CSE 567 SPRING 2019
Lab 1

ANALYSIS OF GRAPHS
https://cdcgraphs.shinyapps.io/lab1/

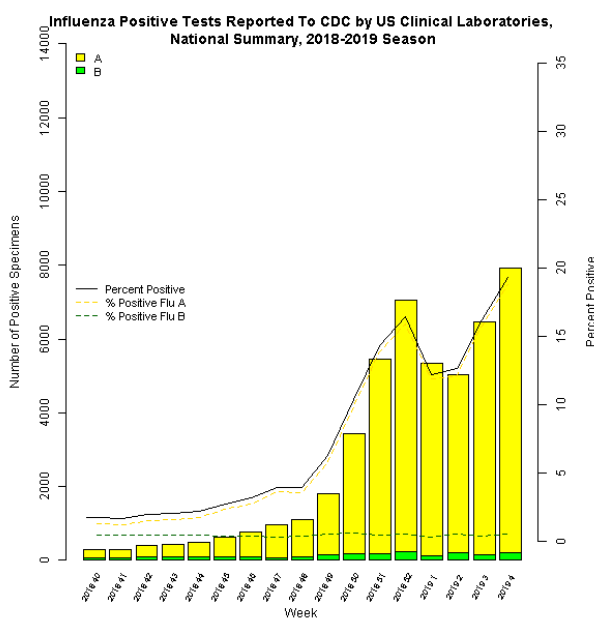### 1. Clinical Laboratories 18 weeks vs Clinical Laboratories 52 weeks
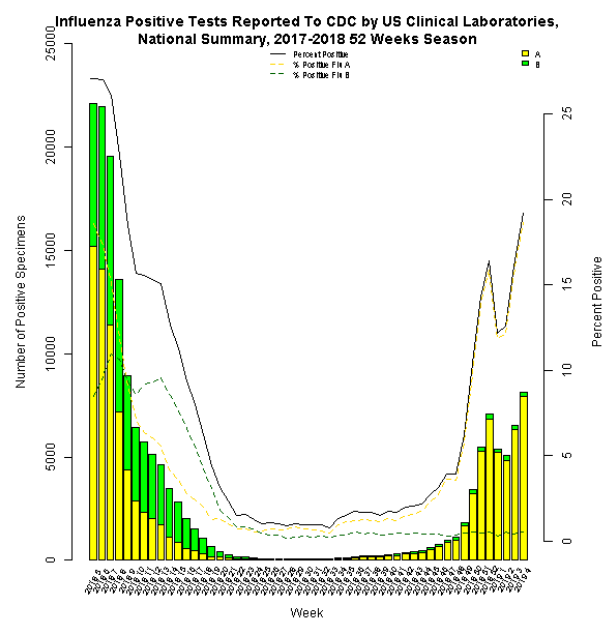

Fig. 1

Fig. 2

Here we are comparing two charts for Influenza Positive Tests Reported to CDC by US Clinical Laboratories.

Fig. 1 represents the Graph for data obtained over the course of 18 weeks (from 40th week of 2018 to 4th week of 2019). As we can see, towards the end of the year 2018, the number of cases of Influenza Positive Tests reported to CDC increased gradually.

We are interested in knowing the trend for the entire year to see what part of the year were maximum cases reported. To see this, we plotted the data for entire 52 weeks of 2018-2019 Season, starting from 5th week of 2018 to 4th week of 2019. As we can see from Fig. 2, the cases reported decreased as the year progressed and it was lowest from approximately month of June till September. However, the cases reported began to increase from October until the month of January.

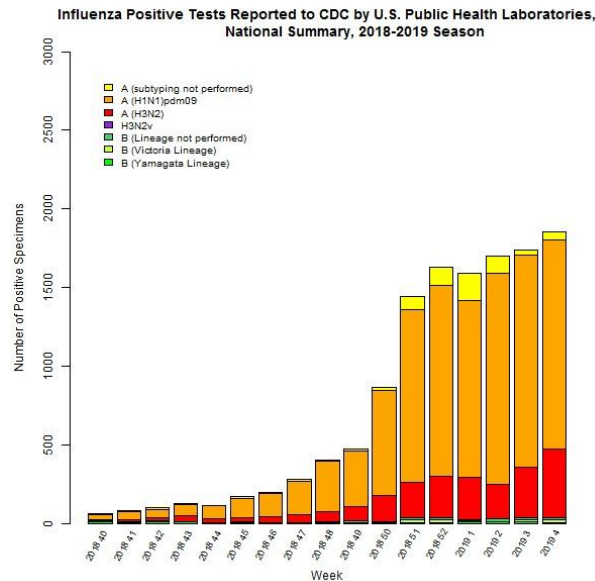## 2. Public Laboratories 18 weeks vs Public Laboratories 52 weeks
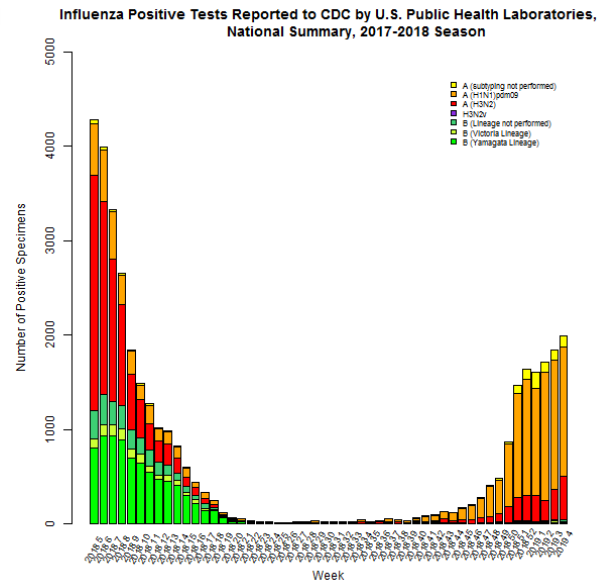

