

# Project: Planning for Influenza Season

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# Overview: Planning for Influenza Season 2018

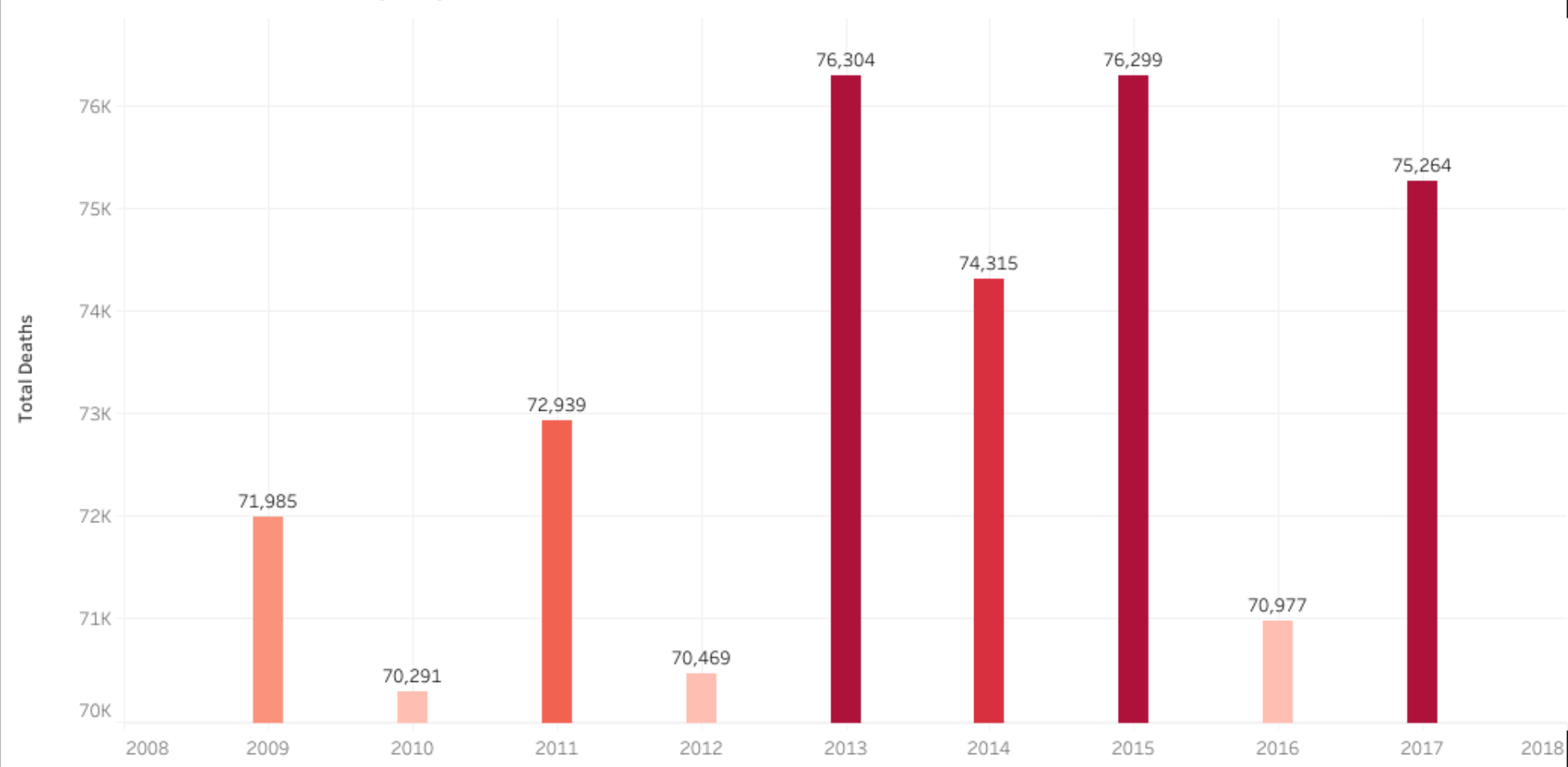
**Motivation**  
The United States has an influenza season where more people than usual suffer from the flu. Some people, particularly those in vulnerable populations, develop serious complications and end up in the hospital. Hospitals and clinics need additional staff to adequately treat these extra patients. The medical staffing agency provides this temporary staff.

