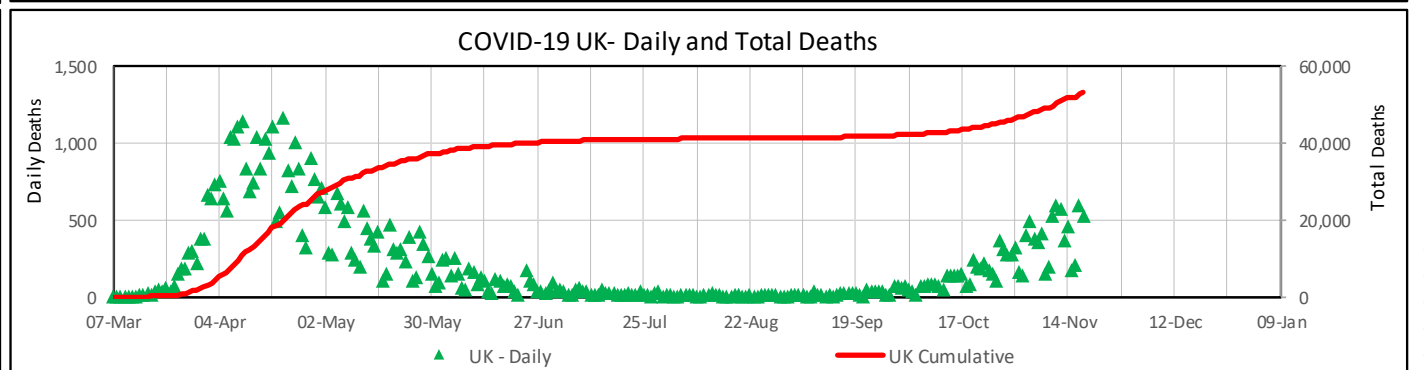
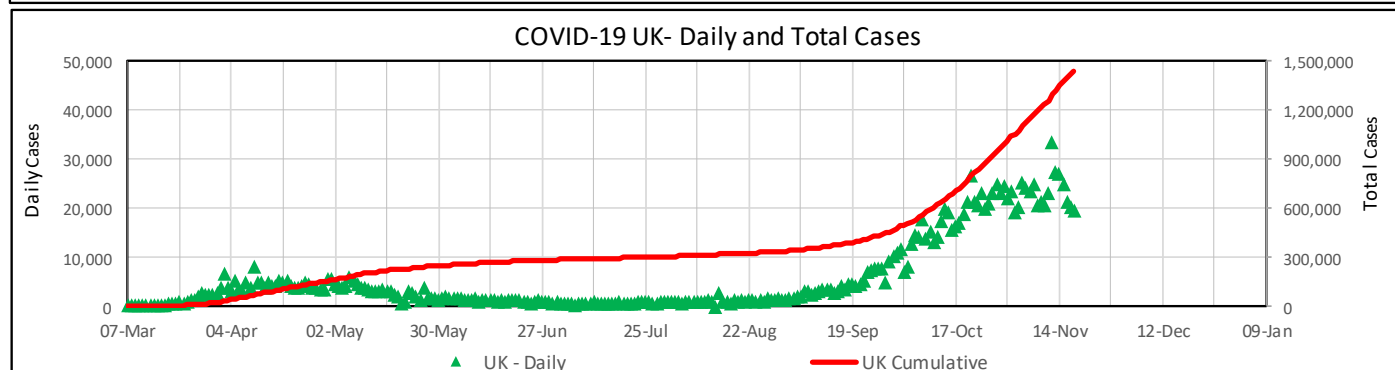
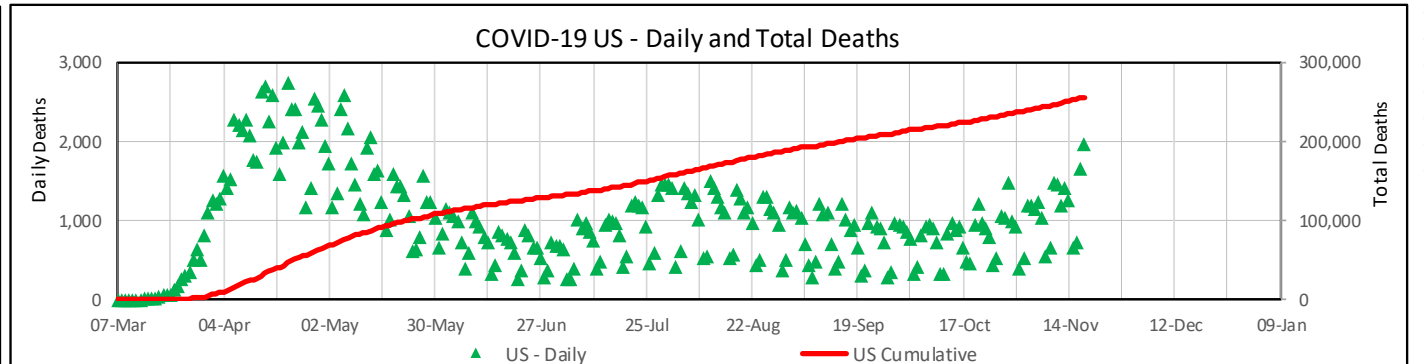
