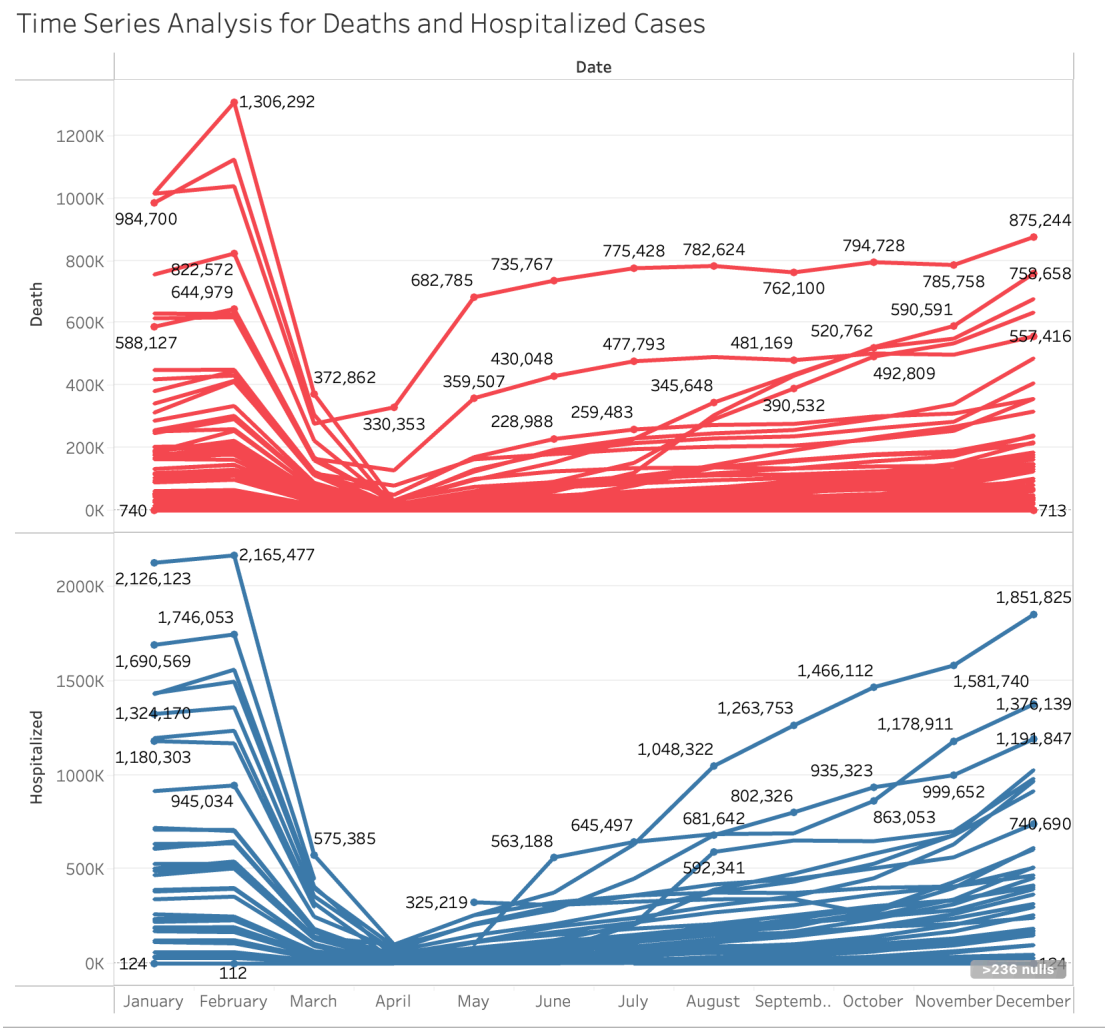
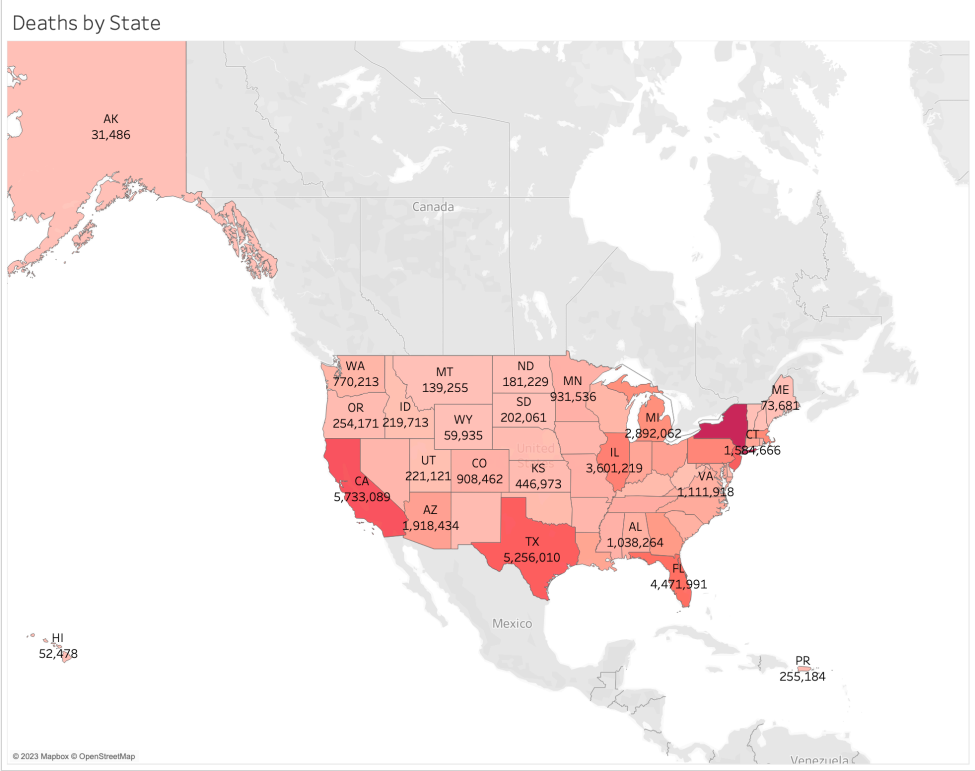
