End COVID-19 Finland Working Group Memorandum November 2020

The Road to Recovery

Suppression of the COVID-19 Epidemic to Save Lives and Protect the Economy



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Summary

Spring 2020 showed us that suppression of the COVID-19 epidemic to protect everyday life, public health, and the economy is possible in Finland. In the autumn, we have seen across the world how letting the virus spread will eventually lead to stricter measures to control the COVID-19 epidemic. Many European countries have ended up in a state of national emergency and nationwide lockdowns. The suppression strategy aims to prevent such crises by utilizing proactive measures. The goal is simple: to maintain the effective reproduction rate *R* below 1.

In the present memorandum by the *End COVID-19 Finland* expert group, we reiterate the reasons for suppressing the epidemic, explain what suppression means, and outline how it can be achieved by enhancing the measures already in use. Finland must commit to a clear national strategy and engage local and regional communities to achieve this goal.

What

Suppression means adopting a determined approach to bring the number of new infections down close to zero and then maintaining that state by utilizing proactive, targeted measures

Why

Suppression of the COVID-19 epidemic is the best available strategy. It minimizes the damage that the pandemic causes to the society, health, everyday life, and the economy via increased individual and business confidence. Public health and the economy are intertwined. A clearly defined goal is at the core of a successful approach for dealing with an epidemic, and thus Finland must commit to this strategy unequivocally.

How

The measures to suppress the epidemic are, by and large, already in use. However, these measures must be implemented with more determination and organization to achieve and maintain the near-zero level of infections. No single measure alone is sufficient to suppress the virus on its own. Thus, we must actively seek to find a combination that prevents the spread of the epidemic with minimal harm to the society.

A Short History and Risky Future of the Pandemic

In spring and summer 2020, Finland suppressed the epidemic successfully by putting in place substantial restrictions while avoiding a strict lockdown. When the borders were reopened in the summer, and restrictions were all but completely lifted in August, the epidemic started to spread again. During the autumn, local outbreaks have occurred in various regions. While more localized targeted measures and the required supportive actions to control the epidemic were still in a phase in August, since then various practices have been explored and implemented, including the Test-Trace-Isolate operating model, recommendations for wearing masks as well as practices for safe travel and gatherings. In addition to measures coordinated nationally, responsible action has been taken by many cities, towns, businesses, and individual citizens. Finland has – thus far – had reasonable success in managing the epidemic, compared to other countries^{1,2}, but the risk of an uncontrolled outbreak has not receded.

COVID-19 should be compared to earlier SARS or tuberculosis epidemic: the suppression of these epidemics to protect public health and the society was pursued despite the effort it required. During the course of the pandemic, we have learned that the transmission patterns of SARS-CoV-2 and the influenza virus are different^{3,4}, and the lessons learned from flu epidemics are not directly applicable to the current pandemic. Firstly, in the regions most affected by the COVID-19 epidemic, we have seen significantly higher mortality and morbidity as compared to influenza⁵. Secondly, a key difference is that the transmission probability of SARS-CoV-2 varies greatly from person to person, resulting in the clustering of outbreaks^{3,4}. Thus, a COVID-19 outbreak can arise quickly and unpredictably even from a single superspreader event. On the other hand, the clustering of outbreaks makes suppression possible even without large-scale lockdowns, as long as high-risk events are prevented by targeted actions.

The pandemic is currently spreading rapidly in nearly every country that has not actively suppressed the virus. The pandemic is far from over. It is expected that vaccines and possibly new medications will bring an end to the acute crisis during 2021. Until this happens, Finland must protect its society and take appropriate measures to suppress the epidemic.

Finland must adopt an unequivocal strategy to suppress the epidemic, thereby guiding local decision-making, citizens, and businesses towards a common goal. This would also anchor the expectations of businesses and citizens, thus reducing the adverse effects of uncertainty on the economy and everyday life.

Learning from the Experiences Worldwide

In the past eight months, various approaches to cope with the pandemic have been tried the world over. Finland has had the advantage of having had the epidemic arrive somewhat later than other European and Nordic countries.

