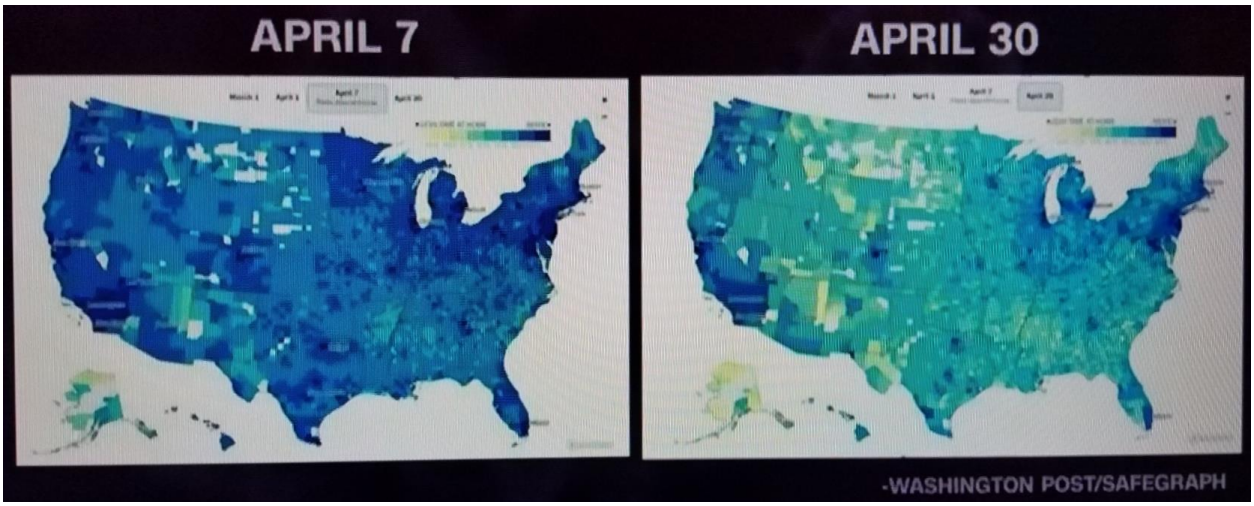
If we are social distancing, why are the numbers still going up?

After my most recent post on the case numbers there was a discussion asking in essence,"If we are social distancing, why are the numbers still going up?"

Marisa Simonini-Terranova had most of the answer. No one who understands infectious disease thought the current form of the stay at home order would wipe out the virus. Yes, if we ALL stayed home for X amount of time, we would eliminate it. But we don't have everyone staying home. We have essential workers, grocery shoppers, and non-compliers out in public.

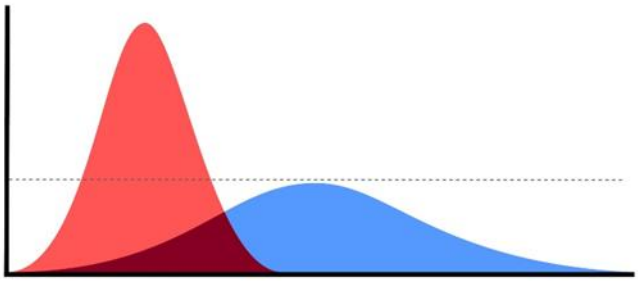
As I was writing this post, this graphic came up on CNN. It shows people are social distancing less. Not just in the mid-west but look closely, even in NJ.



And we have well-meaning people making social distancing errors. I see it all the time. I even see it with doctors in the hospital. One of our doctors who works closely with COVID patients wanted to wash his face, so he walked the 30 feet from his office to the bathroom without a mask. Believe me, this guy is a hero. He is a neurologist. Three months ago, he had nothing to do with infectious disease and he is not only on the front line, he is steering the enemy in the face. But he made a mistake. I see other doctors touching their faces and their masks. My point is even very experienced doctors make mistakes. I am completely focused on social distancing and I make mistakes. I learn from them. It happens.

We also have increased testing which drives the numbers up. Not the number of infections, but the number of infections we are aware of.

It's not due to the decrease restrictions on parks. If there is an effect from that, and there may be, it will not be seen for another week or two.



