

# How different American states have experienced COVID-19 so far (data available at December 15, 2020)

This is an update from our August 21, 2020 VitaMins that analyzed state-level excess mortality data at that time. Since then, the COVID-19 pandemic has increased the number of COVID-related deaths from over 170,000 to now over 290,000 at the time of writing.

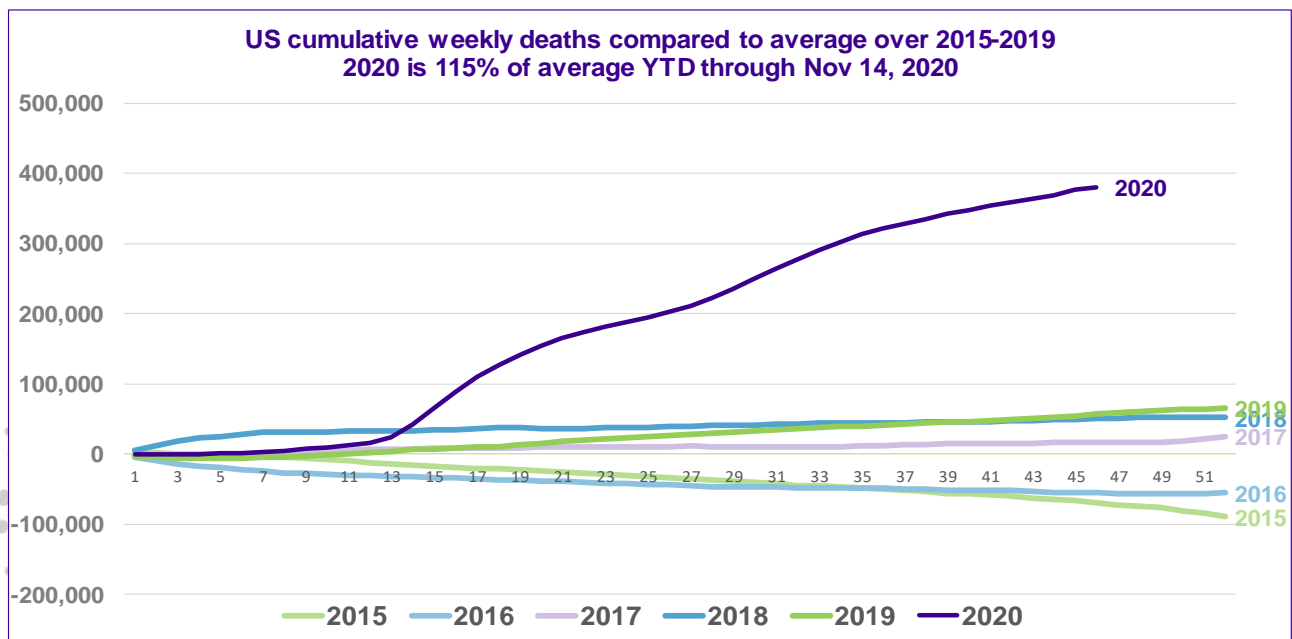
The CDC has come a long way on reporting up to date death data in the US since the start of the pandemic. At the time of writing (December 15, 2020) data for almost all states seem reasonable up to mid-November 2020. There are some states that continue to have significant delays in death reporting. We will present charts for each state through mid-November and you will be able to spot the states with reporting delays.

## Current position of the US

The chart below shows the cumulative weekly deaths in the US for each year from 2015, relative to the average over 2015 to 2019. Note that the aging US population means we would expect the number of deaths to increase slightly each year, all else being equal.

The purple line shows the situation up to the end of November 14, 2020. Despite official estimates of 290,000 COVID-related deaths at December 10, we are seeing around **380,000 deaths** in excess of the five-year average of deaths occurring in the year by November 14 – and even this estimate is likely to be on the low side, as there are some large states that have not yet reported data for September through November. The period up to November 14 experienced at least 115% of the expected deaths at this point of the year (based on a five-year average).

It's safe to say we are experiencing an extreme mortality event.

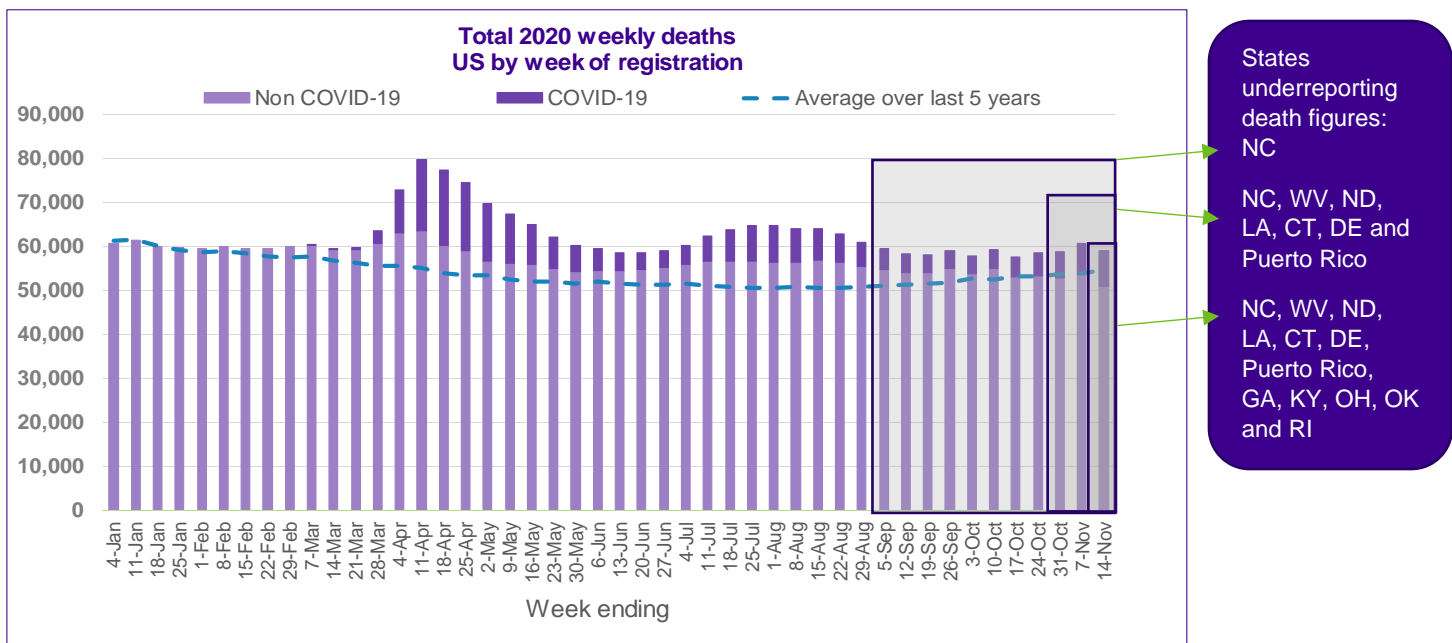


The next chart shows the number of deaths that were registered in the US each week in 2020. The dark purple bars show deaths recorded as COVID-related; the light purple bars show other deaths. The blue dashed line shows the average number of deaths for each week of the year based on the previous five years.

The chart shows more deaths being recorded than the previous average from the end of February. There is a distinct (and high) peak to these 'excess deaths' in April, followed by a summer wave and a developing fall wave. We note that this data ends prior to the Thanksgiving holiday in the US that saw many households getting together and contributing to the reported early December spread of the disease.

Another thing we see is that many of these 'excess deaths' were not recorded as COVID-related. It seems likely that some of these excess deaths were in fact due to COVID and were not recorded as such. In understanding the true impact of the pandemic on the US, data on excess deaths will give us a more complete picture than deaths recorded as COVID-related.

In reviewing this total chart for the United States, it's important to note that data on the number of deaths is reported at a state level. Some states have had significant delays in reporting death information to the CDC and therefore any country-wide statistics using this data will be underreporting the overall impact of excess deaths in 2020. The chart below highlights which states appear to have underreporting issues. North Carolina has the longest lag for death reporting. More information on each state can be found in the appendix of this VitaMins.



In this article we will use similar charts to explore how the pandemic has spread across the US and how different states have been affected differently depending on when outbreaks first occurred.

The source for the data used in this article is the [Weekly Counts of Deaths by State published by the Center of Disease Control and Prevention \(CDC\)](#).

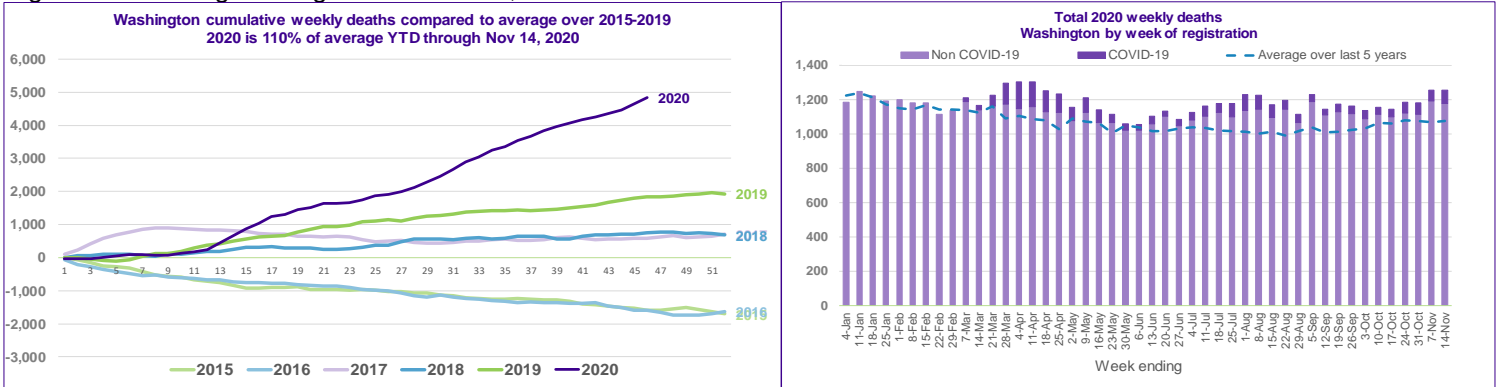
Charts for all states, New York City, District of Columbia and Puerto Rico can be found in the appendix.

# The development of the pandemic

In our August VitaMins, we reviewed the beginning of the pandemic on the West coast of the US, its arrival in the East and the spread to the US's sunbelt states through July. Below we update our analysis to show how certain states from our initial analysis have fared since July:

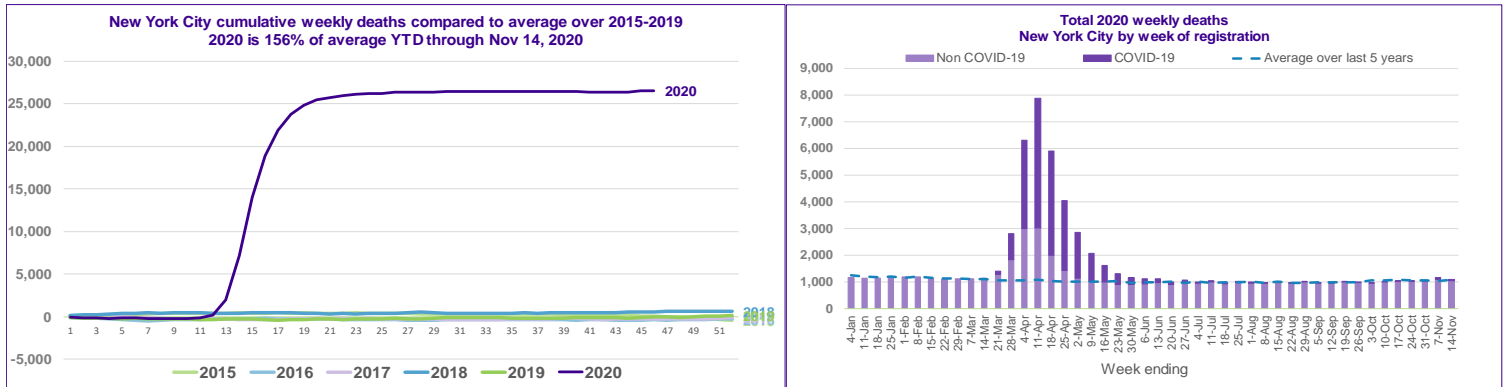
## Washington State – beginnings of the pandemic in the US

The US pandemic started with a small outbreak in Washington State, with the first death being registered just outside Seattle on February 29th. Since then, there have been excess deaths in Washington state every week, with a total of 110% higher than average through November 14, 2020.



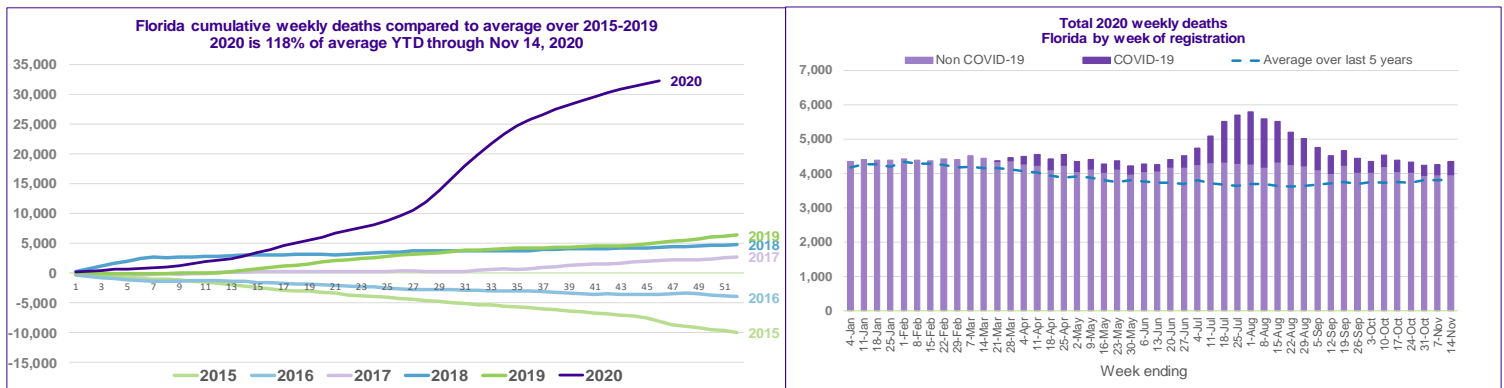
## New York City metropolitan region - the arrival in the East

Serious outbreaks began shortly thereafter in the New York City region. The pandemic took a serious toll on NYC and its suburban area. Since then, excess deaths have stabilized in New York City. New York excluding NYC and New Jersey have seen some uptick in excess deaths in recent weeks through November 14, 2020. See appendix for those areas.



## Florida - the spread to the sunbelt

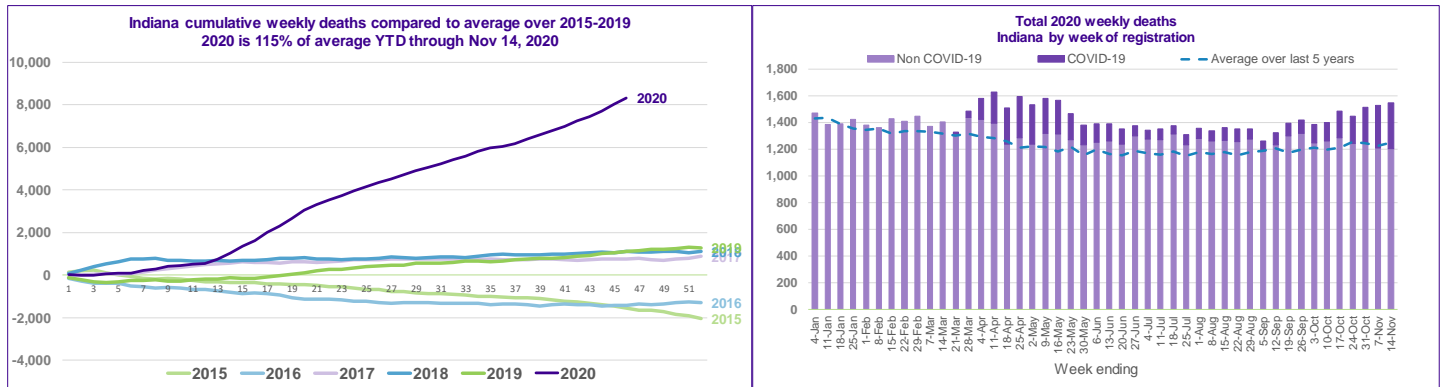
Summer saw increased excess deaths in sunbelt and western states. Since the peak in August, there have still been excess deaths every week in Florida, with a total of 118% higher than average through November 14, 2020.



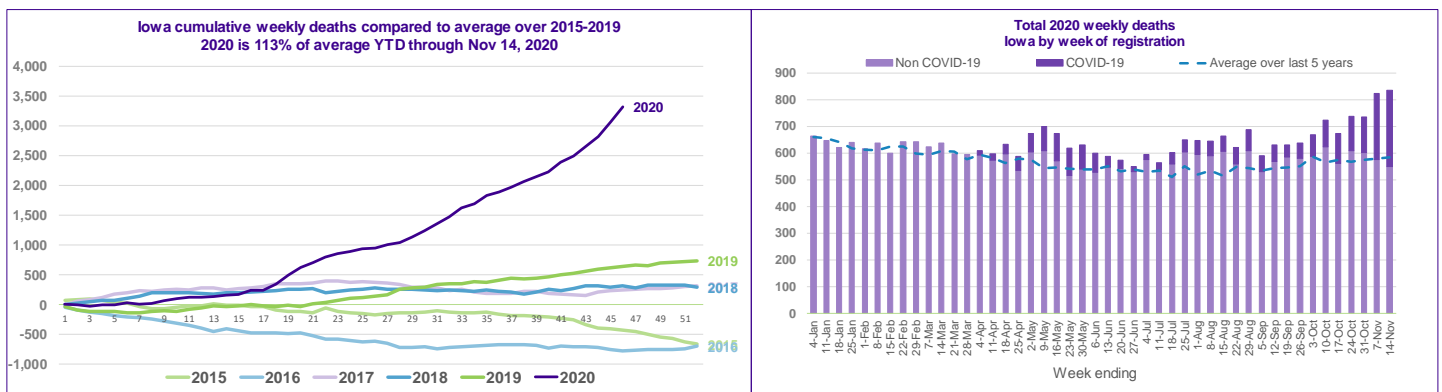
## Fall in the Midwest

The Midwest avoided the summer spike in COVID-related deaths that affected so much of the sunbelt and western states. Unfortunately, with the coming of Fall, the Midwest has experienced its highest death tallies to date.

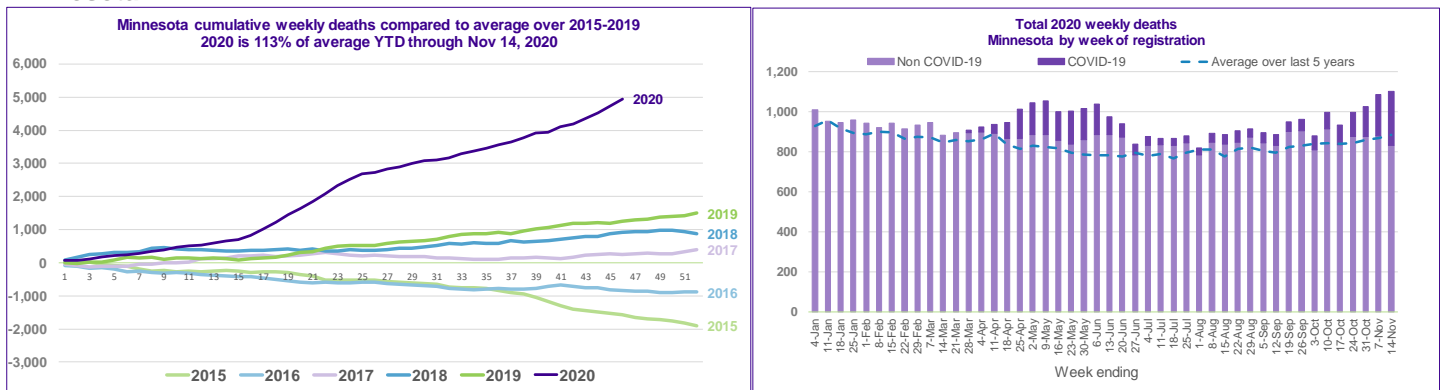
### Indiana



### Iowa



### Minnesota

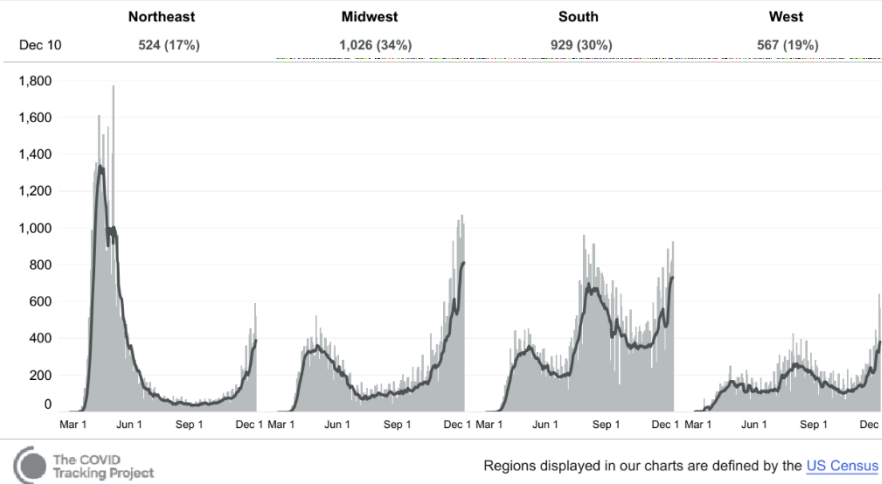


## The regional picture over time

The COVID Tracking Project has a helpful timeline of the US infection by regional area. As with our analysis above, you can see the early spike in the Northeast, followed by high summer death tolls in the South and West. The Midwest and West have seen significant death increases during this Fall. Right now, as of December 2020, all regions are on a trajectory toward higher daily deaths. While this chart is helpful to show the regional story of COVID during 2020, at Club Vita, we always advocate for more granularity in measuring longevity.

