RSV Distributions

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Research Questions

- What United States Health and Human Services region is most heavily affected by RSV?
- What time of year is RSV the worst and does the peak time vary between regions?
- Do different demographics affect RSV hospitalization rates?

Obtaining and Cleaning Up the Data

Data Sources

Case Definition

A case is defined by laboratory-confirmed RSV in a person who:

- Lives in a defined RSV-NET surveillance area AND
- Tests positive for RSV within 14 days before or during hospitalization.

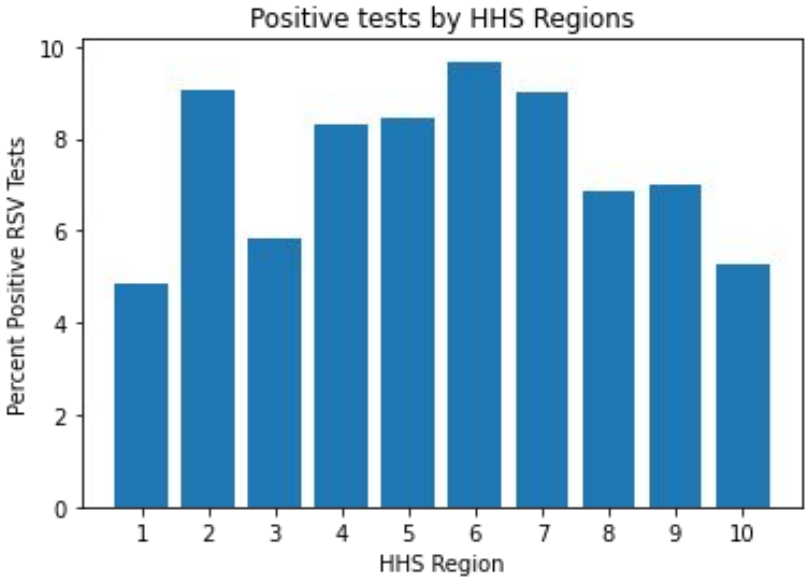
Calculating Hospitalization Rates

To calculate RSV-associated hospitalization rates, RSV-NET collects the following data from identified cases:

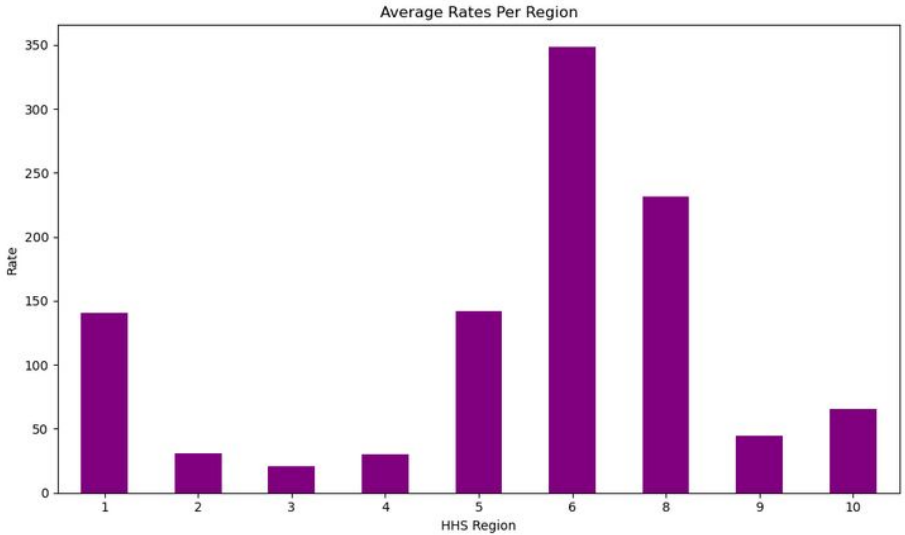
- Age
- Sex
- Race and ethnicity
- County of residence
- Date of hospital admission
- Date of RSV test
- Positive RSV test result