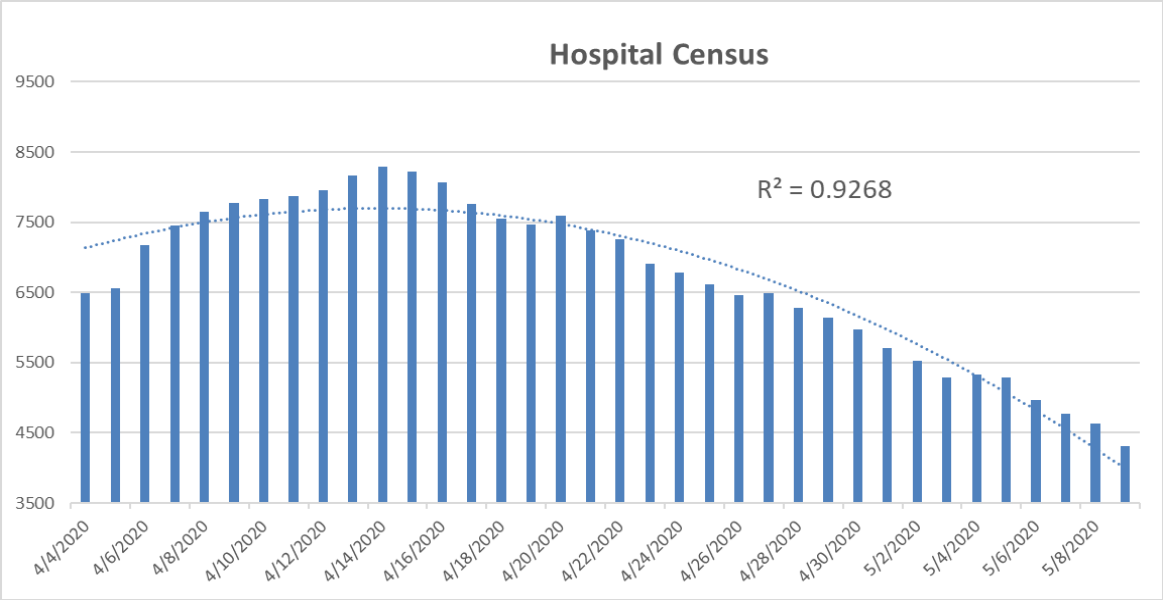
The current stay at home order was not designed to wipe out the virus quickly, it was designed to flatten the curve. Flattening the curve prevents the peak from being so high that the number of cases overwhelm the health care system. It worked at doing that and thus saved lives. The other effect, however, is it extends the time the virus stays around. Note, the flattened peak occurs later than the un-flattened one.

When I see patients, I ask them about their social distancing. From that unscientific sample I believe most people are not 100% socially distant. For instance, I hear, "grandchildren and immediate family come over." Or this, "I get together with my friend, but she has no symptoms, I know she doesn't have it." The most insidious quality of COVID is so many people are asymptomatic spreaders. If everyone who was contagious was symptomatic this wouldn't be a pandemic.

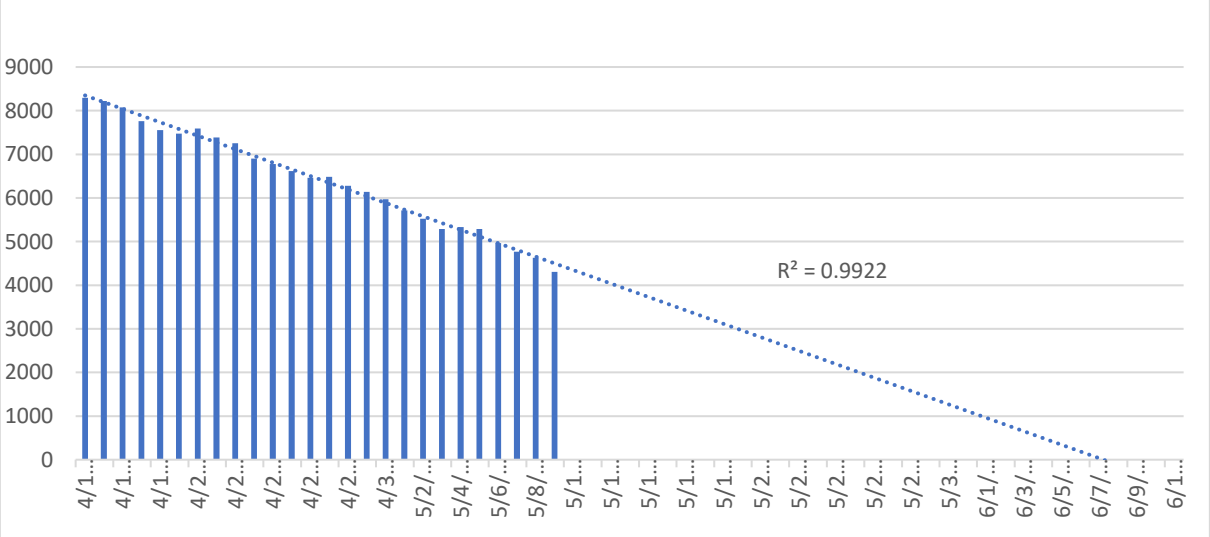
And then there are those package deliveries. The virus lives on cardboard for 24 hours, plastic and metal for three days. I've posted I leave packages outside for at least a day. If plastic is involved, then 3 days or longer if I can. I live in a secluded house. Others can't do that.

