



COVID19 GLOBAL FAILURE AND REMEDY

by
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Public Health Failure: Science

Severe Acute Respiratory Syndrome, otherwise known as SARS, originated in China in 2002 and quickly spread to other countries causing 8,098 infections and 774 deaths. This sickness was caused by the SARS CoV coronavirus, which is usually found in small mammals but tragically the virus mutated and infected humans. SARS epidemics was controlled in July 2003 through ancient and classical methods of isolating people suspected of having the infection and screening for signs of it in all passengers travelling by air from affected countries. Another smaller SARS outbreak linked to an error in a medical laboratory in China was controlled the same way in 2004. Since that time there was no other SARS outbreak and this apparently put the health authorities in sleep mode.

In 2007, in a scientific article entitled “Severe Acute Respiratory Syndrome Coronavirus as an Agent of Emerging and Reemerging Infection” published in the “Clinical Biology Reviews” a Journal American Society of Microbiology (Vol. 20, No. 4, p 660-694), it was concluded that the emergence of the SARS-CoV-like viruses is a time bomb that will explode soon. In the article the authors Vincent C.C. Cheng, Susanna K.P Lau, Patrick C.Y. Woo and Kwok Yung Yuen conclude: “the possibility of the re-emergence of SARS and other novel viruses from animals or laboratories and therefore the need for preparedness should not be ignored”. This warning and other similar ones in other journals was apparently ignored by public health officials in all countries. Fast forward thirteen years there is no life-saving treatment or vaccine against SARS. In 2020, the world was caught off-guard by COVID-19, the disease that is caused by the coronavirus SARS-CoV2, a virus of the same family as SARS-CoV.

Both COVID-19 and SARS share the same symptoms and their originating respective coronavirus have similar spreading mechanisms. They have similar incubation period (usually 2-7 days for SARS but 10 days is also possible and 7-14 days for Covid19). Both COVID-19 and SARS are riskier for people above the age of 65 and/or people with compromised immune systems.

This was the first failure of the Public Health System: If during these 17 years enough importance and funding would have been given to develop a cure or even a vaccine for SARS in case it would reappear, as it was forecasted, a similar cure or a vaccine for Covid19 would have been in principle much easier to develop with a successful experience related to SARS.

Public Health Failure: Prevention

Despite experience with SARS and other subsequent outbreaks, public health officials grossly mismanaged the Covid19 outbreak. While China and South Korea were battling the virus for about two months, the public health officials in the rest of the world made negligible preparations. No scientific analysis of the data coming from China and South Korea were properly done and no specific model was created for their own country. The role of public health officials is to prevent and not only to react. These officials were not doing their job properly and everyone ended up reacting too late and in emergency mode only when the first deaths occurred. Many health officials were giving advice on hand-washing and social-distancing which is fine and necessary. However, their main role is to prevent or in not possible to mitigate the pandemic and its consequences, which is something they did not do. No country had specific prediction curves for their specific conditions and for their hospitals' capacities. Public health officials were repeatedly referring to a theoretical qualitative simulation of a journalist from Washington Post. This simulation, although qualitatively excellent for educational purposes, was done at general global conditions which did not include the characteristics of Covid19. For example, that model considered that all infections needed high-care hospital treatment while it is known that more than 90% of people infected by Covid19 do not need this. Hundreds of times public health officials have mentioned the expression "flattening the curve" but no predictive curves were available for specific countries. We repeatedly requested public health officials to make these curves public if they had them and none was ready! After our public social media request, some politicians like US President Donald Trump asked his health officers to come up with these curves and to analyse the specific data. In fact, it should have been the other way around – the health officials should have provided the US President the curves and data analysis before he asked for them and before the start of the crisis in order for him to make the right decisions. Also, as a result of our request, the Prime Minister of Canada, Justin Trudeau, just announced today in his press conference that the Canadian health officials are ready to make some curves public. Health officials should know that this is in fact too late. Furthermore, some public health officials at the moment, when the first couple of deaths occurred, jumped by saying that this is the critical point to flatten the curve. Within a day, the critical point was knocking at our door and they had not noticed it before! This was the second failure of Public Health Systems around the world: reacting too late in emergency mode and not applying any predictive measurements.

