From: James R. Olsen
To: Ravalli County Board of Commissioners and Ravalli County Health Board
Copies to: Ravalli County Health Department, MT Dept. of Health and Human Services, Governor Bullock
26 Oct 2020
Subject: COVID-19, Commissioner's Statement, Shutdowns & Masks vs The Economy

I watched the video of the Commissioners Meeting last week and was struck by one comment, questions have gone unanswered — specifically, the Health Board has had plenty of input, including substantive comments, including informative inputs, including appeals to consider various propositions. They have not responded to any but a very few. While the board has learned sit though people's comments politely, it is time to take the next step: Answer the mail.

Now, more than ever, Americans and the Citizens of Ravalli County need transparency, which includes an authentic response to citizens' concerns, suggestions, and recommendations. Public trust begins with being heard. And, who knows, we might get better outcomes.

Inappropriate Behavior

When the Governor issued the mask mandate in July, certain people in Ravalli County ***called 911, overloading the emergency center***, to turn in people and business for not wearing masks. This is not an appropriate response – anyone who did so should sent a note of apology to the Sheriff.

I have been told on several occasions that a few people ***berated workers when being asked to wear a mask*** – workers who were simply doing their job. This is not an appropriate response – anyone who did so should hand a note of apology to the service person.

Medical Capacity May Be Urgent

The Health Officer's report about nearing capacity to care for patients – COVID-19 plus others – was very concerning. The Health Board had a public input in April that they should make a projection on the capacity needed and make plans to make it happen. On April 22 it was reported was that Marcus Daly Hospital assured the county that they would handle Phase 1. Now, a hospital spokesperson is quoted in the Ravalli Republic was that they will do the "best they can."

The Health Board took no action other than the hospital's assurances.

This has been discussed in previous inputs: When Ravalli County hits its medical capacity limit, it is likely that surrounding areas will be hitting theirs at the same time. Unfortunately, this may be come to fruition — we can see hints of stressed-to-limit in the public health office and Marcus Daly.

We are on a rising curve with few interventions to change its slope — although I have observed that more people are being more cautious on their own in many situations and the cold weather may change behaviors to reduce close human interactions. But, then Thanksgiving and Christmas is coming – occasions for more interaction.

We don't know how events will unfold, but we should be prepared. When you have an outfit of health department and medical people interacting with "events" — COVID-19 cases and contact cases. They are having an effect on the rate at which these events occur.

These effects that may not be obvious when things are "under control." As the case load grows the outfits plan, seek budgets, and start down the path of gathering up more capacity — people and equipment. It takes time.

Then a few people get turned away from a clinic. Contract tracers can't trace a some contracts. Tests needed are not done. People in the population start to give up on contacting health providers because they have been ignored.

With less intervention the rate of events accelerate. At first you don't know because there is a 1 to 2-week feedback delay – that is you don't know about the event until later because it takes a week for symptoms to appear, etc.

Then events suddenly seem to be overwhelming the system — people needing to see the doctor, get a test, go to the hospital. Now the rate at which you must increase capacity becomes an emergency — the timeframes for hiring and acquiring suddenly much shorter — it has suddenly gotten a lot harder. The tipping point. And you may fall off — but the events will keep coming.

Maybe you do prepare and the tipping point never happens — leaving you questioning whether it was a waste of effort. It is not: *a risk averted is a risk managed*.

New York City experienced a month of an overwhelmed medical system and then recovered. New York City ended up with death rate four times the U.S. average — and it all happened in a month.[1] Don't do a New York.

The Health Board has the authority to survey all providers for medical capacity and should meet immediately to come up with a plan to do so — and a plan to get needed capacity.

Commissioner's Statement Recommendation

Here is what I think would be "boldly – realistic."

- You can have COVID-19 and not know it, which is the case for about 80% of the people who are infected. If you are older or have other medical conditions, you are more likely to have

[1] "New York Covid Map and Case Count," *New York Times*, 28 Oct 2020. https://www.nytimes.com/interactive/2020/us/new-york-coronavirus-cases.html

symptoms — and you are more likely to have severe symptoms. Children can and do get COVID-19.