## REGIONAL DAILY DEATHS. 7-DAY AVERAGE LINE

Mar 1 to Dec 10



### What's next?

The pandemic continues to grow at a rapid pace in the US. Each state and region has had differing experience, although it is clear that as children returned to school and more people started to spend their time indoors this Fall, death rates have been on an upward trajectory. There also appear to have been a significant rise following Thanksgiving family get-togethers. Hopefully we will learn this lesson from Thanksgiving and be thoughtful about how we visit family over the upcoming Christmas holiday.

Positive news from a series of vaccine trials provides much-needed optimism that this pandemic will be under control in the coming months. In particular, the CDC's [guidelines](#) on vaccination priority that allocates initial supplies to long term care facilities and their staff will hopefully provide a quick reduction in death rates among this particularly vulnerable population.



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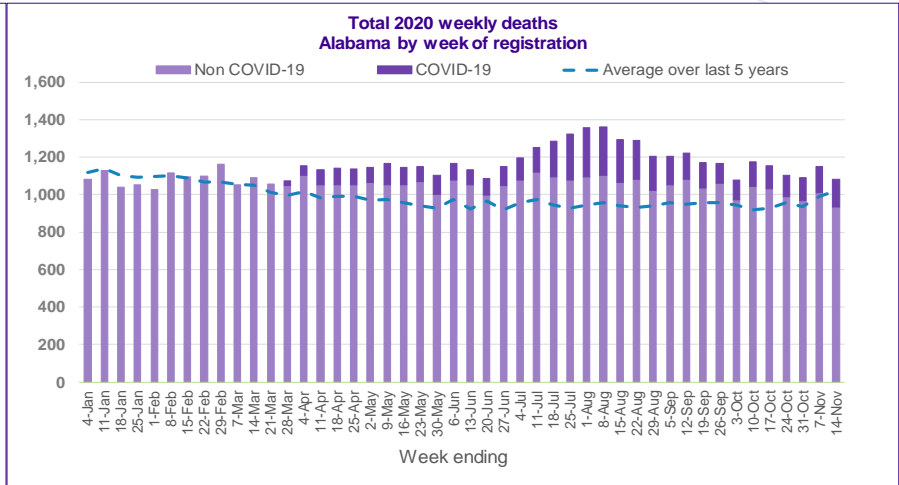
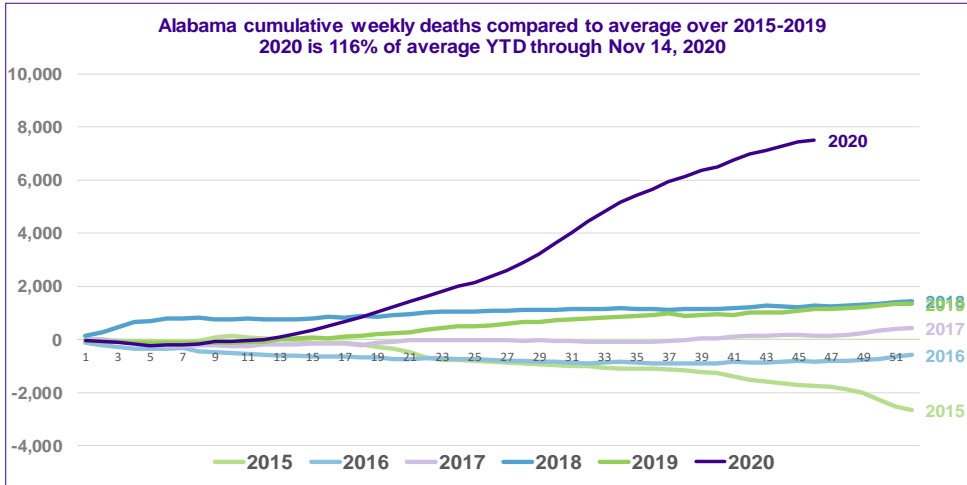
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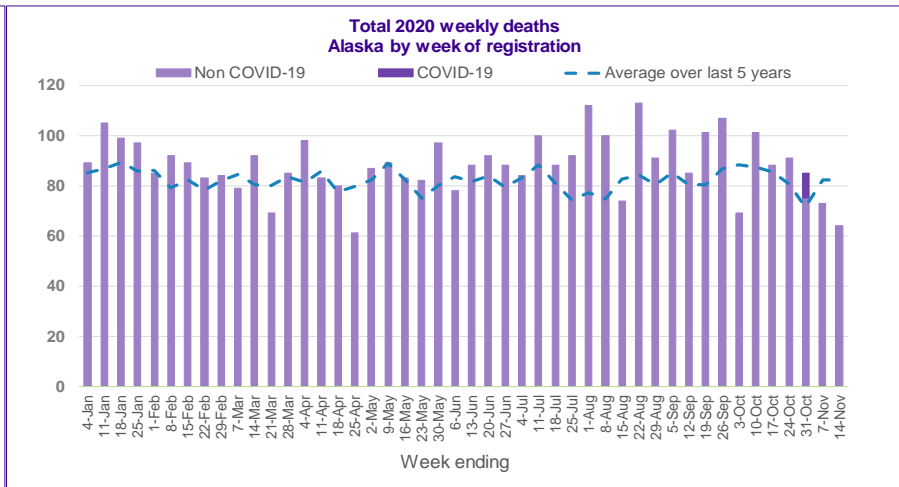
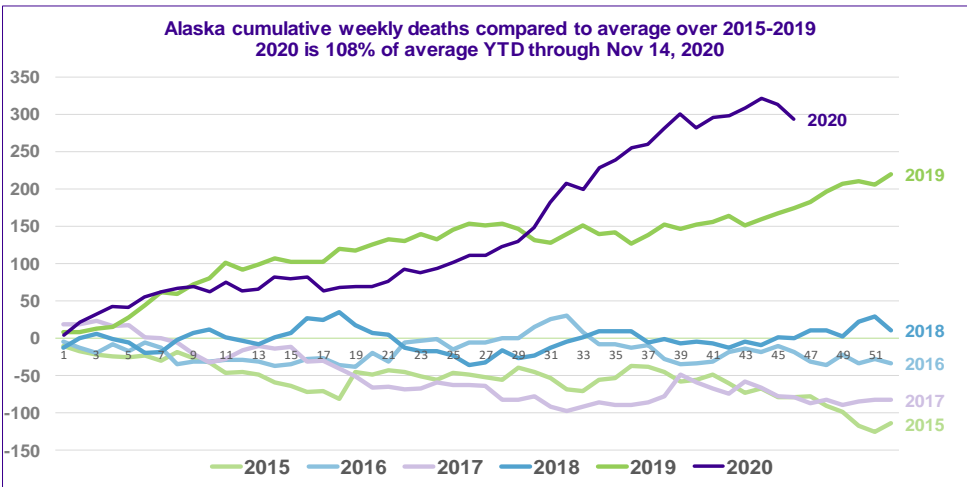
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# Appendix: Charts for all states, New York City, District of Columbia and Puerto Rico

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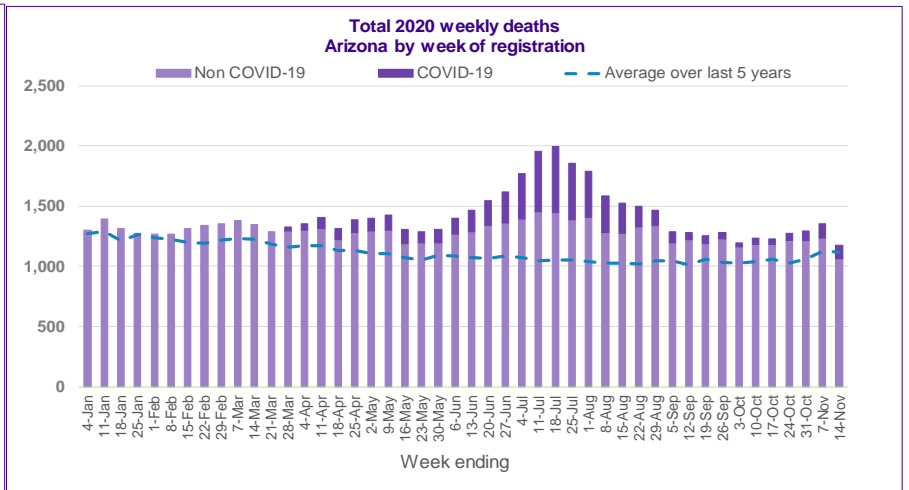
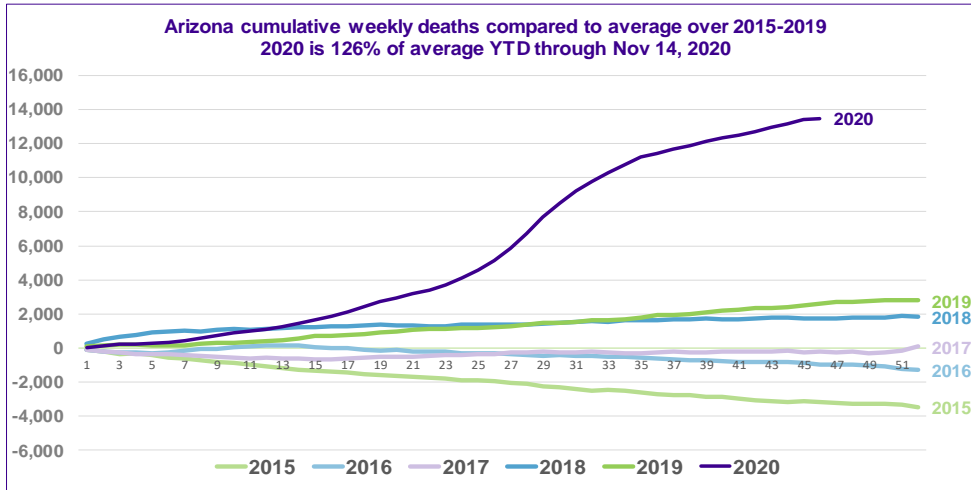


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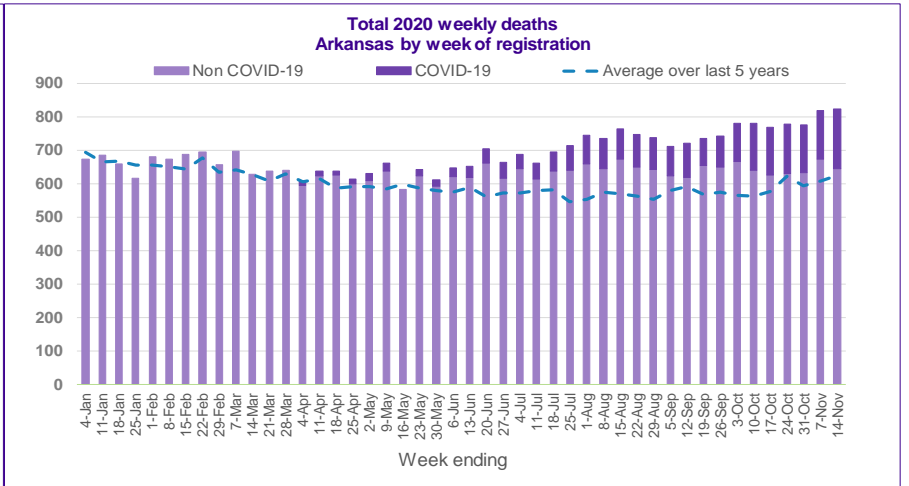
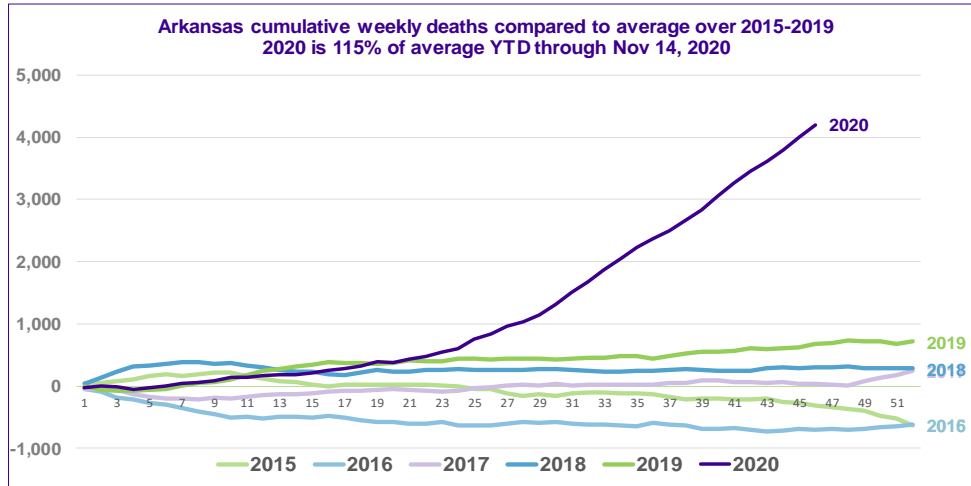




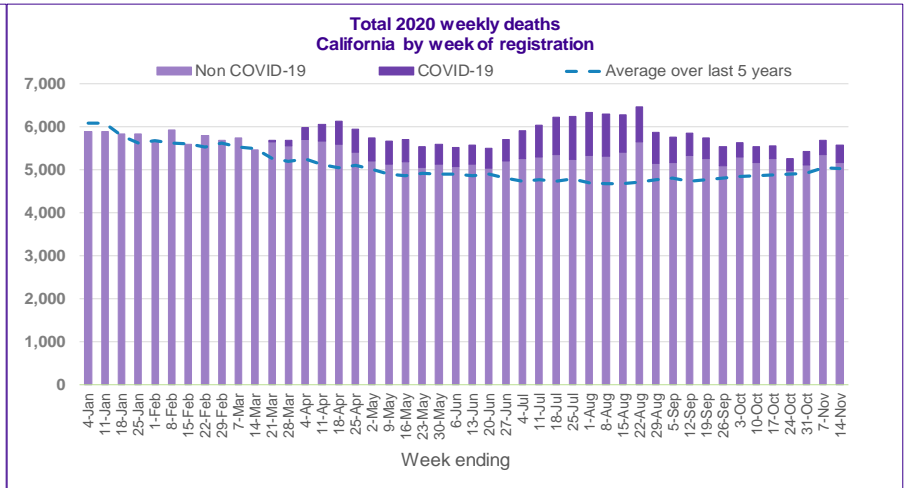
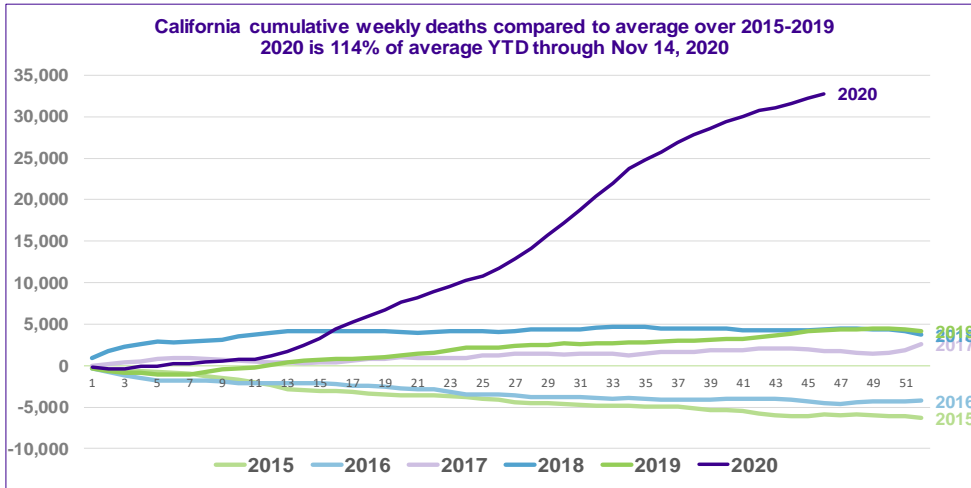
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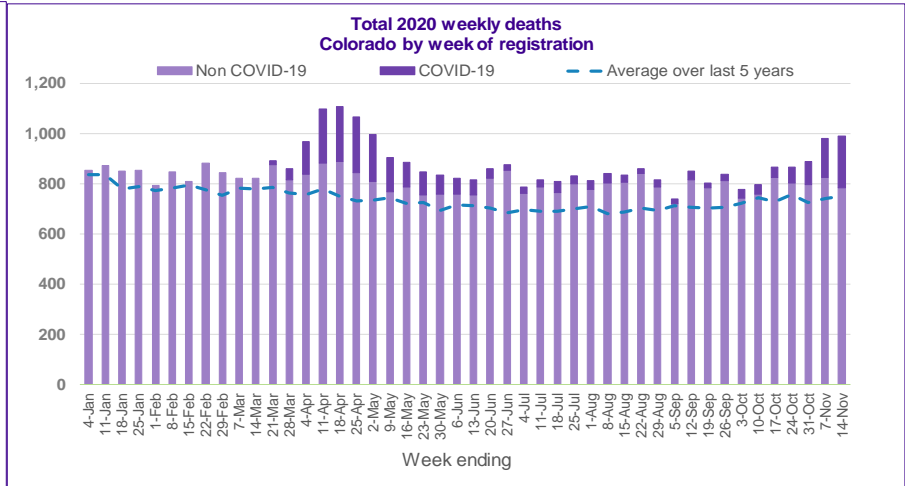
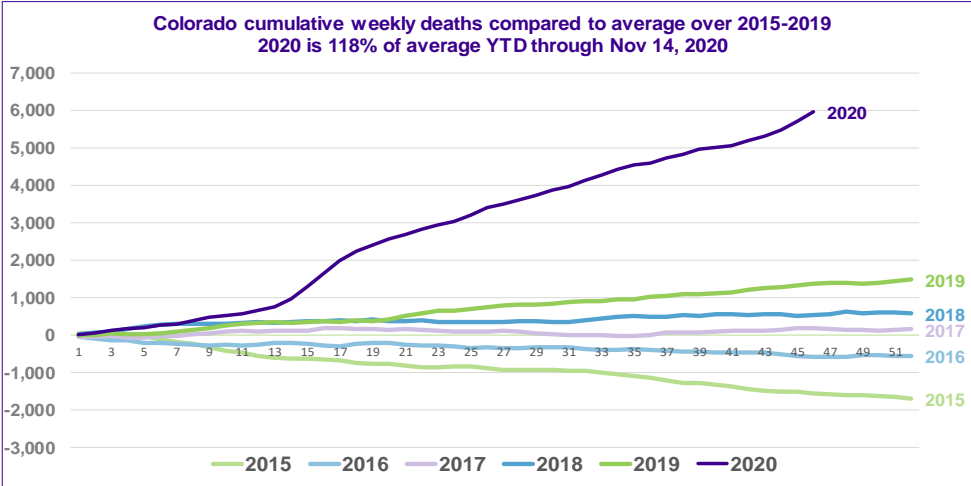
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## California

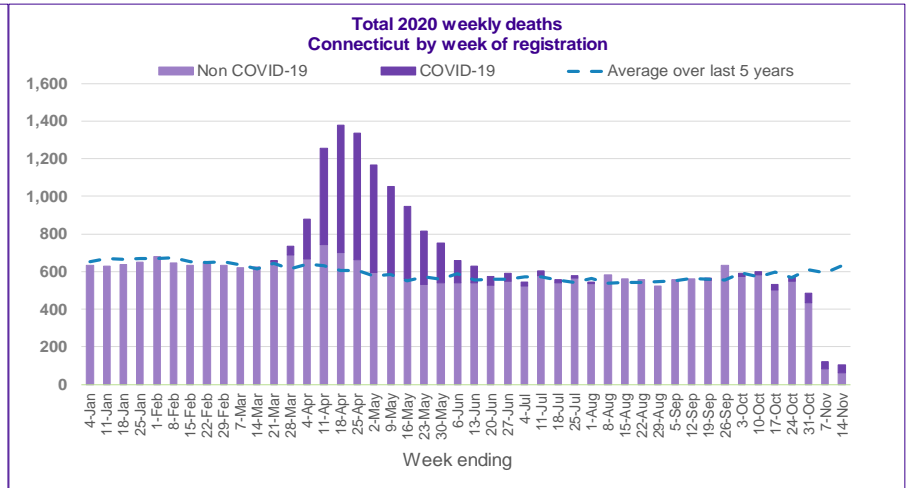
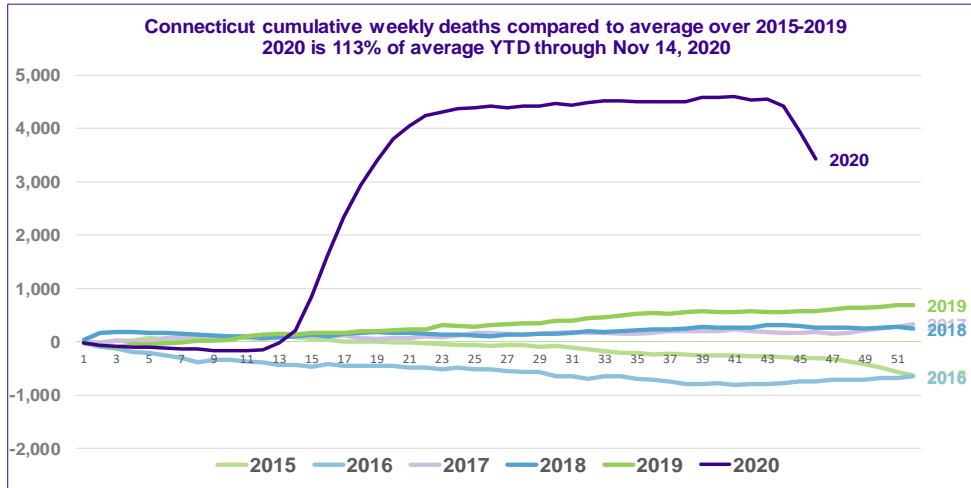


