

COVID-19 in the US, CO and ARCHULETA COUNTY

by
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Let me begin to say that I am and never was in any way in the medical establishment. I spent my career as a scientist in many other disciplines and as a result love numbers and trends.

With this in mind, I have been tracking the metrics associated with the spread of the COVID-19 virus in the US, Colorado and Archuleta County Colorado.

The charts below are cumulative metrics. They seem to me the best metrics since cumulative metrics are not visibly unduly influenced by short term events.

So let me begin.

The next 4 graphs, Figures 1, 2, 3 and 4, show the differences in several metrics on a per 100,000 population bases between the US and Colorado. Figures 5 and 6 bring in Archuleta County.

As seen in Figures 1, 2, 3 and 4 the cumulative metrics of the number of tests, cases, hospitalizations and deaths continue to rise - somewhat depressing - with a tendency, not realized in many cases, to level out. This leveling, i.e., 0 slope, should it occur, would indicate no new tests needed, no new cases seen, no new hospitalizations and no new deaths. COVID-19 is eliminated.

Figure 1 shows that Colorado was slow in administering tests in the beginning but surpassed the Nation's in the later part of 2020.

Figure 2 shows that the cumulative cases per 100,000 population is somewhat lower in Colorado than in the US. A good thing for Colorado.

The cumulative hospitalization per 100,000 population as shown in Figure 3 is about equal for both Colorado and the Nation with a slight advantage for Colorado.

Figures 1, 2 and 3 are judged to show reasonable equality between the US and Colorado when comparing tests, cases and hospitalizations. However, as shown in Figure 4 there is a great difference in a very important metric, i.e., cumulative deaths per 100,000 population. Both the US and Colorado started out at about the same death rate mid 2020. However, the US death rate steadily rose to a point where it was 60% higher than Colorado's death rate by September 2021.

Figure 5 depicts the cumulative number of cases found in Archuleta County. The trend took a large jump after Halloween and when the ski area opened late in October 2020. The cases continued to rise until the red protocol was initiated on

December 6, 2020. The slope of the cumulative number of cases remained essentially constant thereafter – ever rising.

This trend of ever-increasing metrics shown for the US and Colorado and now Archuleta County is somewhat disconcerting.

The last figure, Figure 6, shows the comparison of cumulative cases for the US, Colorado and Archuleta County on a per 100,000 population bases. As can be seen the Archuleta County data shows that it is probably a good thing to live in a small community.

For completeness I must add death data for Archuleta County. As of September 2021, there were a total of 4 deaths which results in cumulative deaths per 100,000 population of 29. This is about 7 times lower than the US and about 4 times lower than in Colorado as shown in Figure 4. Again, it looks like it is a good thing to live in a small community.

I have to say we are not out of danger when it comes to the COVID-19 pandemic. The virus is very aggressive as shown in the ever-increasing metrics of tests, cases, hospitalizations and deaths.

Hopefully we as a nation will be able, in the future, to eliminate the virus or at least render it a minimal threat as we have done with the flu.

Now I would like to present some ratios of the above metrics that may be very interesting and offer some hope.

These ratios are cases per tests, hospitalizations per cases, deaths per hospitalizations and deaths per cases in the US and Colorado. There was not enough information available to do the same for Archuleta County except for one ratio, i.e., deaths per cases.

There are quite a few numbers in Table I below which can be interpreted in many ways. I split the numbers into two time frames, i.e., the later part of 2020 (6/13/20 to 12/31/20) and the three quarters of 2021 (1/1/21 to 9/11/21) and for completeness 6/13/20 to 9/11/21 to see if we learned anything quantifiable in about two years of COVID. There were minor improvements in many instances but not in all ratios calculated.

If one concentrates on the shaded portions in Table I below, interesting observations become evident. As seen in Table I the US, Colorado and Archuleta County deaths per cases show, surprisingly, that the US and CO both equal close to 1% for the 6/13/20 to 9/11/21 time period with Archuleta County deaths per cases 3 to 4 times lower. A good thing for us in Archuleta County.

