

Introduction	Trends in Flu Deaths	Key Flu Risk Indicators	Introducing: The Risk Index	Next Steps in a Medical Staffing Plan
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Determining Flu Hospitalization Risk Across the U.S.

Tens of millions of Americans become sick with influenza every year. When this virus peaks during the winter months, seasonal health care workers must supplement medical staff to help meet the increased demands on the health care system.

Our analysis focused on answering this question for our stakeholders:

When and how should flu support staff be distributed across the countr..

Visualizations by Forrest ..
Using data fro..

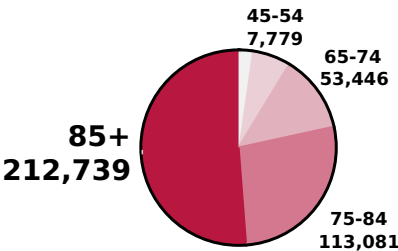


Trends in Flu Deaths

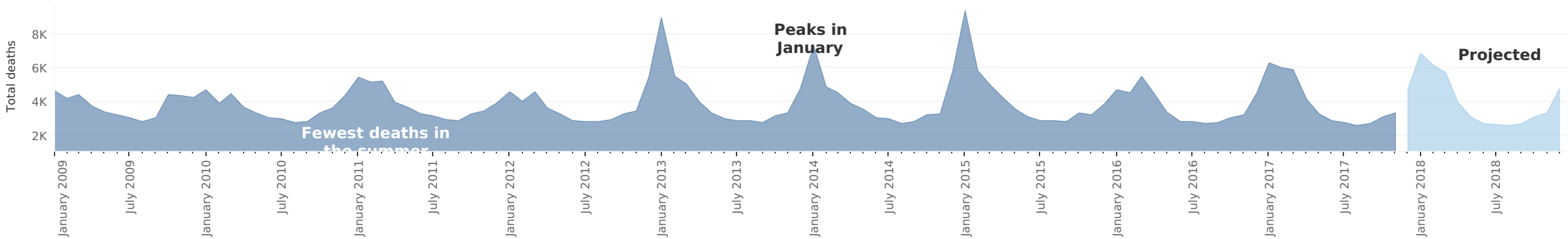
Total Flu Deaths by Age Group (2009-2017)

To start, we analyzed the seasonal variations of flu deaths between 2009 and 2017. These peaks and valleys seem to be broadly consistent year after year, with peaks in January and lulls in the summer months.

We also looked at flu deaths by age group. People aged 85 or older made up more than 50% of the deaths, and the older the older the age groups, the greater the mortality.



U.S. influenza deaths (2009-2017)



Key Flu Risk Indicators

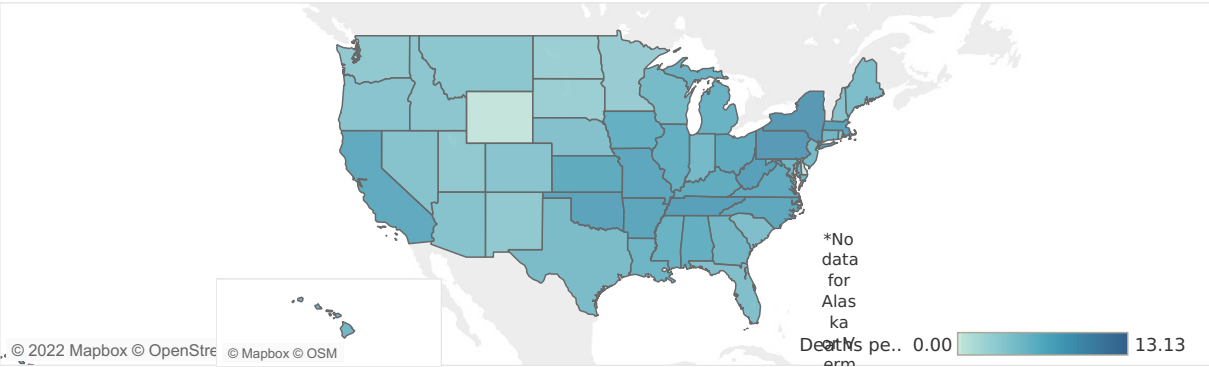
(2011-2014 A..