- Get tested if you can, whether you have symptoms or not. The data indicates that the best medical practice is that everyone should get tested for COVID-19 using a viral/molecular test so that you will know if you have COVID-19 and can take steps to keep from giving to anyone else — and get treatment if you have severe symptoms (… list here). If you test positive you should contact the health nurse at _____ immediately and (…).[2]

  The type of tests being given have a small chance of showing you positive, when, in fact, you are not. If you test positive you should get retested to confirm the result.

  There is a higher percentage that you will could get a false-negative result. If you have symptoms and test negative, you should be retested.[3]

  Right now, Marcus Daly is only ordering test for people with symptoms. The health department is limited to those who they are contact tracing. The county is sending an urgent request to Governor Bullock for funds to get funds for universal testing in Ravalli County — but it is not in place.

  COSTCO is selling COVID-19 viral tests on-line for $129. Other online tests are available. Make sure they are molecular tests for COVID-19 approved by the FDA If you cannot afford $129, contact _____. There are limited funds.

  Inform us of your test results at (… could actually be an online web page)

- The County will not, at this time, enforce the Governor's mask mandate because of lack of resources and other considerations. The mask order has resulted in unwarranted 911 calls by people turning in others for not following the mask order and there are several reports of people berating employees of businesses who have asked them to enforce it. *Both of these behaviors are inappropriate*.

  The Governor's order does NOT allow for criminal penalties; thus, law enforcement has not been given the authority to enforce the order. Enforcement is a civil matter.

  The Governor has ordered that private enterprises, as well as the government operations, enforce the mask order. If a business chooses to do so, please honor that private property right. If a business chooses not do so, take appropriate precautions. Be respectful to employees trying to make a living all the time.

  There is clear and convincing evidence that COVID-19 can be passed from person to person through airborne means. You will protect yourself and your neighbors if you minimize close

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[2] "Molecular-based Tests for COVID-19," Center for Health Security, John Hopkin Bloomberg School of Public Health, May 2020. https://www.centerforhealthsecurity.org/resources/COVID-19/molecular-based-tests/

[3] {High false negatives 67% when tested with 4 days of onset of symptoms} "False Negatives Found if COVID-19 Testing Done Too Soon," 19 Jun 2020. *Clinical Oncology News*, John Hopkins.

physical interactions — particularly outside your immediate family. The effectiveness of masks depends on the quality of the mask and how you where it. [4]

The data in front of us indicates that a mask certified as N-95 will filter out a high percentage of the COVID-19 virus; Hospital grade masks to some extent; cotton masks do not protect you – but reduce to some extent your chances of infecting someone else.[5]

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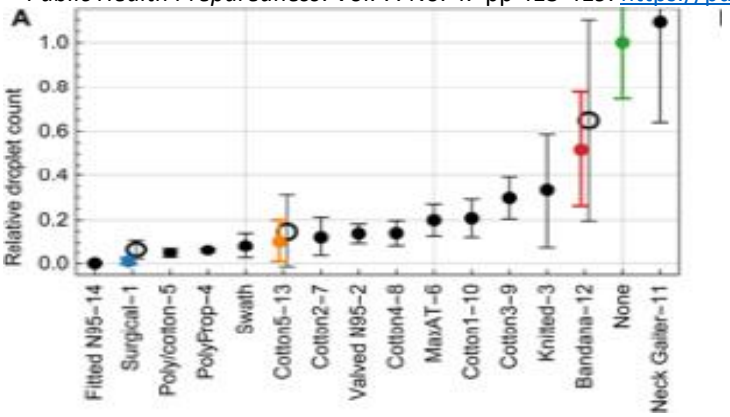
[4] {See Illustration: Mechanics of masks re: Droplets- although this does *NOT MEAN that it is related to virus transmission* which is the the subject of other studies} Fisher, Emma, et. al. "Low-cost measurement of face mask efficacy for filtering expelled droplets during speech," 2 Sep 2020. *Science Advances*, Vol. 6, no. 36. American Association for the Advancement of Science. https://advances.sciencemag.org/content/6/36/eabd3083

{Similar results} Davies, Anna, et. al. "Testing the Efficiency of Homemade Masks," 2013. *Disaster Medicine and Public Health Preparedness*. Vol. 7. No. 4. pp 413-419. https://pubmed.ncbi.nlm.nih.gov/24229526/



[5] I purposely looked for some references that were written before the COVID-19 outbreak to counteract the possibility of large scale institutional bias.