Source: https://www.cdc.gov/rsv/research/rsv-net/overview-methods.html

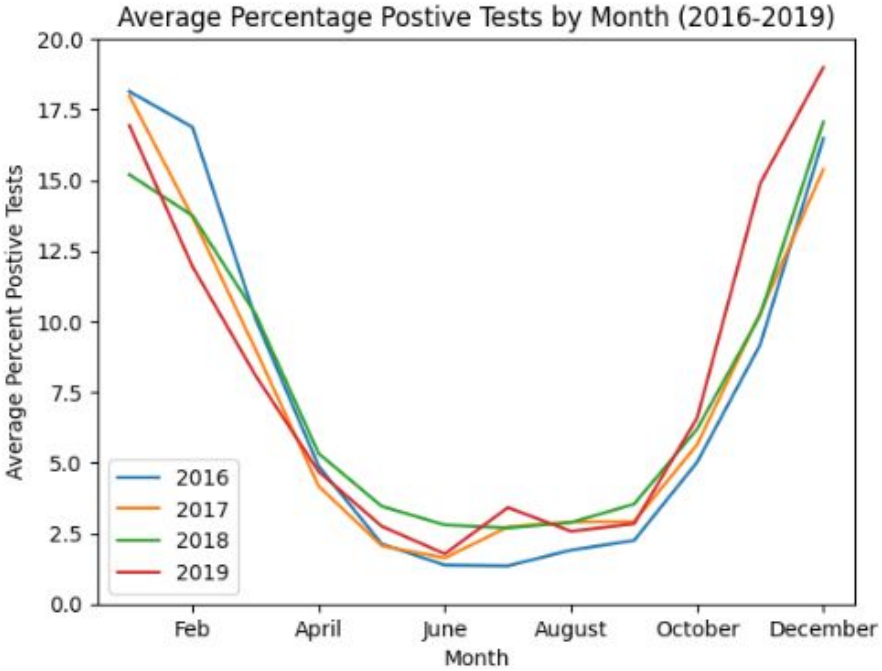
Health and Human Services Regions

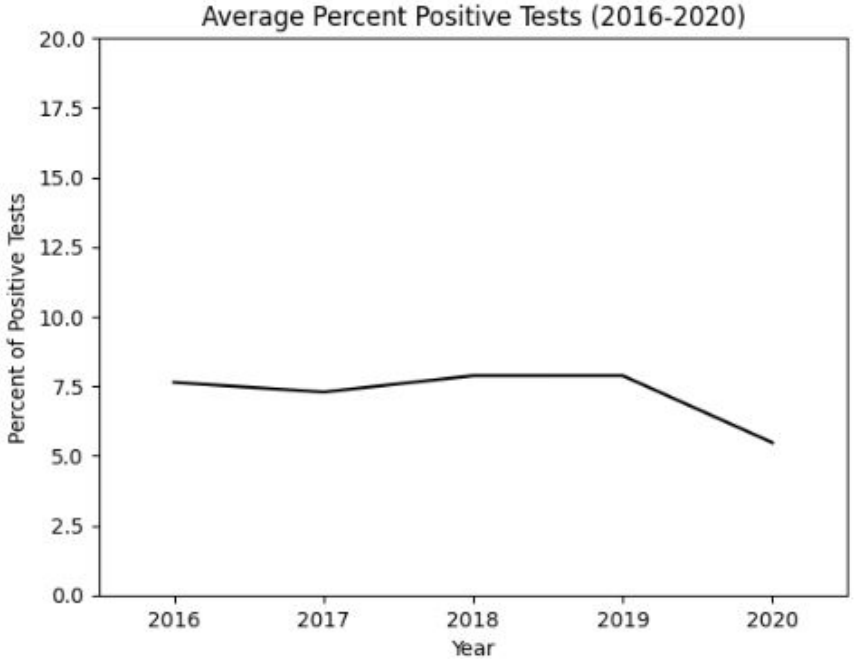


Hospitalizations



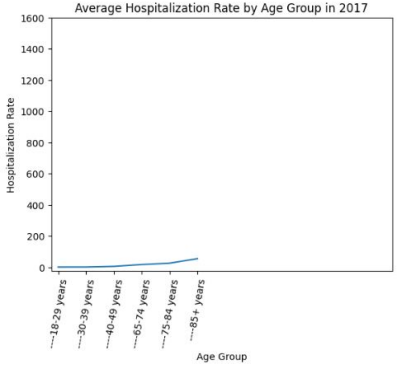