There is one more set of numbers that one may find interesting. That is a comparison of the flu to COVID-19.

A set of numbers used to calculate the differences between COVID-19 and the common flu can be found in Table I below.

In the US the 2019-2020 flu season there were 34,949,979 cases i.e. symptomatic illnesses of the flu, 16,102,995 medical visits for the flu, 380,209 hospitalizations for the flu and 20,342 deaths due to the flu.

As seen in Table I the hospitalization per cases for the flu was 1.09% which shows that COVID-19 is 4.9 times higher in the US. Deaths per hospitalizations for the flu was 5.4% and that shows that COVID-19 is 4.8 times higher. When calculating the deaths per cases we see that for the flu in the US was only 0.058%, where COVID-19 in the US is 1.37% or 24 times higher. Scary!

With these numbers I can surmise:

- 1. Since the cumulative metrics quoted above continue to rise, we are not out of danger when it comes to the COVID-19 pandemic.**
- 2. Once you get the COVID-19 virus you have a 99% chance of survival**
- 3. Except, if one lives in Archuleta County you have a 99.7% chance of surviving COVID-19 once one is infected**
- 4. COVID is much more deadly than the common flu – about 24 times more deadly once one is infected**

Notes and Sources

US Population = 331,002,651

Colorado Population = 5,845,526

Archuleta County Population = 14,629

US Tests and Cases Source =

https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days

US Deaths Source = <https://www.bing.com/search?q=covid-19+deaths&go=Search&qs=ds&form=QBRE>

US Hospitalizations Source =

https://gis.cdc.gov/grasp/COVIDNet/COVID19_3.html Colorado All Metrics Source =

<https://covid19.colorado.gov/data/case-data>

Archuleta County Metrics Source = <https://sjbpublichealth.org/sjbph-data-dashboard/>

US Flu Source = <https://www.cdc.gov/flu/about/burden/2019-2020.html>

Let me thank you for your time.

