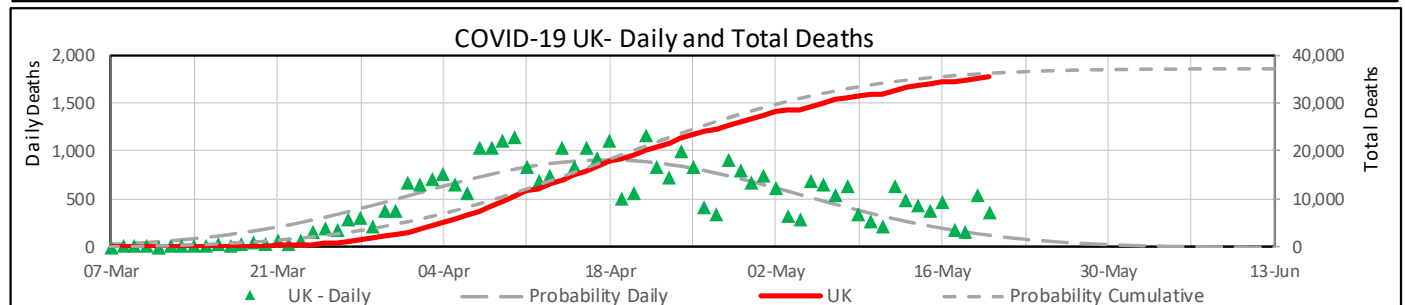
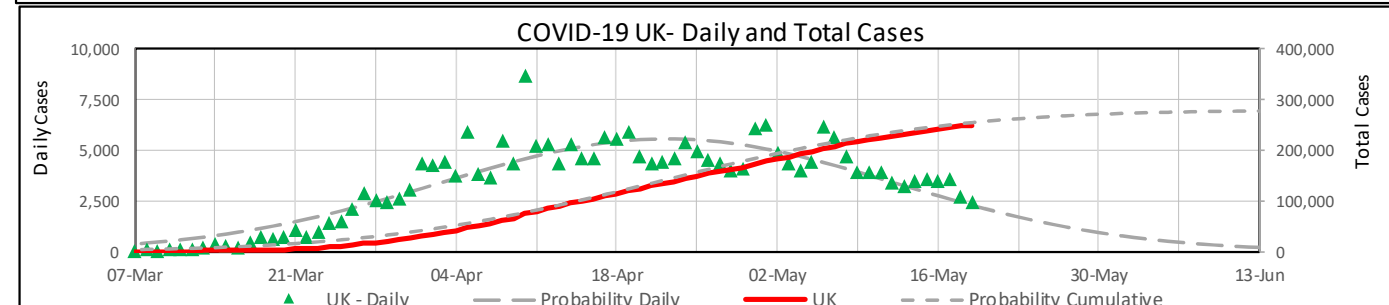
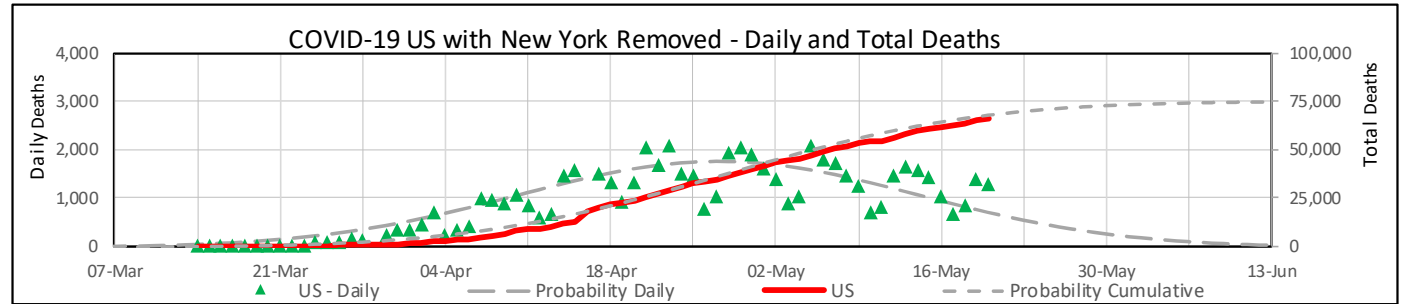