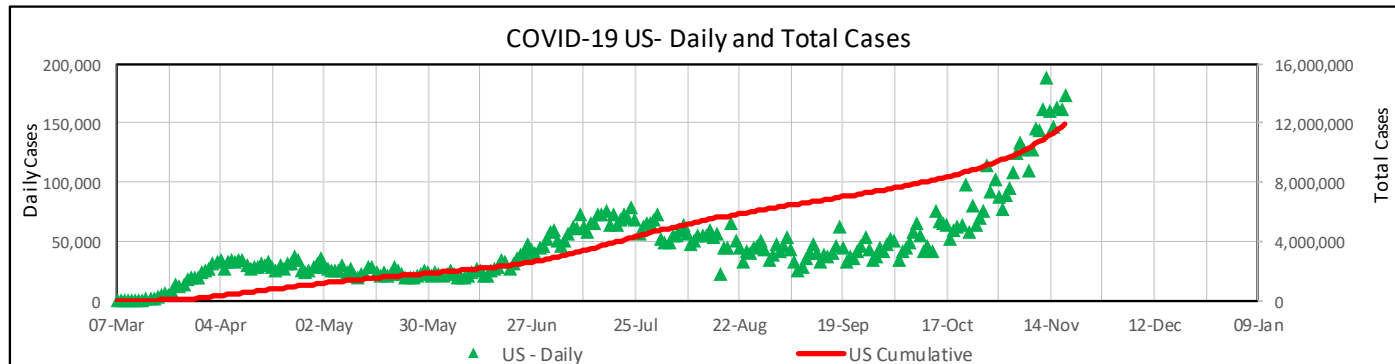
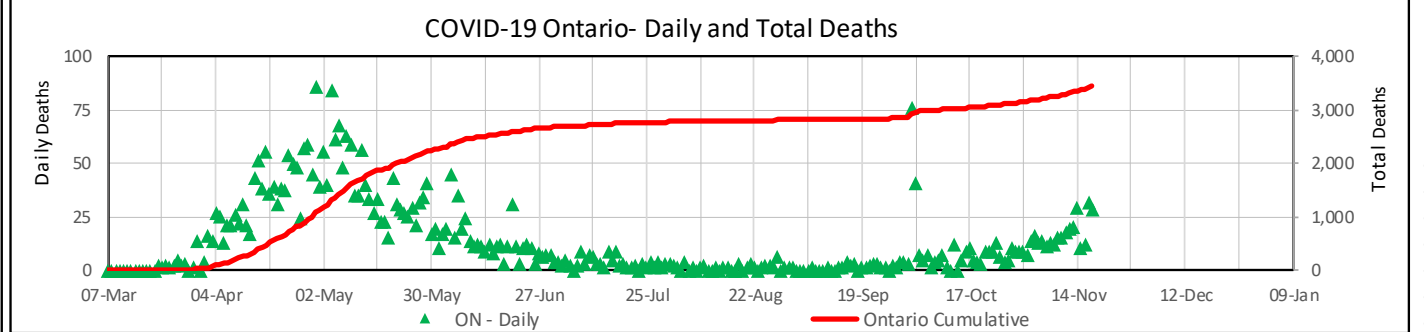