## Colorado

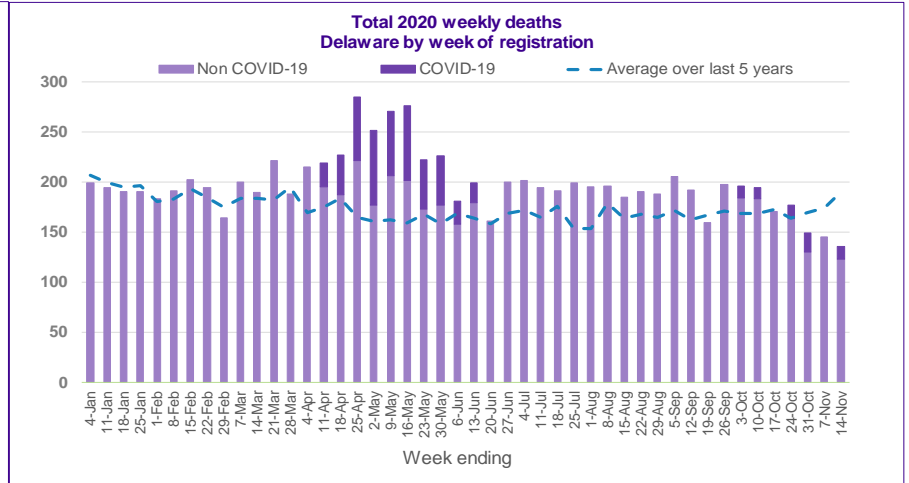
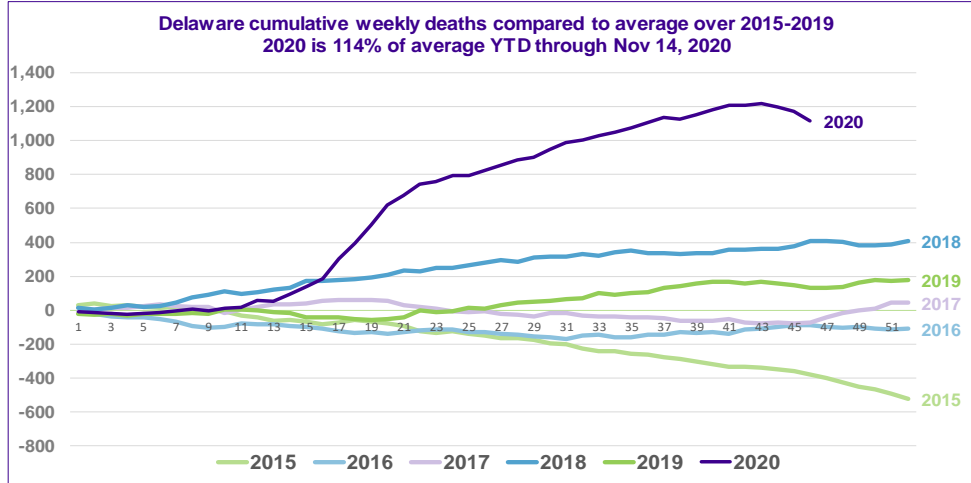




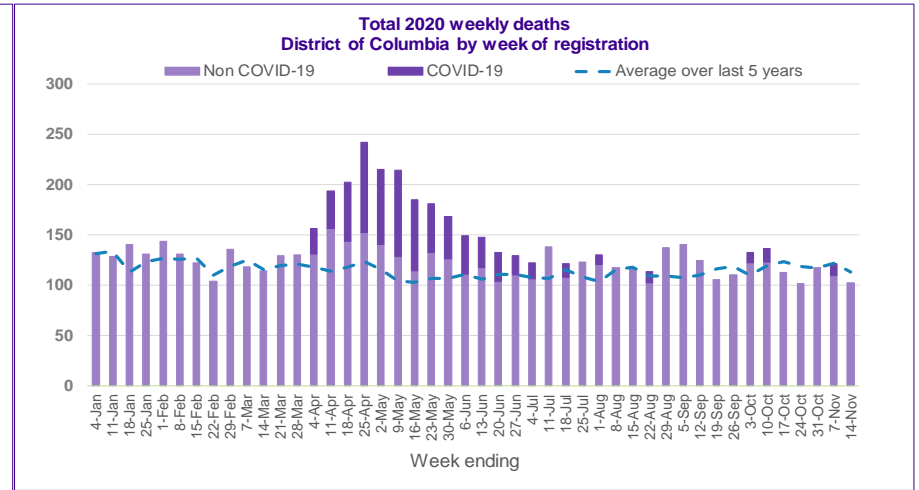
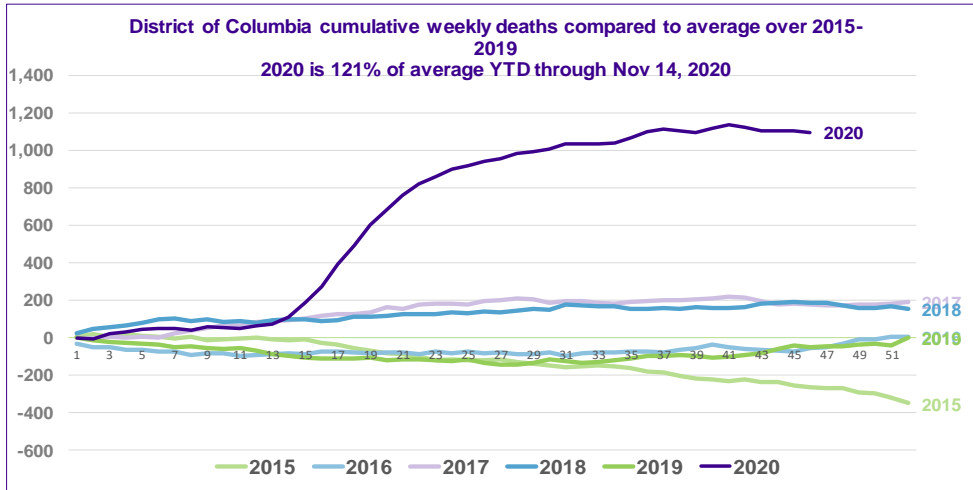
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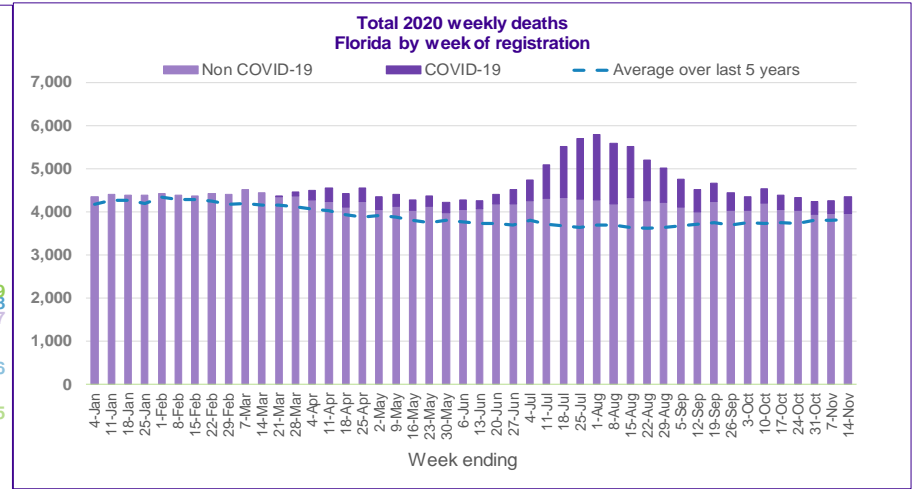
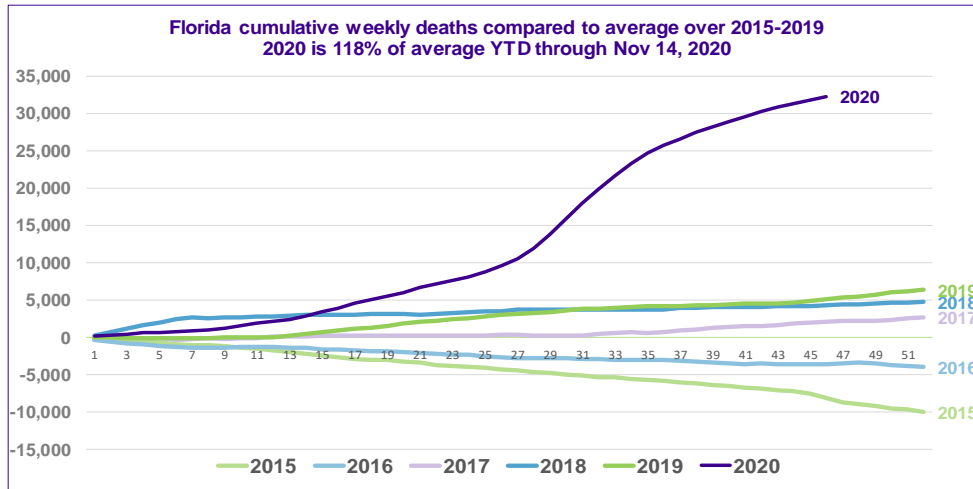
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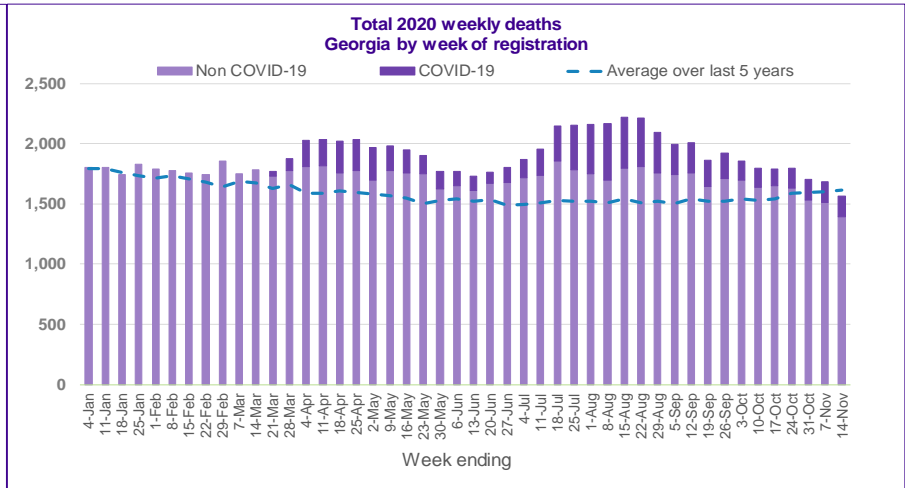
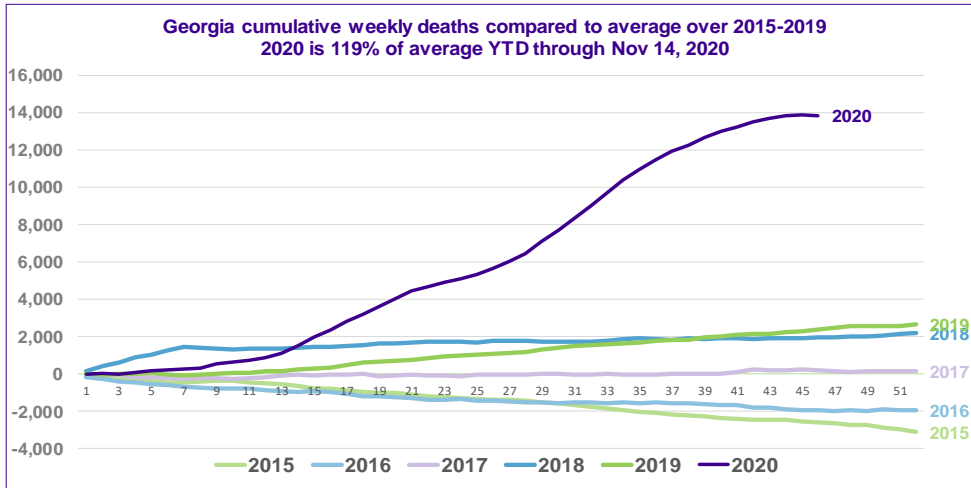
## District of Columbia