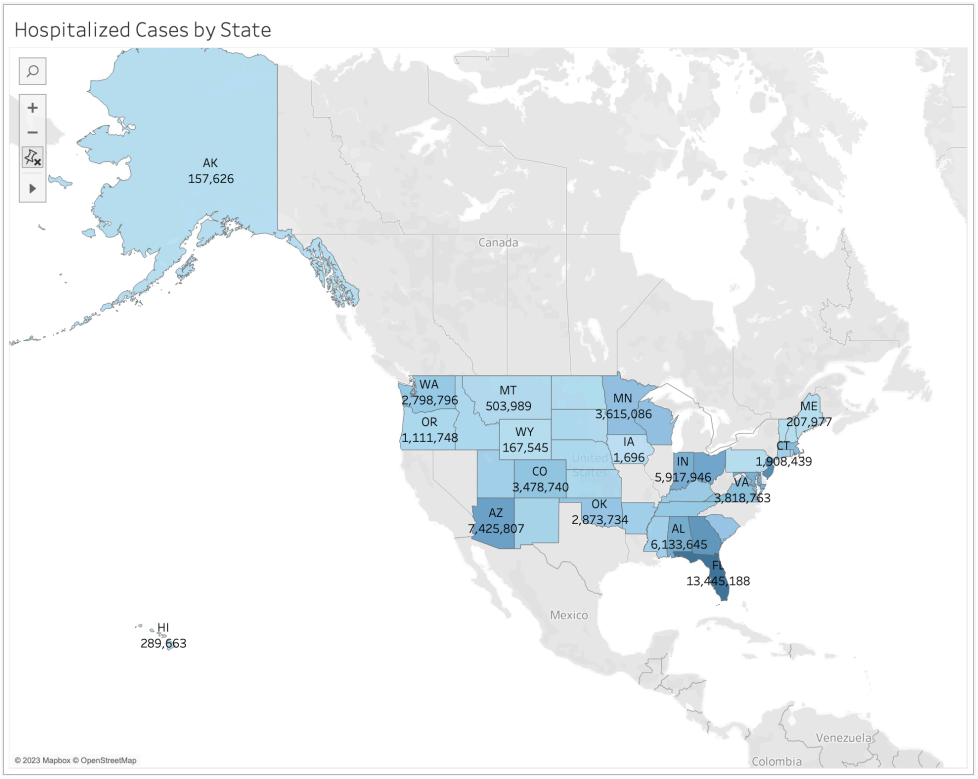
1.