{Patients wearing surgical masks in where a viral disease was present = 56% effective. Also cited by CDC in Scientific Brief below} Dharmadhikari, Ashwin, et. al. "Surgical Face Masks Worn by Patients with Multidrug-Resistant Tuberculosis Impact on Infectivity of Air on a Hospital Ward," *American Journal of Respiratory and Critical Care Medicine*, 31 Jan 2012. https://www.atsjournals.org/doi/abs/10.1164/rccm.201107-1190OC.

{Similar results} Offeddu,, Vittoria, et. al. "Effectiveness of Masks and Respirators Against Respiratory Infections of Health Care Workers: A Systematic Review and Meta-Analysis," 7 Aug 2017. *Clinical Infectious Diseases*, Infectious Disease Society of America. CID 2017:65, pp 1934-42. https://academic.oup.com/cid/article/65/11/1934/4068747

There are a ton of studies on masks. Some are models which have questionable assumptions and some have an apparent bias in drawing conclusions. The effectiveness of high quality masks is supported by the preponderance of what I have read. Effectiveness of cloth masks are questionable. Most studies are in hospital settings – simply because it is easier. Others are infection rates vs policy design to enforce mask mandate which show some positive impact – but the other changes in public behavior other than mask wearing, such as social distancing, modifying where and how often you go are not tracked, but real. This is a small sample}

{This is one the 16 references in the CDC "Scientific Brief: Sars-Cov-2 and Potential Airborne Transmission," 5 Oct 2020 https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-sars-cov-2.html. It is a study of transmission in a Hong Kong apartment complex. The references seem spares compared to the conclusions drawn in the brief, which notes that there is still much to learn. But it seems to represent what is known. It does not deal with masks} Yu, Ignatius, et. al. Evidence of Airborne Transmission of the Severe Acute Respiratory Syndrome Virus," 22 Apr 2020. *New England Journal of Medicine.*

{CDC Study of effective of Cloth masks for health care workers – they are inferior} Chughti, Abrar, et. al, Effectiveness of Cloth Masks for Protection Against Severe Acute Respiratory Syndrome Coronavirus 2," Oct 2020. *Emerging Infectious Diseases*, *26*(10), 1-5. https://dx.doi.org/10.3201/eid2610.200948.

- If Public Health asks you to isolate yourself, it is important that you comply. It is important that you provide contract tracing information. There is strong evidence that this is one of the *most successful* strategies for keeping your family, your neighbors, and our community safe and alive. *We expect your compliance with these requests*.

- **COVID-19 Intervention Strategies and Outcomes**

There are is plenty of literature government mandates and restrictions and its effect on COVID-19. An "Intervention Strategy" is the combination of policies and their timing — and it turns out that "timing is everything" is on the mark in several examples. I picked sample of industrialized countries for comparison.

Some key points from the data. The following are NOT TRUE.

- *Shutdowns and mask mandates are a necessary tradeoff against economic impact.* The data shows that there are industrialized countries that developed a strategy that resulted in many few infections and deaths per capita while *at the same time* suffered much less economic impact than the United States — some with never having had shutdown. The data also shows that countries that did not do a shutdown, but did too little to slow the progress of the disease, suffered a significant economic impact anyway. See discussion below.
- *The best medical advice is to get tested for COVID-19 if you are symptomatic or had contact with someone with COVID-19*.[6] The true statement is: "We recommend everyone get tested so that you and your community will know how to control and mitigate its spread. If you have flu-like symptoms or have had contract with someone who has tested positive for COVID-19, you should be first in line."
- *Mask mandates for the public using any material have been proven to work.* In hospital settings medical grade masks have worked against various viruses including COVID-19. The jury is still out because of the difficulty of actually measuring the effective of masks in public spaces, given all of the other factors.[7]

{Survey of available evidence for COVID-19 and face masks – indicates a 1 percent decline in case rate for the first week rising to 3% by three weeks – note the issue with measuring results with cases per tests, were the testing regime and rules are a factor that is not really accounted for} Lye, Wei and George L. Wehby, Community Use Of Face Masks And COVID-19: Evidence From A Natural Experiment Of State Mandates In The US," 16 Jun 2020. *Health Affairs*, Vol. 39, no. 8. https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2020.00818
{Suggests the length of time for crowed events is important} Miller, Shelly, et. al. "Transmission of SARS-CoV-2 by inhalation of respiratory aerosol in the Skagit Valley Chorale superspreading event," 26 Sep 2020. *International Journal of Indoor Air and Health.*