**Objective**  
Identify states with high proportions of vulnerable populations and where to send medical staff based on these findings.

**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.

On average, between 2009 and 2017, approximately 72,000 people died from influenza yearly.

Influenza Related Deaths, US, 2009-2017

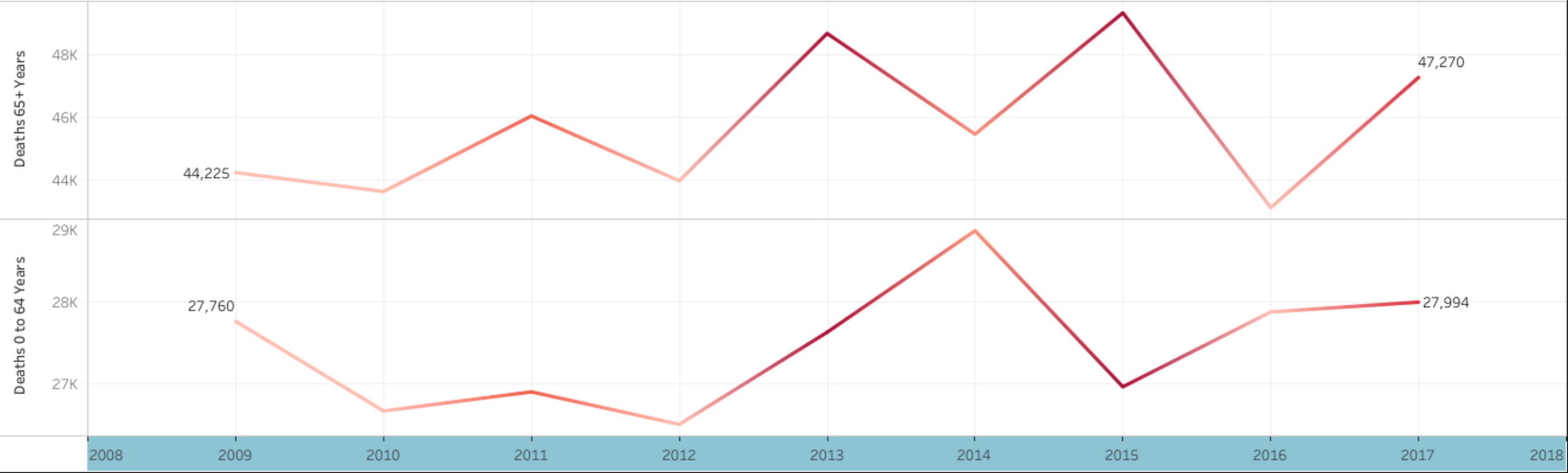


## Vulnerable Populations

The most vulnerable population is the 65+ years age group if compared to the 0 to 64 years age group. On the right, we can see the total deaths by numbers between 2009 and 2017. Below we can see the comparison between the age groups year on year.