Analysis of time series data for COVID-19 fatalities and hospitalizations in the United States reveals a recurring pattern, with high points in the initial and final quarters, hinting at a possible seasonal connection. This analytical approach assists in evaluating the effectiveness of public health measures and vaccination efforts, offering valuable information regarding healthcare system strain. This comprehension of trends and variances can guide the implementation of precise strategies and resource allocation for proficient pandemic management and readiness for subsequent surges.

2.

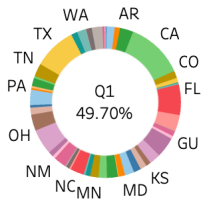

Deaths by State
AK
31,486
Canada
WA
770,213
MT
139,255
ND
181,229
MN
931,536
OR
254,171
ID
219,713
SD
202,061
WY
59,935
MI
2,892,062
ME
73,681
CT
1,584,666
UT
221,121
CO
908,462
KS
446,973
IL
3,601,219
CA
5,733,089
VA
1,111,918
AZ
1,918,434
AL
1,038,264
TX
5,256,010
FL
4,471,991
Mexico
HI
52,478
PR
255,184
© 2023 Mapbox © OpenStreetMap
Venezuela

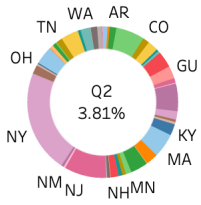

Hospitalized Cases by State
AK
157,626
Canada
WA
2,798,796
MT
503,989
MN
3,615,086
OR
1,111,748
WY
167,545
ME
207,977
CT
1,908,439
IA
1,696
IN
5,917,946
CO
3,478,740
VA
3,818,763
OK
2,873,734
AZ
7,425,807
AL
6,133,645
FL
13,445,188
Mexico
HI
289,663
© 2023 Mapbox © OpenStreetMap
Venezuela
Colombia

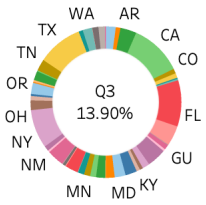
Geographic maps play a crucial role in comprehending the dissemination of COVID-19 across various U.S. states by offering a visual depiction of the virus's impact. These maps demonstrate that states such as New York, New Jersey, California, Texas, Florida, and Illinois have recorded more substantial death tolls, signaling larger outbreaks, often linked to densely populated urban centers. Furthermore, while detailed hospitalization data is lacking, the maps imply elevated hospitalization rates in states like Florida, Arizona, and Indiana, providing valuable insights into the differing levels of strain on healthcare systems in various areas.

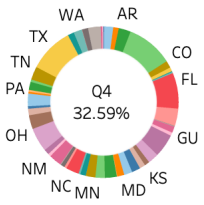
3.

Positive Case per State/Quarter:

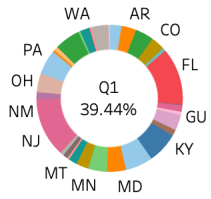


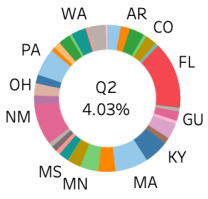


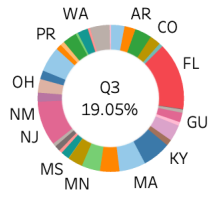


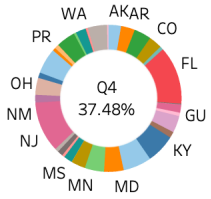


Negative Case per State/Quarter:

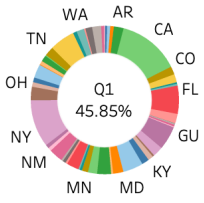


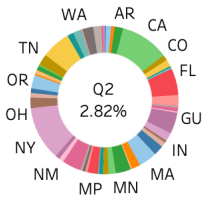


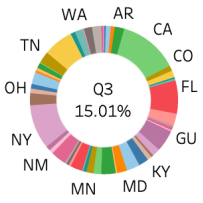


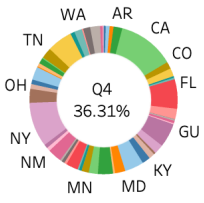


Total test Results Case per State/Quarter:





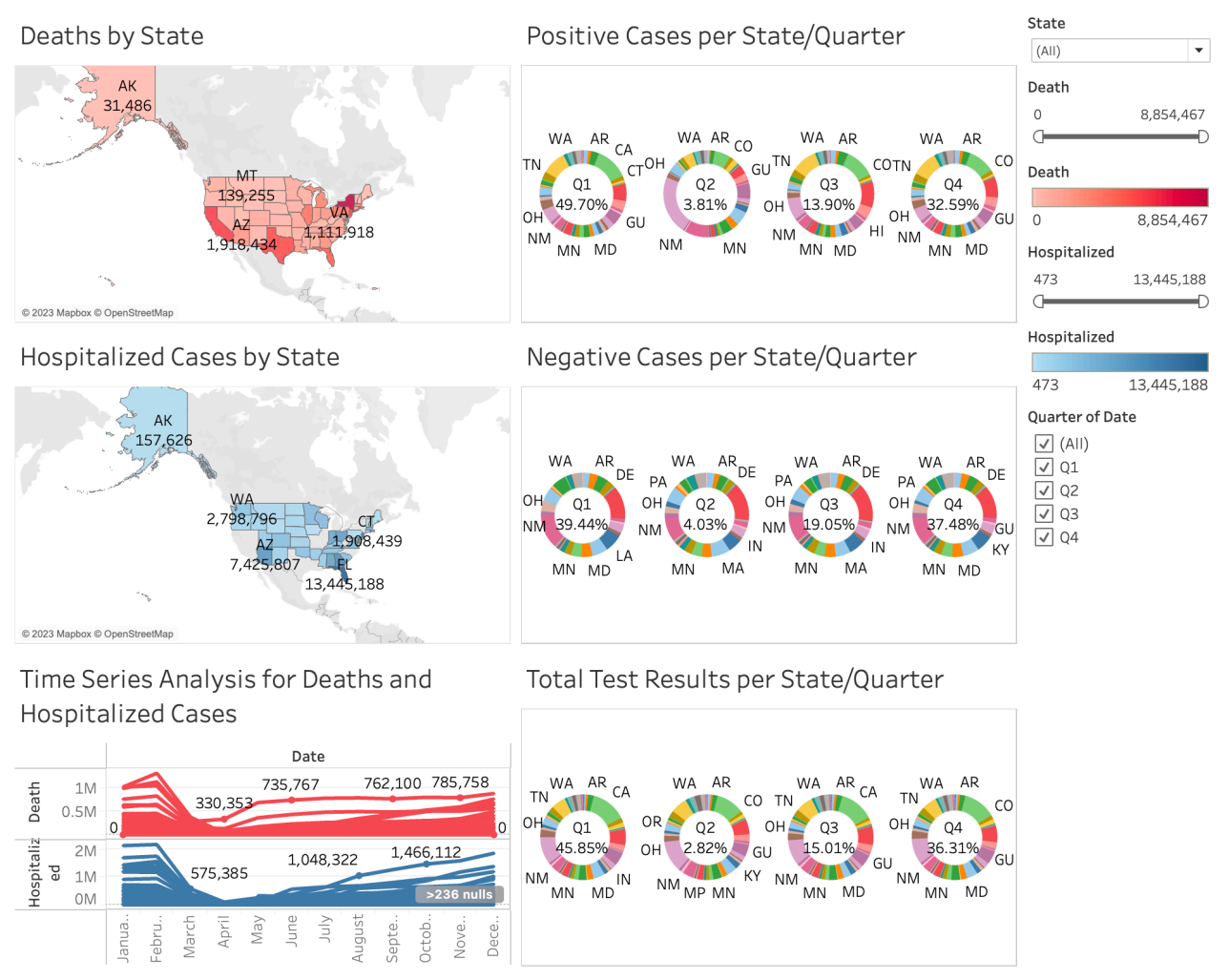




Examining the 'totalTestResults,' 'positive' cases, and 'negative' cases in the United States shows a parallel pattern to what is illustrated in the doughnut chart. The elevated percentages of positive and negative cases, as well as total test results, during the initial and final quarters, align with the patterns observed in previous visualizations. This recurring trend indicates a cyclicality in the pandemic, characterized by peaks in testing and both positive and negative cases during these specific time frames.

Additionally, the observation that states with higher death tolls tend to report greater numbers of test results, positive cases, and negative cases highlights a connection between testing and the severity of the pandemic. States experiencing more significant fatalities tend to conduct more extensive testing efforts for both positive and negative cases. This underscores the crucial role of widespread testing in monitoring and addressing the impact of COVID-19, particularly in areas heavily affected by the virus.

4.



The dashboard developed in steps 1 to 3 serves as a robust tool for conducting thorough analysis by providing essential metrics like fatalities, hospitalizations, and COVID-19 testing statistics. Users can refine their exploration by selecting particular states and time periods, thus enabling a detailed assessment of how the pandemic unfolds in different regions and over various timeframes. Furthermore, the capability to apply filters for both states and quarters amplifies the accuracy of the analysis. Additional parameters worth investigating could involve demographics, vaccination rates, the impact of public health measures, and the capacity of testing, all contributing to a comprehensive comprehension of the pandemic's dynamics.