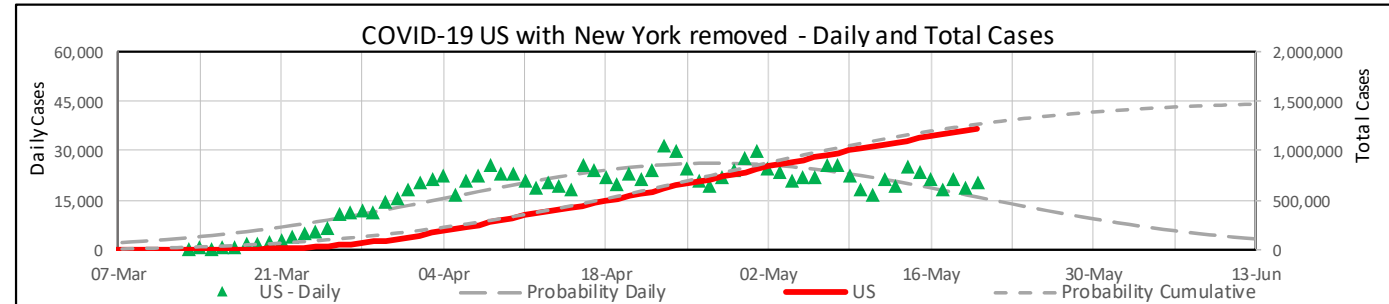
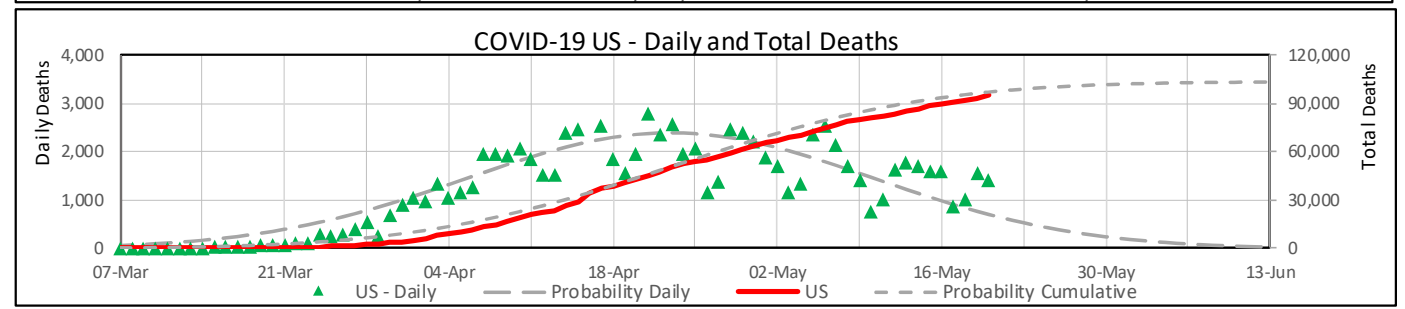
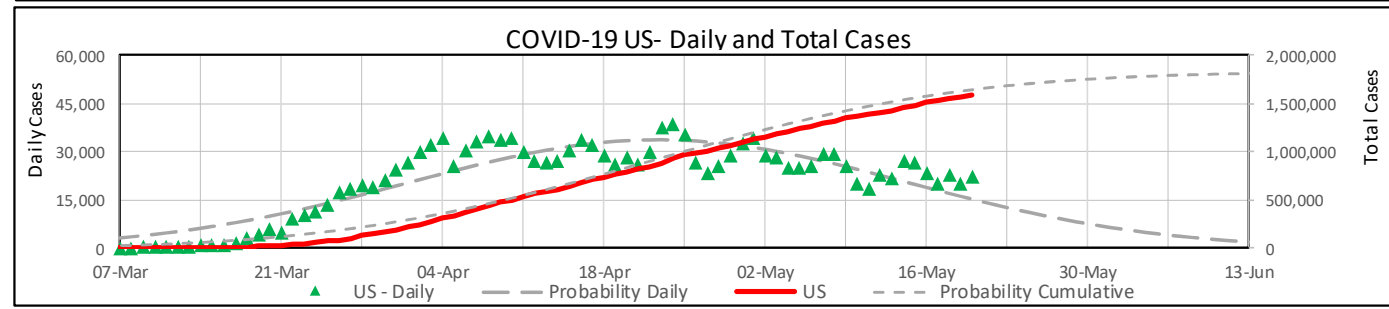