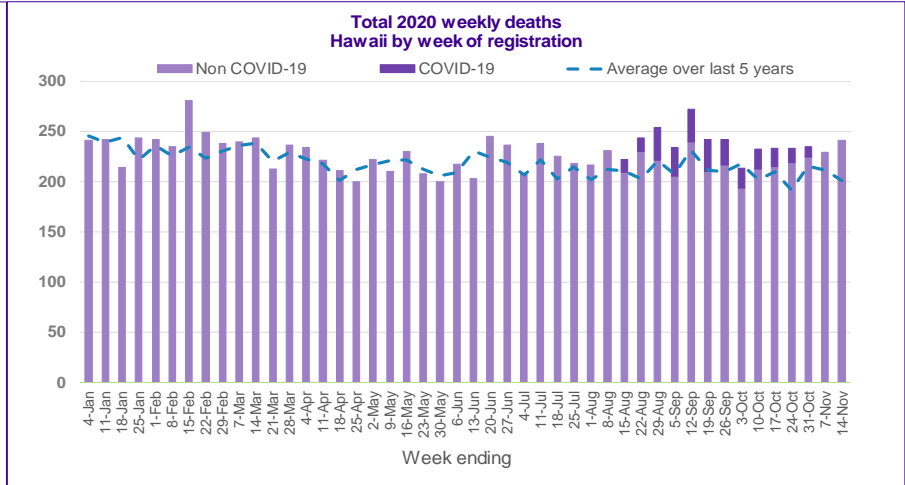
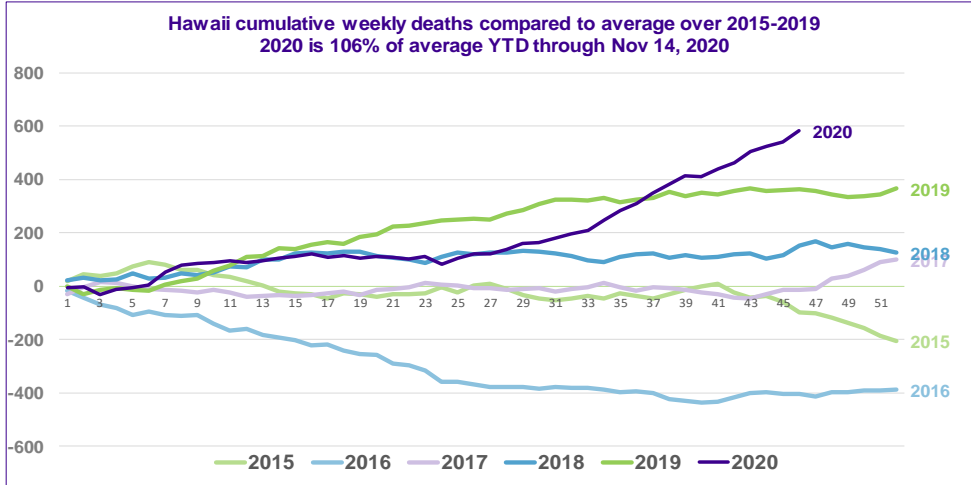
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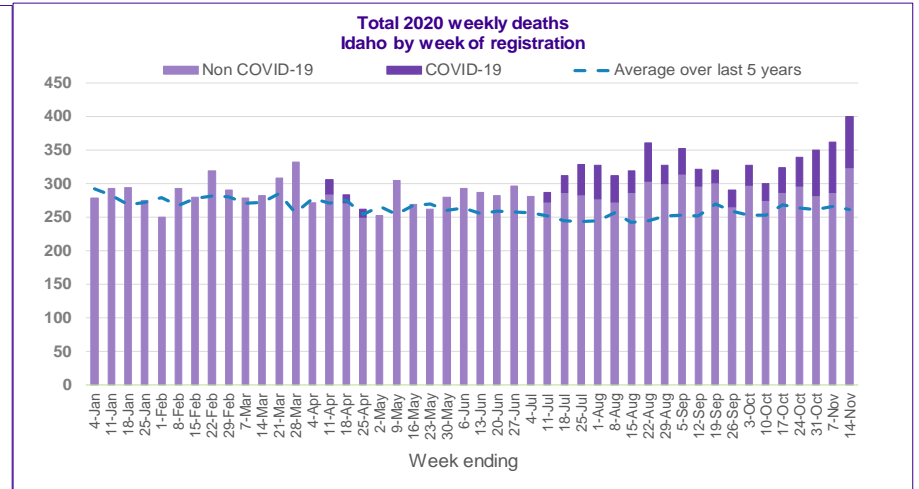
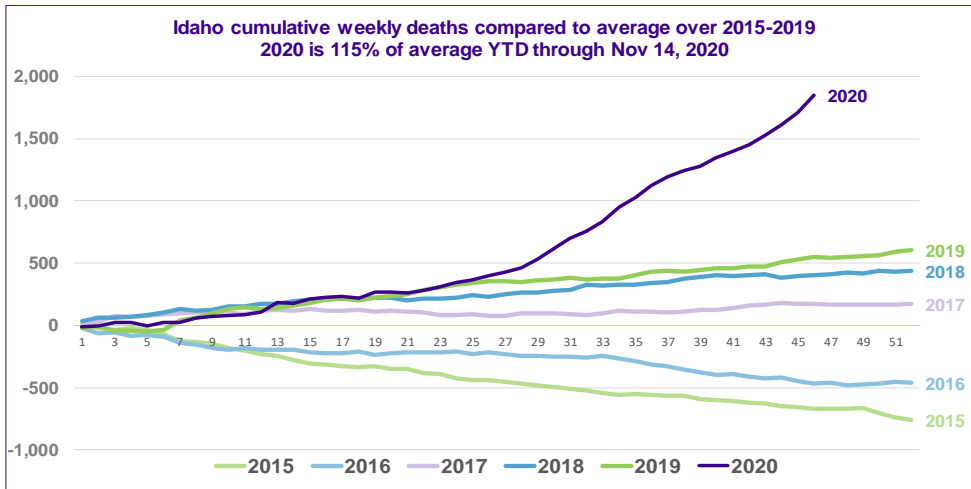
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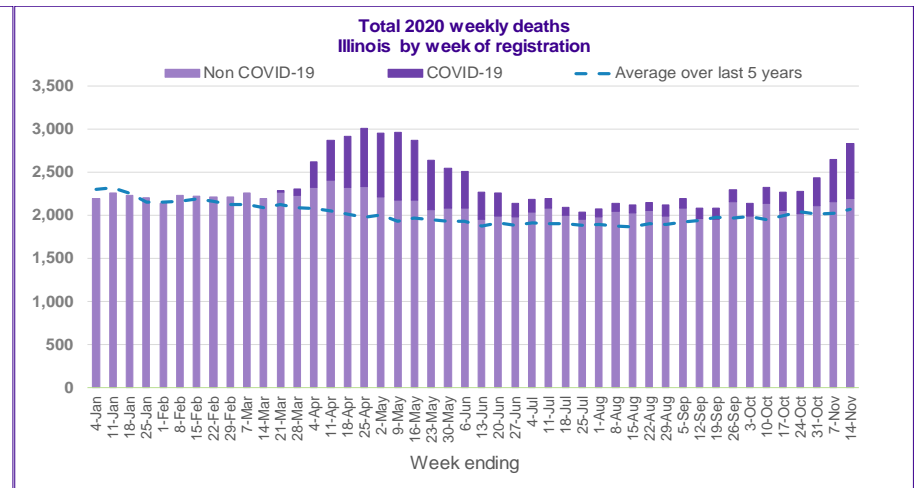
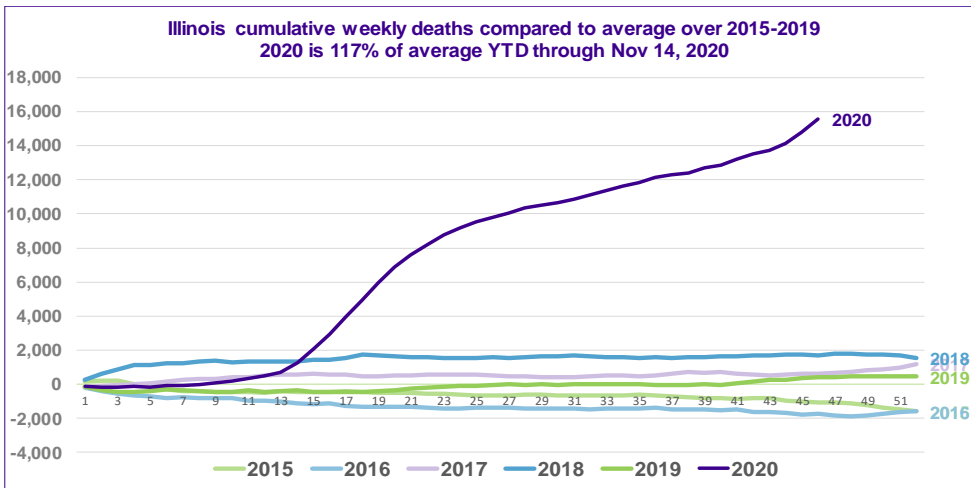
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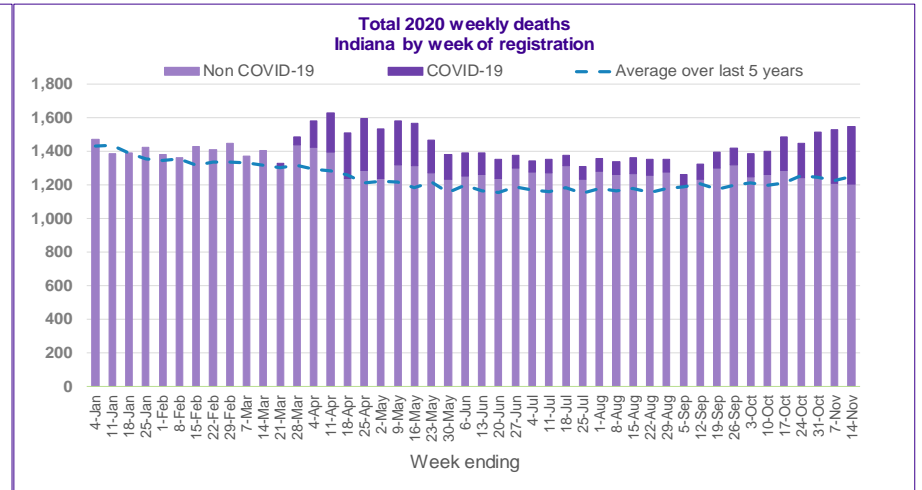
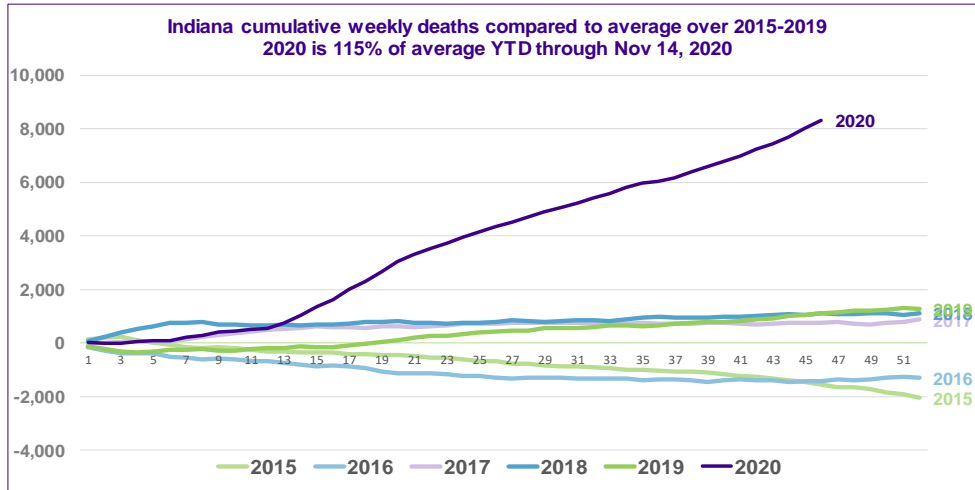
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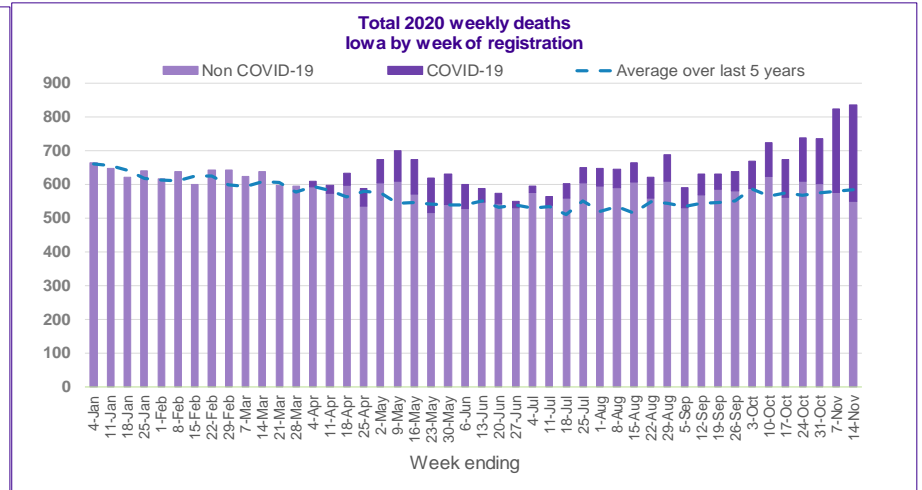
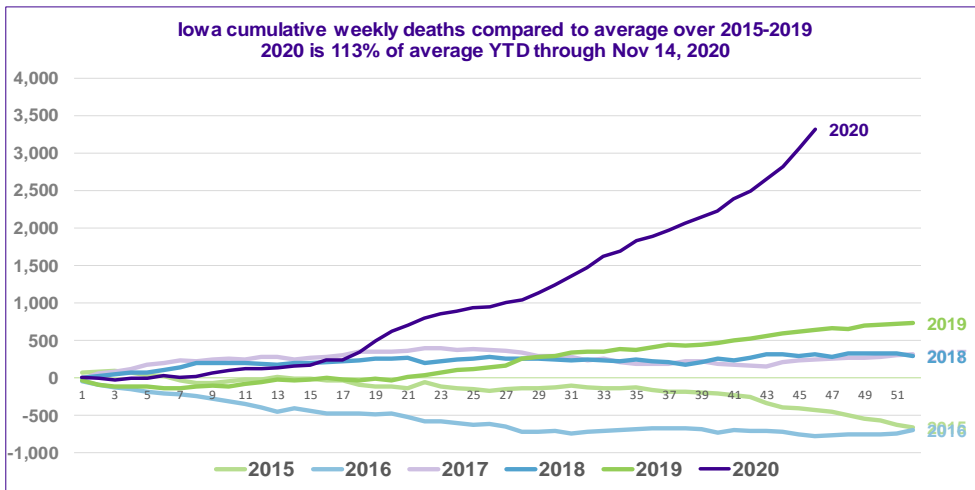
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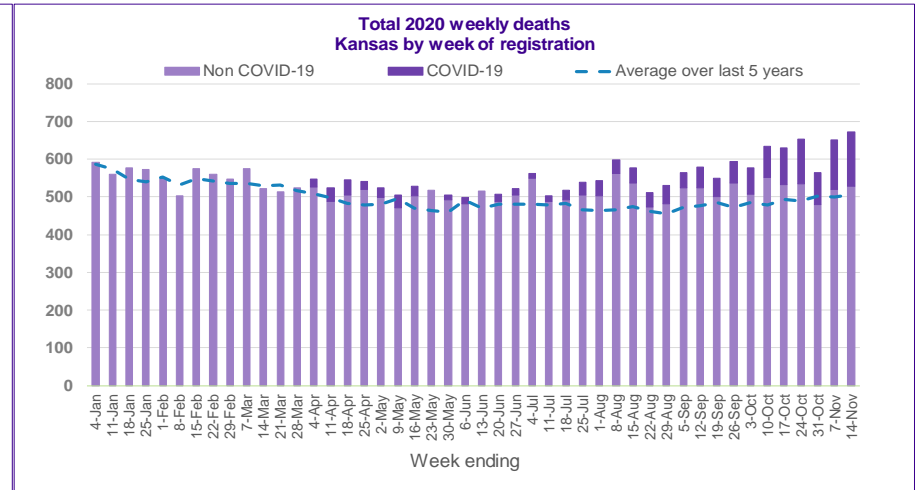
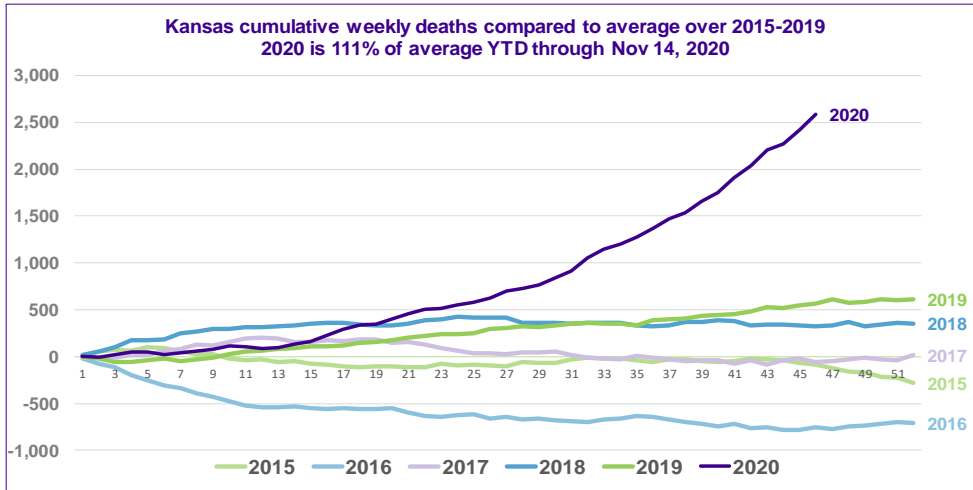
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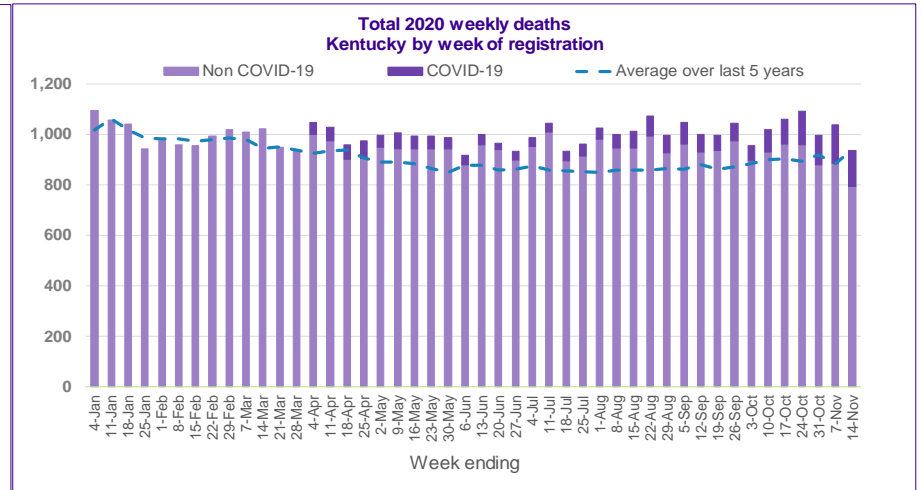
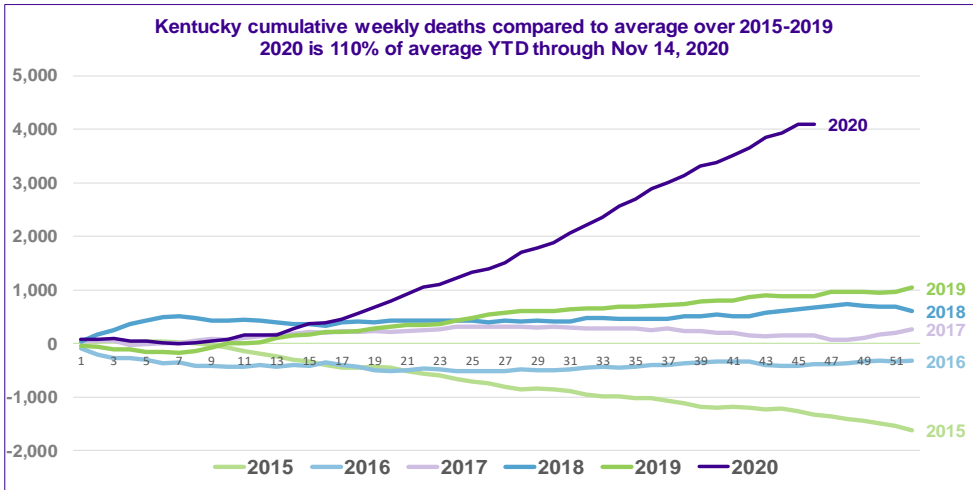
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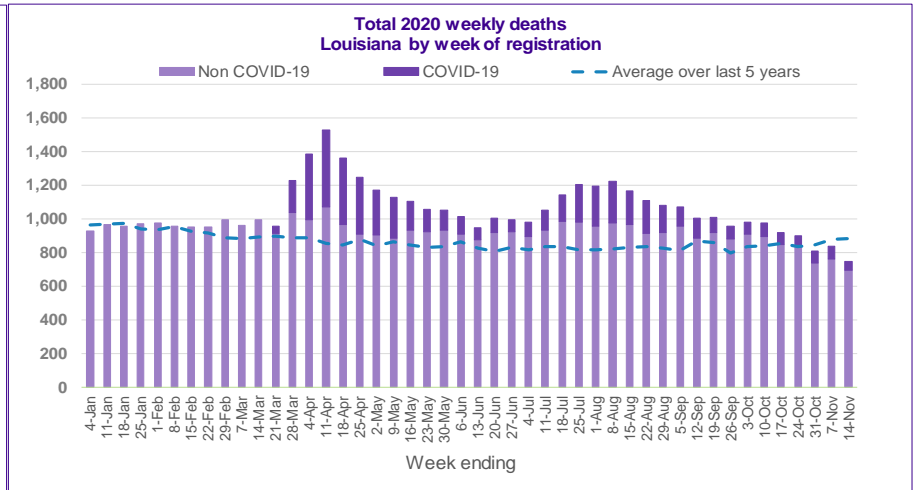
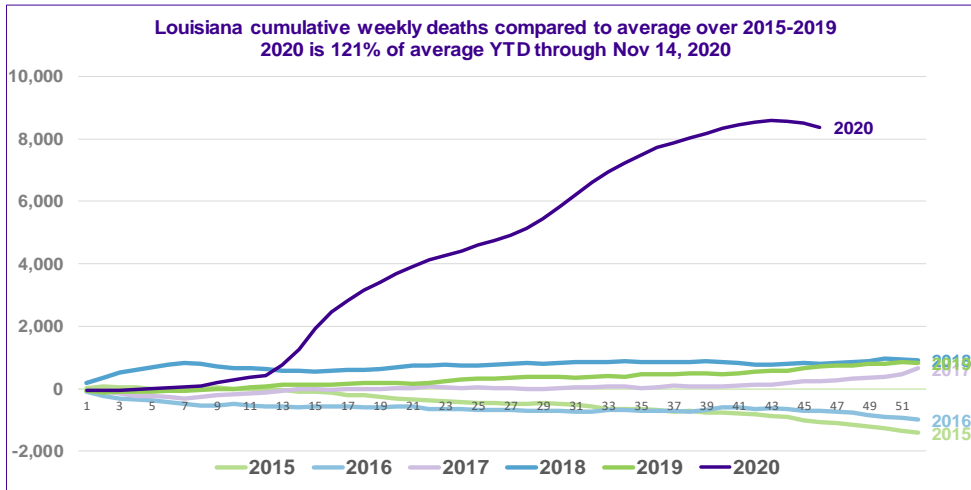
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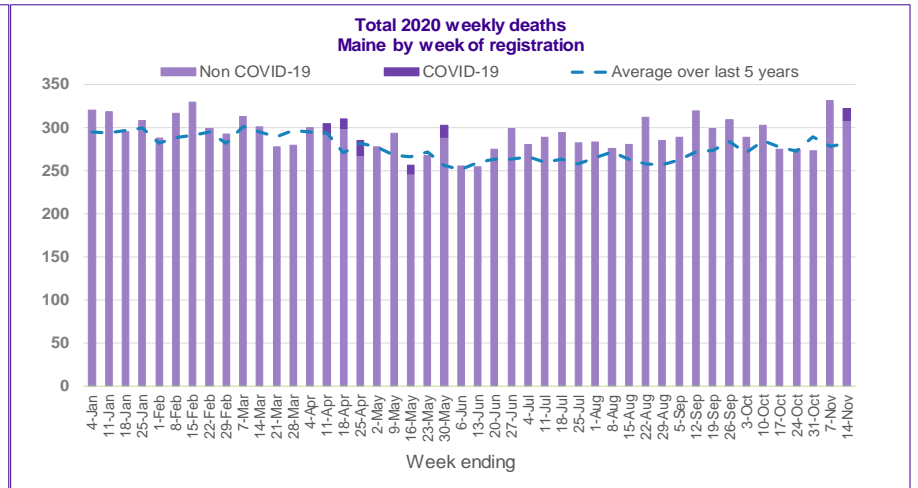
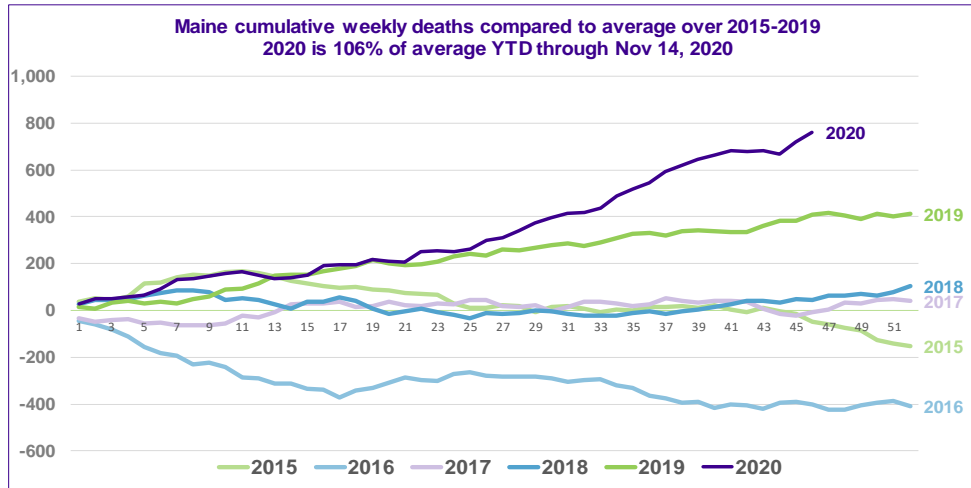
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## Louisiana

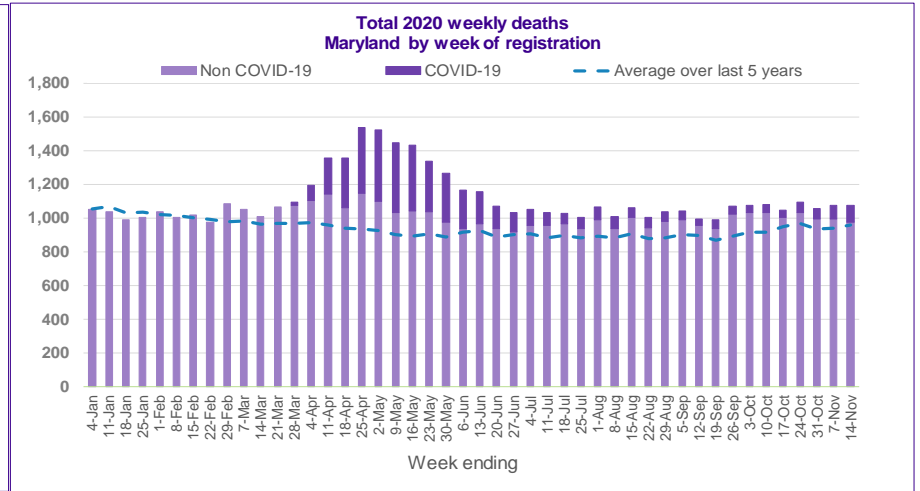
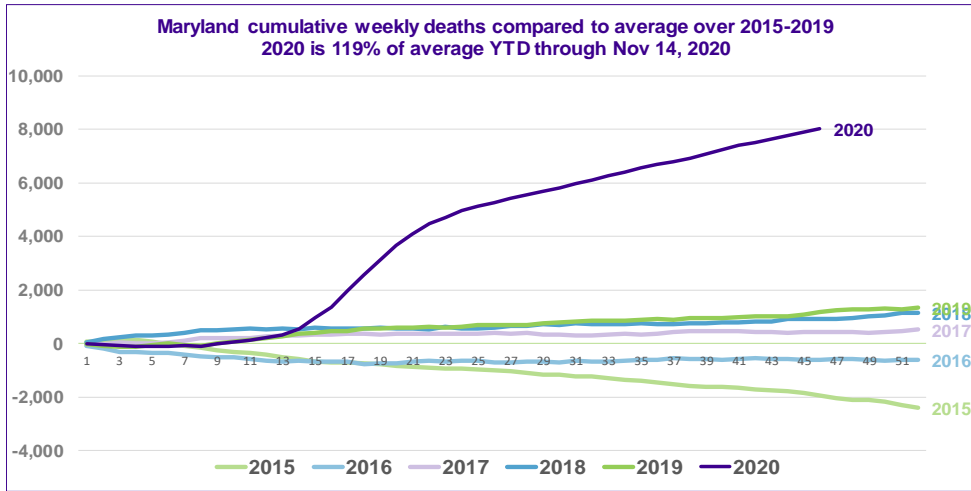


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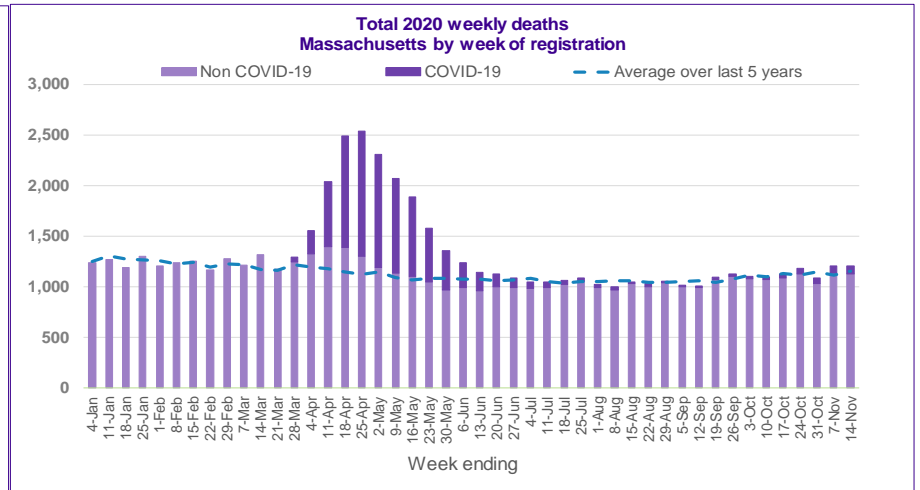
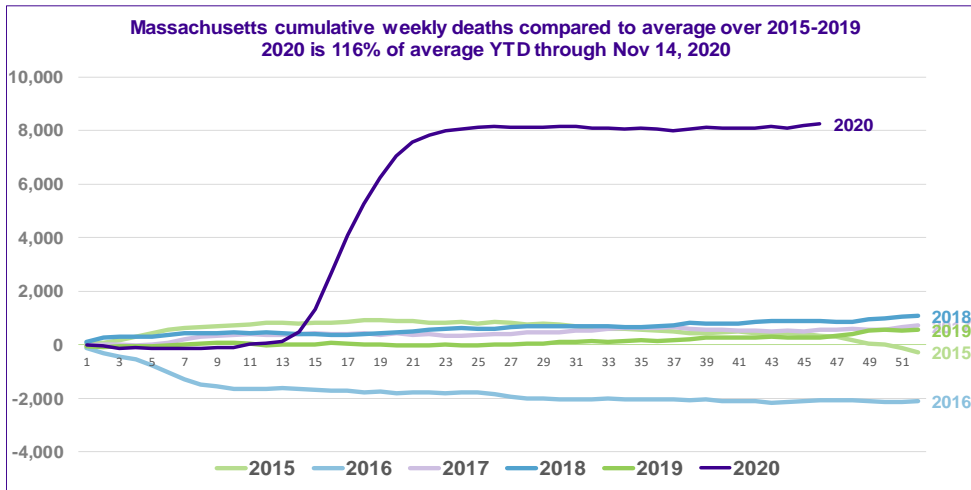