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3. CDC HeatMap vs HeatMap plotted using scrapped Tweets

2018-19 Influenza Season Week 4 ending Jan 27, 2019

Tweets Season-2018 2019

Fig. 1   **Fig. 2**

Here we are comparing two charts for Influenza Season HeatMap from CDC Website and the HeatMap generated using the tweets collected using rtweet().
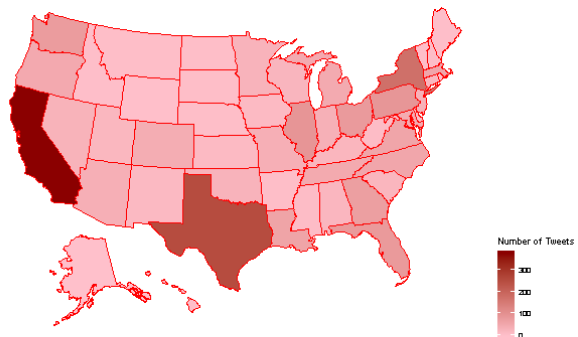
As seen from the graph in Fig. 1, we can see that flu is mostly prevalent in the states of California, Texas, New York, Illinois, etc. This is confirmed by the HeatMap plotted in Fig. 2 using the tweets collected from all the states of the US.

4. Flu Summary vs Cough Summary plotted using scrapped Tweets

FLU SUMMARY

COUGH SUMMARY

Fig. 1   **Fig. 2**
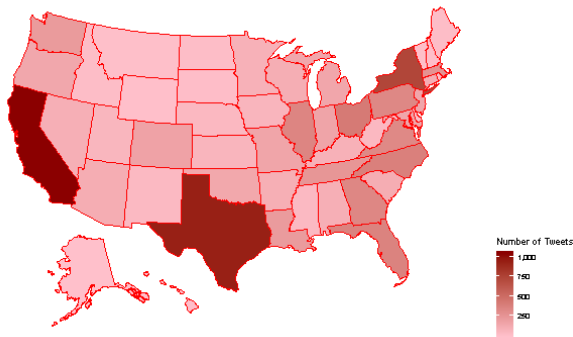
Here we are comparing two charts for 'Flu' and 'Cough' based on the data collected by scrapping tweets.

As seen from the graph in Fig. 1 and Fig. 2 we can infer that flu and cough is almost equally prevalent in all the states. This makes sense as both - flu and cough are viral in nature and people suffering from one tend to suffer from the other.

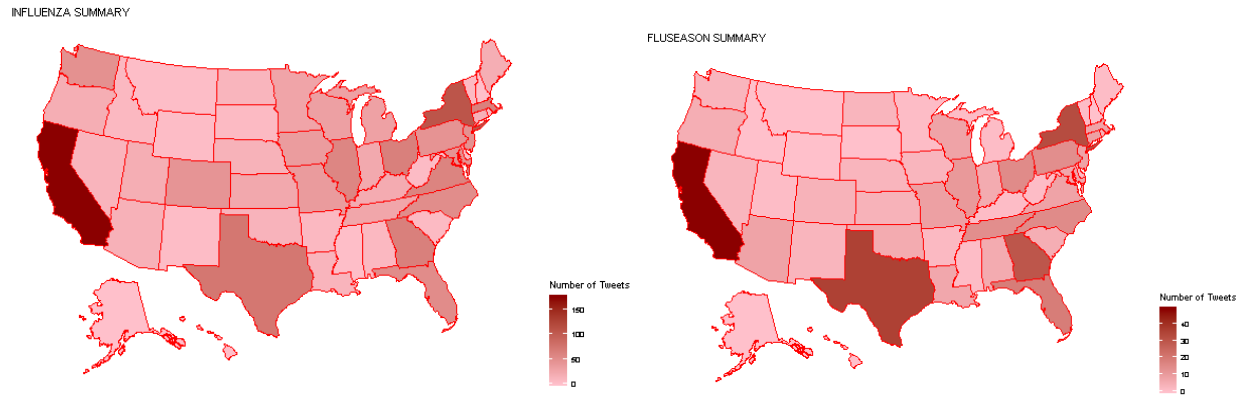**5. Flu Season Summary vs Influenza Summary plotted using scrapped Tweets**

INFLUENZA SUMMARY

FLUSEASON SUMMARY

Fig. 1   **Fig. 2**

Here we are comparing two charts for 'FluSeason' and Influenza based on the data collected by scrapping tweets.

We needed to sure about the trends we observed for the previous HeatMap in all the states so as to not come to a wrong conclusion.

To do so, we decided to use different keywords to scrape tweets and analyze the trend. We used keywords like 'FluSeason' and 'Influenza'.

As seen from the graph in Fig. 1 and Fig. 2 we can infer that FluSeason and Influenza is almost equally prevalent in all the states. This pattern shows that the trends observed in previous plots were indeed true.

NOTE:
These graphs are adjusted so as to fit in side by side here. Actual graphs are plotted using Shiny and are available at: https://cdcgraphs.shinyapps.io/lab1/