Use slider below to change month

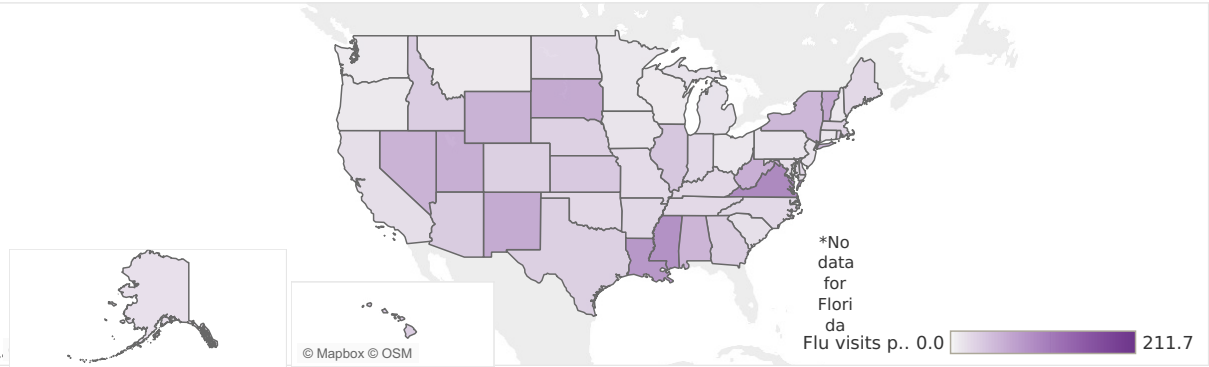
February

Show history

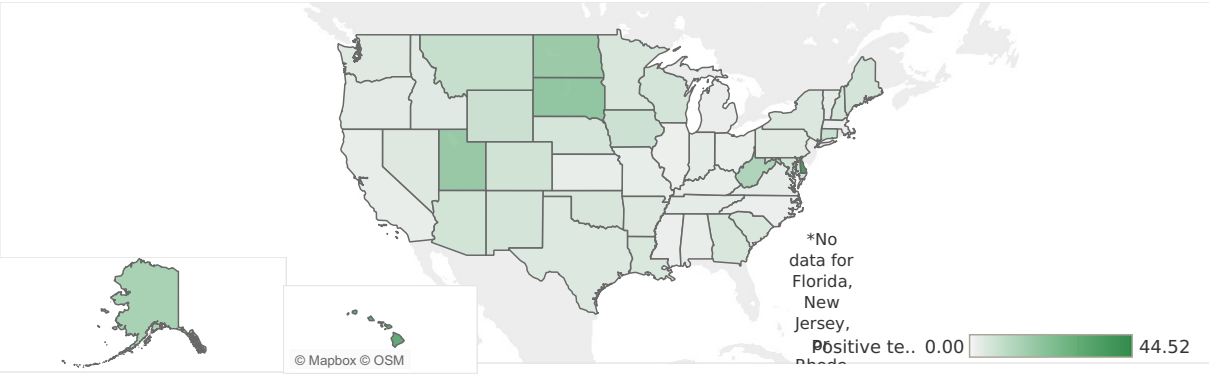
Flu Deaths - February



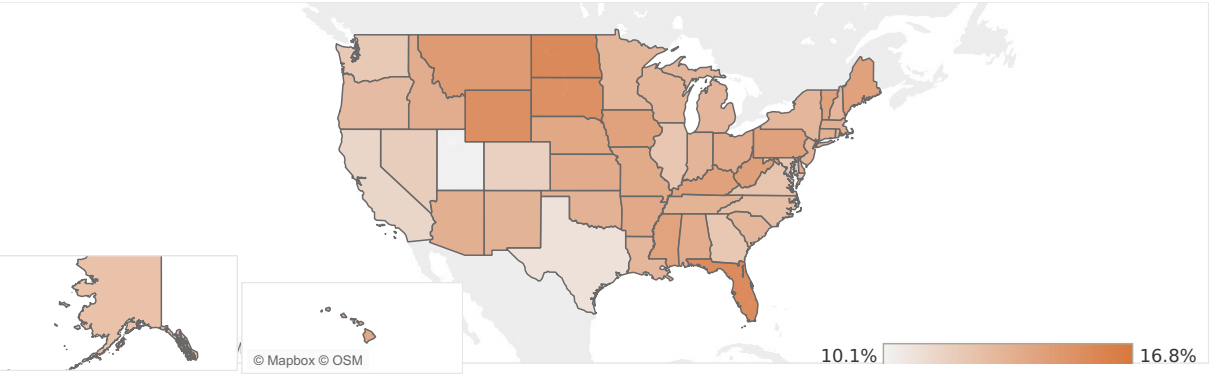
Clinic Visits for Flu-like Illnesses - February



