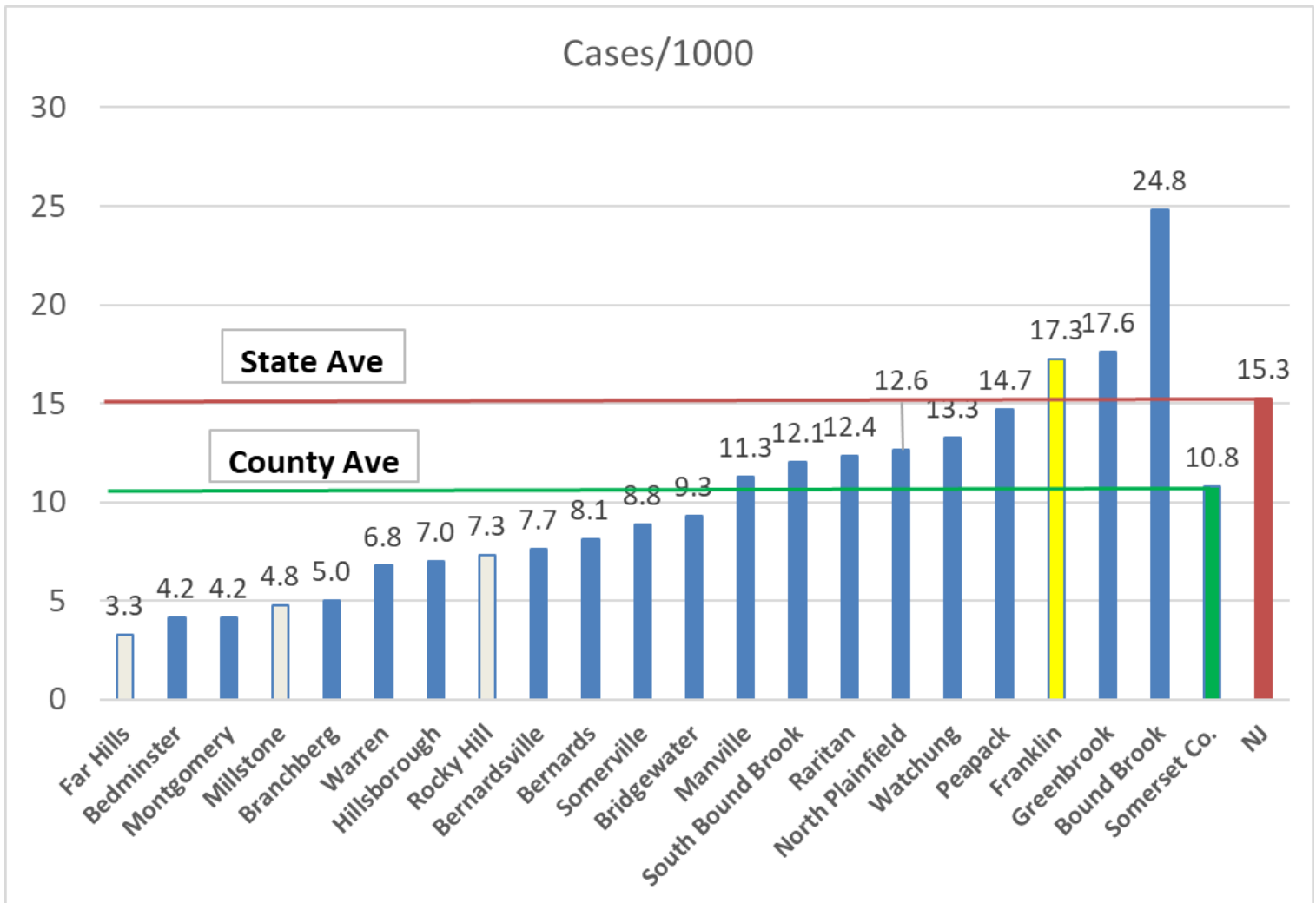## A Sixth Look at the Comparison of Franklin to Other Municipalities in Somerset County

There are a lot of cases in Franklin, but we are also the largest town in Somerset Co. so we need to see if Franklin has more than is expected for its size. I first looked at this on April 5th and then again on April 16th, April 19th , April 25th and May 3rd

I recently posted Numbers and Uncertainty. You should read it to put all the statistics in perspective. BTW the issue I talked about in 1a has been resolved.

