Exercise 2.9 – Storytelling and Data Presentation

Obinwanne Alisigwe

Link: https://public.tableau.com/app/profile/obinwanne.alisigwe

23.04.2023

Outline

1. Beginning
   a. What is the flu?
   b. Staffing needs
2. Middle
   a. Who is most at risk?
      i. Vulnerable Population Percentages map
   b. Where are the highest concentrations of deaths?
      i. Deaths percentage Map
   c. When is flu season strongest?
      i. Month chart
3. End
   a. Where and when to send extra staff to alleviate hospitals.
      i. Top 5 states
      ii. Top 5 vulnerable populations

Show Me

Research Hypothesis

States with higher percentage of vulnerable populations (adults over 65 years) will have higher death count due to Influenza compared to states with non-vulnerable (1-64 years)

Comparing Total State Influenza Deaths vulnerable and Death Non-Vulnerable

State

California
New York
Texas
Pennsylvania
Illinois
Florida
Ohio
North Carolina
Michigan
Massachusetts
Georgia
Tennessee

0K   5K   10K 15K 20K 25K 30K 35K 40K 45K 50K 55K
Value

2 nulls

Measure Names
- 🟥 Death Vulnerable
- 🟩 Death non-vulnerable

Measure Values
619,964

Pie Chart

244,463
Death non-vulnerable

375,501
Death Vulnerable

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Where are the risks?

Total population by State, highlighting Vulnerable Population

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1 unknown

Top 10 Deaths by States

State	
California	53.382
Florida	23.339
Georgia	15.070
Michigan	16.645
New York	42.155
North Carolina	17.912
Ohio	20.952
Pennsylvania	24.744
Texas	27.544

Top 10 Populated States

State	
California	338.021.212
Texas	225.790.532
New York	174.835.891
Florida	171.082.777
Illinois	113.534.600
Pennsylvania	113.148.158
Ohio	101.550.516
Michigan	87.857.710
Georgia	85.669.964
North Carolina	84.319.476

Who is at risk, and when?

Total Death by Month

Ten-Year Age Groups Code
- 1-4
- 5-14
- 15-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75-84
- 85+

Ten Year Age Group Code

Is Influenza Seasonal?

Following the trend of influenza death for each year, it seems that influenza death start to increase from November and decrease after March.

With the **peak month for influenza death** occuring in January.

Thus, it can be concluded that **influenza is a seasonal** and it typically **begins around November and ends after March**

Where to deploy Staffs

States with the highest count of vulnerable death

Death Vulnerable
9.602 — 43.903

Total influenza Death 65+

Conclusion

Through this research project, it was identified that adults ages 65yrs and above are the most vulnerable population when affected by influemza and influenza seasons starts from November and ends after March

Recommendation

States like California, New York, and Texas should be priortised for allocation of additional staffing support when constructing the staffing plan.

These additional medical staff should be sent across the mostly affected states at the beginning of November when the influenza season starts.

Next Step

More analysis is required on flu vaccination data in the US and how vaccination rates across different states affects the influenza death rate.