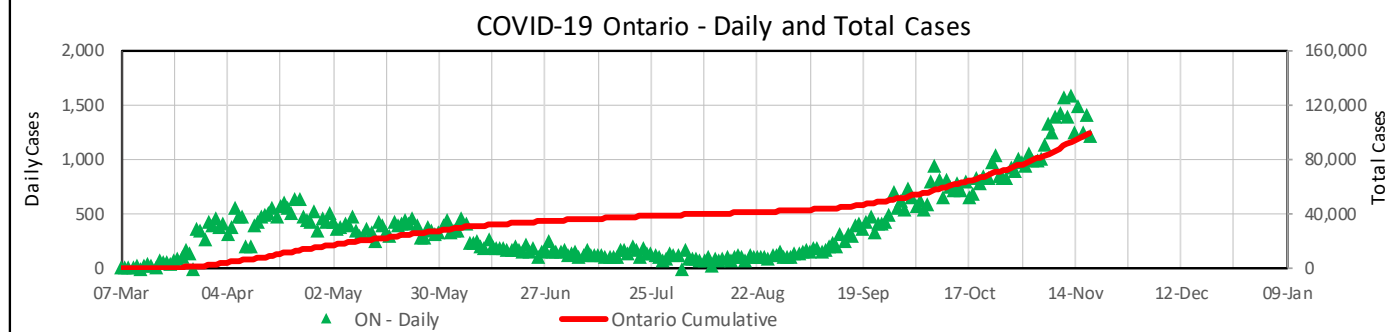
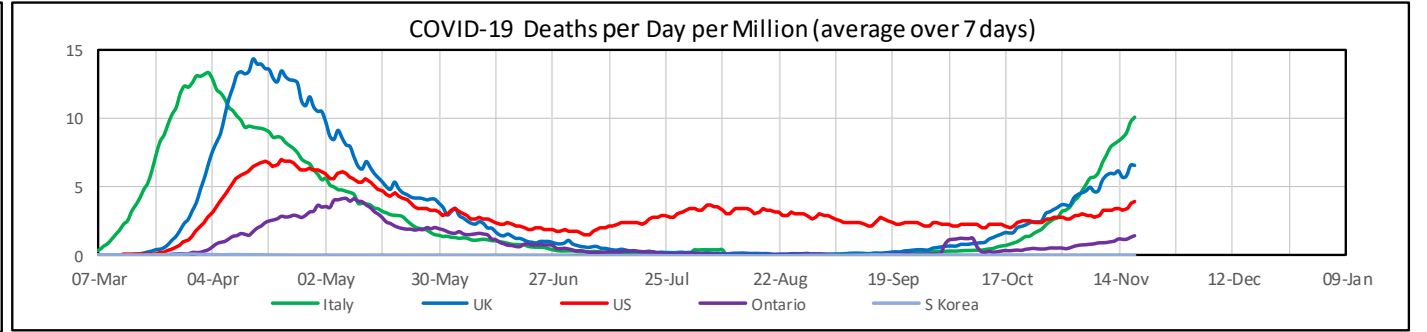
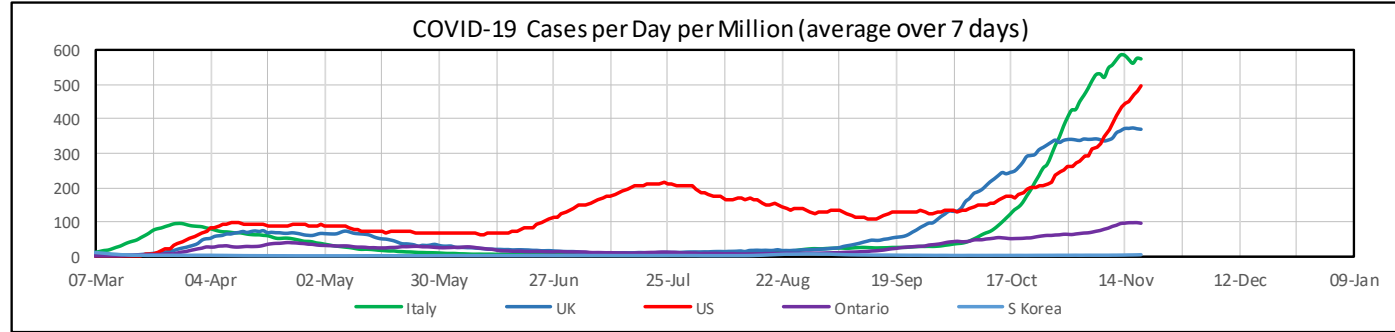