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Figure 1

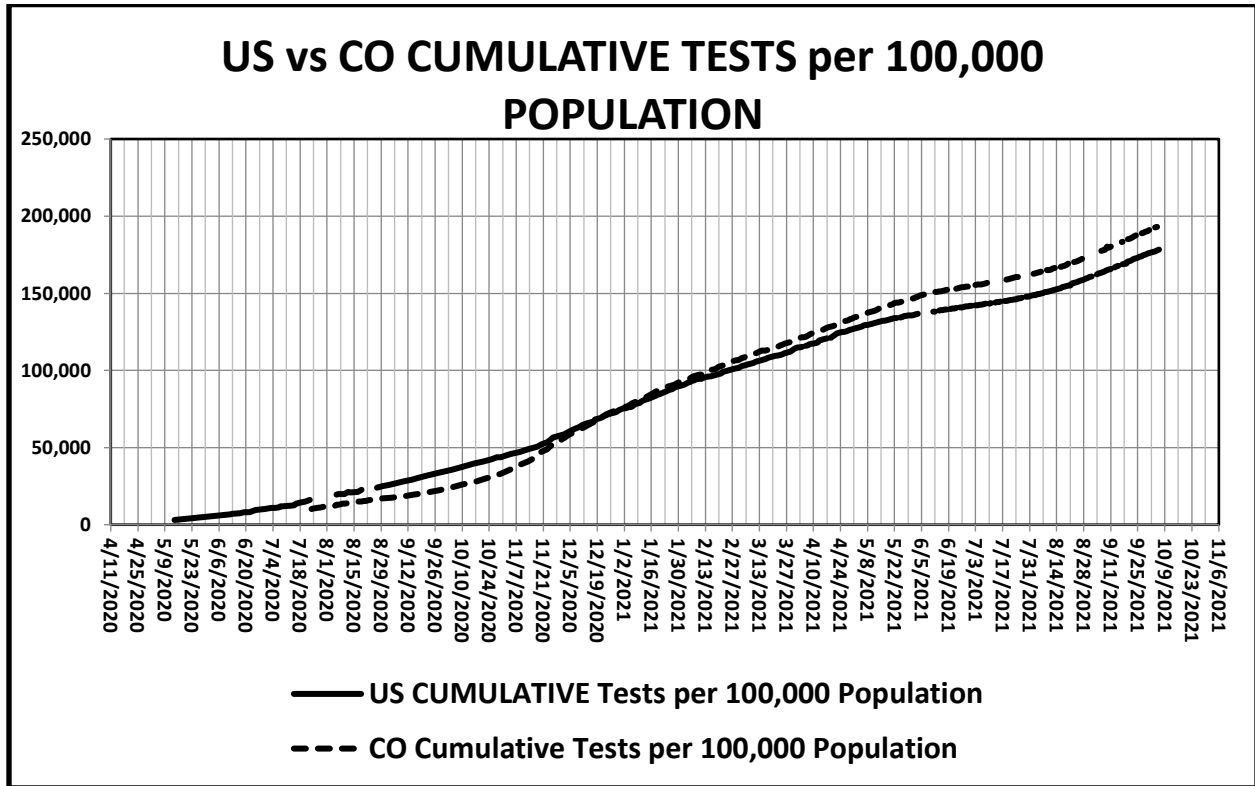


Figure 2

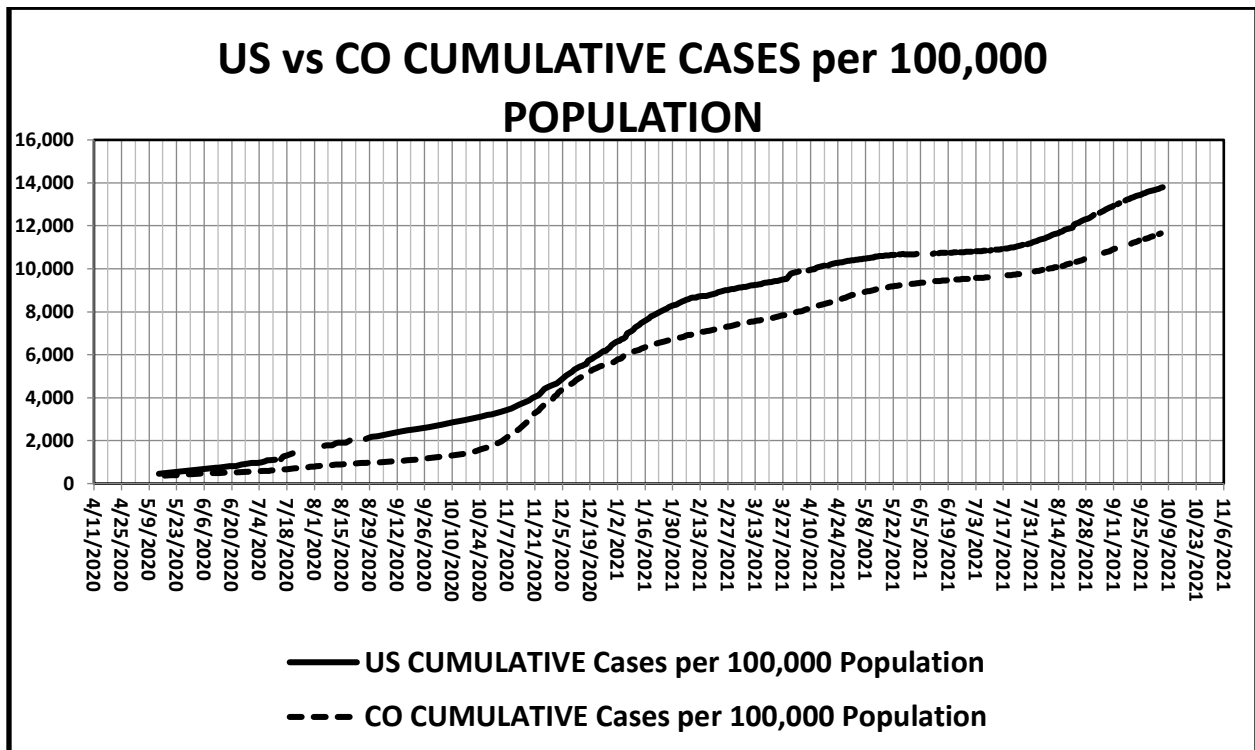


