

Preparing for Influenza Season 2018



Overview



Analysis



Conclusion



Project Overview

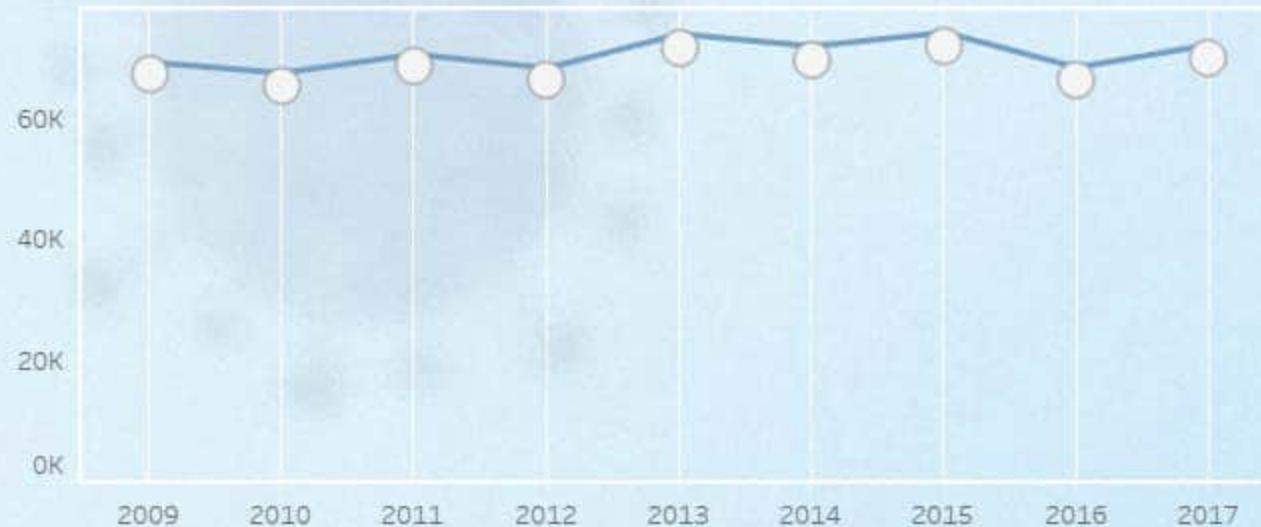


Motivation: The United States has an influenza season where more people than usual suffer from the flu. Some people, particularly those in vulnerable populations, develop serious complications and end up in the hospital. Hospitals and clinics need additional staff to adequately treat these extra patients.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

Objective: Determine when to send staff, and how many, to each state.

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.

Annual Influenza related Deaths 2009 to 2017



Summary

Avg. Total Death	Avg. Total Death <65	Avg. Total Death 65+
1,384	494	890
Avg. Total population	Avg. Total Population <65	Avg. Total population 65+
6,108,125	5,267,403	829,430