I used the data from the county web site on 5/8/2020 to correlate the number of cases vs population. R^2=0.79 indicating the relationship of population to the number of cases is well correlated.
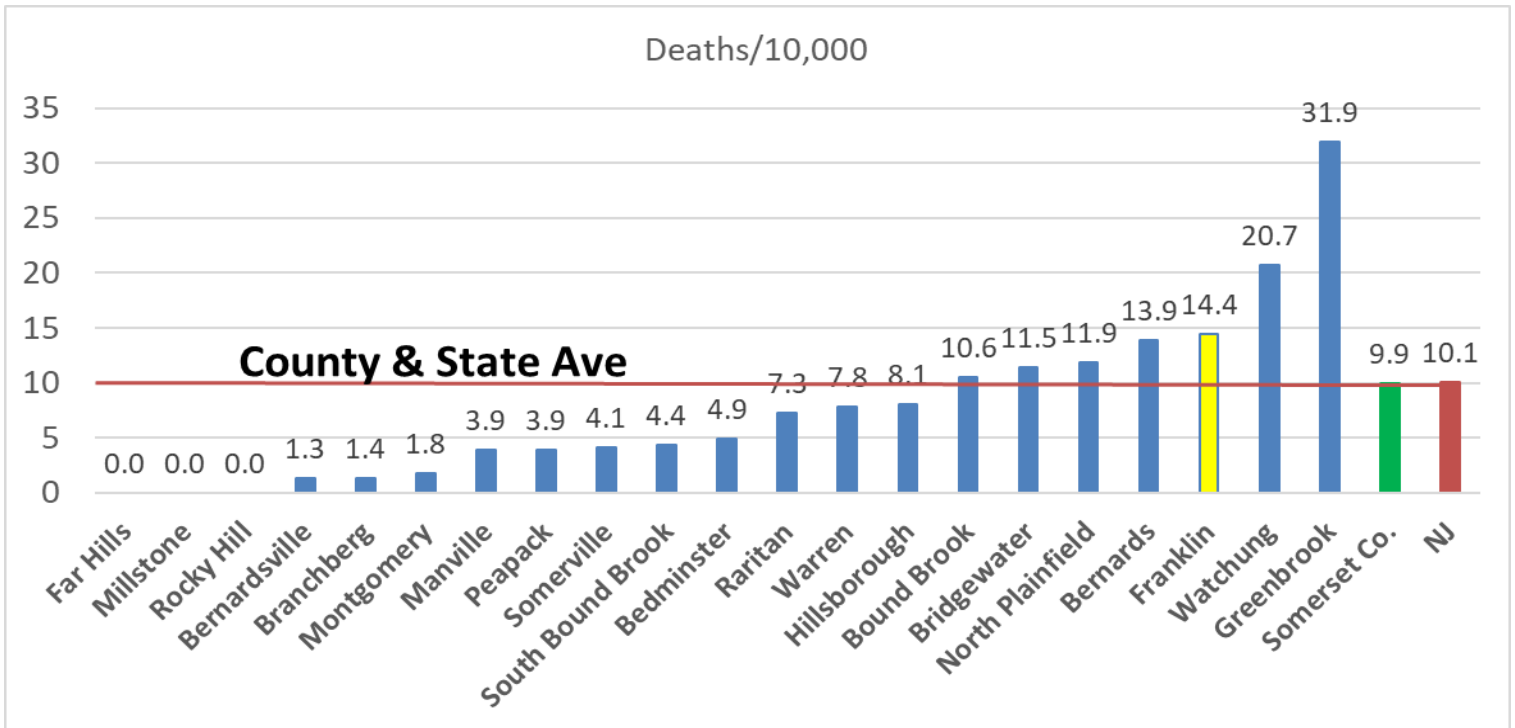
Looking at the number of cases per 1000 residents, you get the bar graph below. Franklin is yellow. The county is green. Towns with fewer than 1000 people are blank because small numbers make calculations less meaningful. Franklin is again in the 84th percentile so one more calculation tells us if it is statistically meaningful.

