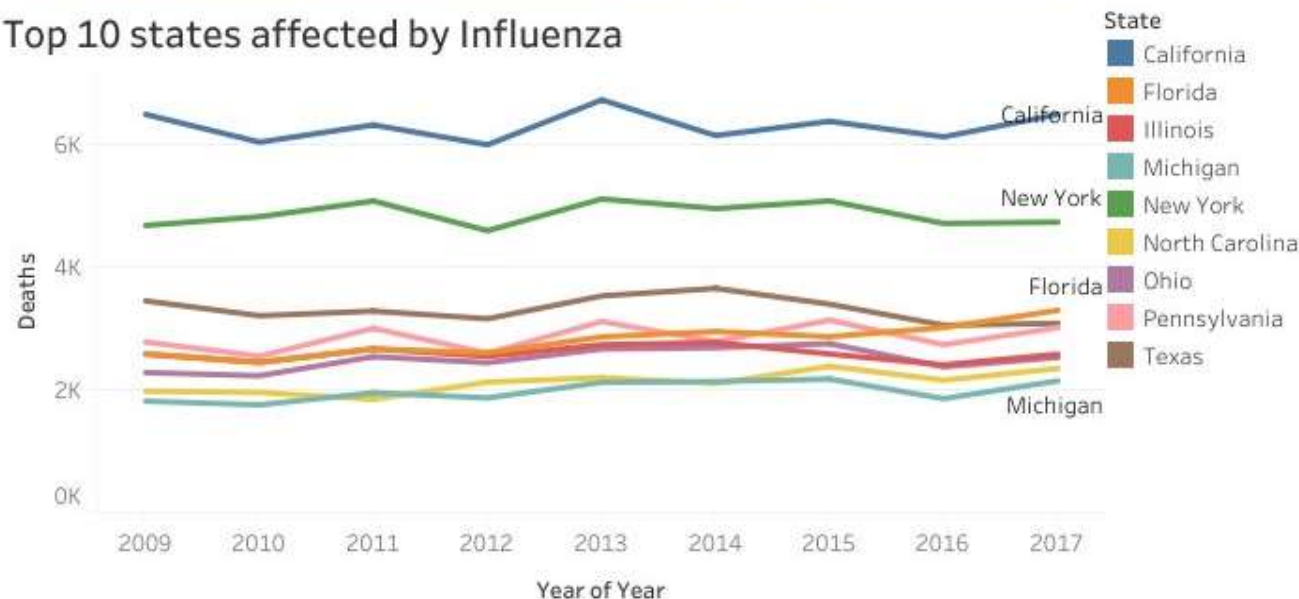
States with larger populations like California, New York and Texas suffer greater losses and therefore require more support.