Date & Time (Lab Testing)

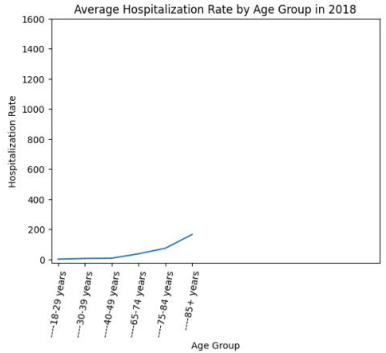


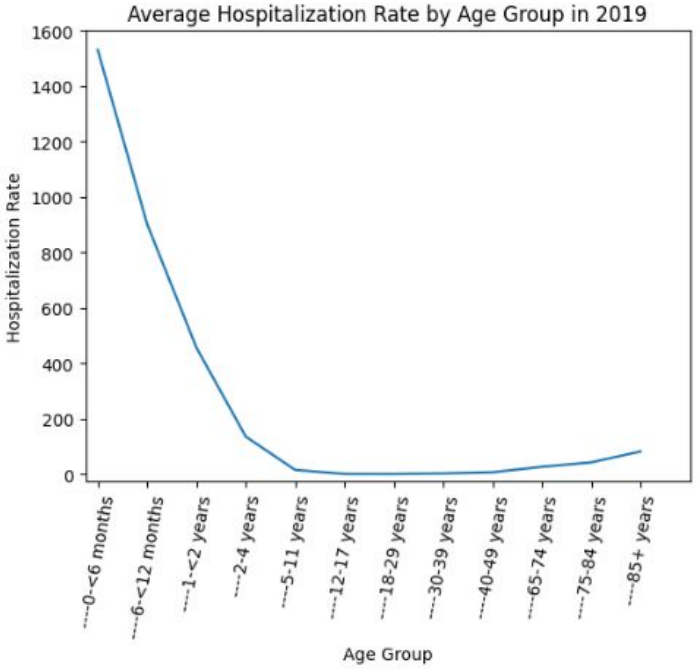


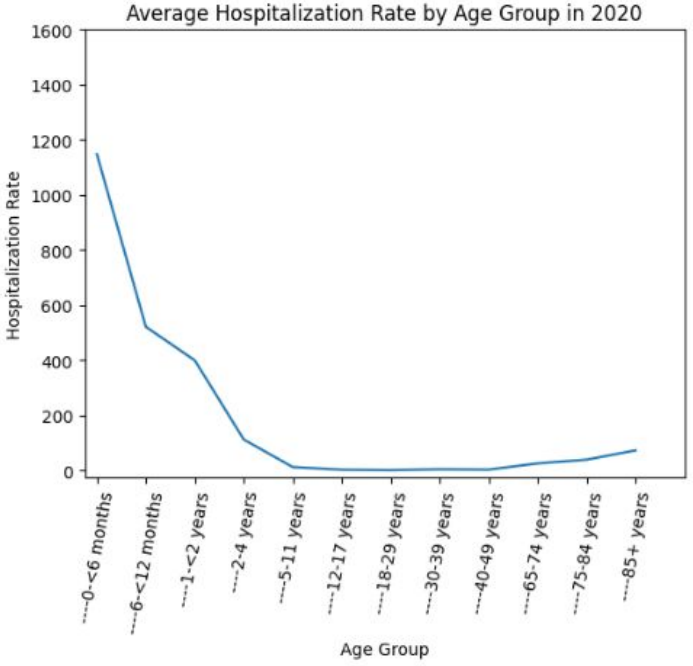
*Potential limitation: We only have 6 months of data in 2020.