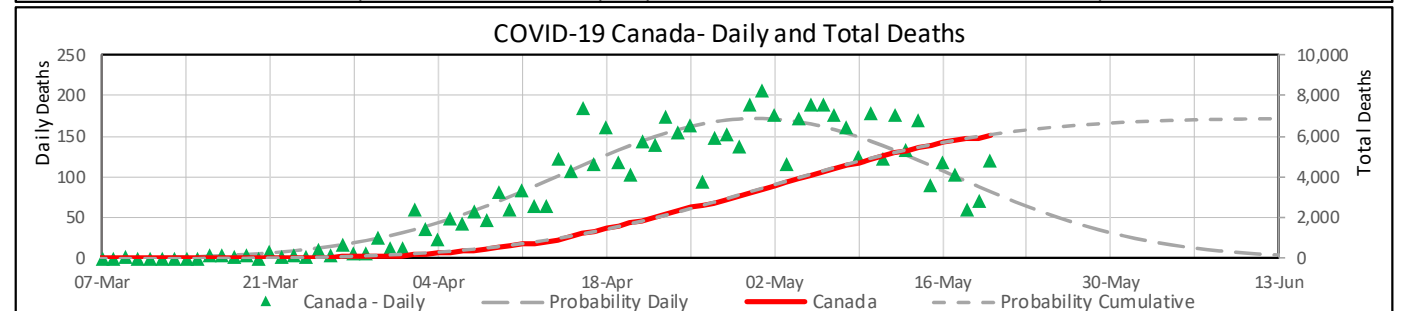
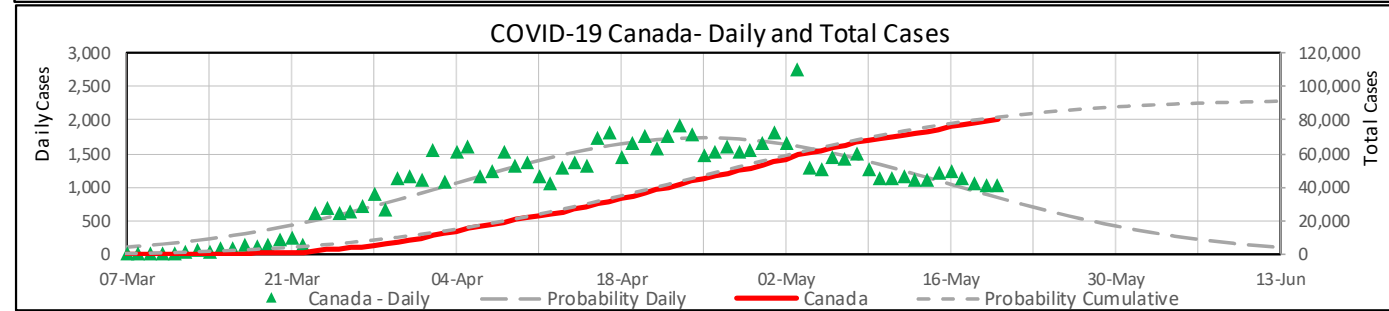
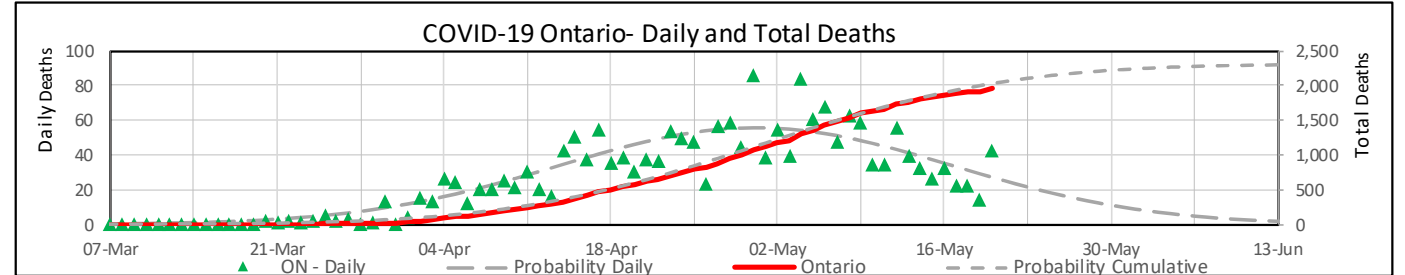
