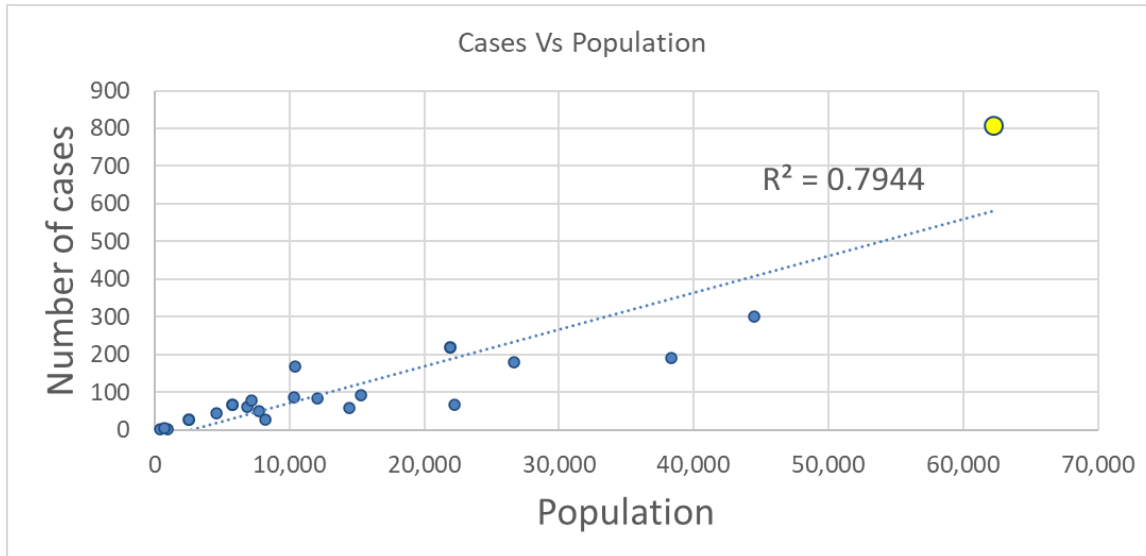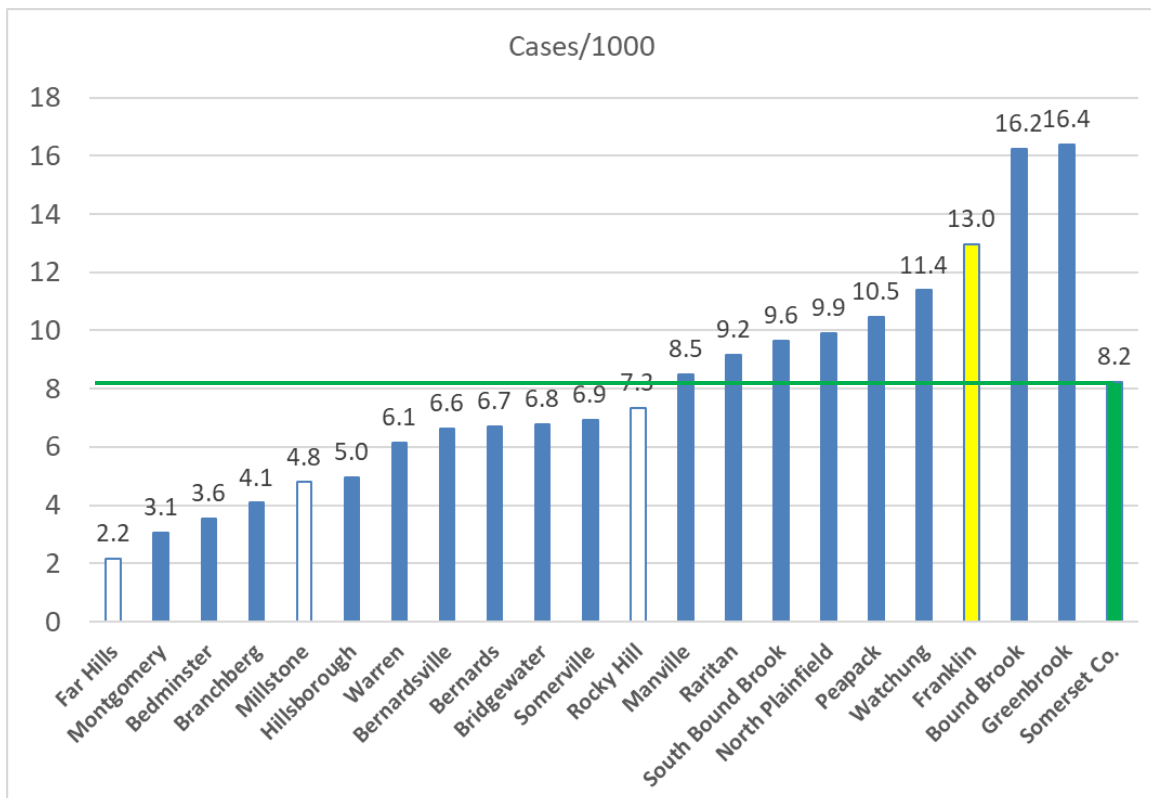# A Fourth Look at the Comparison of Franklin to Other Municipalities in Somerset County