Figure 3

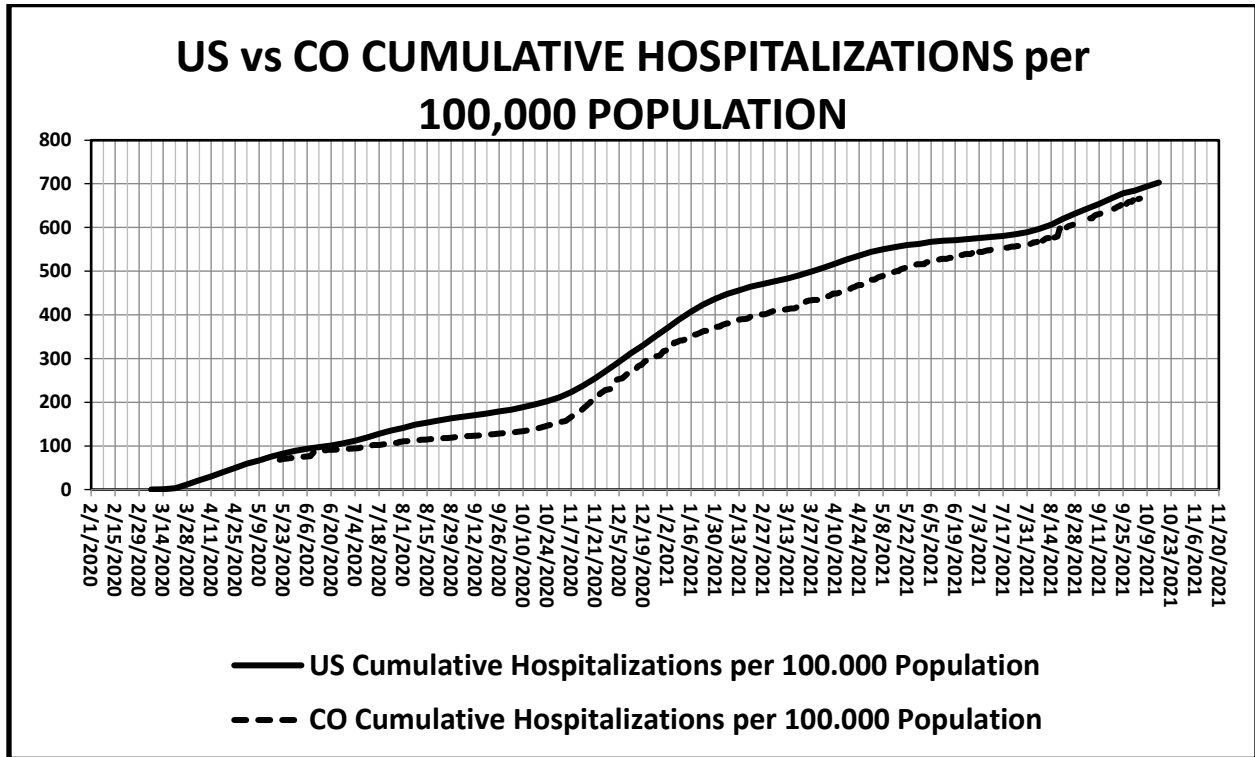


Figure 4