Things are considered abnormal or an outlier if it lies more than 2 standard deviations from the mean. **Franklin's cases per 1000 is 1.21 standard deviations above the mean. Thus, statistically Franklin is not an outlier**. That doesn't mean the high numbers aren't important it just means they are not extreme relative to our population size. Bound Brook is greater than 2 standard deviations above the mean.
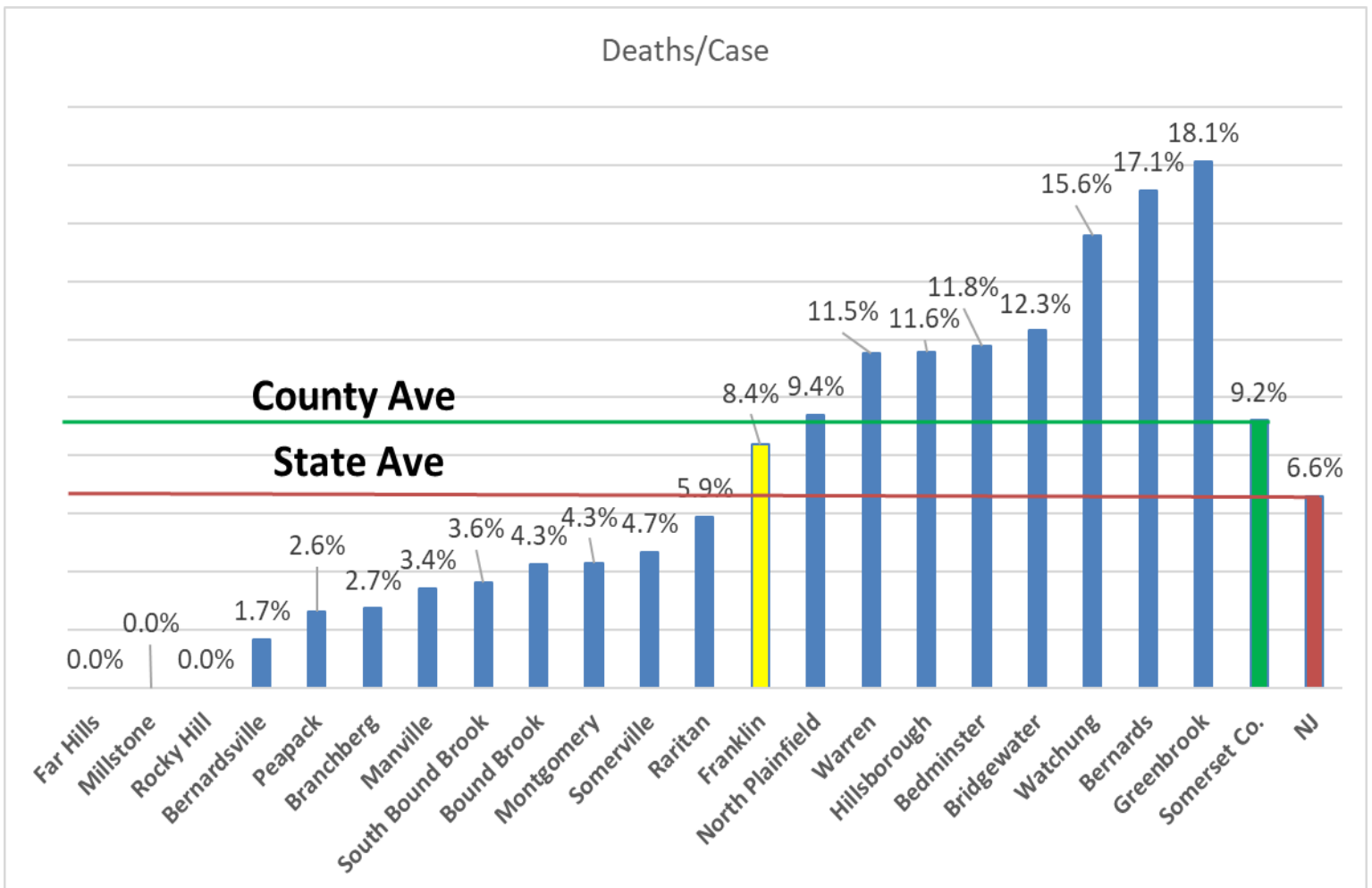
I also looked at deaths. The numbers are smaller, so I worked on deaths per 10,000 residents. R^2=0.84.