Conclusion



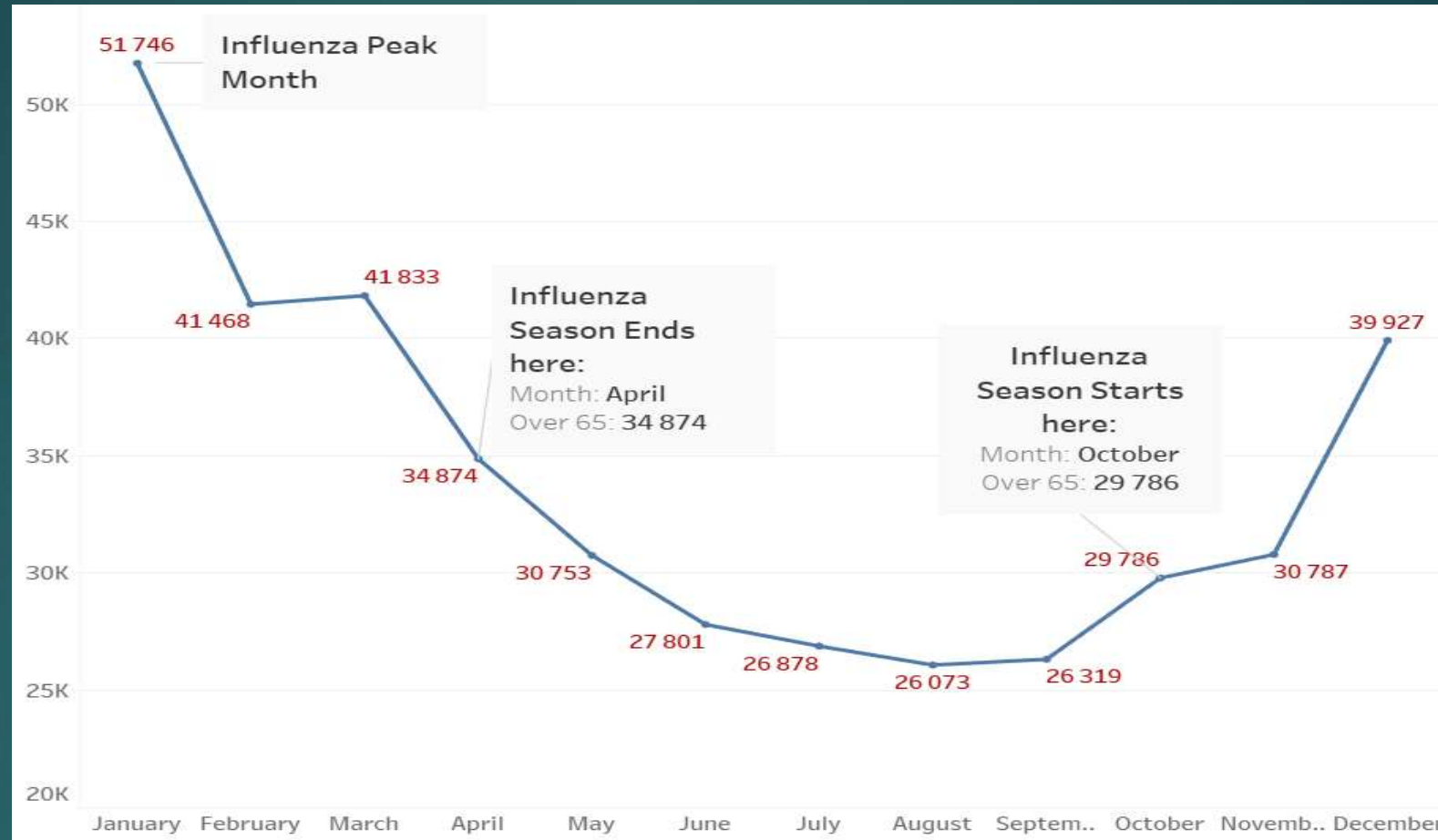
By Pie chart we get to know that the 65+ age group people are affected more from Influenza Virus. So these are most vulnerable population whom we need to concentrate more to provide medical staff.

Top 10 states affected by Influenza



By this graph we get to know that these states are having more 65+ age group population that's why in these top 10 states having more deaths by Influenza compare to other. So we can also provide some additional staff to these areas to control Influenza by giving vaccinations and taking other medical precautions what they have needed.

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- ❑ We see here that Influenza season occurs during the months of October to April (during the cold months). So we need to be alert during these months with additional medical staff in the Emergency areas

Challenges and Future steps

Challenges: As I was in full time course, it was quite difficult for me to complete the project in the specific time. The visualization part was very new to me, So I was learning each and every step while doing the project. But I understood the complete project and the data analysis well by spending more time in to it.

Future steps: I would like to use more visualization techniques and SQL to analyse the data more easier than the MS excel. I would also like to include that the people who took flu vaccine has impact on reducing the deaths or not, if they provided about vaccine information.

Project Links

Project Brief

10 [Project brief pdf](#)

Final Report

10 [Tableau](#)

PowerPoint
Presentation

10 [YouTube](#)

Thank you

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