[6] The CDC's guidelines have generally been adopted as policy – including in Ravalli County. But this is triage rationing – and misleading.
The CDC made a mistake in developing a test back in Feb and Mar – and instead of buying available kits from WHO and other countries, made Americans wait – and, to this day

[7] {This review of government policies and time versus mortality rate used a multivariant statistical analysis with 200 countries involves a number of assumptions and numerical weighting of government policies – it claims travel

The data indicates that there is 3% or so reduction in cases per week, but the reduction could be many other factors. However, the importance of limiting "sharing air" for too long, with too many people is critical — by whatever means.

- The number of positive cases reported in the news is directly related to the number of people who are actually infected. The positive cases reported are related to the rules for testing, the percentage of people getting tests, and other factors, as well as the percentage of the people actually infected.

Strategies that work; and those that don't

The Prepared

South Korea is densely populated, industrialized county with a population 1/6 that of the United States**. Taiwan** an industrialized nation with a population a few million more souls than Florida, but packed into an area 1/5 the size.

As nations, they had learned from their mistakes during the SARS outbreak in 2003. The systems were ready, the tools in place. When news spilled across the boarders of China from the Wuhan district of a novel infection, in December they:

Timing was everything. Both nations cut of travel to Wuhan quickly, in late December 2019 on the day China reported a cluster of a novel disease. They imposed quarantine protocols for flights from Wuhan — including their own citizens. Testing, in large amounts came quickly by mid-January.

Both used "big data" from unified health data bases and immigration to track infections. Taiwan proactively sought people who were at risk based on location, clinical visits, and location.[8]

Korea: "The nation fast-tracked approval of domestic testing kits as soon as cases began hitting. It tapped into its relative wealth and hyperconnectivity, blasting text alerts to citizens if infections occurred in their area. When the supply of face masks ran short early on in the crisis, the government seized production.

At twice-a-day briefings, health officials express worry when they can only trace the origins of three-quarters of confirmed cases. Virus experts stand at the podium of government briefings and frequently warn of looming catastrophe. Nearly everyone in the country wears masks.

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restrictions and mask wearing – including compliance levels make reduce mortality} Leffler, Christopher, et. al, "Association of county-wide coronavirus mortality with demographics, test, lockdowns, and public wearing of masks," 4 Aug 2020. *MedRxiv*. BMJ Yale. (not peer reviewed).
https://www.medrxiv.org/content/10.1101/2020.05.22.20109231v5

[8] Wang, C. Jason, et. al. "Response to COVID-19 in Taiwan, Big Data Analytics, New Technology, and Proactive Testing," 3 Mar 2020. Journal of the American Medical Association (JAMA).
https://jamanetwork.com/journals/jama/fullarticle/2762689

Every confirmed patient, even those with no or mild symptoms, gets isolated at hospitals or converted dormitories run by the government. Treatment is free."[9]

No shutdown but tracking entry to key businesses required. Some events, such a sports and concerts were shut down. The reminder of the economies stayed open. A QR scan sign in for high risk businesses.

The quick

Denmark mitigated the impact of COVID-19 by shutting down key businesses (schools and restaurants quickly, two weeks after their first case, on March 11, imposing travel bans — faster than other countries in Europe. Other than that, testing was limited similar to the United States, and contract tracing was similar as well.[10]

The Slow

United States

The first case in the United States was recorded on January 19 for a patient in Washington who had come fro Wuhan, had symptoms, and reported to a clinic having seen the warnings. He was confirmed by a test run at the CDC.[11] Travel restrictions imposed for non-US Citizens from China in February.