Total Deaths by Age Group	
Deaths 65+ Years	411,677
Deaths 0 to 64 Years	247,166

Age Groups Comparison

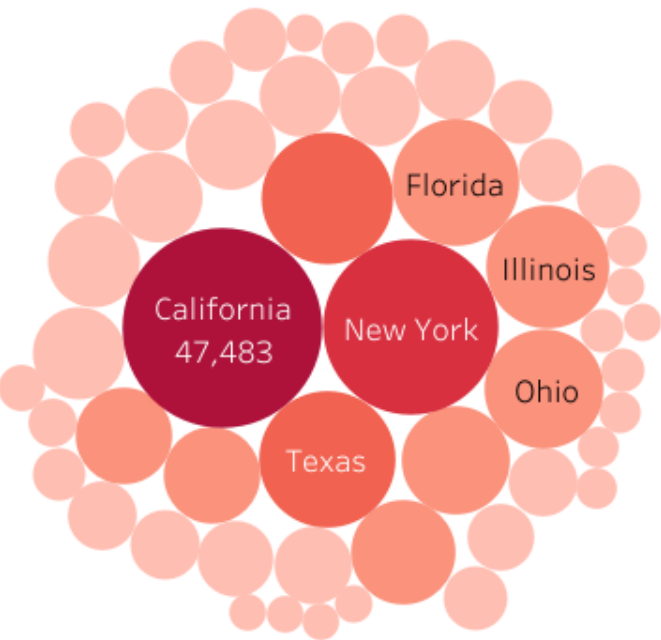


Overview	Vulnerable Populations	Vulnerable States	Flu Season Forecast	Conclusions
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## Vulnerable States

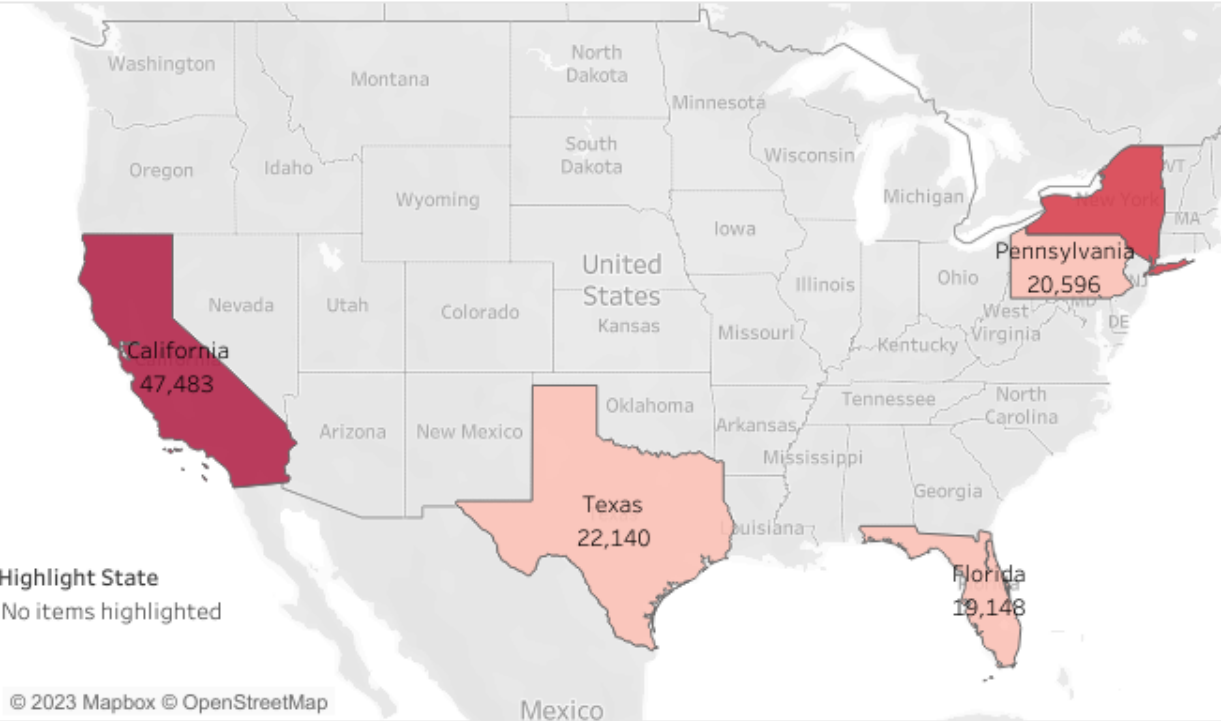
As we can see the states with the highest influenza related deaths in total, are, in rank order: California, New York, Texas, Pennsylvania, and Florida.