The experience gathered from the spring and autumn of 2020 has shown that a return to pre-pandemic practices is not a viable option for the time being. The virus has not become less dangerous⁶. In many European countries, the lifting of nearly all restrictions - without sufficient efforts to suppress new outbreaks - has resulted in crises and the risk of overwhelming healthcare systems. Several countries have therefore had to implement strict lockdowns², and the threat of infections has paralyzed the economy and the society. Failure to reliably suppress the epidemic has also reflected on the popularity of current political administrations, as seen in Israel, France, and the United Kingdom. In contrast, the countries and regions that have suppressed or eliminated the epidemic can enjoy near-normal everyday life free from constant uncertainty and fear. For example, Taiwan, New Zealand, China, South Korea, Japan, Uruguay, and even some states in the USA have successfully suppressed their COVID-19 epidemics, which has protected public health and economic activity and improved business as well as individual confidence.

Some have presented Sweden as an example of coping with the pandemic without strict measures. However, Sweden's strategy can hardly be considered a success. Since the summer, Sweden has in fact had tighter restrictions in place than Finland, yet the lack of coordinated action has led to a very strong second wave. Sweden has experienced significant excess mortality as well as economic losses at least as severe as in other comparable countries¹.

The position of the WHO is that it is a fallacy to let the virus spread in the population while trying to protect risk groups. Finland, fortunately, recognized this early on.



Illustration of Archetypical COVID-19 Strategies



*New Zealand follows an elimination strategy with no communal transmission. Finland, Germany, Norway, etc. are between the suppression and on/off strategies.

What Does Suppression Mean in Finland?

Even though Finland has fared comparatively well^{1,2}, the objective of the Finnish "hybrid strategy" remains unclear to many, and, consequently, the execution of the strategy has been muddled. Disease prevention has been set as Finland's objective, but the commitment to this strategy has not been consistent at the national, regional, or local levels. Although many local outbreaks have been extinguished, the incidence of infections has not been successfully suppressed in the greater Helsinki area nor at the national level.

Conditions for the spread of SARS-CoV-2 may be more favorable in the winter than in the summer. This makes it even more essential to bring down the number of infections before the peak of the influenza season. **If we manage to suppress the epidemic, we must not allow the number of cases to start rising again by lifting restrictions prematurely. Instead, the number of new infections should consistently be kept close to zero.**

If preventative restrictions were fully lifted when the infection rate is low, and the response to new outbreaks was slow, this would necessitate a new set of restrictions. This repeated cycle would place a significant burden on society. The wider the epidemic spreads, the stricter and longer-lasting the restrictions need to be to regain control. This kind of inconstancy increases economic uncertainty, decreases economic activity, and hinders economic recovery.

Suppression aims at higher predictability by utilizing proactive measures. Once infections have been suppressed to near zero, new outbreaks can be managed by targeted measures and efficient tracing. **Previously agreed-upon and brisk local efforts** can extinguish incipient local epidemics. Although we may not be able to eradicate the virus completely, its harmful effects can be minimized. This is what we have done successfully with other generally hazardous infectious diseases, such as HIV and tuberculosis. If we choose to do the same now with COVID-19, turmoil on a larger scale can still be prevented.

Suppression is the Best Option

Suppression of the COVID-19 epidemic results in significant benefits to the society as a whole:

Suppression protects public health

COVID-19 can be life-threatening, especially to the elderly and to those with other risk factors. It has been estimated that over one million people in Finland, about 20% of the population, are at risk for the severe form of the disease⁷. The protection of high-risk groups has failed wherever the epidemic has spread widely among the population. COVID-19 may be dangerous regardless of age; in the USA, excess mortality has increased more among young adults than among the elderly⁸. Moreover, many young people with COVID-19 have suffered from various prolonged symptoms for months^{9,10}, and it is unclear whether some of the effects may even be permanent. We have seen improvements in the treatment of COVID-19 since last spring, and advances in pharmaceutical interventions may decrease the morbidity caused by the disease. Significant breakthroughs, however, are yet to be seen. For now, in order to protect the life and health of our citizens, infections must be prevented.

