PERSPECTIVES

Sustainable Post Covid19 Lockdown Strategy Through Evidence-Based Policy: Analysis of Covid19 Fatalities Across Europe

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ABSTRACT

The Covid19 epidemic is having much larger fatalities in western Europe than everywhere else in the world. However, the greater peak daily fatalities have been 10 to 20 times less than the models' predictions and similarly occurred after half the time predicted by the models. Similar patterns of the outbreak have been achieved regardless of diversity in the containment measures. Thanks to a strict, generalized, lockdown, the United Kingdom, or Belgium, had after about the same number of days, much larger peak daily fatalities per million that countries adopting more sustainable approaches such as the Netherlands or Sweden. In the Netherlands, social distancing is suggested but not forced through an "intelligent lockdown". In Sweden, there is simply no lockdown. It is now evident that Covid19 is much less contagious and lethal than what was thought, and if care is taken of the risk categories, but basic freedom is not removed restricting every movement of the healthy population damaging democracy and economy, it is possible to achieve better results. With fatalities uniformly declining across Europe, it is therefore advocated to return the sooner the better as before the lockdown period, with full compliance with preventive health instructions and social divergence, and care to protect the highest-risk groups from infection, especially for the elderly and those with chronic and respiratory diseases.

BACKGROUND

The fatality rate of Covid19, when the asymptomatic and mild are included, is likely 0.12 to 0.20% of the infected, as shown for example in [1]. This is certainly higher than the normal flu at 0.095 [2], but one order of magnitude less than what is still pictured by the mainstream media. Same as the normal flu, Covid19 is dangerous especially for people with immune systems compromised [3], [4]. The fatalities are almost entirely within the risk categories, for age or comorbidities [3], [4]. Those healthy, apart from very few exceptions, do not get infected even if challenged with the Covid19 virus, or are mild or asymptomatic if infected.

Having a healthy immune system achieved through a healthy lifestyle, including regular exercise and healthy food intake plus supplements, makes a difference also for Covid19. Onboard the Charles De Gaulle aircraft carrier [5] there were almost 2,000 healthy people.

Only 1,081 got infected despite all those on board who were challenged. With mostly common quarters and small common working areas, there was no way to enforce distancing on board. Of the1,081 healthy people, only 24 ended up in a hospital, the others being asymptomatic or mild, with only 1 reported in need of intensive care [5]. As per April 29, 2020 [6], after 9 days, only 5 members of the crew were still hospitalized.

It is now evident that Covid19 is much less contagious and lethal than what was thought. After 3 months from the outbreak in western Europe, it is, therefore, time to analyze the fatality rate of Covid19 infection across the region and draw conclusions on the efficacy of the different measures adopted in the different countries sharing similar conditions for the political system, wealth, demography, and population density. This analysis will also indicate the exit from lockdown strategy in those countries that adopted more severe measures.

METHOD

The data of fatalities attributed to Covid19 of different countries from the European CDC are presented as daily fatalities or total fatalities per million people vs. the time since the outbreak. Limited data for excess or total mortality from the United States CDC is also considered for the United States only to understand the reliability of the fatality data. Other information such as the number of infected is not considered of adequate quality, as it is biased by the different testing procedures and the different number of tests performed across the countries or the states. As per today, there is no reliable estimation of the total number of people challenged by the virus, of those that have been immune, and of those that have been asymptomatic or mild. Thus, the number of fatalities is the best indicator of the efficiency of the containment policies between countries of similar geopolitical, social, and demographic conditions.

COVID19 FATALITIES

The Covid19 infection across Europe is showing a very close pattern of fatalities despite large differences in between the restrictions. Figure 1.a presents the Covid19 daily number of deaths per million vs. days since daily confirmed deaths reached 0.1 per million. The peak daily number of deaths per millions of Belgium, France, Italy, and the United Kingdom is well above those of Sweden and the Netherlands. Figure 1.b presents the cumulative Covid19 number of deaths per million vs. days since daily confirmed deaths reached 0.1 per million. The curve for Belgium, France, Italy, or the United Kingdom is above the curve for Sweden or the Netherlands. The curve for the United States is also shown. It is below the curve of the above mentioned European countries. Also, the United States partially followed the path of the western European countries, however with a much more conflictual situation between policymakers. The curve for South Korea is also shown. The fatalities of South Korea, which also did not impose any lockdown, and did not remove any basic freedom, are well below those of the European countries and the United States.