Spatial analysis



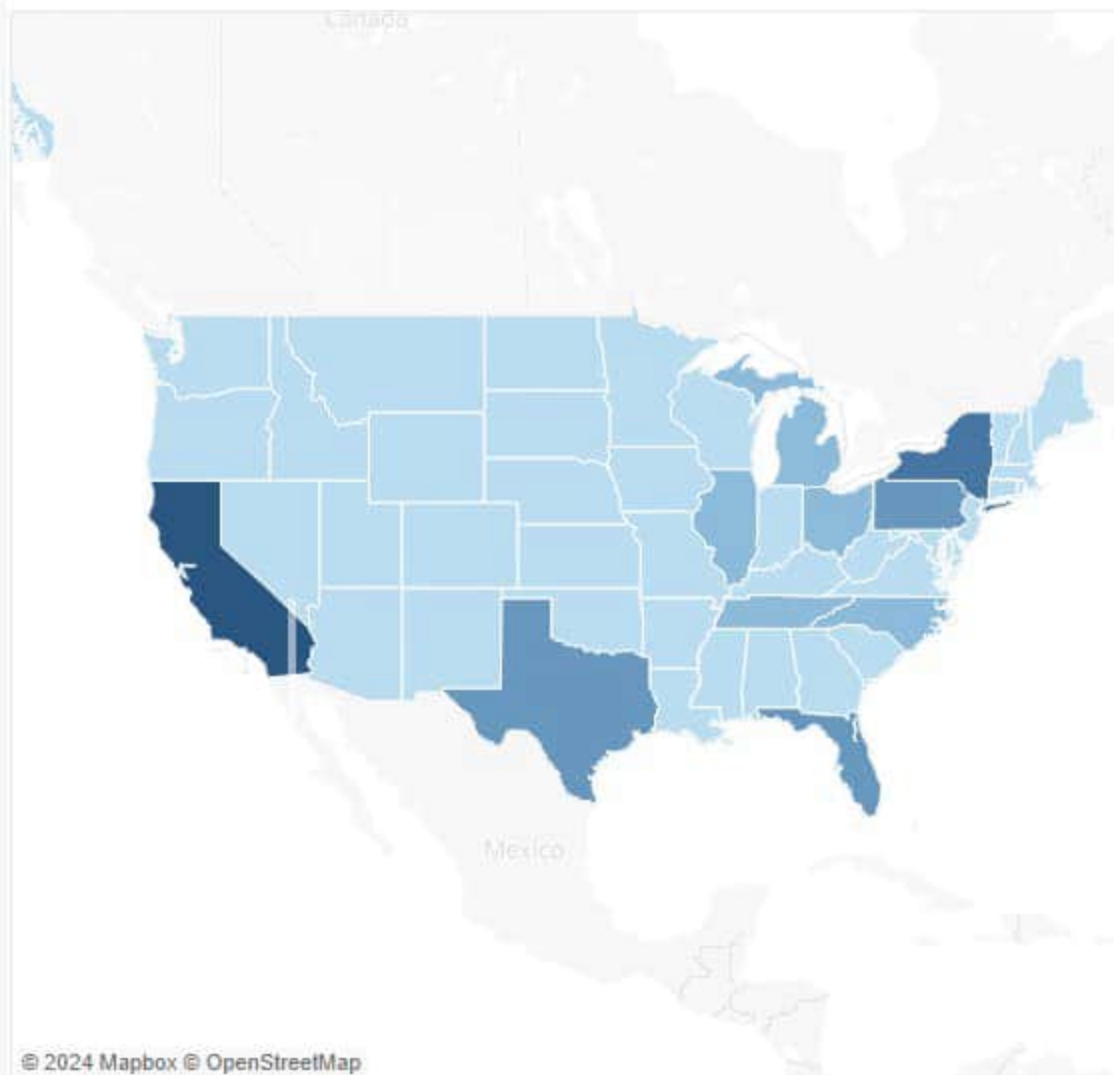
Select a Year

- ☐ 2009
- ☐ 2010
- ☐ 2011
- ☐ 2012
- ☐ 2013
- ☐ 2014
- ☒ 2015
- ☒ 2016
- ☒ 2017

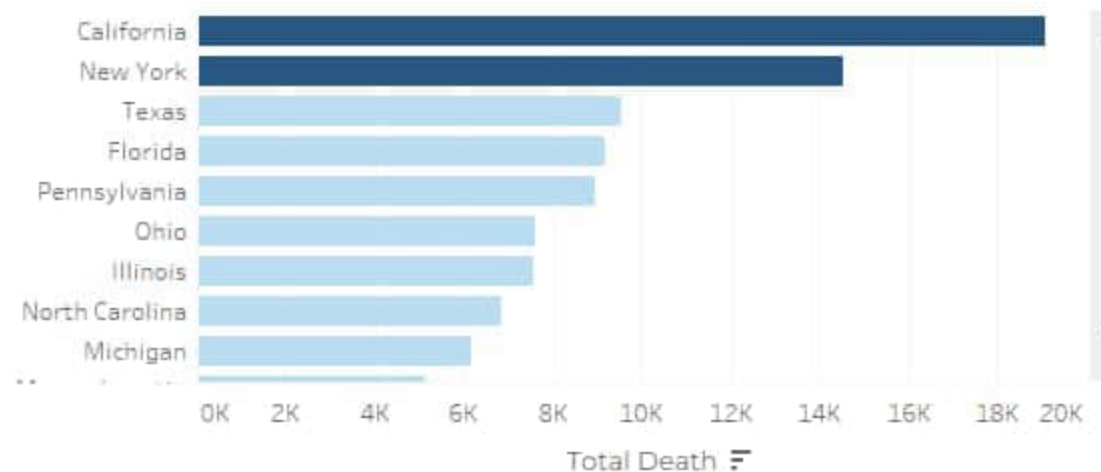
Pick a metric

- ☒ Total Death
- ☐ Total Death <65
- ☐ Total Death +65
- ☐ Total Population
- ☐ Total Population <65
- ☐ Total Population +65

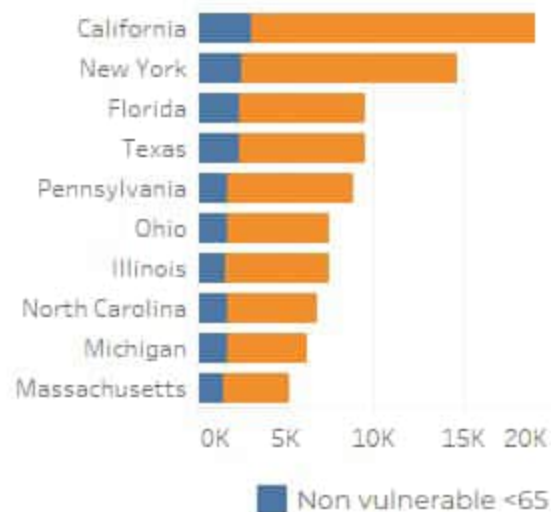
Total Death by U.S. State 2015, 2016, 2017