Suppression prevents the overload and backlog of healthcare

A significant proportion of COVID-19 patients requires hospitalization and this has led to severe healthcare crises in many countries. Treatment of COVID-19 patients in hospitals requires special arrangements, which put a strain on healthcare professionals and increased costs. Healthcare system overload results in a growing backlog of treatment of other diseases as was already seen in Finland in the spring. Resolving the backlog will be even more difficult if significant resources need to be repeatedly allocated to the medical care of COVID-19 patients. As the epidemic spreads, people avoid seeking treatment for other diseases, which leads to delays in diagnosis and treatment and possibly poorer prognosis. Furthermore, the spread of the epidemic in the younger population affects healthcare capacity via exposure of healthcare staff, which can lead to temporary closures of wards and even entire facilities.

Suppression maintains economic activity and consumer confidence

The consensus among economists is that a low level of the epidemic sustains economic activity. The adverse economic effects of the epidemic result from consumers limiting their consumption and working less in order to avoid exposure¹¹. The more the epidemic spreads, the lower the consumption of contact-intensive goods and services, and the higher the avoidance of work that requires contact with people.

Furthermore, due to the uncertainty caused by the epidemic, households and firms postpone their investments and hiring, and households increase their precautionary saving. Uncertainty during the pandemic arises from two factors: First, people worry about their possibility of being infected. Second, economic agents are uncertain of how government policies respond to different stages of the epidemic. Proportional, well-timed, and clearly communicated measures can influence the level of infections and compliance with restrictions, and thus the decline in economic activity can be avoided.

Suppression guarantees individual freedom and wellbeing

In a COVID-19-free society, everyone – including the over one million Finnish individuals in high-risk groups – can enjoy a nearly normal everyday life: meet their loved ones, and attend school, work, and hobbies. Restricting very high-risk recreational activities is a small price to pay for these freedoms. The pandemic has led to an increase in mental health problems¹², but only a few studies have investigated their actual causes. Somewhat surprisingly, fear of infection and incoherent guidelines seem to increase anxiety even more than social isolation¹³. Thus, from a mental health perspective, the best way to tackle the pandemic would be to provide a transparent and predictable strategy and guidelines, well-timed, short, and targeted quarantines, and, generally, the maintenance of low levels of infection in the population. Thus, suppression of the epidemic maximizes the freedom and well-being of the people.

Suppression maintains equality

During the epidemic, the risk of infection is the greatest in low-paying jobs that are often not amenable to remote work. The highest health risk is among the elderly and those with predisposing conditions. Children and young people often suffer the most from strict restrictions. The measures to suppress the epidemic do not disproportionately affect disadvantaged individuals, children, or the elderly. Instead, the measures are targeted at high-risk events and activities.

A suppressed epidemic is simpler and less costly to control

At near-zero incidence, infections do not appear *ex nihilo*, i.e., out of nothing. Isolated transmission chains can be extinguished with testing, tracing, and isolation much more effectively than in the current situation with widespread outbreaks. Analogously, under a high risk of wildfires, it is unwise to let small fires smolder – likewise, during a pandemic, tolerating infections in the society is a risky approach.

The Suppressionist's Toolbox

The suppression strategy can be implemented by utilizing the measures already in use in Finland as long as their execution is goal-oriented and well-organized. We have described the toolkit for suppressing the epidemic in detail in our previous memorandum¹⁴, and list the key approaches below.

Identifying and breaking the chains of infection using the *Test-Trace-Isolate* operating **model** is the cornerstone of the Finnish Government's strategy. These measures must be continued with increasing speed and efficiency. The necessary resources must be available across the country, including preparedness for sudden deterioration of the epidemic situation.