Figure 1.c presents the geographical distribution of the number of deaths across the world. In some cases, as discussed later, for example, Italy, or the United States, the number of Covid19 deaths may include fatalities for other pathologies. Other countries may certainly have underrated fatalities. Apart from these details, it is evident as western Europe is the epicenter of the Covid19 fatalities. If a larger number of deaths is considered an indicator of poor policies, as suggested in [7] or [8] when criticizing the president of Brazil, the larger number of deaths per million people is a much better indicator (countries with a larger population are expected to have a larger number of deaths). Thus, Figure 1.c synthetically exposes how policies adopted in London or Brussels are worse than those adopted in Brasilia. If we exclude San Marino, a small state enclave within Italy of total population 33,785 that has a cumulative Covid19 fatality of 1,208 per million, the worst-performing country in the world is Belgium, with other neighboring western Europe countries such as the United Kingdom, Spain, Italy, or France also featuring very poor performances in the containment measures. Belgium has 803, Spain 576, the United Kingdom and Italy 544, and France 436 deaths per million. All these countries imposed harsh distancing measures infringing on basic freedoms and damaging economies and society. Nearby countries with a more reasonable approach and much less

severe distancing measures such as the Netherlands or Sweden did much better, with 340 and 399 deaths per million respectively.

As [7] or [8] criticized the president of Brazil for the Covid19 fatalities in that specific country, it must be noted as, within Latin America, the outbreak of Covid19 is generally having a pattern different from western Europe, with much slower growth of fatalities, in Brazil and elsewhere. Figure 1.d and 1.e present the Covid19 daily number of deaths per million vs. days since daily confirmed deaths reached 0.1 per million, and the cumulative Covid19 number of deaths per million vs. days since daily confirmed deaths reached 0.1 per million, for the five states of central South America, namely Brazil, Peru, Ecuador, Colombia, and Bolivia. Brazil has 110 deaths per million, the same as Peru. While Colombia and Bolivia have much less, Ecuador has 174. Brazil and Peru have an almost identical pattern of outbreak. All these nations have a very different pattern of the outbreak than Europe, with a curve still far from being flattened, and further evolutions still impossible to forecast. However, Brazil is not having the worst outbreak in the world or even in central South America.

POLICY IMPLICATIONS

The impression from the data is that without the interference of the mainstream media, responsible for the most severe lockdowns, there would have been the opportunity to save lives as well as to save the economy and democracy. As it is impractical to think about maintaining harsh distancing until a working vaccine for Covid19 is available, sustainable measures must be developed, with or without the approval by the mainstream media.

Mainstream media has not noticed yet as the measures enforced in Brussels or London, Madrid or Rome, have caused more deaths while also damaging more the society, than in any other country of the world. Mainstream media has not noticed yet that different policies across Europe have produced about the same results, actually even worse results where harsher measurements were enforced. Mainstream media has not yet commented positively on the case of the Charles de Gaulle aircraft carrier. Mainstream media has not noticed yet that the simulations that drove the world to lockdown [9] are openly wrong.

[9] predicted 210 daily deaths per million in the United Kingdom and 170 daily deaths per million in the United States after two months from the outbreak if severe restrictions were not applied. Every country is doing much better than that, sometimes also with only mild restriction policies, with most of the western European countries flattening the curve of daily deaths after about a month, less than one half of the predicted time, at 20 times less the predicted peak values, well below 10 daily deaths per million.