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 the again on April 16th and April 19th.

I've been tracking this by comparing our municipality to the others. I used the data from the county web site on 4/24/2020. If you plot the number of cases vs population, you get the graph below. Franklin is in yellow and is again above the line. R^2=0.79 indicates the relationship of population to the number of cases is well correlated.
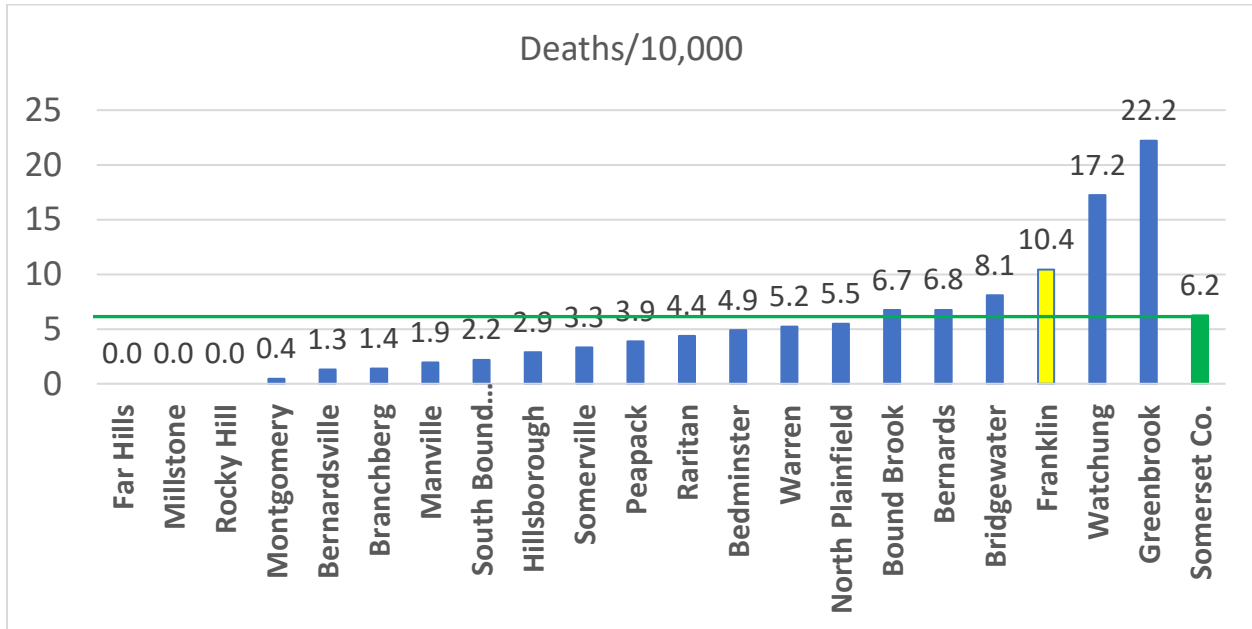

Looking at the number of cases per 1000 residents, you get the bar graph below. Franklin is yellow. The county is green. Far Hills, Rocky Hill and Millstone are blank because they have fewer than 1000 people so small numbers make calculations less meaningful. Franklin not only looks high; it is in the 84th percentile so one more calculation is to see 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 1.16 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. Green Brook and Bound Brook are 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. $R^2=0.76$.

We are at 0.84 percentile and 0.8 standard deviations above the mean, so not an outlier. Watchung and Green Brook are above 2 standard deviations above the mean.

I also looked at the number of cases vs the physical size of the town and cases vs population density. Both had very low R^2.

We remain at the high end, so I stick to my mantra, "Stay home, 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