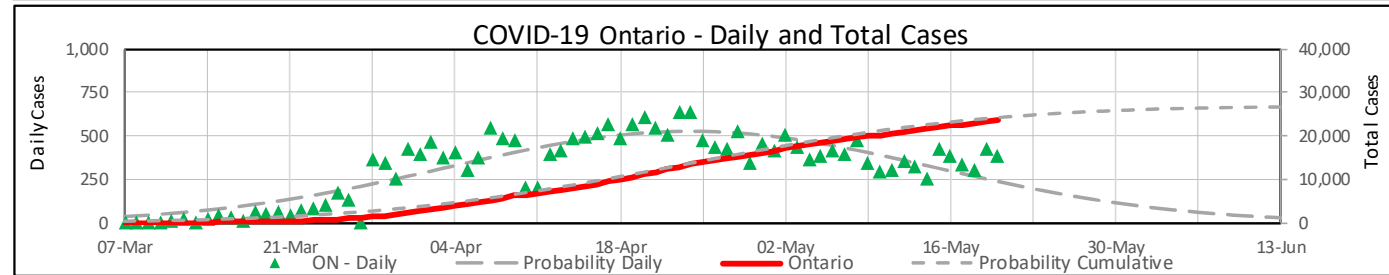
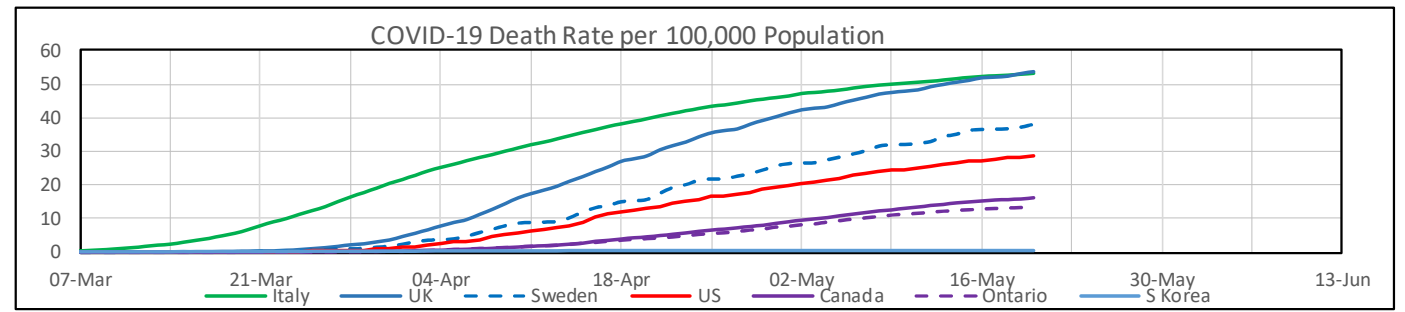
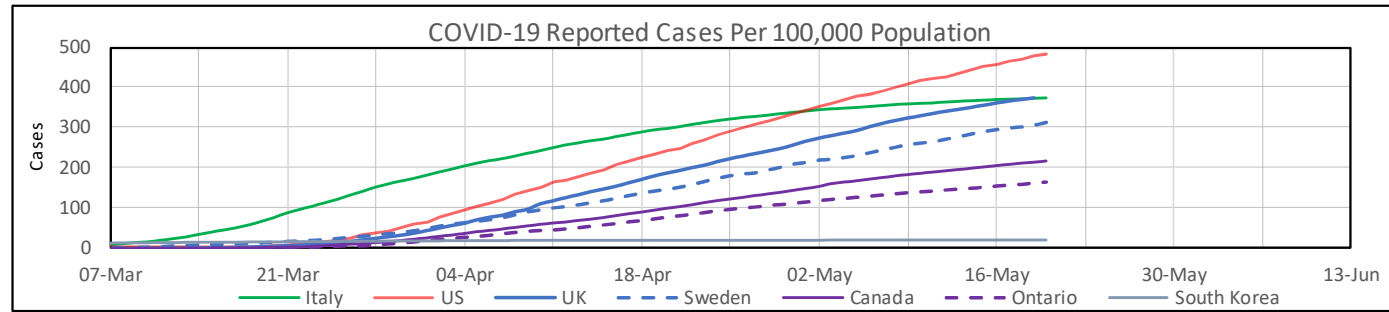