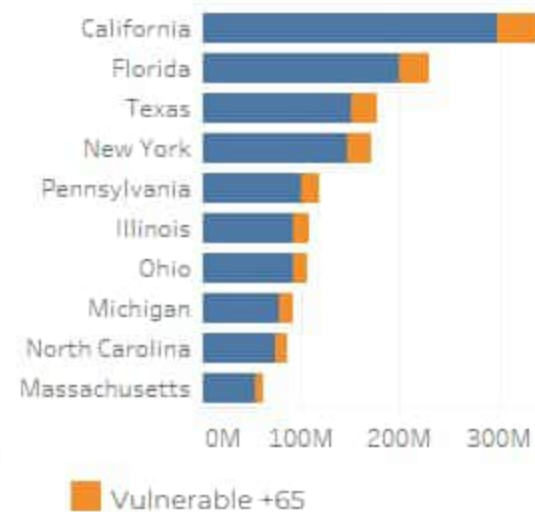
Sum of Total Death by U.S. States



Total Death



Total Population

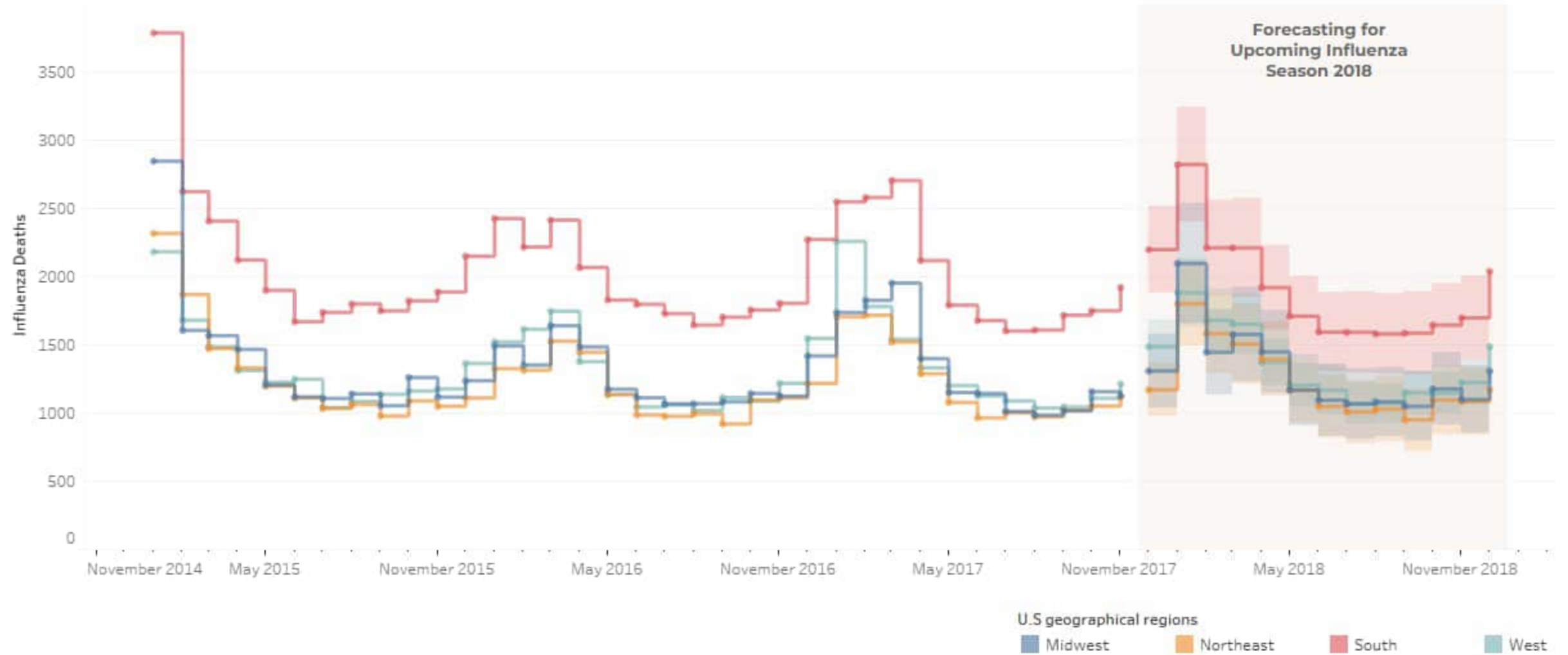




Forecasting



Influenza Seasonality in U.S. 2015-2017
Total Population by 4 geographical region





Conclusion

Our analysis confirms that influenza-related mortality significantly increases in vulnerable populations. States with a higher percentage of vulnerable individuals should be prioritized and provided with the necessary support to successfully manage the influx of patients during the upcoming flu season.

The flu season typically spans from December to April, therefore additional staff should be sent to states with medium to high risk.

Medium risk States:

Illinois
Tennessee
North Carolina
Ohio
Michigan
Massachusetts

High risk States:

California
Texas
Florida
Pennsylvania
New York

Total Death by U.S. State 2015, 2016, 2017