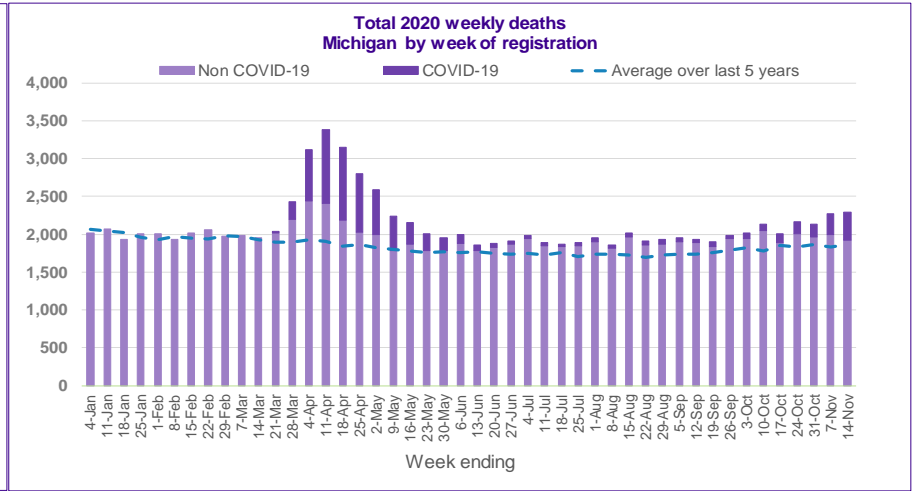
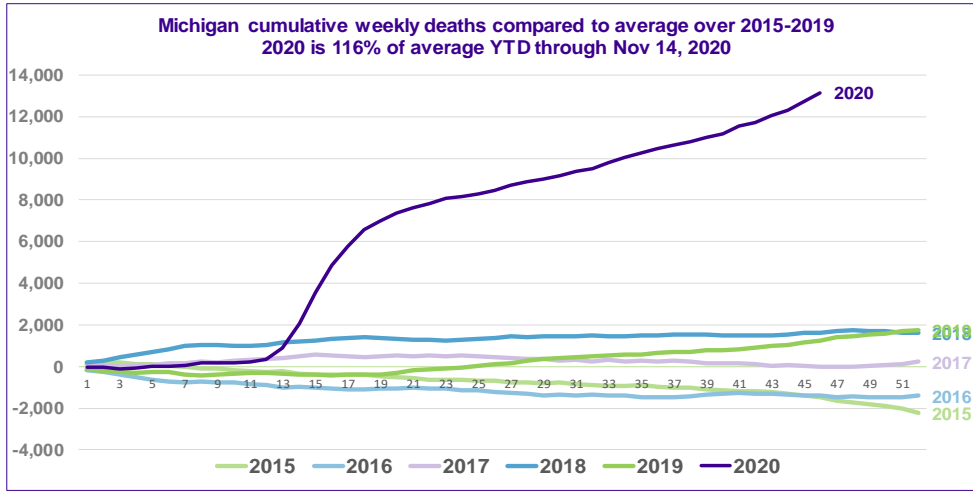
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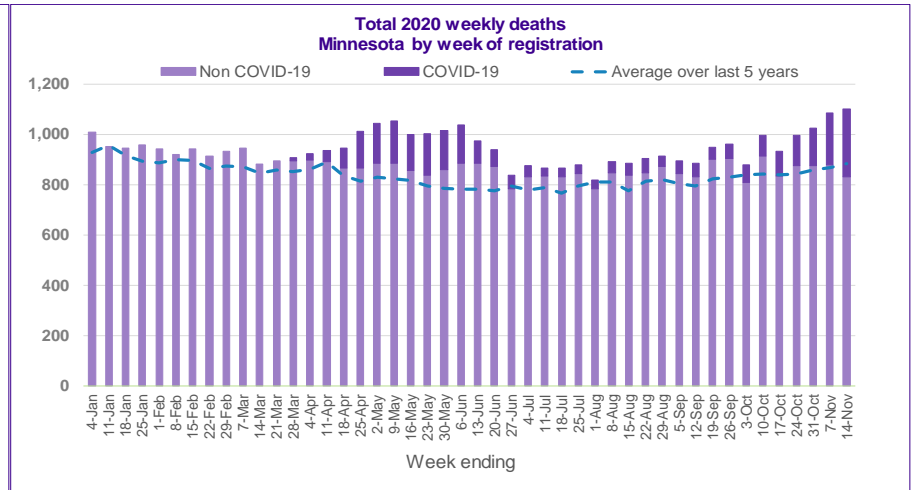
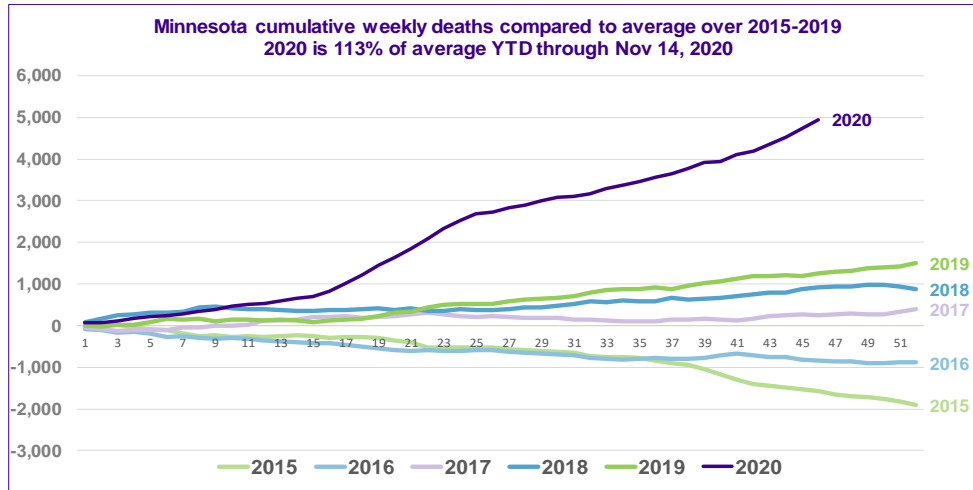
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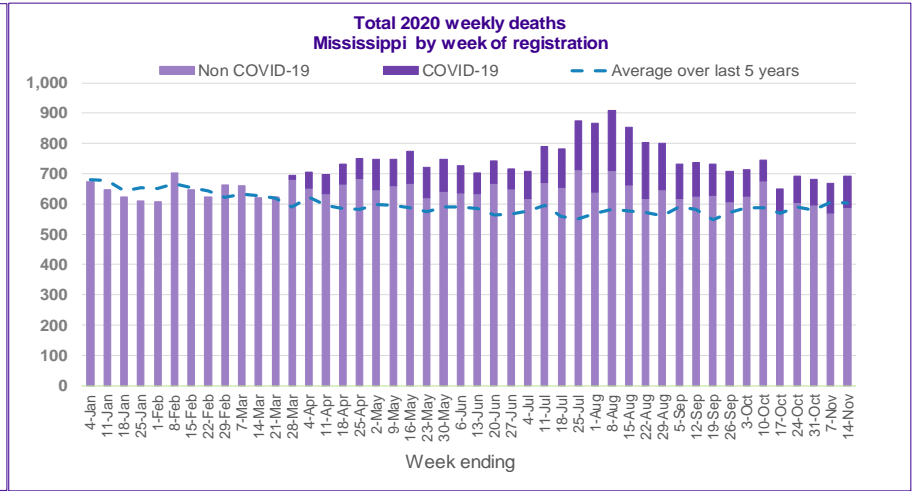
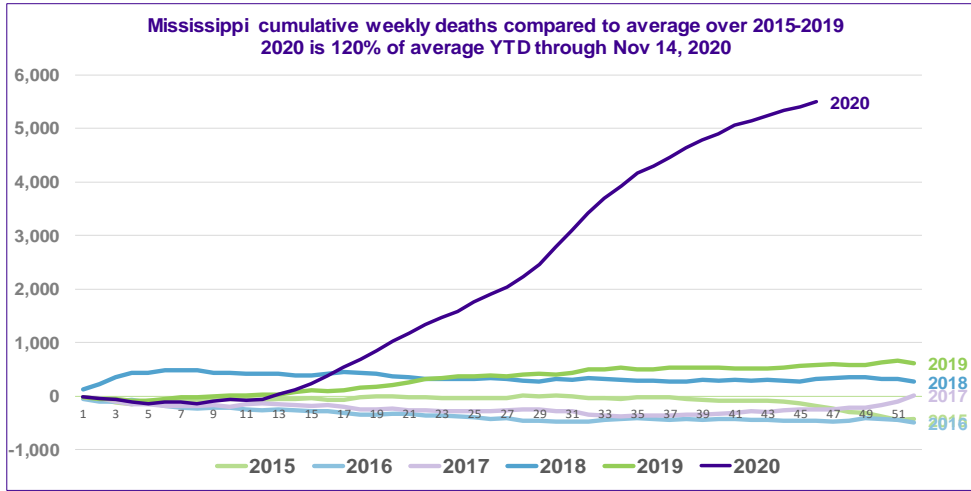
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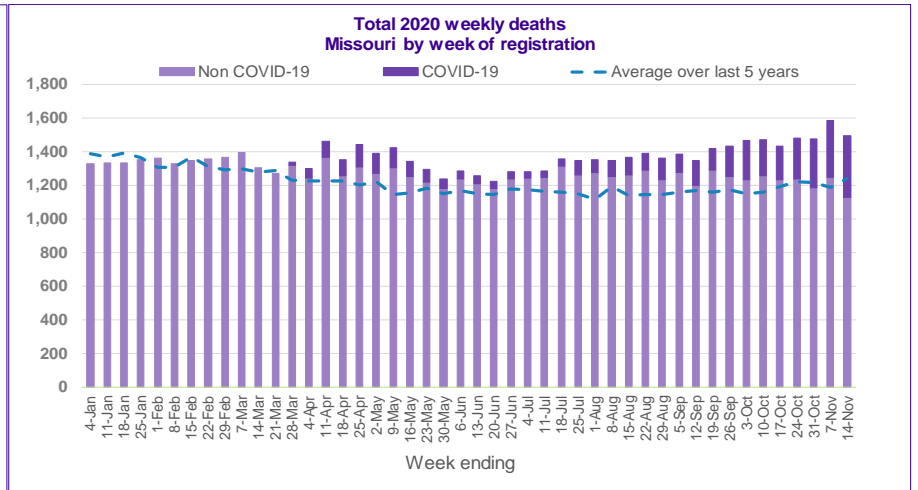
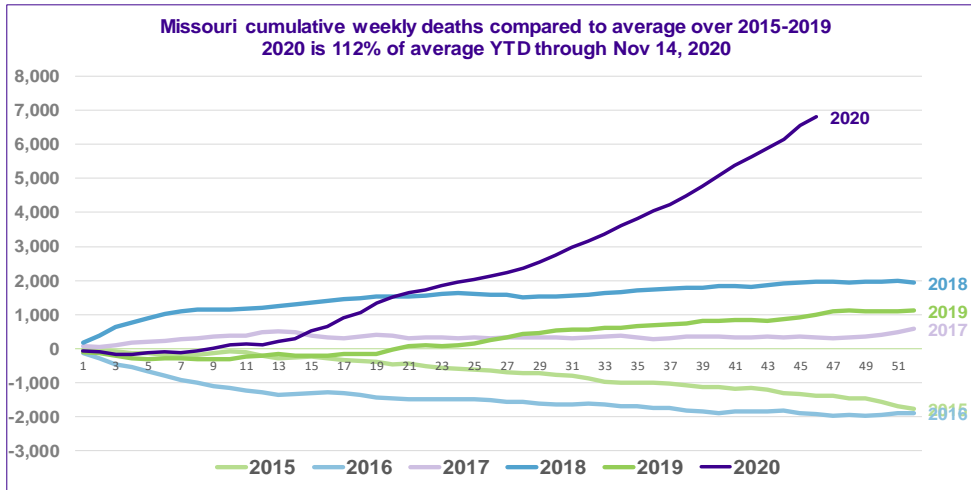
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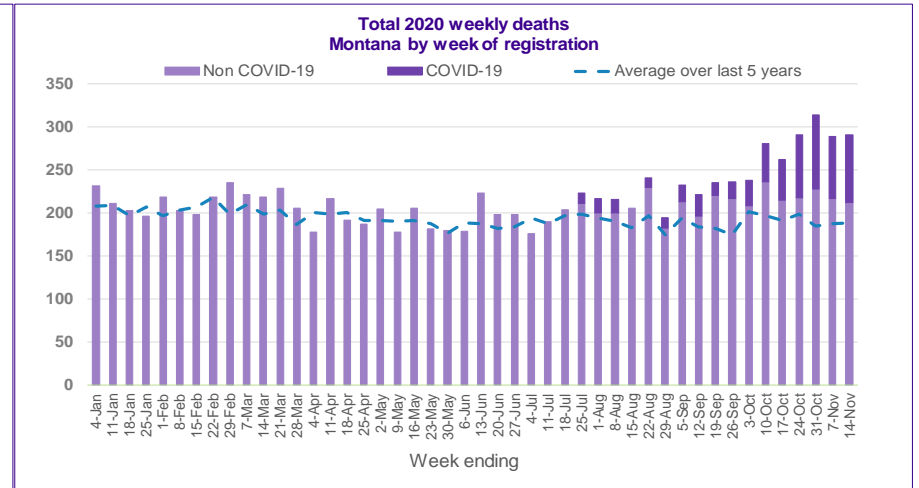
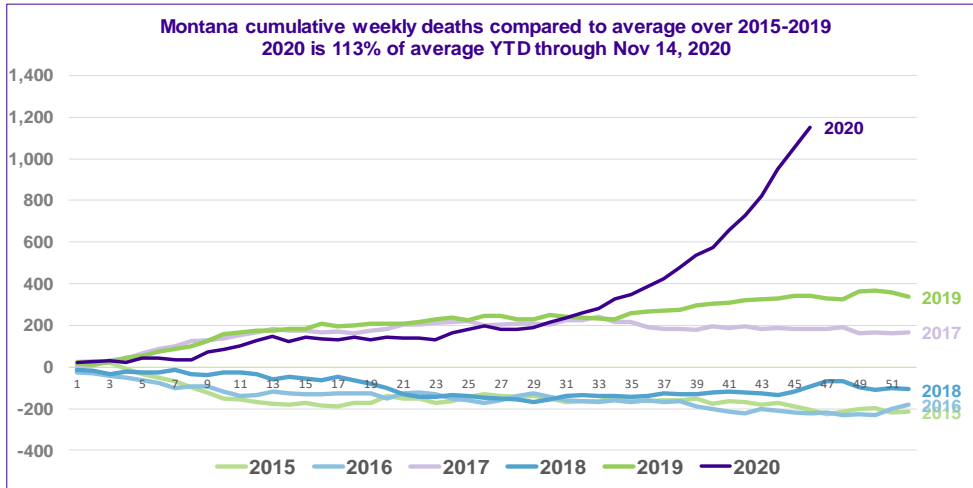
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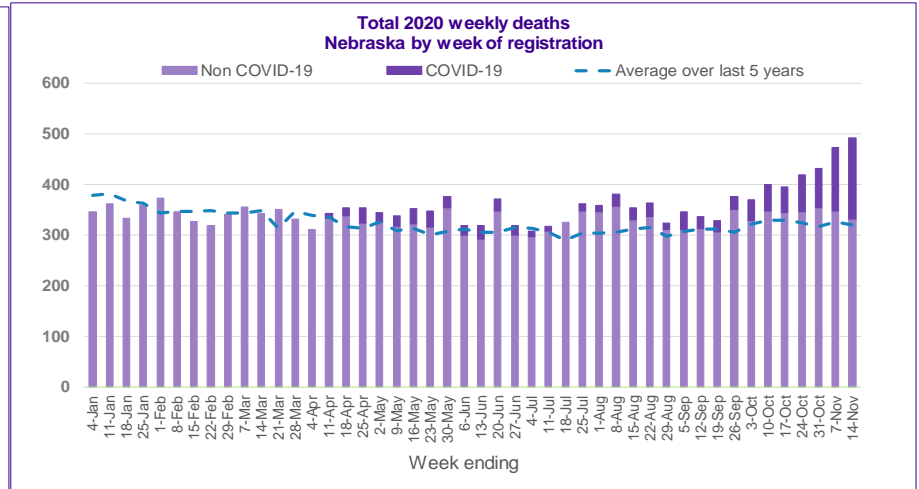
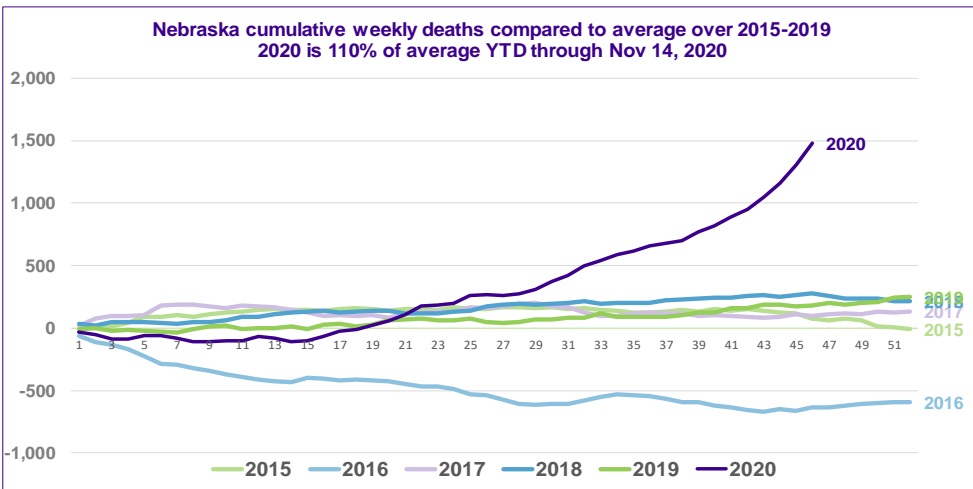
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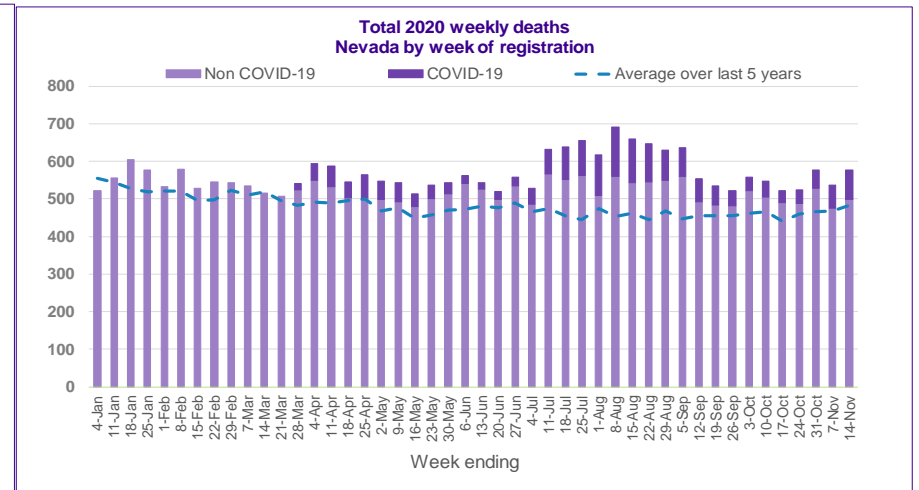
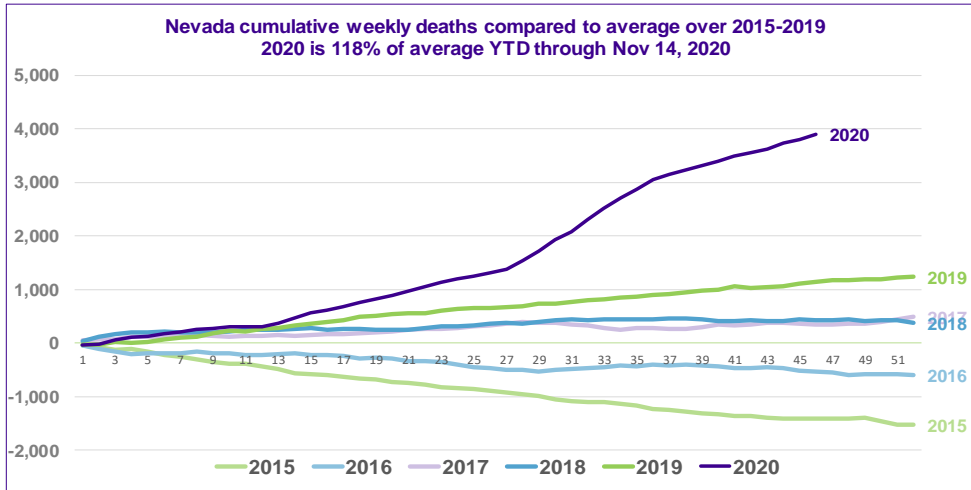
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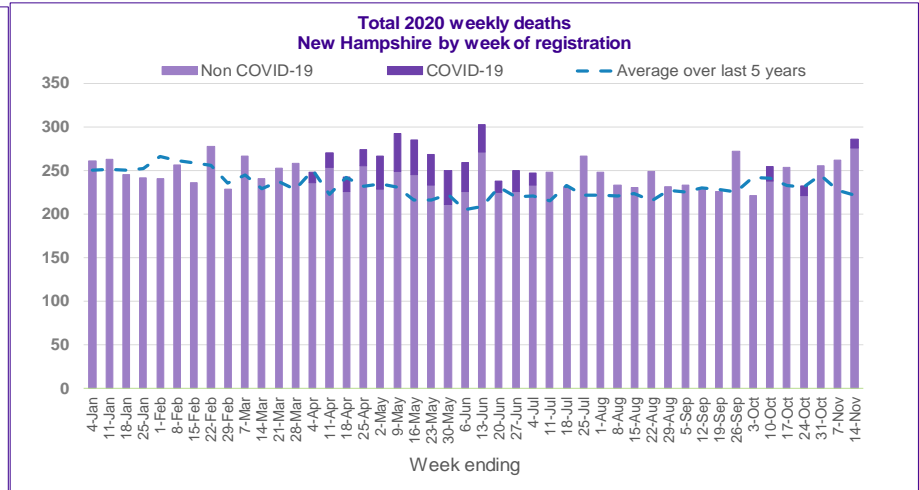
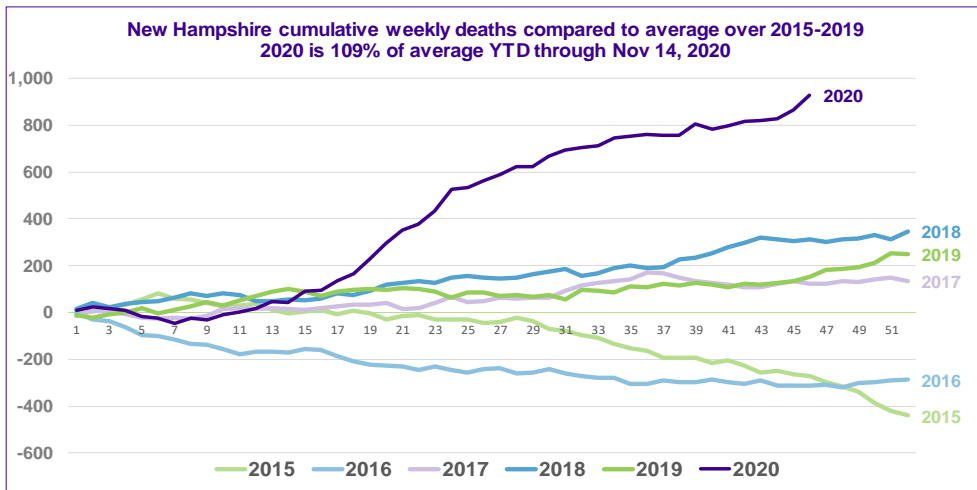
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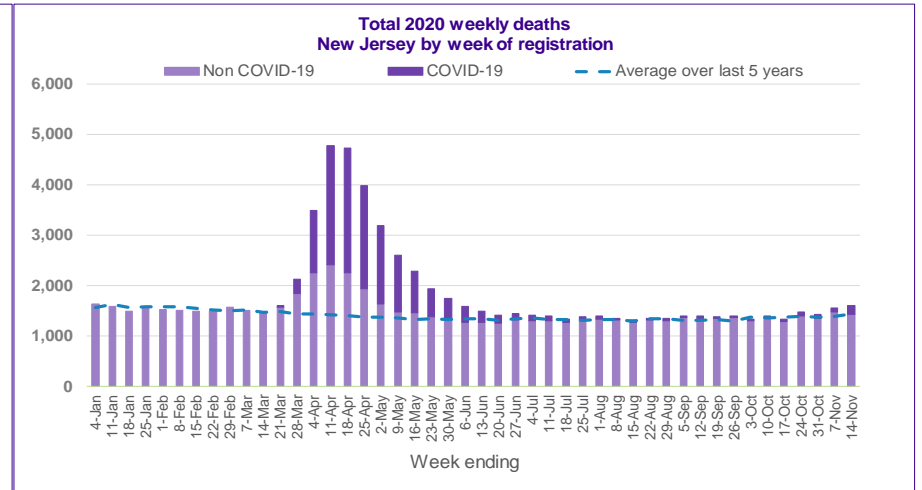
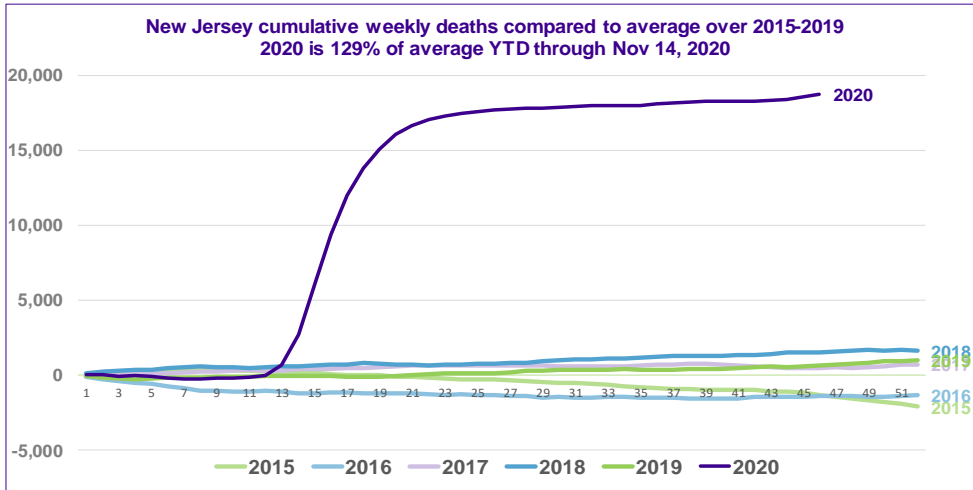
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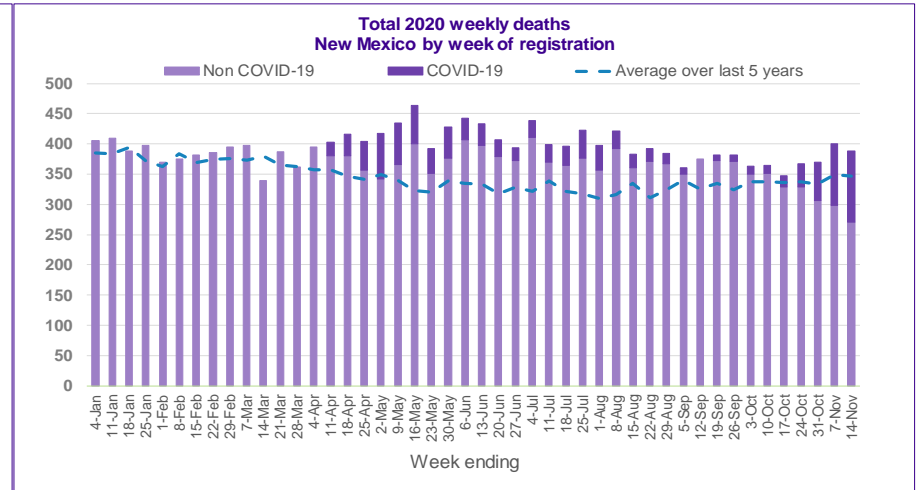
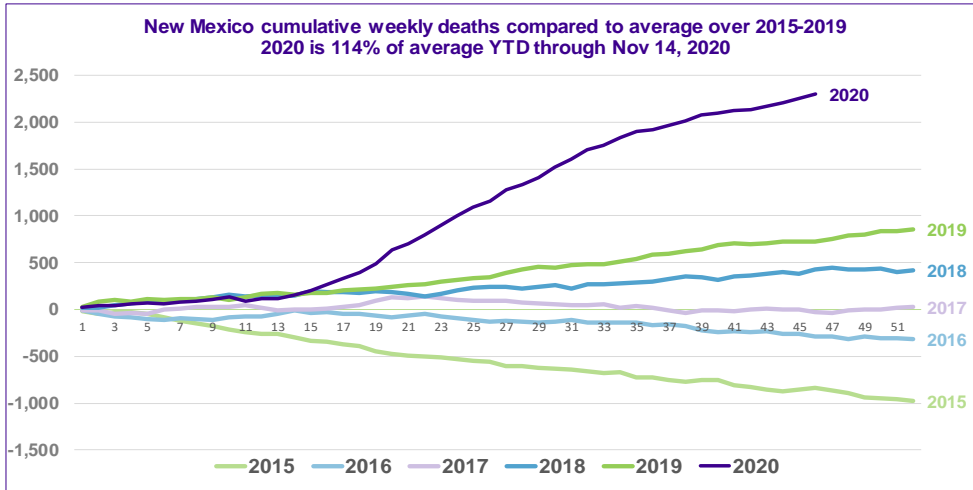
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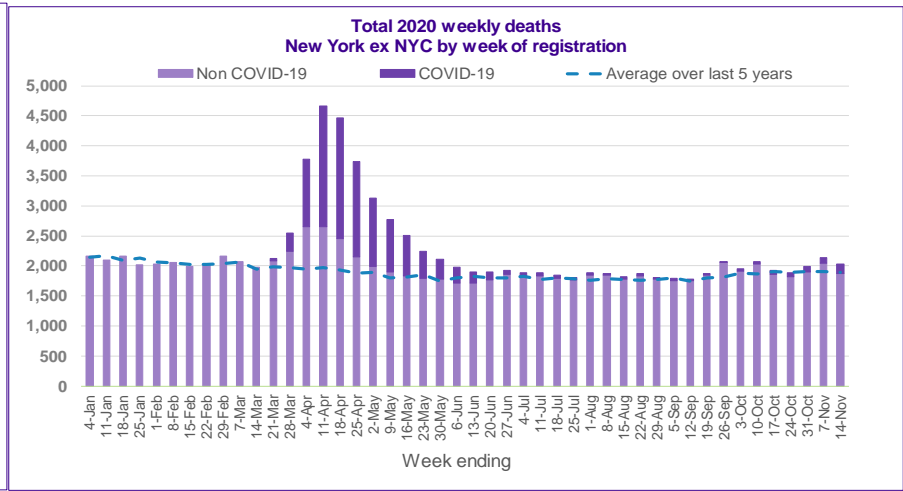
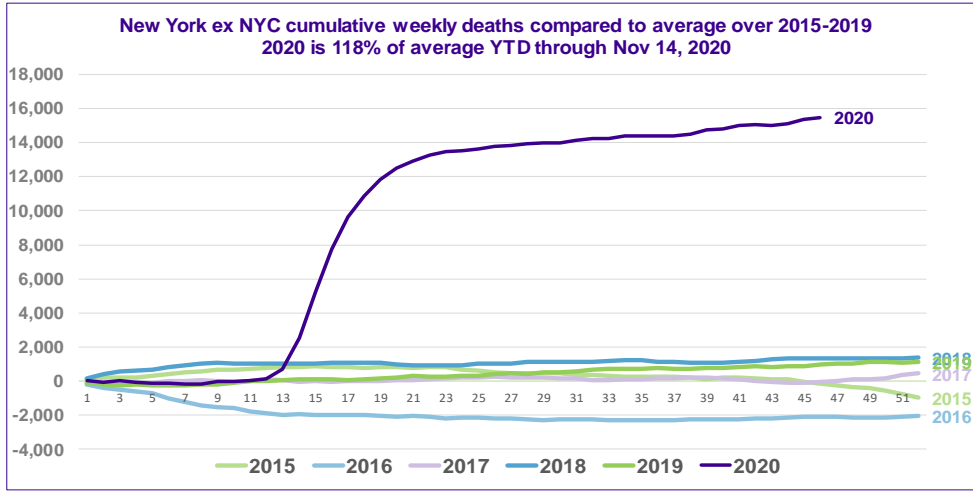
## New Jersey