Total Influenza Related Deaths by State & Age Group 65+ Years, 2009-2017



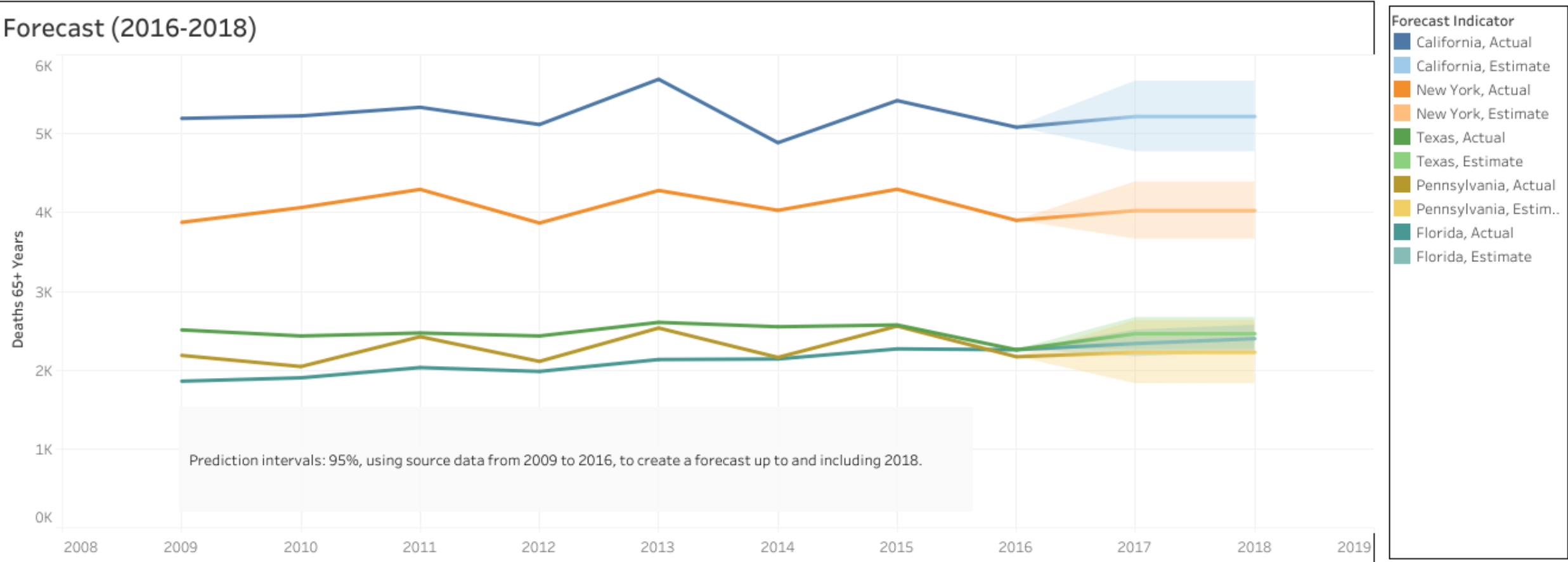
Deaths 65+ Years  
1,608 to 47,483  
and Null values

Top 5 States with the Highest Influenza Related Deaths in Age Group 65+ Years, 2009-2017



# Flu Season Forecast

Below we can see a forecast with the top 5 states showing the highest influenza related deaths in age group 65+ Years, 2009-2017. Please see annotation.



## Conclusions & Recommendations

- 1. Conclusions:** Age group 65+ is at risk in comparison to 0-64 years. Based on the data, the top 5 states mentioned had high numbers of influenza related deaths. Forecast predicts that all these states will see increased numbers based on historical data.
- 2. Recommendations:** Based on these findings, states with high numbers of influenza related deaths should prepare accordingly by deploying proactive measures based on potential increase by forecasting predictions.
- 3. Next Steps:** Further data analyses are needed to examine when medical staff should be deployed proactively, when vaccines should..