We remain at the 84th percentile and 0.71 standard deviations above the mean, so not an outlier. Green Brook is above 3 standard deviations above the mean. They have a significant LTC facility issue.
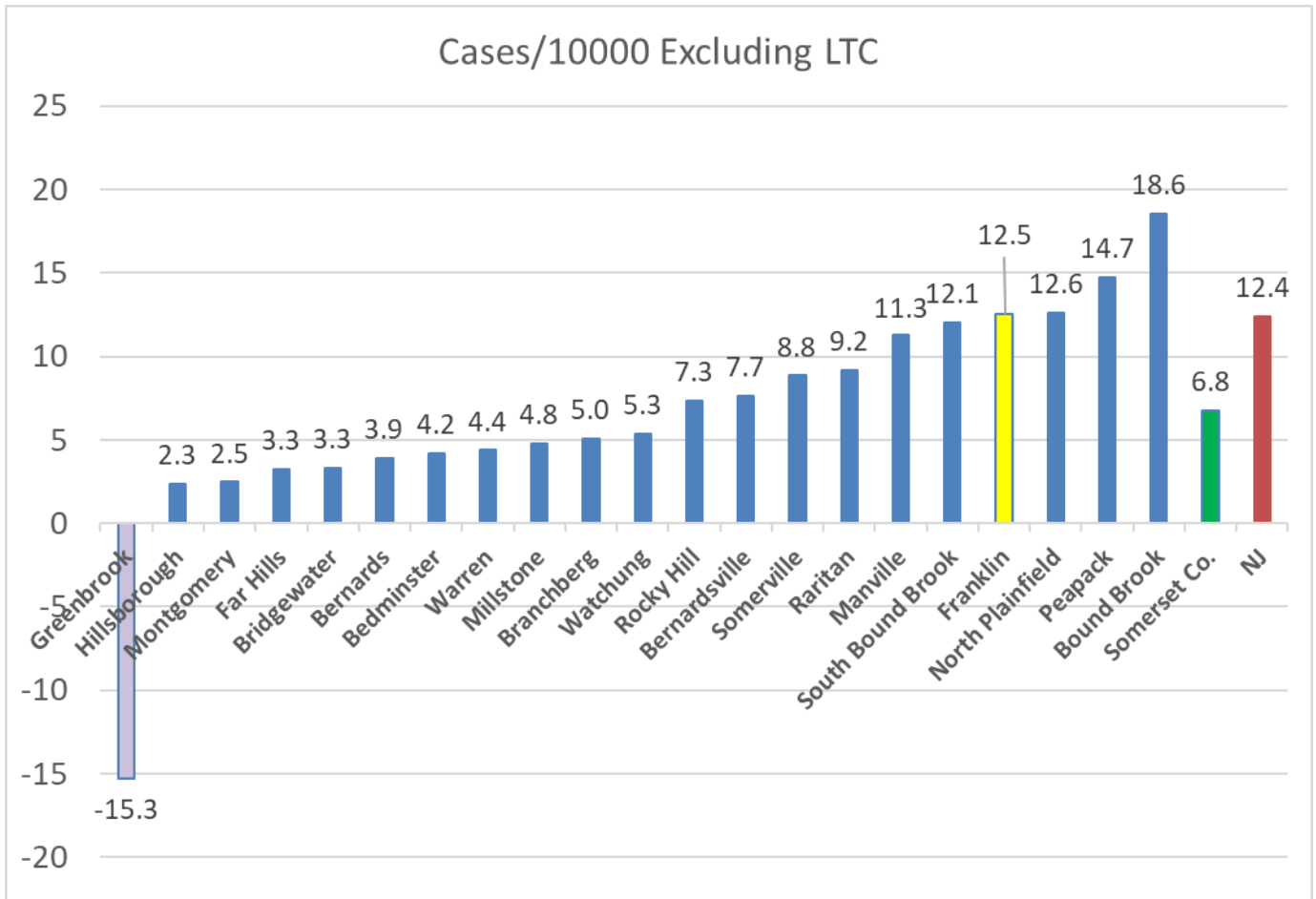

Deaths/10,000

I then looked at the number of cases vs population density. R^2 was 0.005 so the correlation is not meaningful within Somerset Co.

I looked at the death rate or deaths per cases.