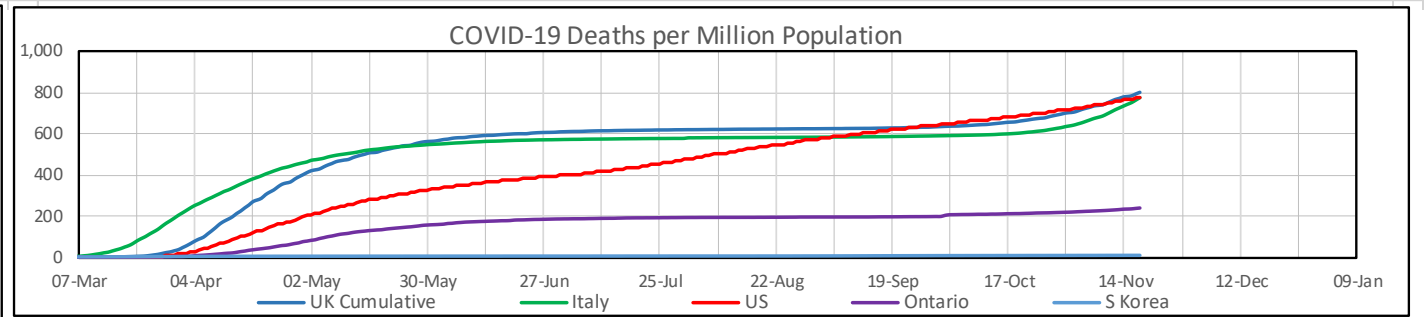
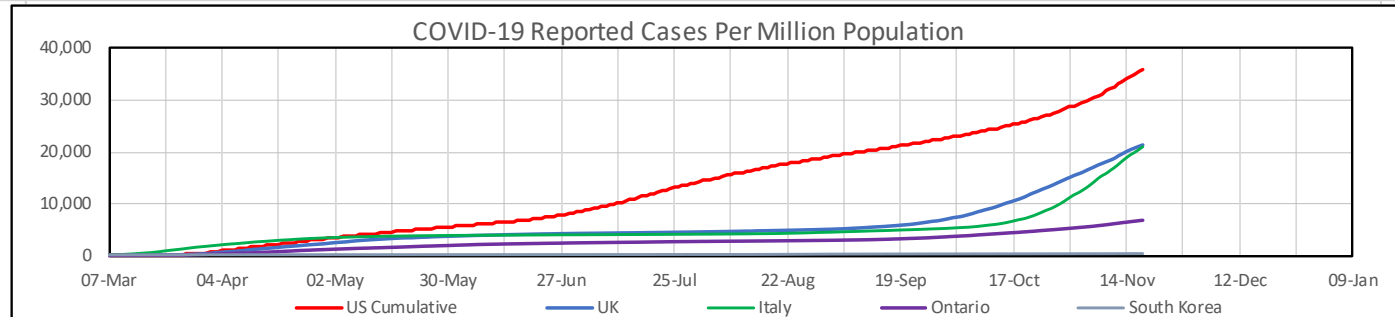