Positive Lab Tests for Flu - February



Percent Population 65 or older



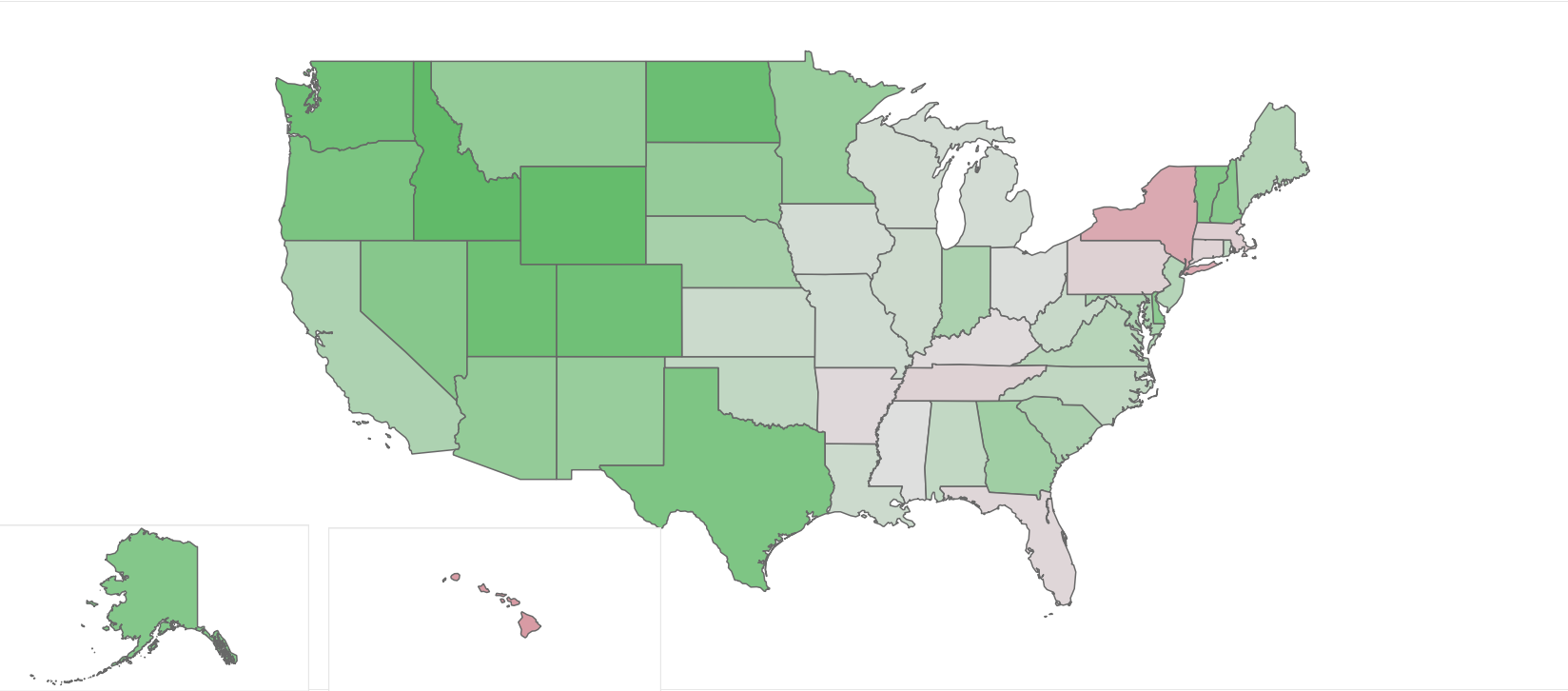
Introducing: The Risk Index

We used the four indicators of flu deaths, lab test, clinic visits, and population 65 or older to come up with a weigh..

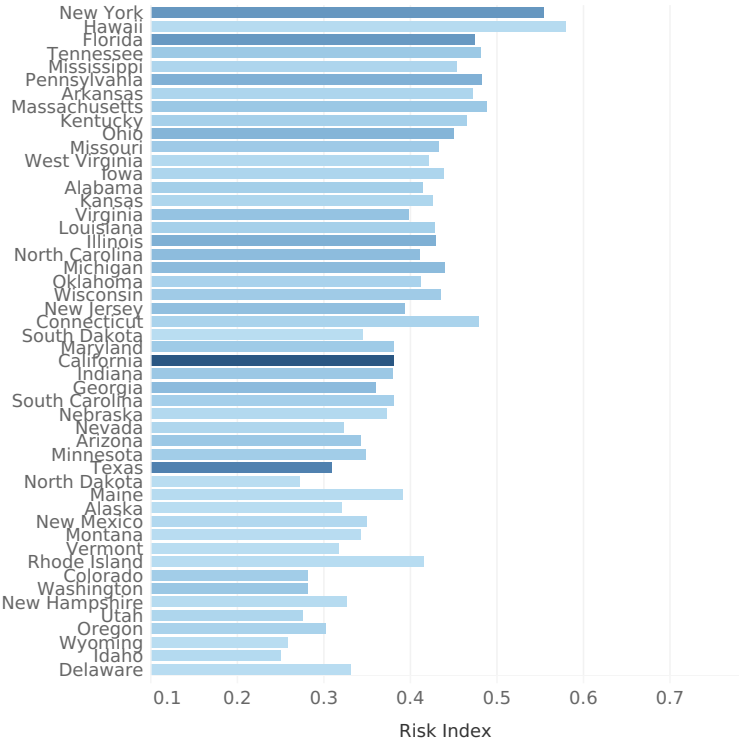
Use slider below to change month

April

Show history



Risk Index by State



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Next Steps in a Medical Staffing Plan

Turning risk into an action plan

The **risk index** will be a key tool in helping staffing agencies measure need in each state across the U.S. Staff should be distributed in a per-capita basis in each state in accordance with the risk index.

There are few key considerations to keep in mind with this plan:

1. More or fewer staff may be needed in states such as Florida and Alaska, where key data on flu deaths is missing. The risk index is less reliable in such states.
2. Suprisingly, some high-population-density states (e.g. Delaware, New Jersey) next to high-risk states had consistently low risk even during the height of flu season. The reason for this may need to be examined.
3. Staff should be given enough time to move to their new home and orient themselves to their new facility **and** be ready when patients arrive. Keep in mind that influenza death statistics lag behind hospitalization. Assuming a one-month lead time, staffers should examine the next month's risk index when assessing staffing needs.



Improving the risk index

- The risk index could be further tested to see how well it represents flu seasons from 2015 and beyond.
- The risk index could be improved with more data, such as vaccination data.
- A more granular analysis of county-level data, key urban areas, or even individual facilities would greatly increase understanding of staffing needs.