However, New York outbreak that began on March 1 was traced to Europe. The medical system was overwhelmed, testing limited, personal protective equipment and medical equipment inadequate. Over 11,000 people who still had the disease were discharged from areas hospitals to make room for other.[12]

The CDC's attempt at a test kit failed due to contamination. They received the genetic sequence from China on Jan 10, like the rest of the world. In early February, CDC distributed 90 test kits (WHO had distributed a quarter million by this time and were available to the CDC if they had

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[9] Marin, Timothy W. and Dasl Yoon, *Wall Street Journal*. 25 Sep 2020. https://www.wsj.com/articles/lessons-from-south-korea-on-how-to-manage-covid-11601044329 (need subscription).

"Contacts in high-risk groups (household contacts of COVID-19 patients, healthcare personnel) were routinely tested; in non–high-risk groups, only symptomatic persons were tested. Non–high-risk asymptomatic contacts had to self-quarantine for 14 days and were placed under twice-daily active surveillance by public health workers." (Park, Young Joon, et. al. "Contact Tracing during Coronavirus Disease Outbreak, South Korea, 2020," Oct 2020. *Emerging Infectious Diseases*, CDC. https://wwwnc.cdc.gov/eid/article/26/10/20-1315_article)

[10] Olagnier D, Mogensen TH. "The Covid-19 pandemic in Denmark: Big lessons from a small country," Jun 2020. *Cytokine Growth Factor Rev*. 2020;53:10-12. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7217796/

[11] Holshue, Michelle, et. al. "First Case of 2019 Novel Coronavirus in the United States," 5 Mar 2020, New England Journal of Medicine, 382, pp 929-936. https://www.nejm.org/doi/full/10.1056/NEJMoa2001191#article_citing_articles

[12] Ramachandran, Shalina, et. al. "How New York's Coronavirus Response Made the Pandemic Worse," 11 Jun 2020, *Wall Street Journal.* https://www.wsj.com/articles/how-new-yorks-coronavirus-response-made-the-pandemic-worse-11591908426 (no subscription needed to read this article).

engaged WHO). Other private and university labs began work – but states were warned not to use unapproved test kits. When the kits arrived at state labs they didn't work. By Feb 26, CDC announced a work around. Feb 29, CDC allows hospitals to develop their own tests.[13]

COVID-19 testing continued to be rationed through September in nearly every state – for people with symptoms and who had close contract, even though it is well known that people without symptoms can be carriers. Online sales slowly began for viral tests, and, recently, are available from COSTCO.

Contract tracing was done in nearly all of the United States, but any place that had a spike in cases had to mitigate their efforts and declare it a community acquired infection.

Different states had different responses, but nearly all states had some sort of hard shutdown of businesses by March and April and interstate travel restrictions.[14] Phased reopening began in late April through May – with a second wave now leading to some reclosures.[15]

Montana – not so slow but may be overdone

Montana got its first test kits on March 6. The Governor declared a state of Emergency on March 10. The first COVID-19 case was announced a week after receiving the kits – which continued to be limited. Schools were closed on March 15, Bars and Restaurants on March 20; stay at home on March 26 with a non-essential business shuttered; interstate travel restrictions on March 30. A phased reopening began in late April and was essentially completed by the end of May. Generally, Ravalli County abided by these orders.[16]

This was followed by a mask directive was issued in Mid-July for the state. In Ravalli County, different business responded differently – it is essentially voluntary in the county,

The Party-On

Sweden

Sweden never had a shutdown — social distancing was voluntary — the government discouraged masks. In many districts people who are infected are expected to notify their contacts themselves. Only symptomatic people were quarantined at home.[17] Sweden is having

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[13] "What we know about delays in coronavirus testing," 18 Apr 2020. *Washington Post*, https://www.washingtonpost.com/investigations/2020/04/18/timeline-coronavirus-testing/?arc404=true

[14] 'U.S. state and local government responses to the COVID-19 pandemic," Wikipedia. https://en.wikipedia.org/wiki/U.S._state_and_local_government_responses_to_the_COVID-19_pandemic

[15] "See How All 50 States Are Reopening (and Closing Again)", 28 Oct 2020 (updated routinely). *New York Times*. https://www.nytimes.com/interactive/2020/us/states-reopen-map-coronavirus.html

[16] https://covid19.mt.gov/joint-information-center

[17] Vogel, Gretchen. "'It's been so, so surreal.' Critics of Sweden's lax pandemic policies face fierce backlash," 6 Oct 2020. *Science Magazine. https://www.sciencemag.org/news/2020/10/it-s-been-so-so-surreal-critics-sweden-s-lax-pandemic-policies-face-fierce-backlash*