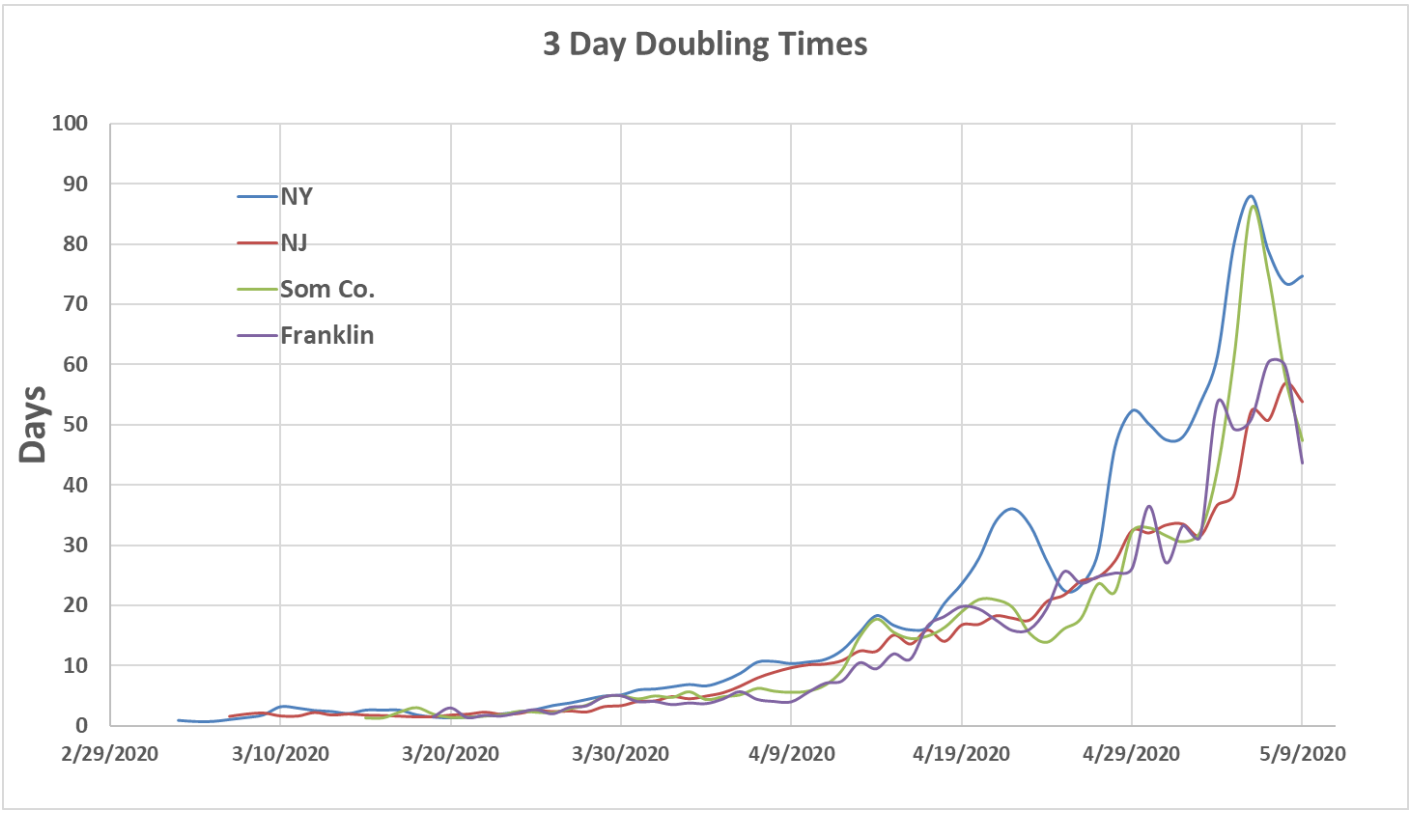
The Governor has preached a better way to follow the virus's progression is to look at hospitalizations. It is a more quantifiable number than the number of positive tests (see Numbers and Uncertainty). Here is a graph of NJ hospitalizations since April 4th.

Please note, for clarity the low end of the y axis is 3500. I choose that to make it easier to see the progress. I point it out because I don't want to misrepresent the data.



I also have been following the next graph, it is the same as the above graph, but starting from the peak. I then did a curve fit with a straight line and extended it to see when it will hit zero. **THIS IS AN EXTREMELY NIEVE MODEL**. I have been following it for two weeks but have been reluctant to post it because I'm afraid people will take it literally. **I AM NOT PREDICTING HOSPITALIZATIONS WILL BE ZERO ON JUNE 7th.** The curve will flatten out over time. The way this graph informs me, however, is by following it over time. Its zero point doesn't significantly change. Meaning, we are making steady progress.





Another sign of progress is by following doubling time also called doubling rate. It is the number of days it takes for the number of cases to double. For a complete explanation see my first post on this. In short, the principle of doubling time is the more people who carry COVID the more spreaders you have, thus it has a faster potential to grow. Slowing of doubling time is progress. In my first post I was excited doubling time had increase to 5 days. Now we are in the vicinity of two months.

Social distancing is working. I know it's frustrating but stopping now would be like stopping an anti-biotic after a few days because you're only a little better.

I'm so, so sorry for your suffering. Please keep up your vigilance. We will make it through this. There is reason for hope, but we need to keep our guard up. If you give up, you don't just give up for yourself it affects others.

I love you Franklin. Happy Mother's Day. I Love you Mommy. We are in this together. One for all. Please, Please, Please, one for all. PK