Health policy should have not been driven by the results of a simple compartmental model such as [10], that is not that far from the 3 ordinary differential equations Kermack & McKendrick SIR (susceptible, infected, recovered) model of 1927 [11], also run with wrong parameters. The model parameters have never been revised since early March, no matter the growing mismatch between the virtual and real world. Theoretical epidemiology is pointless without experimental confirmation. Real science is a dialogue with nature, not a monologue, as some theoretical epidemiologists would prefer to believe [13]. While it may happen to overrate the model parameters at the start of an

epidemic when everything is almost unknown, it is not acceptable to refuse to revise the model parameters when novel evidence emerges.

Only common sense or "intelligent lockdown" have produced in Sweden or the Netherlands peak daily death rates per million well below 10 after less than 30 days. In Belgium, the peak daily death rate was almost 29, and in the United Kingdom almost 14. Thanks to a strategy supposed to be better [12] than the one adopted in the Netherlands or Sweden, the United Kingdom has achieved a peak of daily death rates per million of 13.89 after 29 days that is much large than the number for Sweden or the Netherlands.

Figures 1.a to 1.c suggest that the measures enforced in the United Kingdom or Belgium if "led by the science", are certainly not led by the best science. These figures also highlight the role of mainstream media in driving wrong Covid19 responses. The only epidemiological science is the one based on real-world evidence. According to this evidence, within Europe, Sweden or the Netherlands appears to have followed better epidemiological science than Belgium, Spain, the United Kingdom, Italy, or France. The current generalized lockdown is only costing more lives [14] and damaging economies. The sooner it is replaced by more sustainable measures the better.

RELIABILITY OF THE COVID19 FATALITY ESTIMATIONS

The numbers of fatalities we are considering are controversial. Apart from the extra death toll caused by panicking, or the poor state of the health system, or the collapse in the care of the elderly in nurses' homes, or the use of inappropriate therapeutic choices (for example the use of ventilators as the only therapy has been in many cases counterproductive), the recorded numbers of Covid19 fatalities may also include fatalities that are not Covid19.

The United States CDC's National Vital Statistics Service has issued explicit instructions with written: "*It is important to emphasize that Coronavirus Disease 19, or Covid-19, should be reported for all decedents where the disease caused or is presumed to have caused or contributed to death.*" This has potentially inflated the Covid19 mortality rate in the United States. A similar approach of default death "cause Covid19" was also used in some of the European countries, for example, Italy, where certainty in the cause of many deaths attributed to Covid19 is missing.

While attention has been focused on the percentage of deaths attributed to Covid19, it is important to concentrate also on another aspect, the total number of deaths. Unfortunately, the excess mortality is generally not covered in databases with only a few exceptions. This information on excess death, the same as the information about those immune or infected only mild or asymptomatic, is generally missing. International organizations are publishing databases on Covid19 cases and fatalities, but do not publish an international database on excess mortality. This missing information is a major problem in placing the Covid19 epidemic in the correct perspective and understand herd immunity.

One of the few examples of excess mortality data is in the United States CDC NCHS Mortality Surveillance Data available from the United States CDC [15], [16], [17], [18], [19]. These data include Covid19 deaths as well as the total number of deaths for the United States. The mortality above normal in the population at large is a way to indirectly measure the real fatality rate of Covid19 in the short term. In the longer term, especially if severe lockdown measures are kept in place, mortality well above normal may result from suicides, poverty, or lack of treatment for many other pathologies.