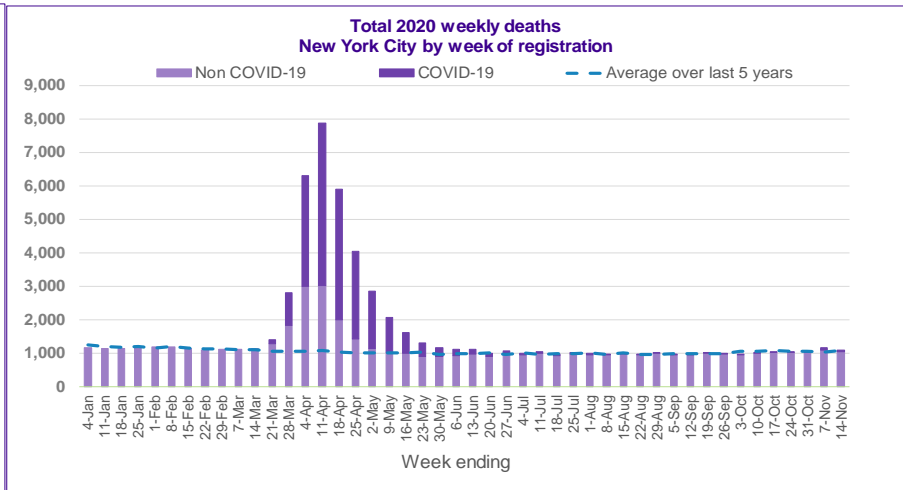
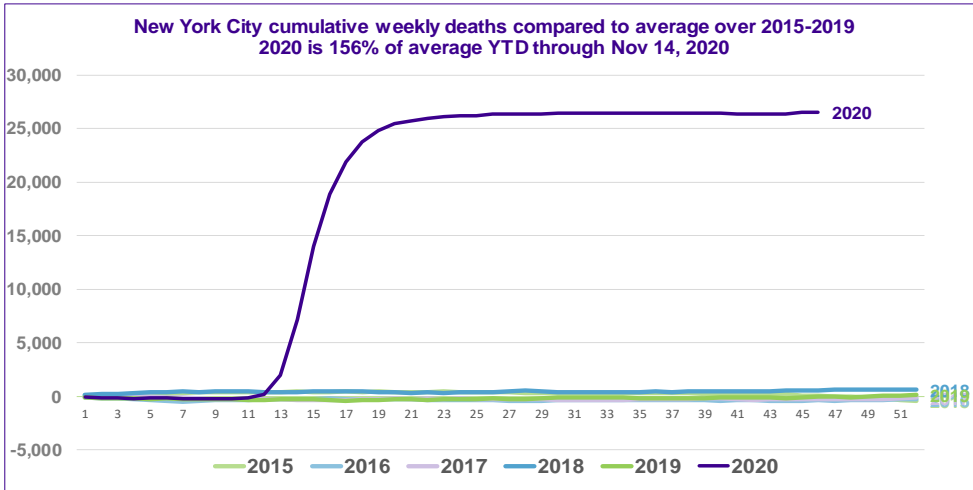
## New Mexico



## New York (excluding New York City)

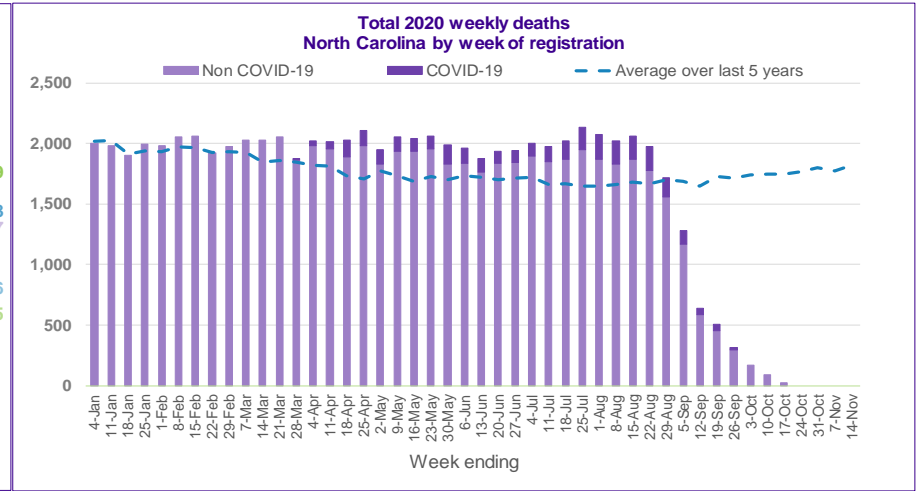
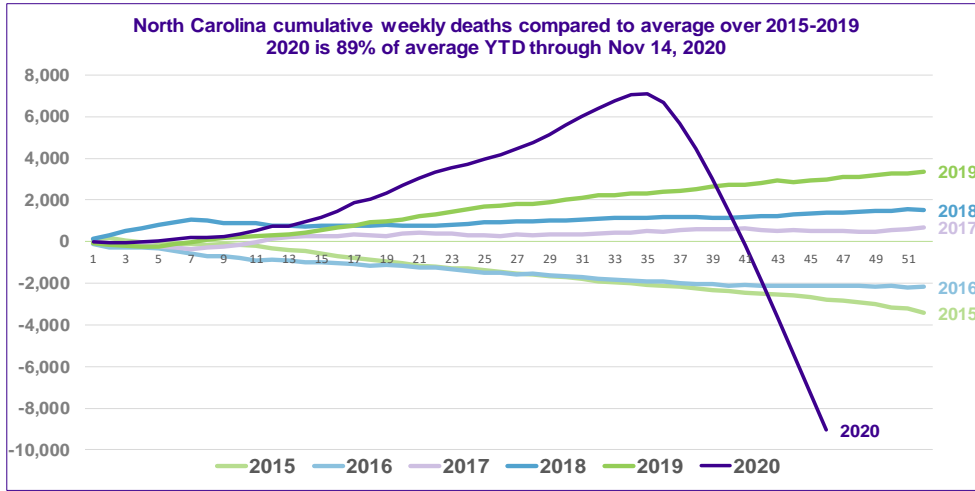


## New York City

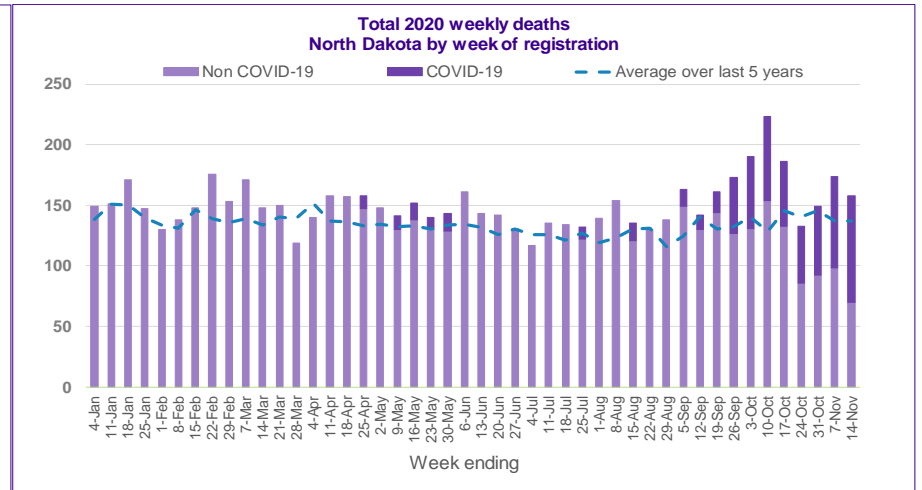
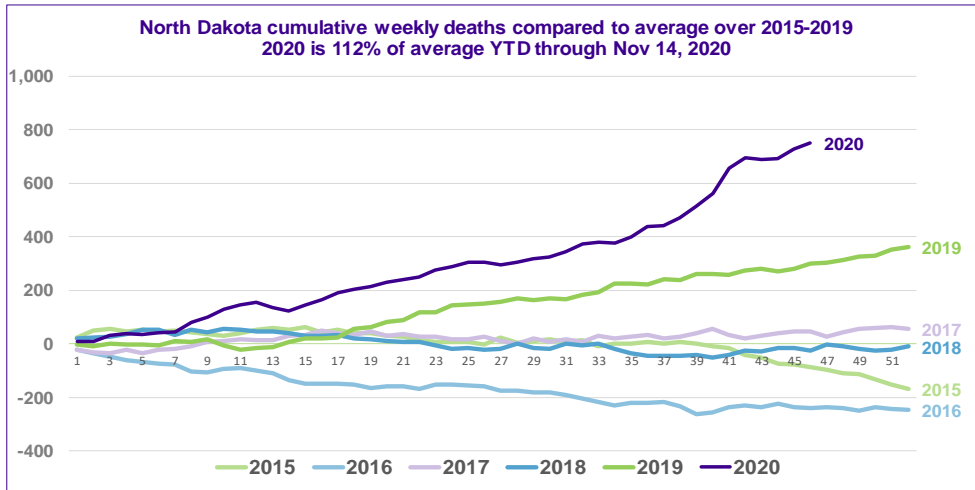




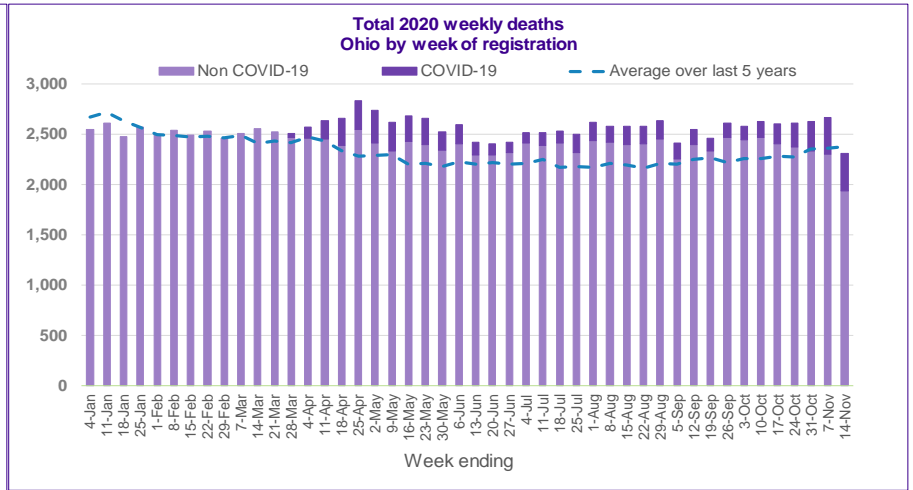
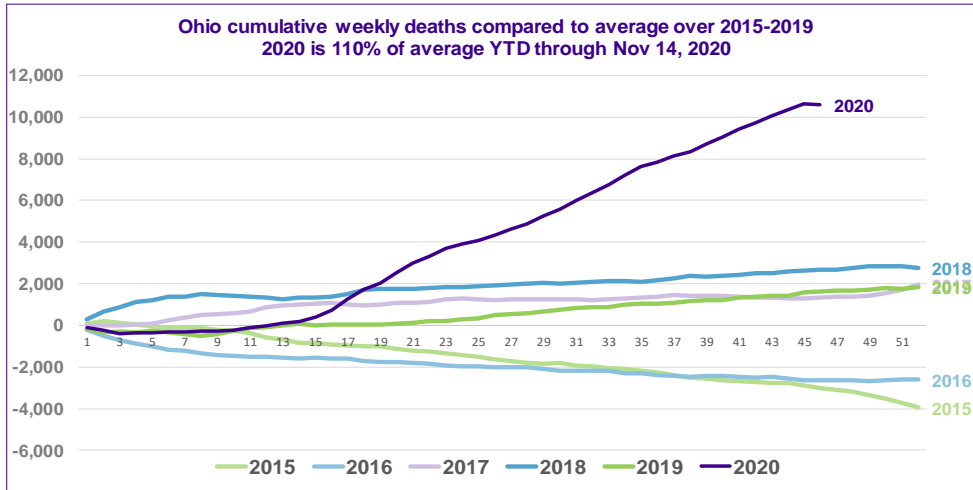
## North Carolina