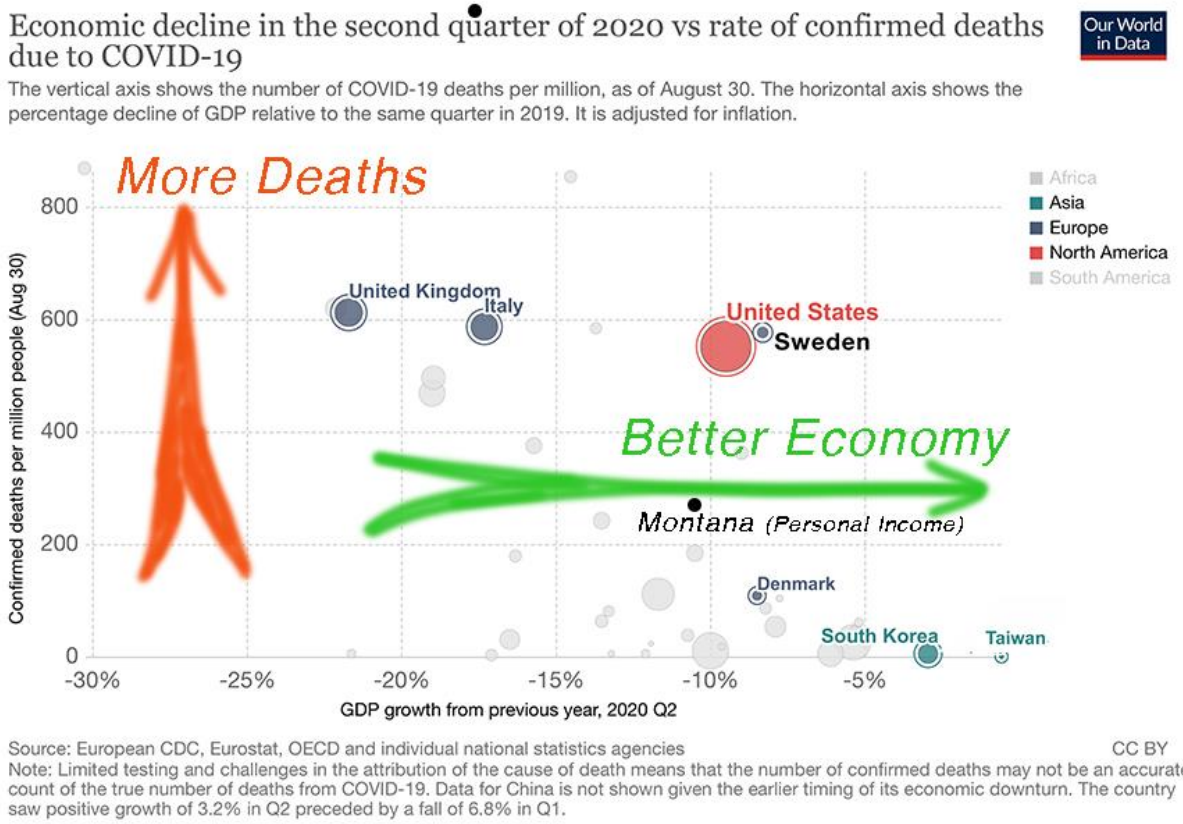
an uptick in cases and has put in place more "rapid large-scale and contract tracing so as to identify and suppress outbreaks early."[18]

Now comes the counterintuitive part

Both the medical and economic results for the United States and Sweden are the same. Deaths per capita are almost the same — as is the economic impact. The United States agonizing, confused, slow, politicized response, imposing restrictions on life has pretty much the same result, so far, as party-on — both having high death rates and significant economic impacts.

Timing was everything – countries who acted very fast and focused on the right intervention fared much, much better — but to get to 1/100 for the fatality rate, and 1/10th the economic impact – they did not shut down like America – but did personal tracing and quarantine at levels that may be unacceptable in America.

The results so far.[19]



Regards,

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[18] "Sweden and Covid-19: Land of the Mask Free," 10 Oct 2020. *The Economist*, p 15.

[19] University of Oxford, Our World in Data. https://ourworldindata.org/coronavirus-data