COVID-19 Observations – 21 May 2020 – by Alex Harrington



Here we are again. We're well into our first week of reduced shutdown. For the most part it seems people are being reasonable – except for a few things you see on the news about crowded bars and beaches, mostly in the US. Starting to sound like a broken record, but we'll just have to wait and see how it works out. Until then we have the graphs to show us where we've been. A couple of little tweaks – I've added Sweden to the summary charts and put the US with and without New York together with the charts above. The table to the right summarizes everything, while the two charts on the right smooth out and summarize the detailed country charts above.

The US is approaching 500 cases per 100,000 population while the UK and Italy are approaching 400. Sweden is right up there with the European countries at 312 while Canada and Ontario hover around 200. Barely noticeable at the bottom is South Korea at 22. In terms of deaths, Italy and the UK have passed 50 deaths per 100,000 population while Sweden is approaching 40. The US is near 30 while Canada and Ontario are about 15. Hiding at the bottom is South Korea at 1.

What does all this mean? There are over 200 countries and states being tracked, and the US and the UK are among the highest in the world in terms of both cases and deaths per 100,000 population. Canada is right up in the top 10% in terms of deaths. The US is leading the world in cases. In terms of cases per 100,000 population though, it is 12th. Countries with higher case density than the US are not much different – typically about 600 cases per 100,000 (Spain, Ireland and Belgium). The highest density countries range from 1,000 to 2,000 cases per 100,000 (San Marino, Qatar and Andorra). Being 12th in this race is not a good thing because there is not much difference at these levels. Italy and the UK are 18th and 20th while Sweden is 24th and Canada is 38th. South Korea is 114th.

Probably more important is deaths. The US, UK and Italy lead the world in number of deaths. In terms of deaths per 100,000 population, Italy and the UK are 5th and 6th in the world at about 50 deaths per 100,000 population – Spain, Belgium, Andorra and San Marino have higher deaths rates ranging from 60 to 120 per 100,000. Sweden is 8th, the US is 12th and Canada is 19th. South Korea is 100th.

The current number of deaths from COVID 19 is greater than the annual number of deaths from influenza. This is true for Canada, the US and the UK, making COVID 19 the 8th highest cause of death – it's about the same in each country. And that's only after five months. If we get a second wave this year (which we probably will – most flu pandemics have had a second wave), and if the death rate stays the same (which it well could), it will make COVID 19 the 3rd highest cause of death in each country – behind only heart disease and cancer.

These are pretty dismal thoughts but this is what we're looking at. Yes, the weather is getting better and everyone is getting antsy, and yes, we can go out some more. But that bug is still there. And the policies and procedures put in place in the coming months will determine how many people we're willing to kill. As it sits now, Canada is headed toward 7,000 deaths, the US over 100,000 and the UK nearly 40,000. This could easily be repeated if another wave occurs. Yesterday the US had 1,403 COVID 19 deaths, the UK 363 and Canada 119. South Korea has had 263 deaths since February, and none yesterday.

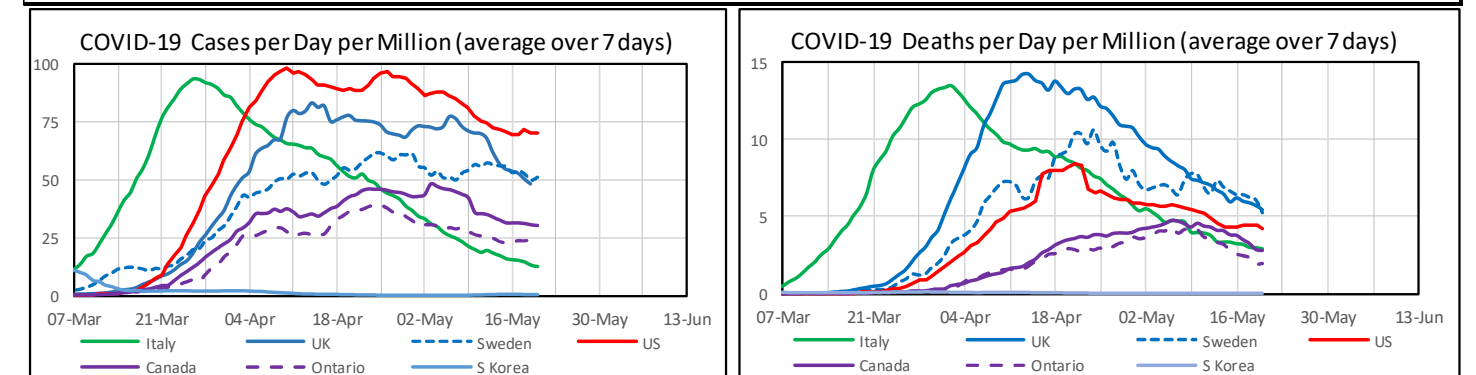
The table on the right summarizes the testing data, and the case and death data. They're grouped by region and I've included Sweden and its neighbours because Sweden is often held up as an example of how to do things. More on that later.