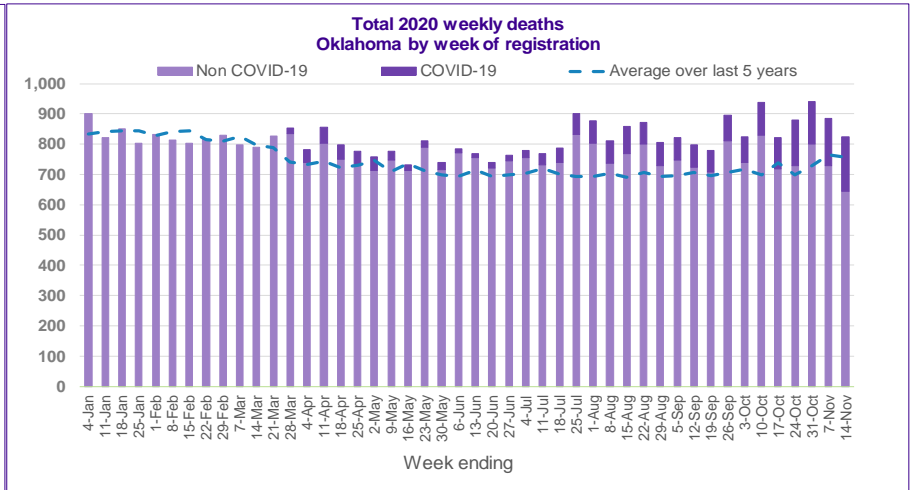
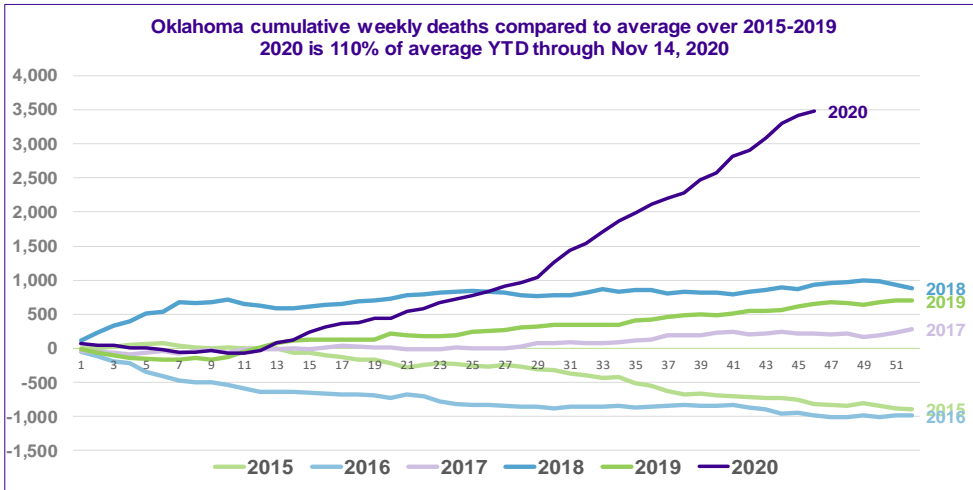
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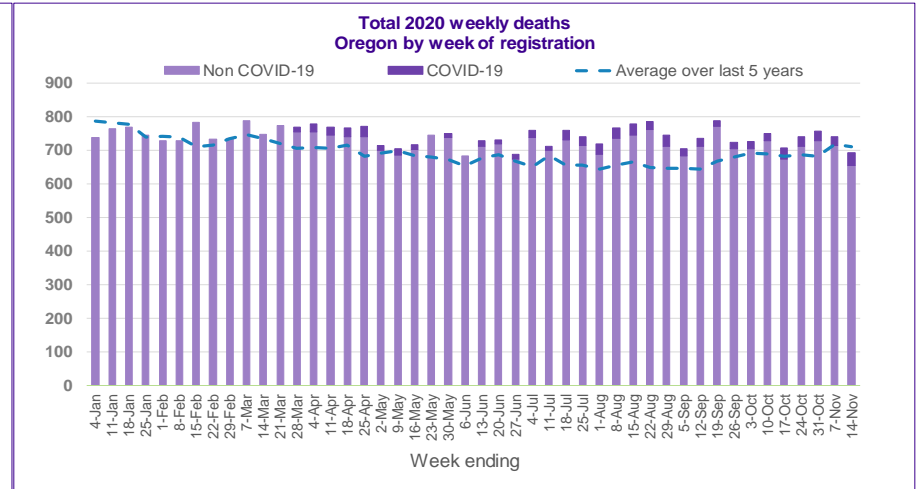
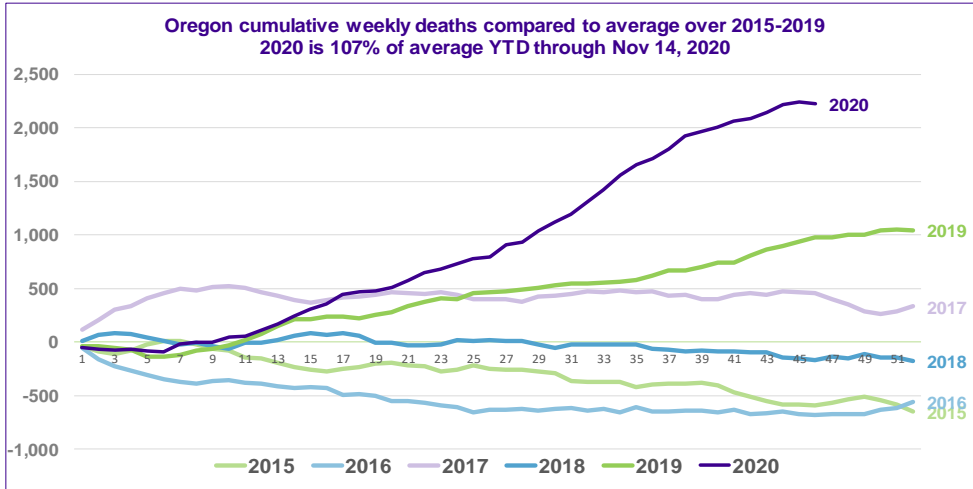
## Ohio



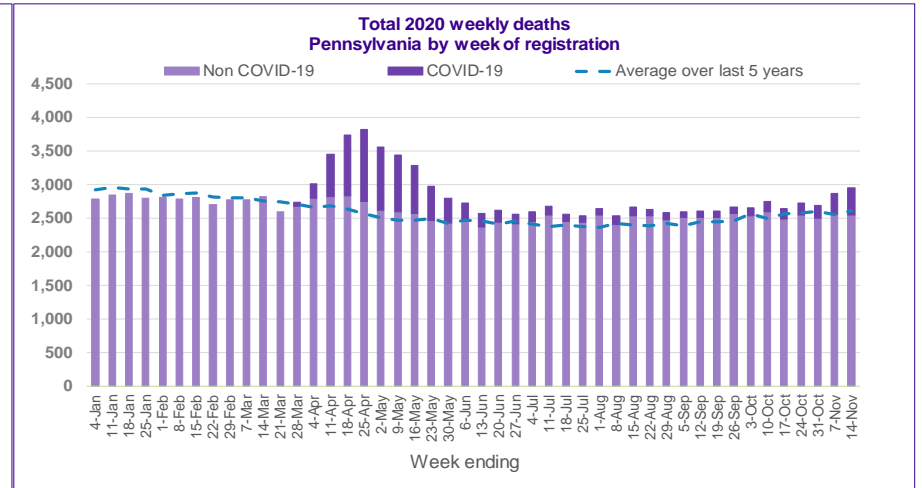
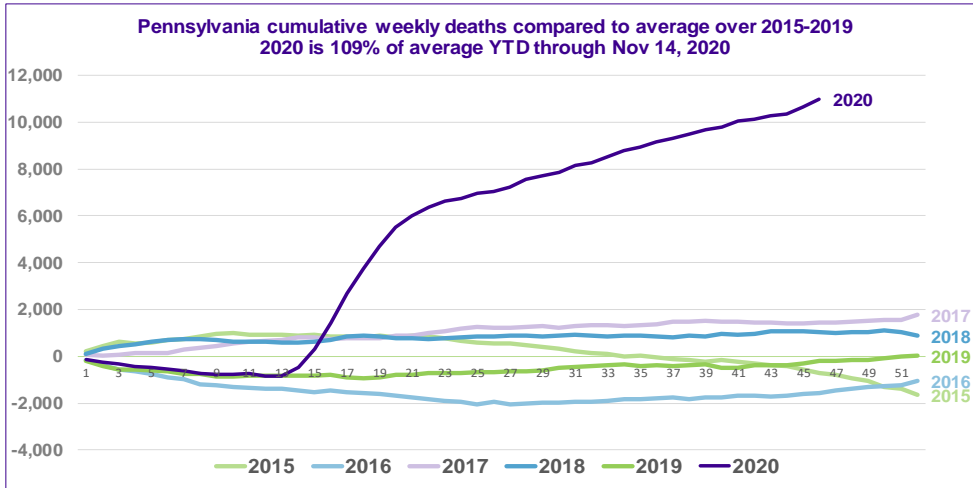
## Oklahoma



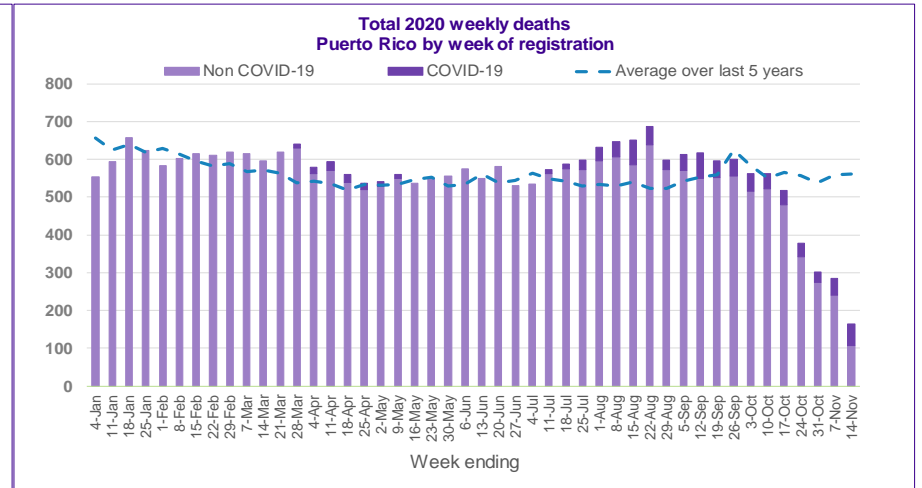
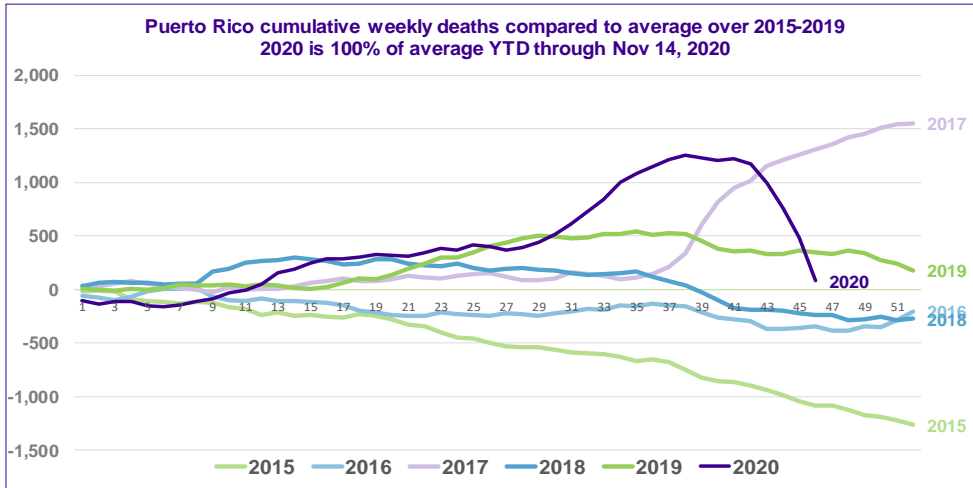
## Oregon



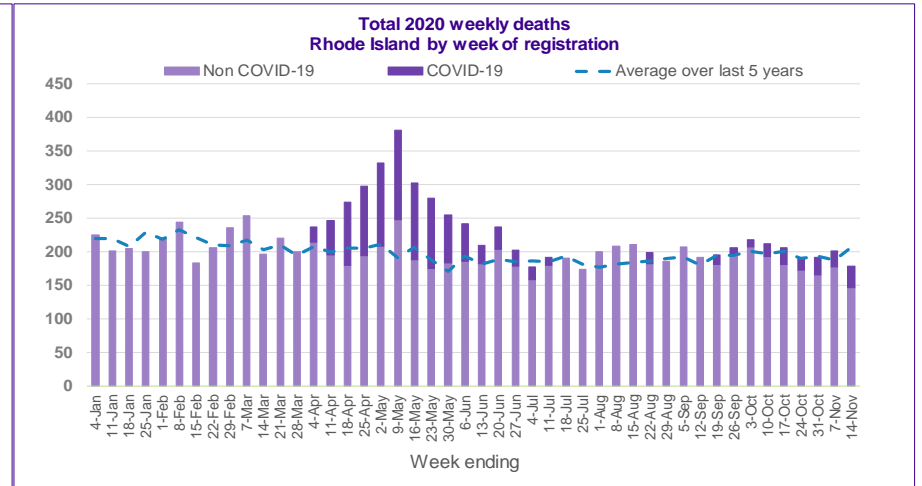
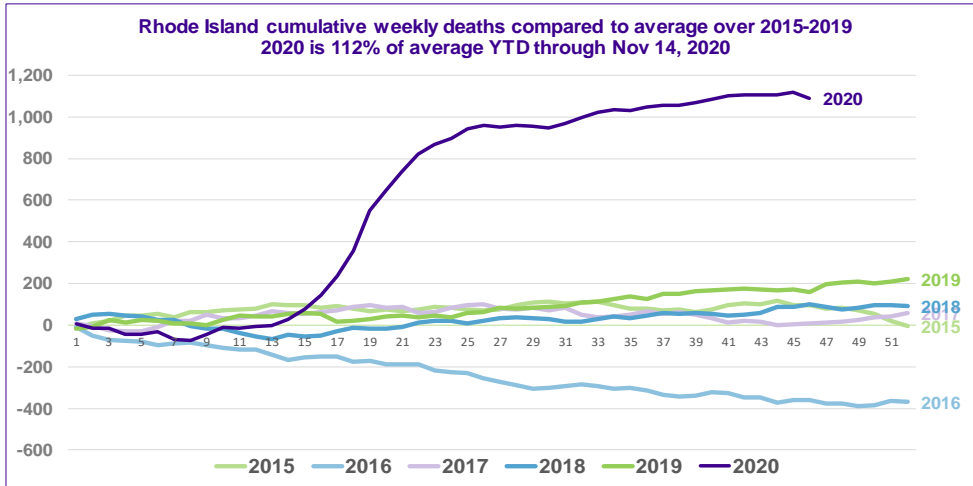
## Pennsylvania



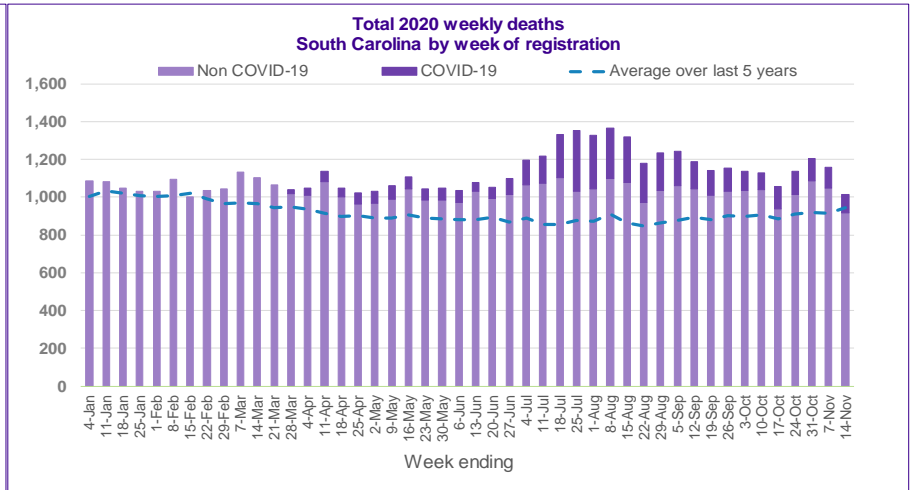
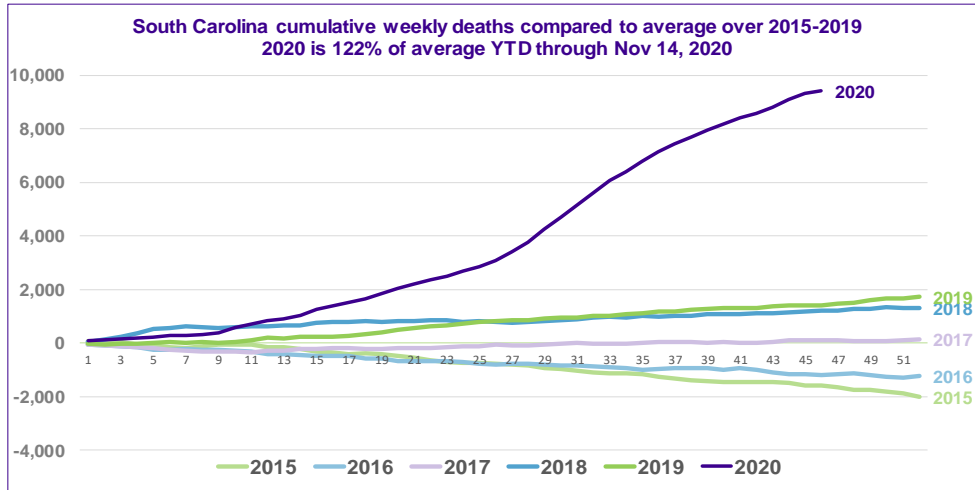
## Puerto Rico



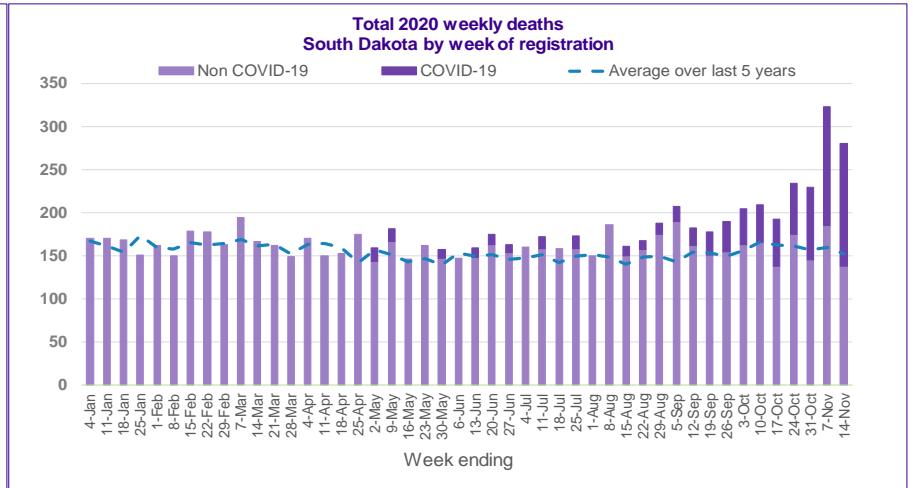
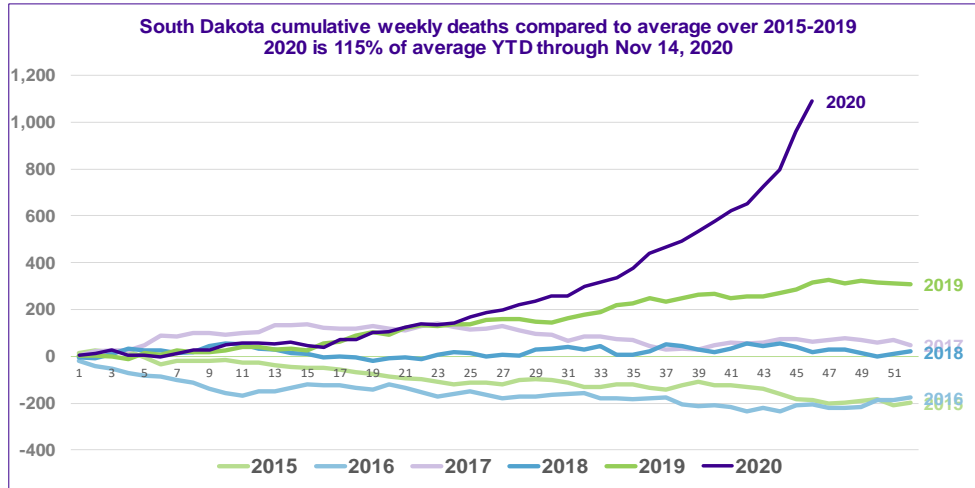
## Rhode Island



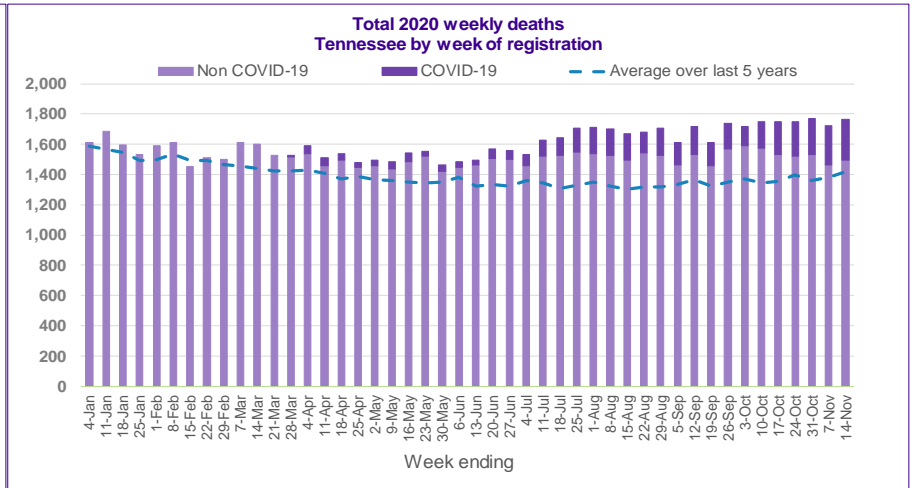
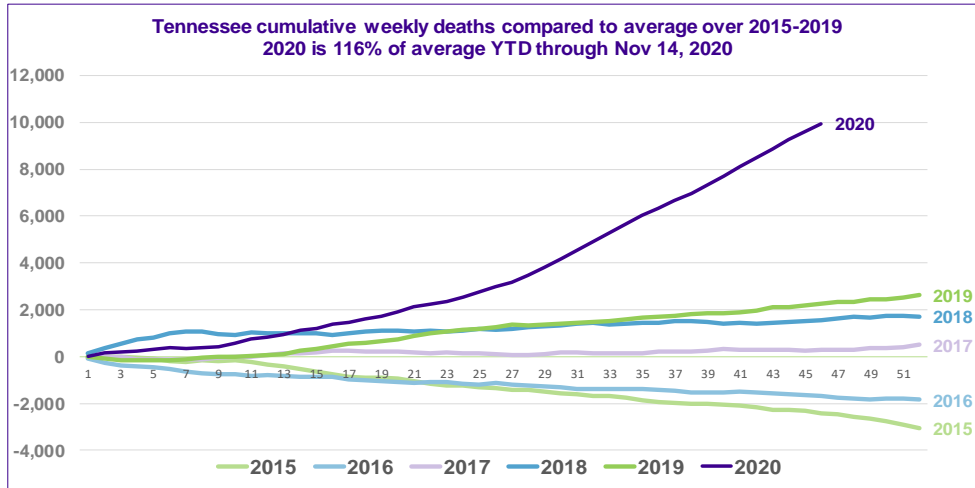
## South Carolina



