REVISED SUBMISSION:

Link to the revised Story Board:
https://public.tableau.com/app/profile/sarthak.gavali/viz/INFLUENZADEATHSBYSTATESUSA/Story1

Q.6) Project Data Limitations and Metrics:

A) Were there any limitations that prevented you from conducting an analysis? Think of these in terms of a future project or wish list (i.e., "If I had x, I would have been able to do y.")

ANS) The limitations of the data for me were as follows:

1) The data we analyzed was from the year 2009-2017. It does not allow us to grasp the current situation of influenza i.e from the year 2018 onwards. The recent data would enable us to analyze the current trend in influenza and also help us gain insight whether the influenza trend has remained the same as in the past years or has it changed over the past 2-3 years.

2) Our insights were solely based on the influenza deaths by states data and the census population data. Other variables like the statewise vaccination rate and statewise population density were not considered (although we have the data for population, we do not have the data for population density by state). This could help us prioritize our staff allotment according to vaccination status and population Density as states with high vaccination rate and less population density would have a lesser chance of major outbreak.

3) Other variables like Doctor: Patient ratio, Nurse: Patient ratio or for that matter available statewise healthcare infrastructure like Beds, Ventilators, BIPAP machines would also determine the allotment of doctors, nurses, technicians etc. (Healthcare setup offering intensive care to Influenza Patients need to have necessary equipment which will help fight respiratory distress which is a common sign of severe cases in Influenza. This will in turn decide how many intensive care nurses and equipment technicians need to be allotted to each healthcare facility). Having the data on these variables will help prioritize the allocation of staff.

B] Did your data have any limitations that may have affected your results? Consider this in terms of data quality and data bias.

Ans)

1)The data that we analyzed had some missing data for some states for example: the deaths records for the states of Alaska, Idaho, Hawaii, District of Columbia was assigned 0 for all the years. This could be missing data. This really questions the integrity and completeness of the data. Data Bias for these states cannot be denied.

2) Some records for the deaths in some age groups was assigned "supressed" notations which meant deaths between the values 0 -9. This is actually a vague assumption and does not depict the exact picture. A value of 0 was assigned to these records. This could have affected the overall analysis.

C] How might you monitor the impact of the staffing changes you recommended?

Ans)

- Since the ultimate goal of optimal staffing is to save lives and provide the best possible treatment, the best way to monitor the effectiveness is to develop Key Performance Indicators like: Influenza Mortality rates by states. Patient waiting times, Patient satisfaction rates, etc. These indicators will help us monitor the performance of the staffing initiatives that we have undertaken.
- Decreased Influenza Mortality rates, reduced patient waiting time and improved patient satisfaction would indicate that the staffing measures undertaken have worked well.

D] Is there a metric that could be used for monitoring this impact?

Ans)

- Above mentioned Key Performance Indicators (KPI) like influenza Mortality, Patient Waiting times, Patient satisfaction rates etc. would provide a standardized data in form of numbers which could be benchmarked with the expectations or countries with better healthcare performance.
- We could also set targets like reducing the Influenza mortality rate by say 10% this year as compared to the previous year and then further 10% in the next year and so on.
- We can also monitor the Average Patient waiting time, and Patient satisfaction rate by comparison with the previous year. If we see improvement we shall continue or further improve the existing strategy.
  If we do not see any improvement or the KPIs show poor performance than the previous year, we have to reconsider our allocation plan and come up with a new strategy.