Figure 1.f presents the number of Total Deaths and Pneumonia, Influenza, or Covid19 Deaths. The total number of deaths in the United States was first reducing rather than increasing during the Covid19 outbreak in the data provided on 17 April 2020. The CDC graphs in [15-19] were only focused on the growing percentage of deaths attributed to Pneumonia, Influenza, or Covid19, and the supporting data were only proposed as tabled values. The reduction of the total number of deaths emerging from the supporting table published April 17, 2020, was unnoticed by the CDC but noticed by volunteers. A reduction in the total number of deaths could have been the consequence of the reduced incidence of some other causes of deaths because of the containment measures, but also a proof of the erroneous attribution to Pneumonia, Influenza, or Covid19 of deaths very likely due to other causes. Deaths for cancer or heart attack or simply age do not stop with Covid19. After the reducing total number of deaths in the United States during the Covid19 pandemic was noticed, the CDC drastically started to revise the numbers. Every week, the number of total fatalities has been revised going back to the first week of January, to reshape completely the pattern. In the data published 14 May 2020, the latest here considered, there is now a dramatic growth in total fatalities in Week 15 replacing the dramatic decline in the 17 April 2020 version, with the start of a reduction in the mortality shifted weeks after. The data in blue up to the Week Ending April 11, 2020 (Week 15) were published April 17, 2020. The data in red for the Week Ending May 9, 2020 (Week 19) were published on May 14, 2020. Intermediate data are also shown. All the data published are updated to the week before the publication date. These inaccuracies in need of continuous updates going back in time up to 4 ½ months are not a concern for the mainstream media.

According to the United States CDC [20], in 2018, the last year on record, the total number of registered deaths in the United States was 2,839,205. This is 25,702 more deaths than in 2017. The annual increment in the number of deaths was 0.91%. According to census.gov [21], in December 2019, the U.S. population was estimated at 328.2 million. This is 0.48% up since 2018. Growth has slowed every year since 2015 when the annual increment of the population was 0.73%, but it is still present. The 2,839,205 deaths of 2018 correspond to an average of about 54,600 deaths per week. If we consider an annual increment of 0.91% since 2018, the expected average number of deaths per week of 2020 is about 55,600. From Figure 1.f, the total number of deaths was reduced because of Covid19 in the April 17, 2020 description. The weakly total mortality peaked at 59,151 on Week 2 of 2020 and it was declining since then. Apart from the oscillation up in Week 13, with 52,569 deaths vs. the 51,785 deaths of Week 12, then the weakly number of deaths dropped to 49,770 in Week 13, and 28,174 in Week 14. Because of Covid19, the mortality was thus reducing, rather than increasing. In the May 14, 2020, revision, the decrease in mortality has disappeared, or better, it has been shifted weeks after. In week 15, there is now a difference between one estimation and the other of 43,896 deaths.

The instability of the curve and the extent of the weekly corrections going back to the beginning of this year are indicators of poor reliability of the database.

Unfortunately, the data presented in Figure 1.f do not help understanding if the reported fatalities for the United States in Figure 1.a and 1.b are correct estimates.

DISCUSSION

Apart from having pictured the pandemic much worse than what it is, and supported the introduction of harsh restrictions, that have produced no benefit for the containment of Covid19 fatalities, the mainstream media has also criticized every therapeutic approach to Covid19, from CQ or HCQ to intravenous Vitamin C. Worth to note is also the singular position by the mainstream media that herd immunity is impossible through having people infected and recovered, but possible through vaccination. The preconceptions towards therapies and vaccines are thus here discussed.

The use of CQ/HCQ, even if questioned in some studies such as [22] biased by a conflict of interest, is supported by many other independent studies. The retrospective study [22] has immediately been employed to call for an end to the use of CQ or HCQ for Covid19 infection [23]. Apart from being methodologically flawed, the study [22] is also limited to severe Covid19 cases. Thus, it should not impact at all on the best uses of CQ/HCQ that are prophylaxis, and mild or medium severity cases. The study [22] is in contrast with earlier studies that observed benefits in using CQ/HCQ against viral infections in general, and Covid19 infection in particular, [24] to [43] naming a few, that are ignored by the mainstream media. The study [22] is not a double-blinded, controlled study where patients had the option of CQ, HCQ, or placebo. It is a retrospective study carefully choosing the patients to consider as CQ or HCQ with or without a macrolide or control. No information is given if parameters relevant for CQ/HCQ administration (for example zinc or vitamin C or D) were monitored and controlled, or if the guidelines for using CQ/HCQ, contraindication to use or use simultaneously with other medications, were followed. The use of CQ/HCQ or other therapies, same as intelligent lockdowns, or simply lockdown only of the vulnerable, has been criticized also by the high impact peer review [54], [55]. The flawed retrospective study [22], has been already immediately employed to call for an end to the use of CQ/HCQ for Covid19 infection [23] by the World Health Organization (WHO).