The "total to date" numbers are often quoted and I've included them in the table on the right. That's the total number of tests (or cases or deaths) since this thing started divided by the population. It doesn't tell you what's being done right now, especially if you had to start slowly and gear up as most countries have done. But it's easy and gives some sense of how things compare – that's how the rankings I've quoted above are determined. To see where we are now, I use the tests (or cases or deaths) per day and average it over the last seven days to smooth out the bumps. It tells you what's happening now and that's what you want to know.

Ontario is still struggling to reach its goal of 19,000 tests per day. This has been the case for a while and things will have to seriously improve to reduce the risk associated with further easing.

COVID-19 Summary Data									
	Tests per Million Total to Date	Tests per Day Last 7 days		Tests per Reported Case Total Last 7 days		Cases per Million Total to date Average per day Last 7 days		Deaths per Million Total to date Average per day Last 7 days	
		Total	Per Million	Total	Last 7 days	Total to date	Average per day Last 7 days	Total to date	Average per day Last 7 days
		South Korea	15,157	11,502	225	70	546	22	0.4
Italy	52,353	61,429	1,015	14	84	375	12.4	53	2.9
UK	30,102	68,571	1,032	8	22	375	48.1	54	5.4
US	38,436	381,851	1,160	8	17	484	70.5	29	4.2
Canada	36,760	28,917	773	17	25	214	30.0	16	2.8
Ontario	39,649	12,171	835	24	29	163	24.9	13	1.9
Sweden	22,171	4,671	463	7	10	312	51.1	38	5.2
Denmark	70,970	9,477	1,632	37	120	191	12.9	10	0.5
Norway	41,551	2,024	377	27	84	154	3.9	4	0.2
Finland	28,308	2,931	531	24	49	117	10.7	6	0.8

Italy, US, Ontario and Finland report total tests, others report people tested. Total tests can be 25-50% higher than people tested



The two charts above summarize the case and death data– you can clearly see how the various countries compare in terms of magnitude and timing. Case counts are slowly going down – we'll see how it goes over the next weeks.

This brings us to Sweden. They have a low testing rate, purposefully focussed on health workers and facilities. The tests per case are very low – you can see this in the table above. Sweden has one of the higher death rates and case counts. That combined with low testing means that there is little knowledge of how widespread the virus may be. There are a number of reasons things are not worse in Sweden. The population is trusting of government, so they have undertaken preventative measures voluntarily. The decrease in visits to restaurants, retail shops and such were similar to neighbouring countries with restrictions imposed. There is a high percentage of single person households that helps limit spread. And the population is fairly healthy. The older population has been hard hit in long term care homes. Like most other countries, there is at least one group that shows disproportionate susceptibility – in Sweden's case it's the immigrant population. Early results indicate that Sweden's economy has been hit nearly as hard as its neighbours. Even though the country was not shut down, voluntary action by citizens protecting themselves had the same effect on the economy. So I would think that the Swedish model is not one that is readily transported elsewhere – especially if it's to a country whose population is reluctant to embrace the social measures necessary for success. The little that Sweden may have gained by avoiding shut down was paid for by a death rate four to nine times that of its neighbours.

Remember I said things may get stupid – well it's started. In the US, the state of Georgia plotted its data backwards so it would look like cases were going down, not up. The state of Florida fired its COVID 19 data manager. Some are saying data are now harder to get in Florida and others are saying the person wasn't really responsible for the data in the first place. And the conspiracy theories are going wild – my favourite is that this is all a plot to prevent political rallies until November.

If you can cut through all this stuff it's simple – we need more testing and tracking and it doesn't seem to be happening very fast. And we have to remain careful. This will not end soon.

Take care of yourselves and don't endanger others.