Deaths/Case

I thought I'd also look at the effect of Long Term Care Facilities (LTCF). Some towns have more than others and LTCF have additional risks, so it is worth examining their effect on the numbers of cases and deaths in a town. I'm not minimizing the suffering there. This is just another view.
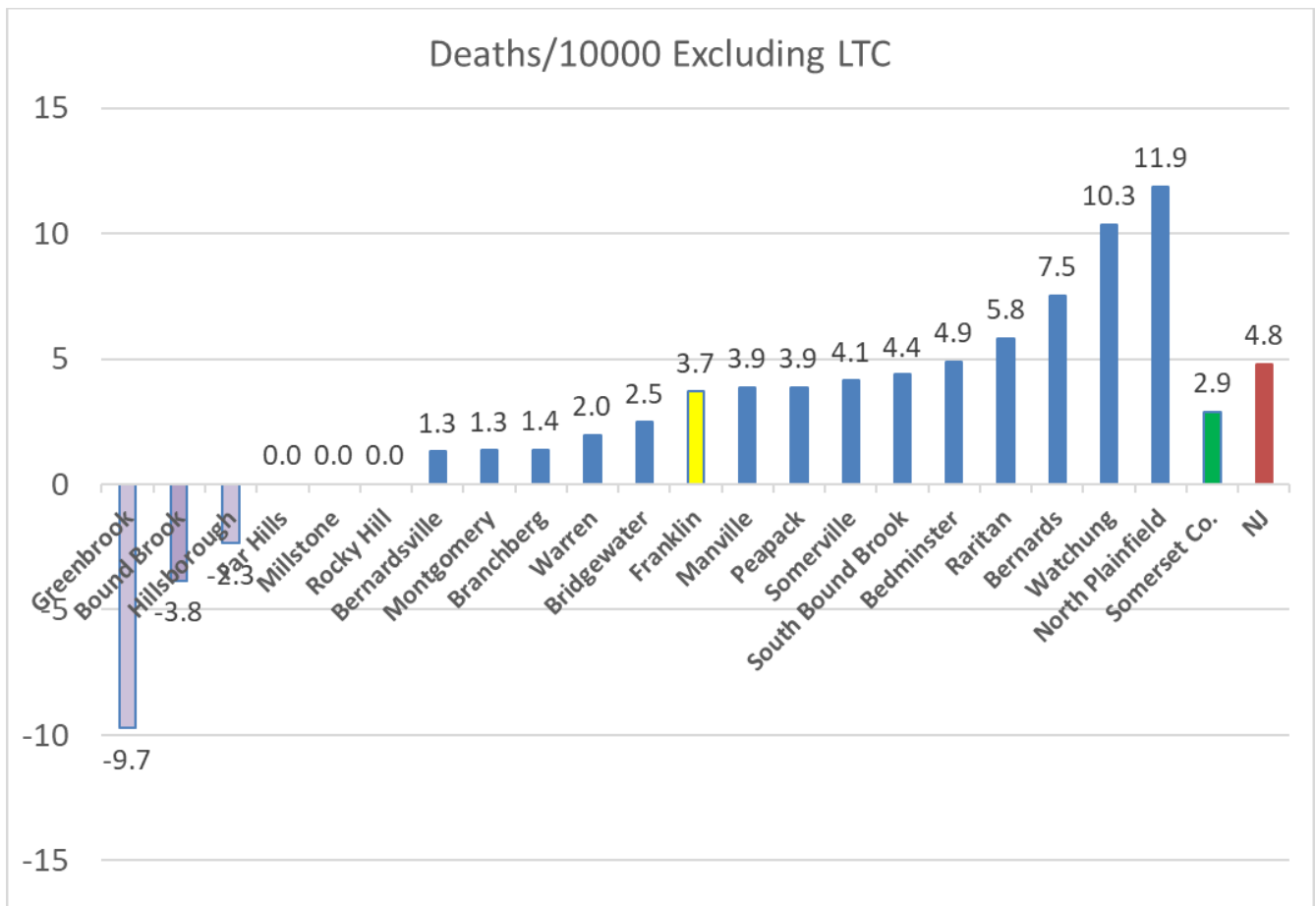
Again I caution there are problem with those numbers as I described in a prior post under item 2. You will see why. If you subtract the cases and deaths and then compare towns Franklin doesn't stand out as much. First cases/1000 residents.

The first thing you notice is Greenbrook has negative cases. That's because the table of LTCF in Greenbrook has more cases listed than the County has for the whole town. Franklin is a little more in the pack. Because of the negative number for Greenbrook I'll skip the statistics. The point is while the exact numbers are suspect one can see Franklin numbers are affected by LTCF.

If we look at deaths the data is even more iffy but clearly Franklin is even more in the middle of the towns in this view.

(continued)

Deaths/10000 Excluding LTC

Chart data (left to right):
- Greenbrook: -9.7
- Bound Brook: (bar below zero)
- Hillsborough: -3.8
- Bar Hills: -2.3
- Millstone: 0.0
- Rocky Hill: 0.0
- Bernardsville: 0.0
- Montgomery: 1.3
- Branchberg: 1.3
- Warren: 1.4
- Bridgewater: 2.0
- Franklin: 2.5
- Manville: 3.7
- Peapack: 3.9
- Somerville: 3.9
- South Bound Brook: 4.1
- Bedminster: 4.4
- Raritan: 4.9
- Bernards: 5.8
- Watchung: 7.5
- North Plainfield: 10.3
- Somerset Co.: 11.9
- NJ: 2.9 / 4.8

Every death is unacceptable. Our death rate (uncorrected for LTCF) is lower than the county average but higher than the state's.

We remain at the high end, so I stick to my mantra, "Assume everyone is infected so social distancing is required." And, "You may be a carrier so social distancing is required so you don't infect others."

It is the best tool we have.

One for all. PK