Date & Time (Hospitalizations)



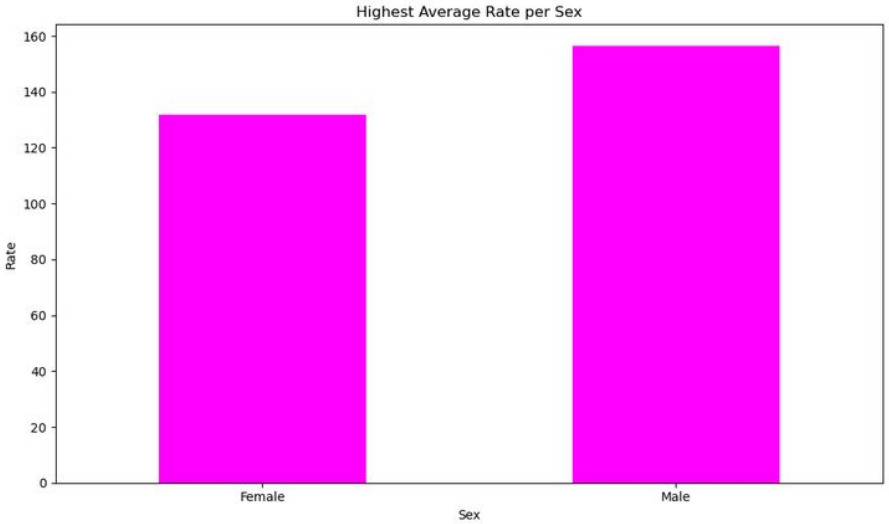


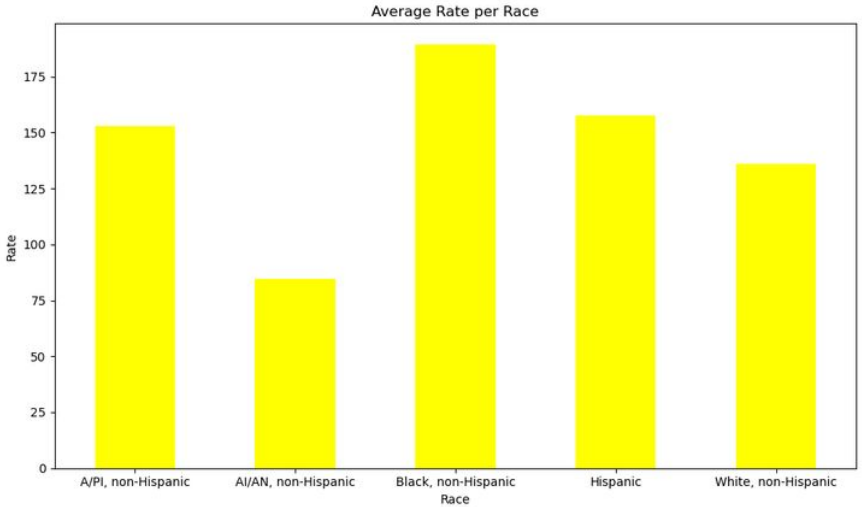




*Limitation: age group surveillance changed in 2019

Hospitalizations by Sex and Race





Conclusions

- Spikes in RSV correlate with colder months, and higher numbers are seen from October-February in most years
- RSV spikes more in the south-central United States, as well as hospitalizations related to RSV.
- Younger age groups are at a much higher risk for hospitalization due to RSV.
- There is a tendency of more hospitalizations in males, potentially due to infant males having smaller airways than females.
- Future work: Linear regression and other methods to examine the correlation and causation between RSV, location and weather.