Regarding the conflicts of interests, according to [44] we should not be worried if one single person is the main donor of the WHO, or if pharmaceutic companies finance studies to assess if a drug in competition with their products is worth using. However, "charities" are more likely to serve themselves rather than society, and similarly, pharmaceutical companies are more likely to promote their products than supporting good science. Conflict of interest is one major cause of Covid19 severity. The Bill & Melinda Gates Foundation is by far the largest donor to the WHO. According to the WHO "about" page [45], in the year 2018, the last on record, the Bill & Melinda Gates Foundation directly donated to the WHO 228,970,196 US\$. The GAVI Vaccine Alliance, overwhelmingly funded by the Bill & Melinda Gates Foundation, donated to the WHO other 158,545,964 US\$. The second donor to the WHO is the United States of America, with only 281,063,159 US\$, and then there is the United Kingdom, with 205,262,406 US\$. Above 100,000,000 US\$ there is only Germany, with 154,539,249 US\$. According to Wikipedia [46], the Bill & Melinda Gates Foundation has donated US\$ 1.56 billion to the GAVI alliance's 2016-2020 strategic period, as of March 2019. The current Director-General of the WHO was previously a GAVI Board member [47]. This is a clear conflict of interest for one organization supposed to give independent and competent health advice to the world. It is at least singular that the mainstream media and the WHO says that it is not sure that having had a Covid19 infection gives antibodies protecting from a second Covid19 infection, but they are sure that vaccines mimicking an infection will work also for Covid19. The IgM antibodies rise rapidly with the onset of any infection, and also rapidly decrease as the infection resolves. How long the IgM remains present for Covid19 is not clear, but the IgM spike during infection is certain. The IgG antibodies are then indicators of past infections. Testing for antibodies would be a better choice to understand if somebody is currently infected or has been infected. Basic vaccine theory [48] tells us that antigens from the pathogen are introduced into the body to trigger an immune system response and creating antibodies. If the antibodies from having been infected by Covid19 are not the protective antibodies giving immunity to a second Covid19 infection, the same antibodies obtained by administering a vaccine should not work. If we do not know if the antibodies to Covid19 after recovering are protective against future infection, then we do not know if the antibodies produced by administering a vaccine for Covid19 will prevent infection by Covid19. It is not true that people previously infected by Covid19 may get infected again, as Covid19 is the same as every other infection [53].

It must be added that the global vaccine program and digital ID being promoted for Covid19 by the mainstream media that is likely not needed is also difficult to be implemented with success for technicalities. The time frame to properly develop a vaccine is long, and the result is uncertain. Past experiences for SARS and MERS coronaviruses, close relatives of the Covid19 coronavirus, have been unsuccessful. Animals vaccinated using spike protein-based vaccines against SARS and MERS had worse outcomes when challenged with the viruses. The SARS outbreak ended before the vaccines were ready [49], [50]. Similarly, the MERS coronavirus outbreak is ongoing since 2012 and at the end of 2019, no vaccine (or specific treatment) for MERS is available.