COVID-19 Observations – 19 November 2020 – by Alex Harrington



I've been putting together all these graphs and they include South Korea. I haven't talked about South Korea very much after the first few updates, and the data for South Korea can barely be seen on the graphs. So I thought I'd talk a bit about South Korea.

In 2003 they were surrounded by countries hit by Severe Acute Respiratory Syndrome (SARS) with a death rate of 10%. In 2015, they had a frightening outbreak of Middle East Respiratory Syndrome (MERS) with a death rate of nearly 35%. These experiences taught them what had to be done to deal with these types of outbreaks. More importantly, they created a response plan. The plan was revisited and updated every five years. Canada was one of the countries impacted by SARS in 2003. It is obvious that we chose to forget anything we may have learned.

When news of the corona virus broke, South Korea immediately implemented the plan. It was based on three principles – detection, containment and treatment. They put in place a testing capability, that, coupled with their case tracking, allowed them to keep case counts at levels we can only dream about. The cases per million per day chart above shows that in the early days of the pandemic, cases were at about 100/M/d in Europe and the US. Canada and Ontario only reached about 50/M/d, but South Korea was at about 2/M/d, or less. For a brief period in early March they reached 12/M/d, but that outbreak was crushed in a week. Their success was based on relentless case tracking and testing. Case tracking was high tech – cell phones and credit card data were used to track where carriers had been, and locate contacts. Testing was everywhere and turnaround was fast. Their tests were offered to the Centre for Disease Control – the offer was declined. The CDC preferred its tests, but they were flawed and set back US testing months – one of the early missteps in the US response.

The early success in South Korea depended on widespread societal co-operation and willingness to share personal data. The nature of the outbreaks also helped. They tended to be focused – many in high density church settings, some in sports group meeting or a telecommunications centre. This focus made tracing easier.

There have been recent outbreaks in South Korea and they have been associated with the usual groups – the largest at a mega church service. There have also been breakdowns in support for preventative measures. The church goers were particularly uncooperative – citing tracing efforts as a means to discriminate against them. While there has so far been no need to impose large scale lockdowns, the government is currently considering some additional restrictions.

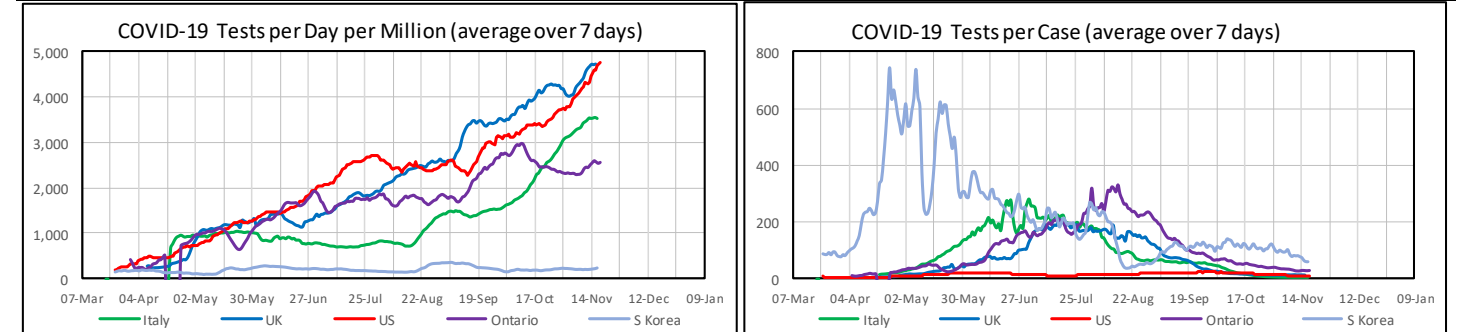
While South Korea is experiencing a second wave, it is small compared to what many others are enduring. This has been accomplished with a testing rate one tenth of many other countries. The testing chart on the right shows South Korea has maintained a testing rate of about 200 tests per million per day. This rate has been maintained throughout the pandemic. Others – Canada, the US, the UK and Italy - have had to ramp up their testing capacity. More importantly, South Korea's testing has been effective, as the tests per case chart shows. As cases have risen, they have been able to maintain their testing rate at about 60/M/d without sacrificing turnaround. Others are well below this and are ineffective because turnaround is slow and tracing is nominal.