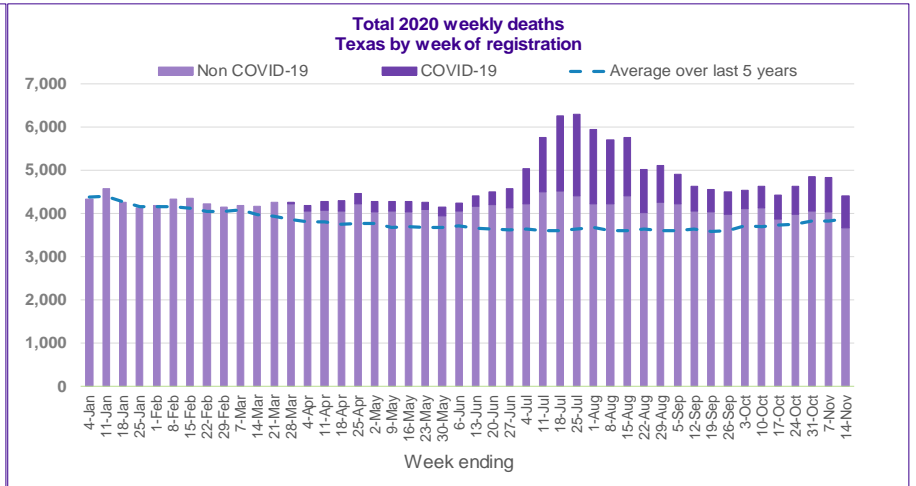
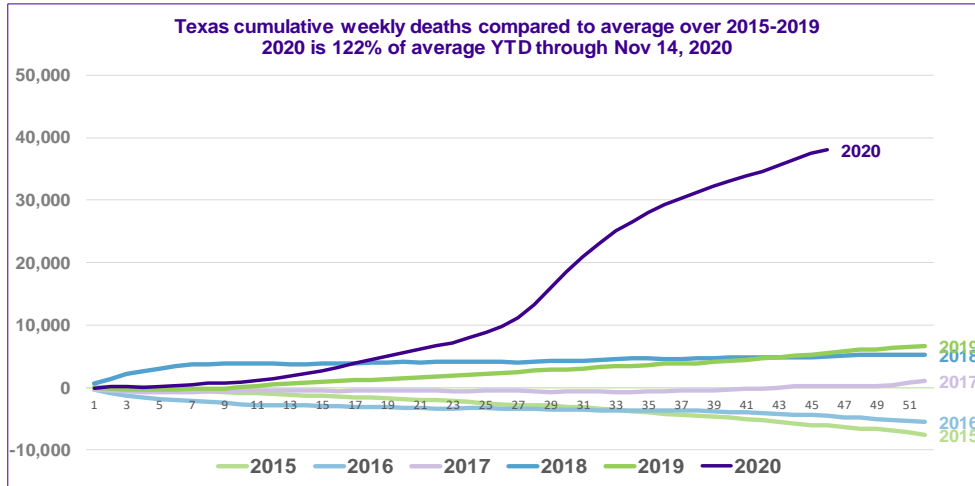
## South Dakota



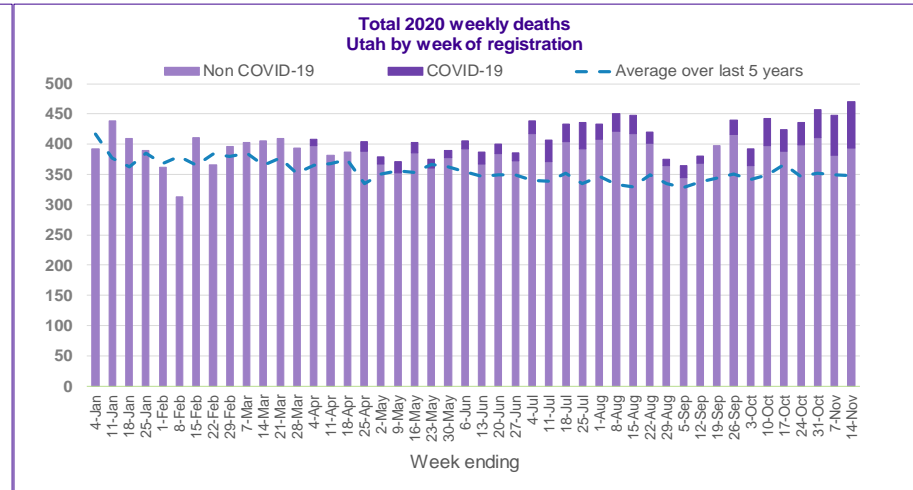
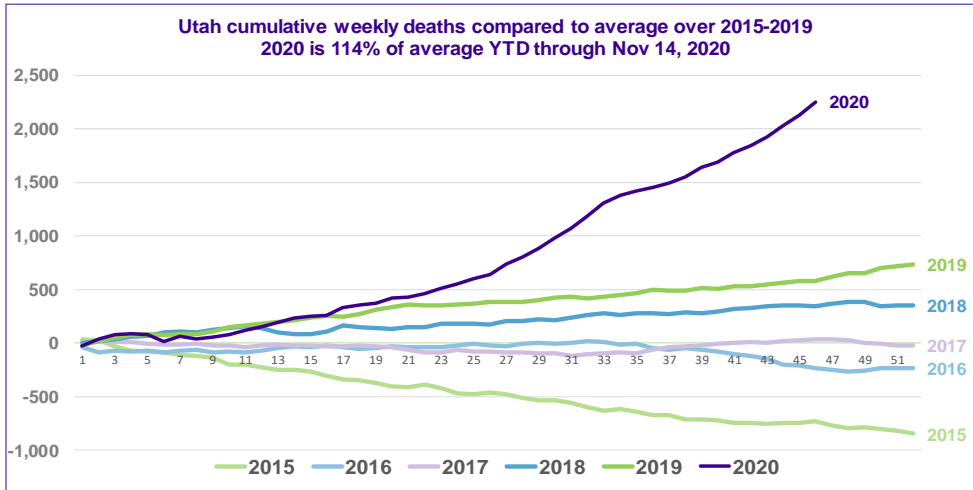
## Tennessee



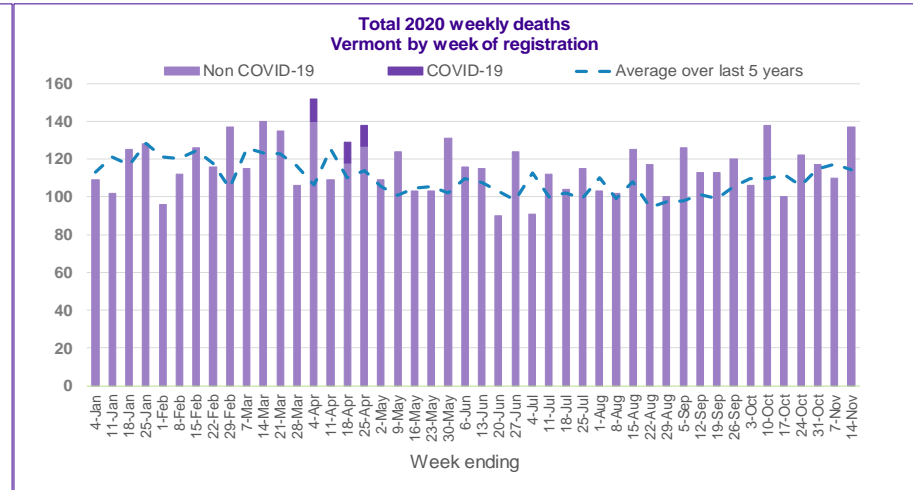
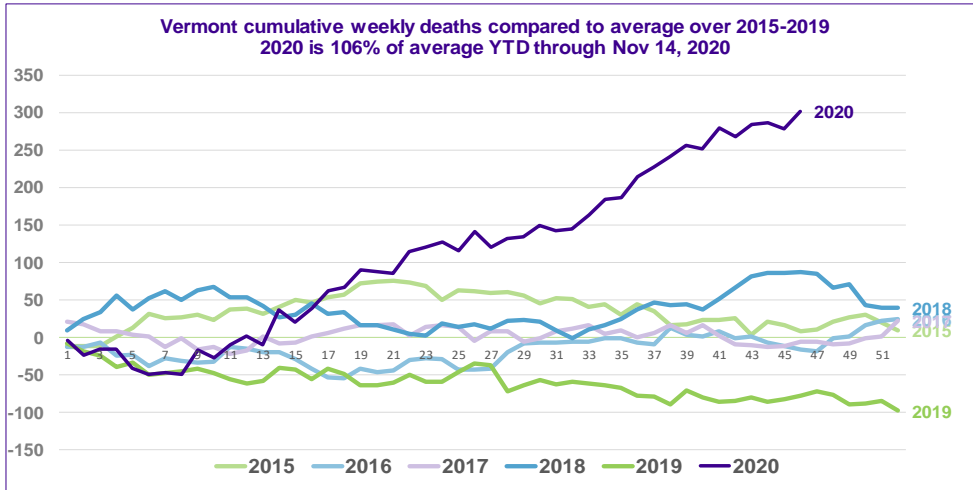
## Texas



# Utah

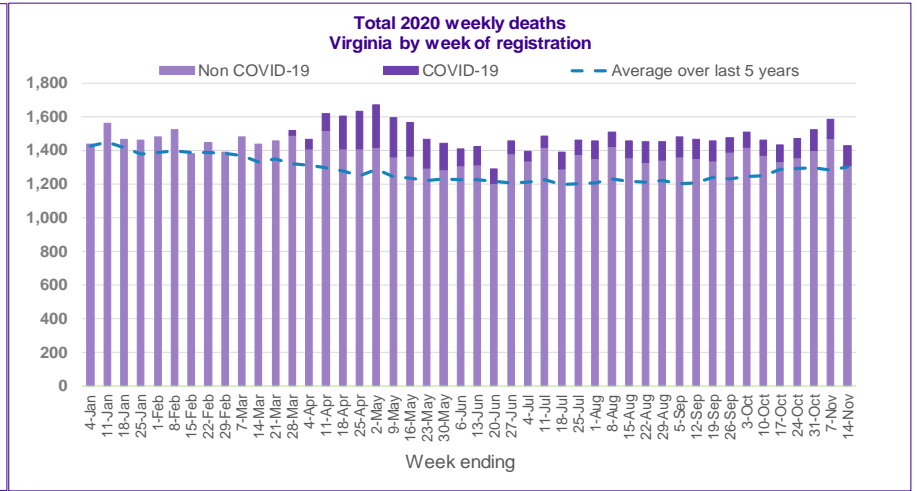
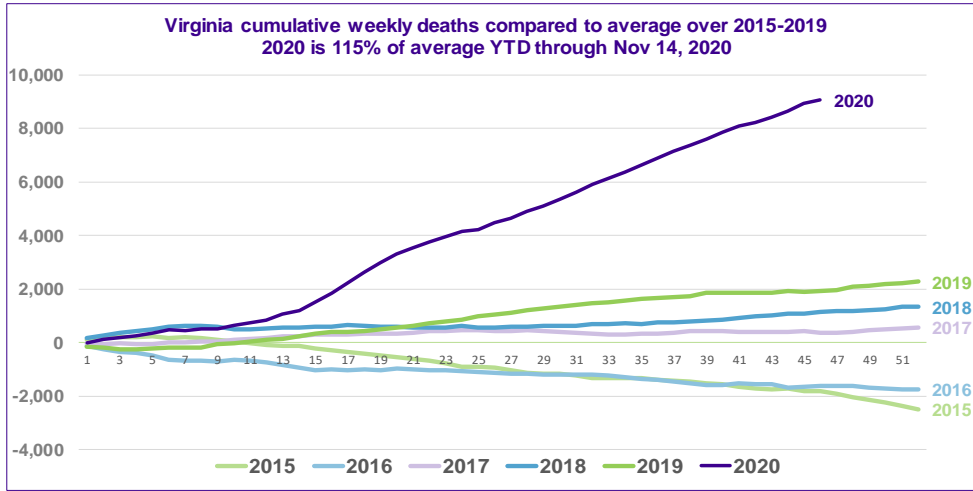


# Vermont

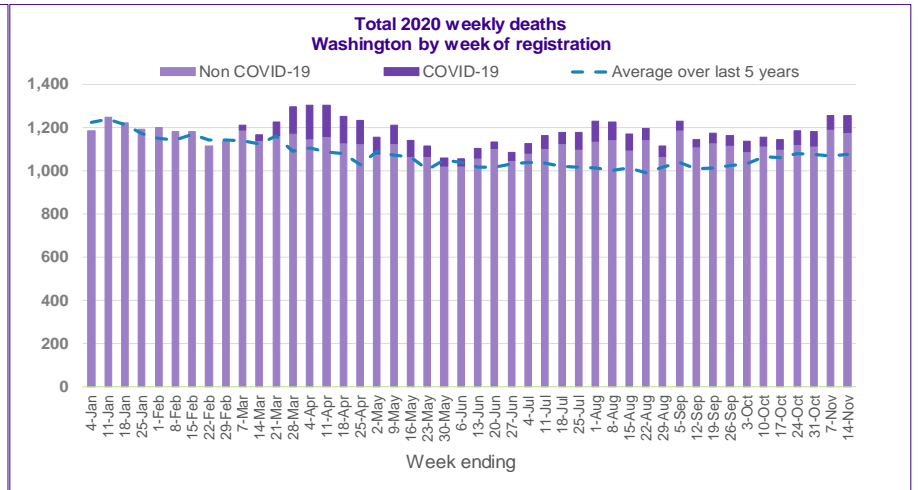
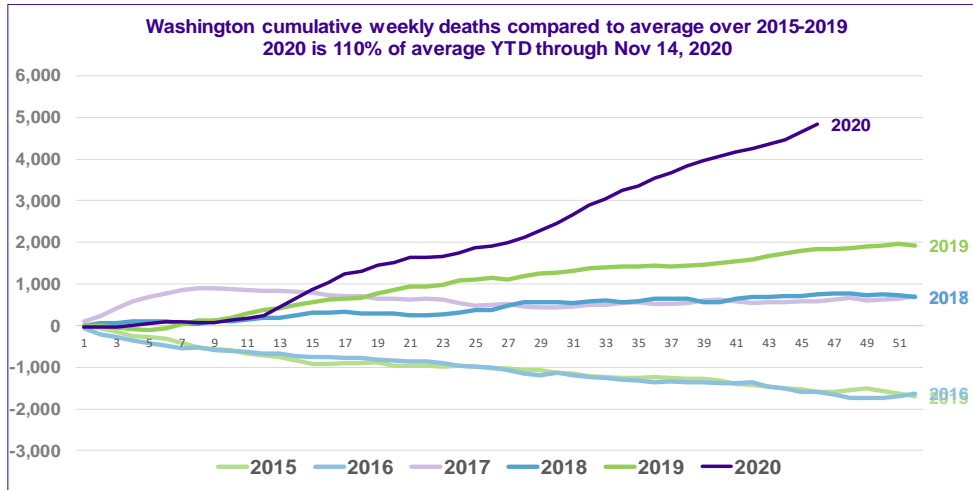




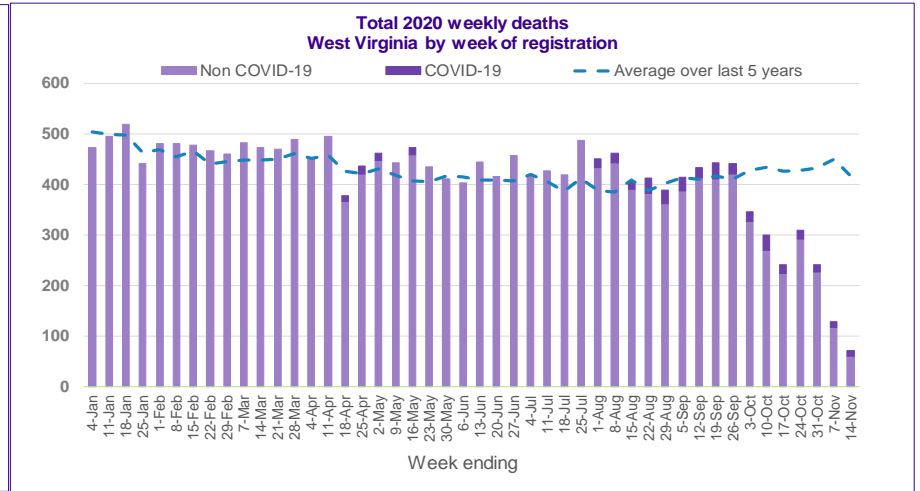
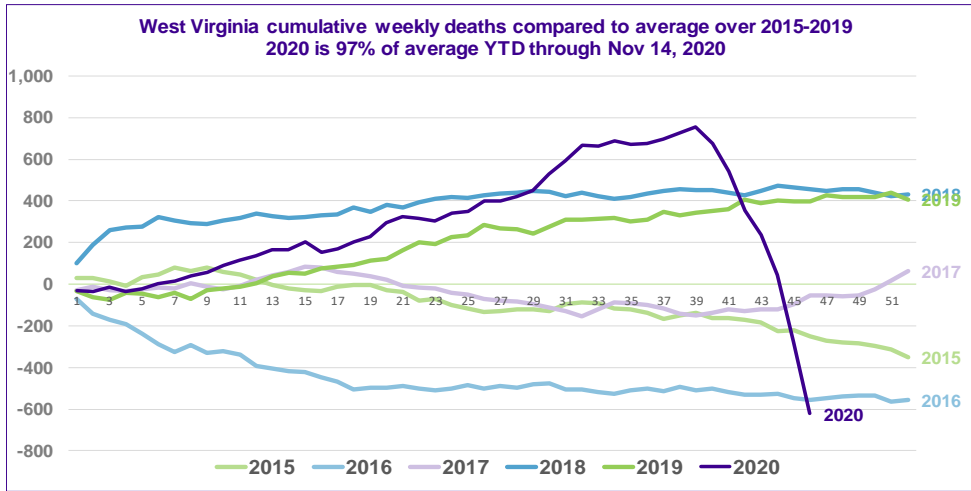
## Virginia



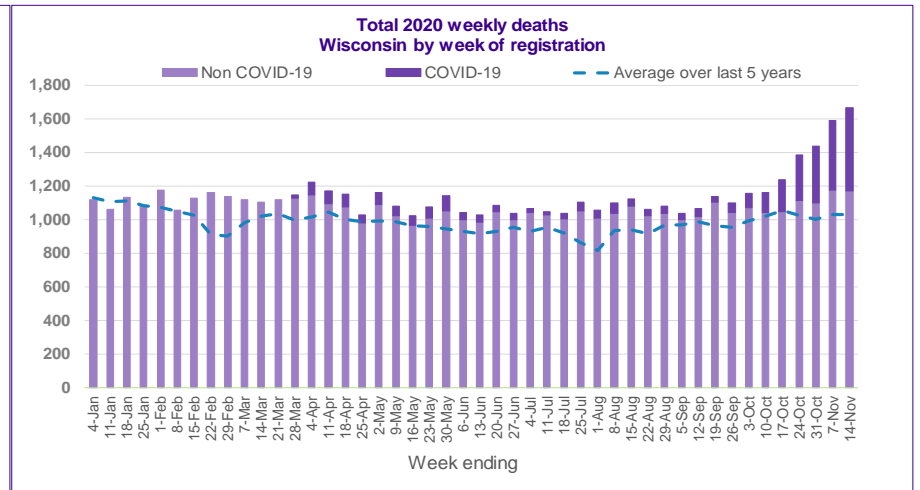
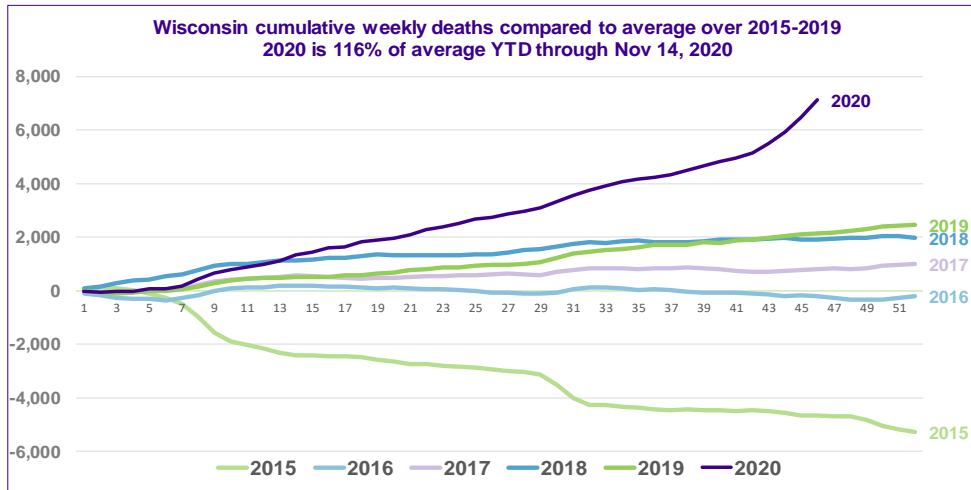
## Washington



## West Virginia



## Wisconsin



# Wyoming