Public Health Failure: Management

Having ignored the science warning since 2007 and having not planned preventative actions when the outbreak started to show up and the first deaths occurred, most of the governments found themselves in front of a sudden disaster. The public health officials had not properly advised

them on a predicted number of the infected persons that would have needed serious hospital treatment in the worst scenario of the virus outbreak and how this compared to available hospital bed capacity and equipment needed. They had not developed prevention plans as explained above and were only improvising as the emergency spiralled out of control. Some governments, such as in Italy, were so badly prepared because the virus was first considered a simple flu and second, they had no proper warning from their health officials on the seriousness of the situation. Furthermore, in Italy, hospitals were locally managed and did not have central coordination and this situation could not have been fixed at the last emergency moment because of the lack of proper preventive actions of public health officials. At a time when China and Korea were battling the virus for about two months, the lack of preparation of public health officials was striking!

Under this total lack of prevention, preparation and analysis based on the experience of China, South Korea, Taiwan and Singapore, the easiest suggestion to give to governments was total lockdown, isolation and/or curfew of the entire population. It should be noted that the advice of the public health officials has also not been consistent and was changing frequently, and the government decisions were, as a result, also changing frequently. This was because of the lack of proper preparation, lack of predictive models and the philosophy of the public health officials to react and only react as the situation developed. However, the Covid19 was much wiser this time. It had an incubation period of 14 days and people were infecting each other without having any symptoms. Public health officials seemed to be 3 steps behind the virus. In the lack of predictive and preventative measures, no attention was given by public health officials to the data coming from China. Faced for the first time with a completely unknown virus, China had the only option to use a total curfew. However, from China's experience, important useful information came out: The only group of people that were at serious life risk were mainly senior citizens and those of any age with underlining chronic diseases which constituted about 3-4% of the population. South Korea, Taiwan and Singapore which were the first to use this valuable information to predict and prevent spread did not apply any total isolation/lockdown/quarantine/curfew. They did numerous tests and were able to track infections to people using phone whereabouts options and quarantining the infected people and those that were possibly infected. When health officials are unprepared, the easiest way to suggest to the government is a total lockdown. Many European countries were shut down under these recommendations and they also closed the borders between EU participating states. Having similar health systems, these EU countries, instead of agreeing on a common procedure at the height of the unpreparedness and emergency, showed distrust towards each other and closed the borders. This scenario was passed to Canada, USA and other countries in Central and South America. Any voice for a different approach similar to South Korea, Taiwan and Singapore was considered naïve. The public health officials' advice was changing frequently and since not all of them agreed on a single procedure, various options have been suggested. The longest lockdown suggested by these health officials as a possible scenario, being planned as a possibility, was 18 months long despite the fact that the incubation time of the Covid19 is just 2 weeks. Furthermore, being unprepared, public health officials could not think

clearly on the economic downfall of a long total shutdown of society and the government were left alone to figure this out since at the end of the day this is also their responsibility.

Due to the total shutdown of society a huge economic damage is being inflicted on the economy and people's every day life . The deep recession is already secured and economists agree on the repeat of the depression of 1929 and it is very near. As this article was being written, it was announced that Canadian layoffs reached Great Depression levels in just 4 days! When deep recessions and depressions take place, they become a serious public health problem since there is huge unemployment, mental health degradation, possible violence, etc. A good economy considerably affects the health of population and if a poor economy deteriorates the health of population, this directly becomes a public health issue.

This was the third global failure of public health systems: the destruction of economy.

Public Health Failure: Remedy

As this article is being written the corona virus is in full mode around the world and the majority of countries are under timely undefined or unknown isolations, lockdowns, quarantines, curfews, etc. As a result, a reasonable solution is needed.