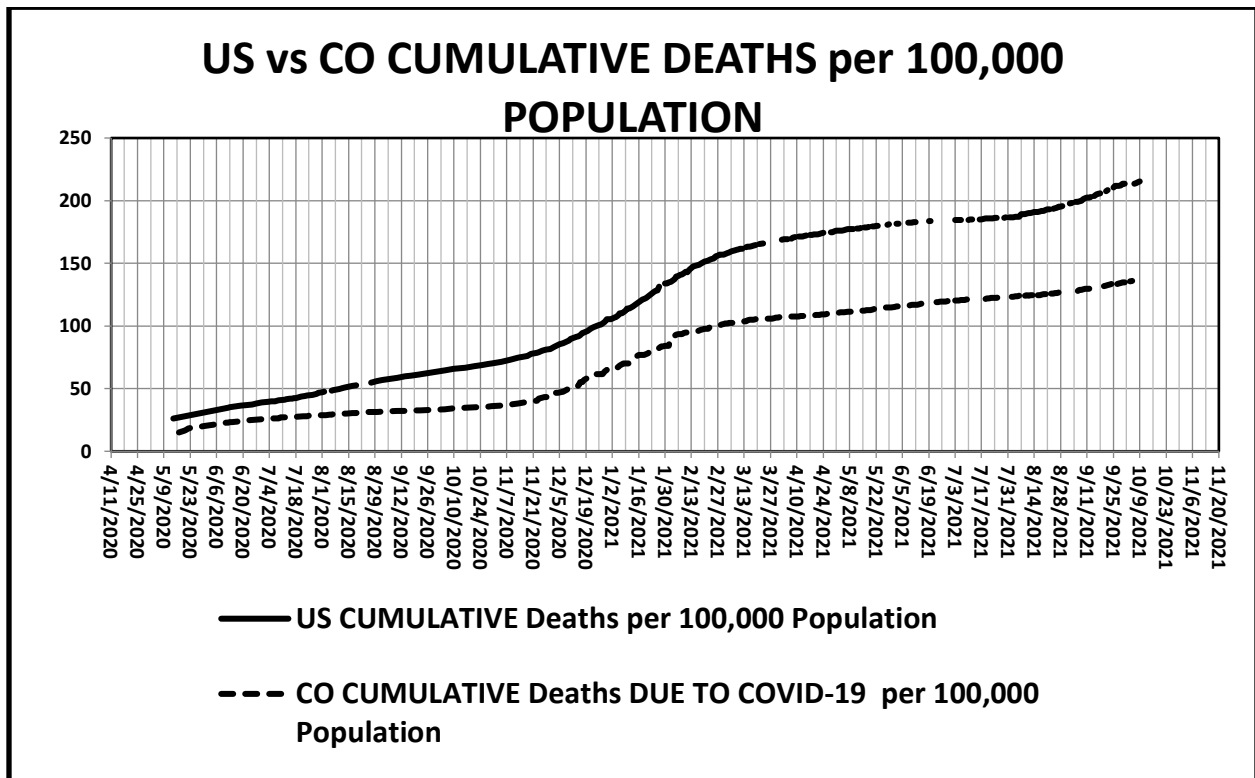
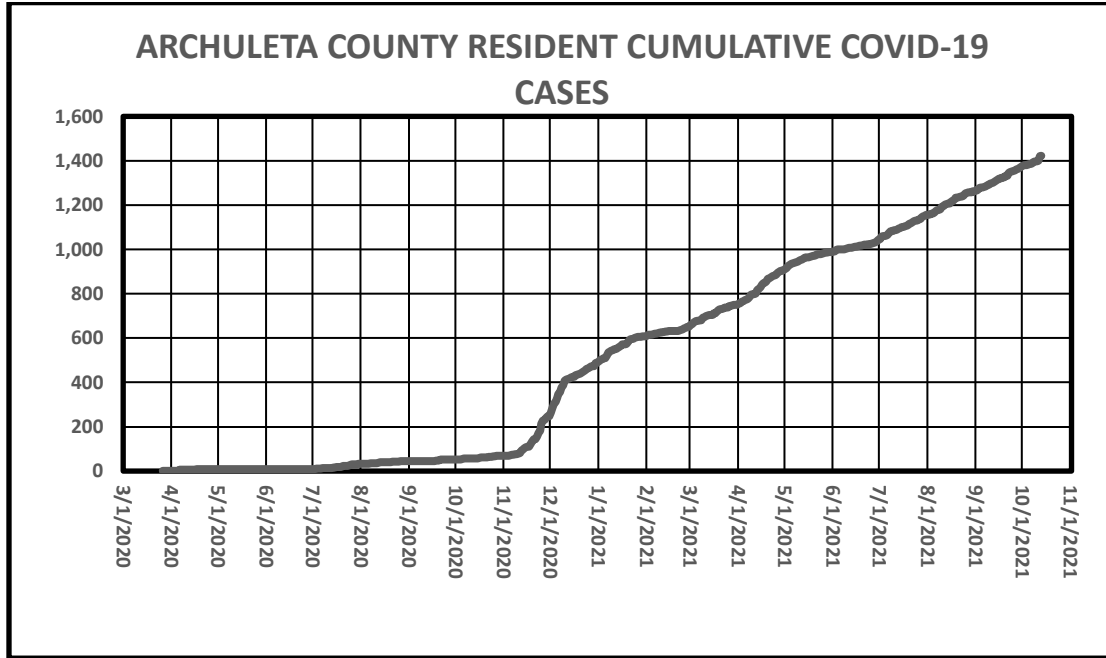