The use of vaccines of unproven safety and efficacy supported by the mainstream media is risky. it must be recalled the recent experience of the Diphtheria-TetanusPertussis (DTP) vaccine in Africa [51]. Before the campaign, nobody performed the randomized, double-blind placebo-controlled studies necessary to ascertain if the DTP vaccine yields benefits. Among 3-5-month-old children, having received DTP ($\pm$ OPV, Oral Polio Vaccine) was associated with a mortality hazard ratio (HR) of 5.00 compared with not-yet-DTP-vaccinated children. Differences in background factors did not explain the effect. The negative effect was particularly strong for children who had received DTP-only and no OPV (HR = 10.0). All-cause infant mortality after 3 months of age increased after the introduction of these vaccines (HR = 2.12) [51]. Thus, there is no reason to risk for Covid19 vaccines of unproven efficacy and safety no matter the requests by the mainstream media.
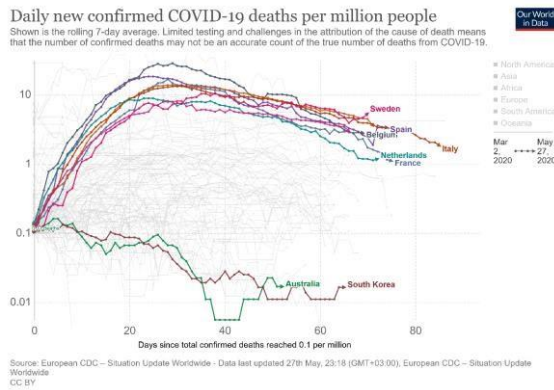
Fig. 1 – (a) The Covid19 daily number of deaths per million vs. days since daily confirmed deaths reached 0.1 per million. Data from the European CDC. 7-days rolling average. Image reproduced from [52].
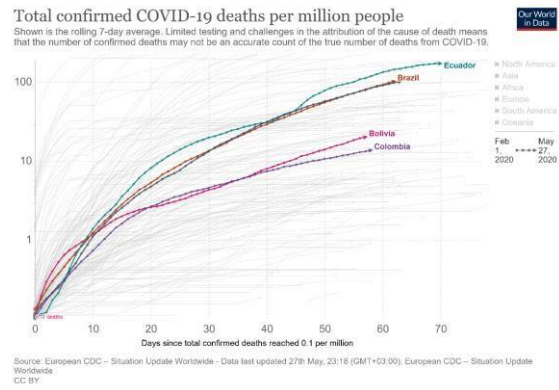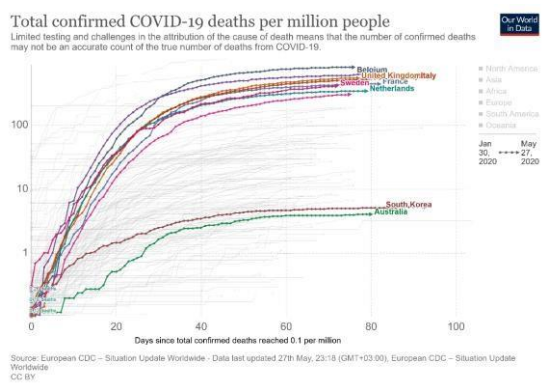

Fig. 1 – (b) Cumulative Covid19 number of deaths per million vs. days since daily confirmed deaths reached 0.1 per million. Data from the European CDC. Image reproduced from [52].
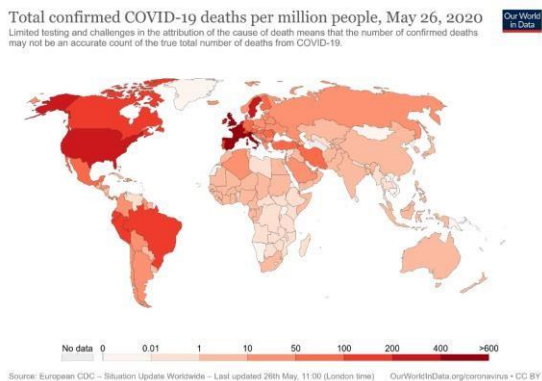

Fig. 1 – (c) The number of infected and deaths per million across the world. Data from the European CDC. Image reproduced from [52].
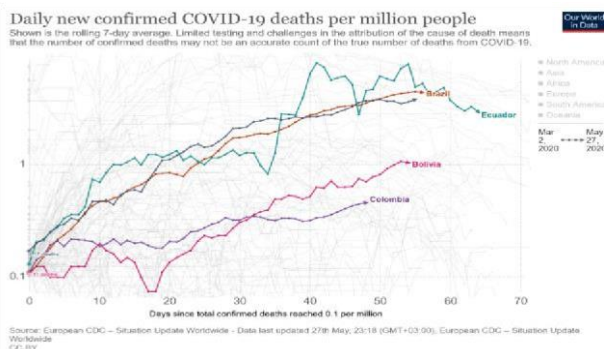

Fig. 1 – (d) the same as (a) for the central states of South America. Images reproduced from [52].