This shows how testing, combined with tracking, isolation and treatment can keep virus levels low and allow an economy to continue functioning. It is hugely unlikely, not to mention way too late, for these successes to be repeated here. Our testing is hopeless. Our tracking is overwhelmed. And the co-operation from society is relatively non-existent. South Korea is no heaven – there is disagreement with government positions and oppositions to plans. But having been through recent pandemics with much higher death rates, there is also a recognition that these differences can be set aside to cope with an immediate emergency. We will not see that attitude here, and we will certainly not see it in the US.

There is another country I followed for a while. Sweden. They had a different approach. Don't shut down. Be smart about distancing. All in the hope that herd immunity would result. That hasn't worked well. Early in the pandemic, with cases and death rates five times or more higher than their Scandinavian neighbours, borders were closed to them. Long term care facilities were devastated. With a summer relief most of us felt, the virus has returned with a vengeance. The government has finally imposed some lockdowns.

| COVID-19 Summary Data | | | | | | | | | | |
|-----------------------|------------------------------------|---|-------------|--|-------------|---|--------------------------------|--|--------------------------------|---|
| | Tests per Million Total to Date | Tests per Day Average over 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 | | Deaths Per Case Total to date (%) |
| | | 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 | 54,498 | 11,975 | 234 | 96 | 59 | 572 | 4.0 | 10 | 0.027 | 1.7% |
| Italy | 317,745 | 214,187 | 3,537 | 16 | 6 | 21,013 | 572 | 780 | 10.1 | 3.7% |
| UK | 510,632 | 314,104 | 4,728 | 24 | 12 | 21,528 | 370 | 802 | 6.6 | 3.7% |
| US | 522,416 | 1,566,768 | 4,761 | 14 | 10 | 36,084 | 494 | 779 | 3.9 | 2.2% |
| Ontario | 386,586 | 37,521 | 2,575 | 57 | 27 | 6,820 | 96 | 236 | 1.4 | 3.5% |

South Korea and Canada report people tested. The others report total tests. Total tests can be 10-50% higher than people tested



These two examples show differing approaches to the virus. One hopes to keep cases low and the population safe while waiting for a vaccine. The other hopes to obtain immunity through purposeful infection. This leads to a question of what are we looking for. Ultimately, it's Immunity. How we get there is what determines how painful it will be.

There is a misconception about herd immunity. Some think we will get herd immunity through vaccination. That's not exactly true. What we get, if enough people get vaccinated, is immunity through vaccination. This can happen relatively quickly – as pandemics go. We might be able to vaccinate a country in a year, assuming a supply of vaccine and the logistics to distribute and administer are in place. During that time, we would continue preventative measures of masking and distancing to prevent virus spread during the vaccination phase.

Herd immunity is much messier and slower to attain. It happens by natural infection and spread of the virus. It is controlled only by the degree to which we are willing to follow preventative measures. With little control, health facilities quickly become overwhelmed and death rates rise because of the large number of untreated victims. The timeframe is also much longer. It can take two to three or more years to infect a population to a degree sufficient to provide herd immunity.

So all that is just some background. You don't have to be told what's going on now. Cases are rising, deaths are rising, denial persists, lockdowns are threatened.

No one wants to shut things down – there has been enough pain and disruption from previous experiences. But we seem to be incapable of relating our behaviour to the cases and deaths we see around us. As long as that goes on, the virus continues to win.

I'm glad our thanksgiving is over – the US should see things get much worse after their upcoming holiday.

Take care of yourselves and don't endanger others.