Figure 5



| | |
|------------------------|------------|
| Labor Day | 9/7/2020 |
| Ski Area Opens | 10/31/2020 |
| Halloween | 10/31/2020 |
| Thanksgiving | 11/16/2020 |
| Level Red Initiated | 12/6/2020 |
| Level Orange Initiated | 1/4/2021 |
| Level Blue Initiated | 2/6/2021 |
| Ski Area Closes | 4/4/2021 |
| Delta Variant Seen | 6/14/2021 |
| Labor Day | 9/6/2021 |
| Boosters Started | 9/25/2021 |

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FIGURE 6

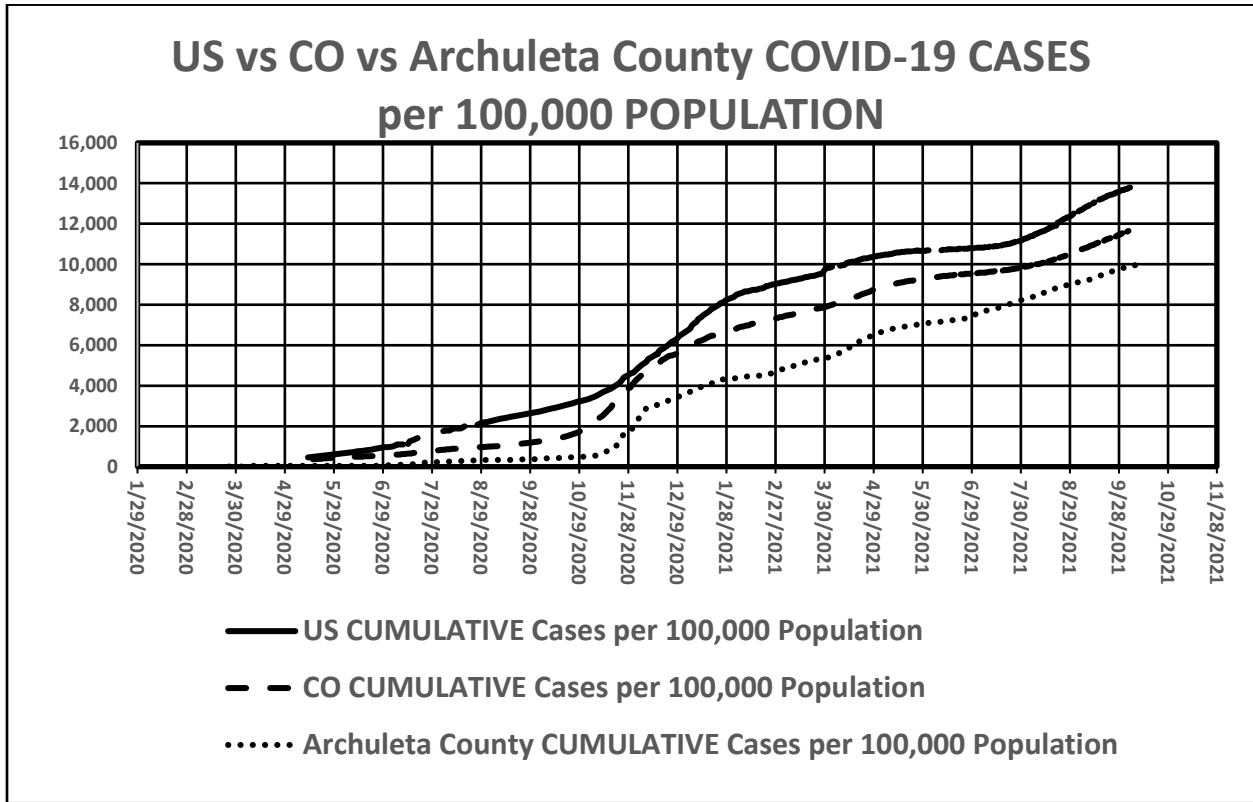


Table 1

| COVID-19 METRICS for US, CO and ARCHULETA COUNTY | | |
|---|--------|--|
| PERIOD from 6/13/20 to 12/31/20 for COVID | | |
| CO CASES per TESTS | 6.92% | |
| CO HOSPITALIZATIONS per CASES | 4.45% | CO CHANCES of DEATH ONCE DIAGNOSED with COVID |
| CO DEATHS per HOSPITALIZATIONS | 19.06% | 0.85% |
| | | |
| US CASES per TESTS | 8.49% | |
| US HOSPITALIZATIONS per CASES | 6.12% | US CHANCES of DEATH ONCE DIAGNOSED with COVID |
| US DEATHS per HOSPITALIZATIONS | 20.20% | 1.24% |
| PERIOD from 1/1/21 to 9/11/21 for COVID | | |
| CO CASES per TESTS | 4.97% | |
| CO HOSPITALIZATIONS per CASES | 6.00% | CO CHANCES of DEATH ONCE DIAGNOSED with COVID |
| CO DEATHS per HOSPITALIZATIONS | 20.01% | 1.20% |
| | | |
| US CASES per TESTS | 7.08% | |
| US HOSPITALIZATIONS per CASES | 4.69% | US CHANCES of DEATH ONCE DIAGNOSED with COVID |
| US DEATHS per HOSPITALIZATIONS | 31.85% | 1.49% |
| PERIOD from 6/13/20 to 9/11/21 for COVID | | |
| CO CASES per TESTS | 5.78% | |
| CO HOSPITALIZATIONS per CASES | 5.23% | CO CHANCES of DEATH ONCE DIAGNOSED with COVID |
| CO DEATHS per HOSPITALIZATIONS | 19.61% | 1.03% |
| | | |
| US CASES per TESTS | 7.67% | |
| US HOSPITALIZATIONS per CASES | 5.36% | US CHANCES of DEATH ONCE DIAGNOSED with COVID |
| US DEATHS per HOSPITALIZATIONS | 25.61% | 1.37% |
| PERIOD from 6/13/20 to 9/11/21 for COVID | | |
| | | ARCHULETA CHANCES of DEATH ONCE DIAGNOSED with COVID |
| | | 0.31% |
| 2019-2020 SEASON for FLU | | |
| US FLU CASES per TESTS | NA | |
| US FLU HOSPITALIZATIONS per CASES | 1.09% | US CHANCES of DEATH ONCE DIAGNOSED with FLU |
| US FLU DEATHS per HOSPITALIZATIONS | 5.35% | 0.06% |