Fig. 1 – (e) the same as (b) for the central states of South America. Images reproduced from [52].
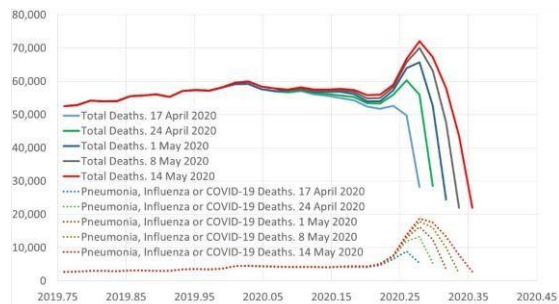

Fig. 1 – (f) NCHS Mortality Surveillance Data. Weekly total and pneumonia, influenza, or Covid19 deaths in the United States. Data from [15-19].

CONCLUSION

Despite the mainstream media manufactured the alleged U-turn on Covid-19 measures by Sweden's state epidemiologist [57], it is now a recognized fact that more or less severe containment measures for the healthy people made very little difference. Sweden's decision to keep most businesses and institutions open has been repeatedly slammed as careless and dangerous by the mainstream media especially in the United Kingdom. However, the United Kingdom did much worse in terms of fatalities per million people. There are no activities to be pointed out as extremely vulnerable. Many countries should have done more to properly protect the vulnerable especially in care homes from the virus. 40% of coronavirus-related deaths in the United States have occurred in nursing homes. In England, care home residents are projected to account for 57% of all deaths by the end of June. It maybe locking people down is in some cases a way to spread rather than contain the disease, because it forces people to breathe the same air for prolonged periods of time as it happened in nursing homes and crowded living conditions of low-income families.

If there is a certainty in the Covid19 pandemic, is that there is no such a thing like "follow the science" and the advice is mostly political. This advice in western Europe and the United States is biased by the mainstream media. There are clear ethical problems in the way the mainstream media has treated so far the Covid19 outbreak, promoting solutions that have been proven to be wrong. The much larger fatality rates pro capita of western Europe and the United States versus every other country is a clear indication that something is not going as it should especially in these countries. As written in [56], "corruption in global health" is the "open secret".

Answering the question of which model should be applied for a sustainable post lockdown strategy in Europe, the

model of Sweden is the best opportunity. Sweden has adopted in Europe the best long term solution to Covid19 infection, aiming at herd immunity without forcing the citizens to give away their freedom as well as their wealth, and only protecting the vulnerable [53]. Lethality and infectivity of Covid19 are much less than what was portrayed, and healthy people risk very little from being challenged by the virus. It is also not true that people previously infected by Covid19 may get infected again, as Covid19 is the same as every other infection [53]. If Covid19 is so special that previously infected people get re-infected, then also a vaccine will not work for Covid19. Waiting for a working vaccine that will not be available shortly is not a solution. Life will have to move on, restoring the most we can of the previous situations. Restrictions protecting the vulnerable will have to be in place for a long time [53]. Also, these restrictions will have

to be made more sustainable taking into account a more comprehensive approach to health, where protecting from Covid19 infection is not the only point, as a healthy life is not only being sheltered from Covid19 infection [53]. A sustainable post lockdown strategy may only follow an approach coupling protection to sustainability in the big picture where Covid19 is not the only problem of our society. The damage to the society by the Covid19 overreaction will produce more deaths, for mental issues, untreated other pathologies, unhealthy lifestyle, poverty, that the Covid19 infection itself.

COMPETING INTERESTS

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