PREPARING FOR INFLUENZA SEASON PROJECT

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Helping Medical Staffing Agency

PROJECT OVERVIEW

Company

A medical staffing agency that temporarily provides additional staff to hospitals and clinics on an as-needed basis.

Objective

To analyze past influenza data to help plan for the upcoming influenza season, so that staffing is prioritized to States across the U.S where help is needed.

Data

The dataset used for the analysis was from the CDC for influenza death data and from the U.S Census Bureau for the population data.

Tools used for the analysis were Word, Excel & Tableau.

ANALYSIS PROCESS

Pre-Analysis

- Created list of research questions and formulated hypothesis.

- Sourced data, created data profile and performed data quality checks.

- Integrated the two data sets into one cohesive dataset ready for analysis using Excel.
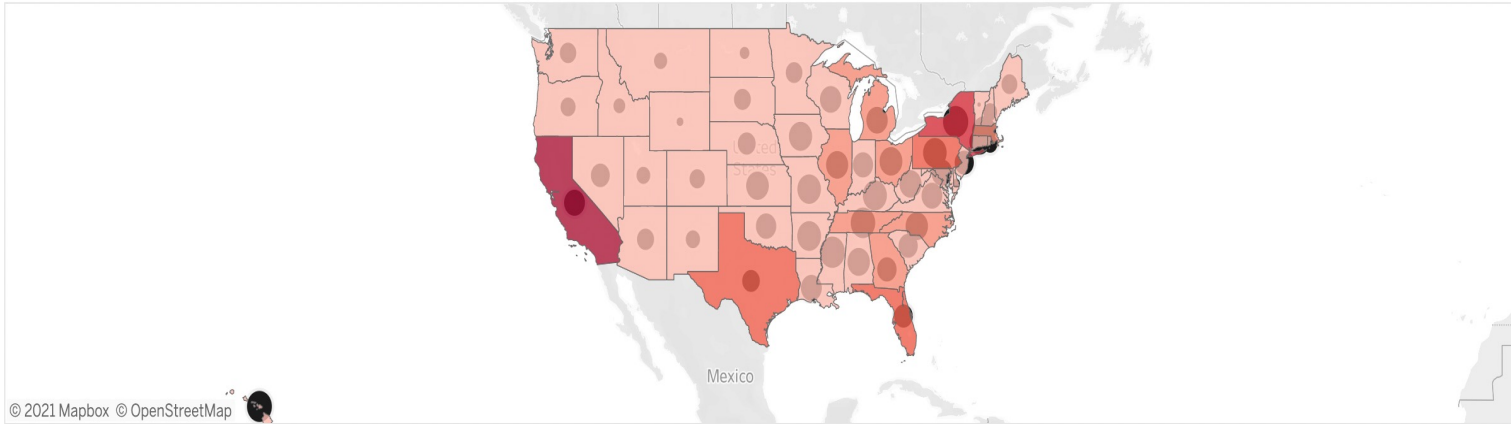
Anlaysis

- Conducted statistical analyses by calculating the mean, medium, variance and standard deviation for key variables.

- Tested correlation between key variables to identify potential relationship

- Formulated statistical hypothesis and conducted hypothesis testing.

- Created interim report with analysis findings.

Visualization

- Created visualization using Tableau.

- Used spatial graphs, histograms, temporal forecasting and line graphs.

- Presented visualization as a storyboard along with conclusion and recommendations.

VISUALIZATION INSIGHTS

Map of U.S Influenza Deaths vs Vulnerable Population Death Rates per State (2009 - 2017)

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The analysis shows that the states with highest deaths should be prioritised first, this means **California**, **New York**, **Pennslyvania**, **Texas** and **Florida**.

Another thing that should be considered are the states with higher vulnerable population death rates, this could mean that flu immunity levels are not high for those states.
We could monitor the results via surveys from the hospitals and clinics and the state's total deaths and vulnerable death rate, if staffing numbers were adequete.

This graph shows a map with the total deaths and the vulnerable death rate per State. The darker the red, the higher the number of deaths. The bigger the dot, the higher the vulnerable death rate.

Tableau Storyboard link

This graph shows which months commonly have the most influenza deaths throughout the years. It shows when influenza season is likely to begin and end.

Influenza Monthly Deaths 2009 - 2017

Combining all deaths from the period 2009 - 2017, January is the month with the most deaths.

Month of Month (Influenza Season Stats): **March**
Total Deaths (Influenza Season Stats): 44,511

(All)
2009
2010
2011
2012
2013
2014
2015
2016
2017

Total Deaths
24,752   55,802