Normally, a total lockdown/quarantine of the entire society is a measure from ancient history that is not needed or necessary in the modern world. This is possible only if the public health officials do the work properly with scientific prevention and management. This was also proven recently by South Korea, Taiwan and Singapore. Unfortunately, in the current health virus crisis, the tools used by public health officials of many other countries were the ancient tools of only reacting to the situation as it develops and, as a result, ancient measures were used: total lockdown/quarantines. These measures have created unprecedented damage to the economy of the world that risks being worse than the latest world economic depression of 1929. If these measures continue as they are being applied now and with no end in sight, they will create more harm compared to what they are trying to avoid. The public health damage will be bigger due to economic depression with a higher number of life lost (suicide, mental health, violence etc.) compared to the human life these measures are trying to save amongst the 5% of the population who is at high risk because of the Corona Virus.

Short-term

In the current situation when health officials reacted very late and lockdowns have already started, a short-term solution is proposed by the author on March 15, 2020:

- A total lock down of the society for about 2 to 4 weeks since the incubation period of Covid19 is two weeks. Depending on the efficiency of lock down a shorter or longer might be needed. This will avoid excess hospitalisation numbers and prevent the overflow the

hospital maximum capacities. However, a much longer period than that would create serious economic recession or depression.

- Large immediate, upfront financial help to all companies and individuals for the period of about 2-4 weeks without segregating between companies and individuals for their status and keeping the economy at almost the same level.
- After this 4-weeks period, the portion of the population that is not at risk (a minimum 85-90%) returns to work while practicing strict proper hygiene and social distancing at any time.
- The other portion that is at risk, the seniors of over 65 years and people of all age with underlining chronic health conditions (maximum 10-15%) be safeguarded, isolated from the virus and the other part of the population and this for as limited time until a cure or vaccine is found by scientists. During this time good financial assistance, free services, food and living conditions should be provided.

As this article was being written, Sergei Sobyenin, the mayor of Moscow, the biggest city in Russia with about 13 million inhabitants, publicly announced that from tomorrow March 26 to April 16 (about 3 weeks) a quarantine will be established only for people over 65 years of age and those suffering from chronic diseases (diabetes mellitus, bronchial asthma, chronic kidney disease, cancer, as well as those who have had a heart attack or stroke). The city will compensate them financially during this time and will be canceling all late fees for phones and internet as well as any penalty and fine for housing and communal services. The city has set up a telephone number for them to order for free food, medicine and for any domestic problems. All the others parts of the society will continue to work keeping the hygiene and social distancing and thus avoiding an economic meltdown that may be created by an otherwise unnecessary extended 100% lockdown. This is exactly what the author of this article had suggested on March 15, 2020 with the exception that Moscow is skipping the first point and are not applying a 100% lockdown. As mentioned above, this may be possible if health officials act early in a predictive mode and not late in a reactive mode.

Besides a short-term solution, a long-term solution is needed to prevent the repeat of this global public health failure. The following simultaneous actions are proposed to achieve this.

Long Term

- The government, the political class, the bureaucracy, the public health officers as well as the society in general should not ignore at any cost the science and its warnings. It is not enough to claim that the decisions are based in science. Science has to be heavily supported in practice otherwise it would be just like paying lip service to it.
- Public health officials and government should treat any similar crisis with a predictive management strategy and never with a belated reactive one that tends to cause more problems than solutions.

- The government and society should heavily invest in science and technology through grants and tax credits and this equally in universities and private companies which bring give life to science through applied research.
- The government should pay much higher salaries to scientists, researchers, engineers' doctors and nurses to the extent that they have the highest salaries amongst all professions.
- The society should respect scientists and researchers, engineers, doctors and nurses. The safety and development of the world depends on them.

The current situation is a paradox. In the words of a Spanish biochemist caught in the middle of Corona Virus havoc in Spain, we live in a society where biochemical researchers are paid 1800 Euros per month while football players are paid 1 million Euros a month. As such, she suggested, we should ask Cristiano Ronaldo or Messi to find a cure or vaccine for Covid19!

A sustainable future world for young generations demands dramatic and immediate changes now in favor of science.

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