Experience from Finland and elsewhere has shown that Test-Trace-Isolate alone is not sufficient to control or suppress the epidemic. **Infections must therefore be prevented.**

- **Prevention of superspeader events** by limiting gatherings, mass events, and restaurant opening hours as warranted by the prevailing epidemic situation is an efficient approach due to the clustered nature of SARS-CoV-2 transmissions. Any loopholes in restrictions must be plugged swiftly. Particular attention should be paid to events where tracing is difficult and/or masks are not worn.
- **Everyday prevention of disease transmission** includes physical distancing, masks especially in shared indoor spaces, adequate ventilation, contact avoidance (remote work, video conferences), meeting preferably in outdoor spaces, and hand hygiene.
- **Measures at national borders** are crucial when the epidemic situation in Finland is superior to other countries. Efficient testing and quarantine practices can prevent importing the virus from abroad without having to resort to full border closures.

Targeted population screening is a way to extinguish outbreaks when tracing resources are overwhelmed. Being able to trace contacts with sufficient coverage and speed has been a challenge in Finland especially in large urban areas. Tracing can be complemented by screening the population regionally, as has been done in some European countries and many Chinese cities¹⁵.

Clear and timely communication about the local and regional epidemic situation, including the tracing coverage, is essential for the adoption and acceptance of the necessary measures by local actors and ordinary citizens. It also empowers individuals to independently adjust their behavior.

The effective reproduction rate *R* must be kept under 1 in the medium to long term, and the commitment to this goal must be explicit. Any outbreaks leading to a growing epidemic (*R*>1) must be met with swift action at the local and, if necessary, national level.

Finland must actively seek a combination of measures that are sufficient to suppress the epidemic, and at the same time, cause minimal harm to the society. The common goal must be to keep the epidemic in check across the nation. This requires local action and a combination of measures that are clearly defined, mutually agreed upon, and coordinated within and between regions. This will enable near-normal everyday life until the imminent danger to the population recedes via widespread vaccination or better medical interventions.



Protecting the society may require that the government interferes with the economic freedom of certain businesses. The burden of the costs incurred should not be left to individual businesses and employees to bear. The industries that suffer from restrictions must be supported financially and should be encouraged towards business model innovation as well as looking for potential new products, services, and markets. The pandemic is enabling fast innovation and change, e.g. in digital services and sustainable development, and opening doors for new businesses.

When the number of infections is suppressed, the re-emergence of the epidemic that was seen in the autumn will not necessarily reoccur if adequate measures are implemented. We are now better equipped to prevent the epidemic: the mistakes made at our borders will hopefully not be repeated for the third time, testing capacity has been increased, tracing has improved, the Koronavilkku app is in widespread use, and mask-wearing has increased.

The machinery to control the virus has been built: now we must use it in a determined manner to suppress and eliminate the epidemic.

Addressing the Challenges of Suppression

The suppression of the COVID-19 epidemic is not a simple one-off solution. Even though determined action prevents major crises, outbreaks can still occur, as evidenced by the experience in South Korea, Iceland, Australia's Melbourne, and many Finnish localities. Nevertheless, we must not give up:

Swift suppression of the epidemic again and again as needed is still the best and most cost-effective strategy

While there is no single roadmap for the suppression of the epidemic, we have learned a great deal during the past year. Optimal suppression measures may vary according to national and even local cultural differences. The common denominator is that suppression requires determined, sustained, and widespread local and national action and swift communication. This has proven to be a challenge also for the decentralized Finnish system of governance. However, in past Finland has prevailed in even more challenging situations. There is no doubt that we have the capacity to overcome the COVID-19 pandemic as well.

A political obstacle has been the principle of proportionality, where official measures are required to be in proportion to the intended outcome. This has been interpreted to mean that only reactive action is legal, and proactive action is illegal. **Proportionality necessitates early and preventative measures to limit restrictions to the lowest possible level to achieve the desired result.** If there is a delay in tackling the COVID-19 epidemic and action is taken only when action can no longer be avoided, we will need to impose harsher restrictions of longer duration. Precautionary measures ensure more lenient restrictions in place for a shorter amount of time.

Controlling the epidemic relies on local authorities applying national guidelines. This generates conflicting incentives: the benefits of suppression are nationwide, whereas the costs are borne locally. This can result in local under-investment in testing and tracing capacity as well as susceptibility to lobbying by local interest groups who would suffer from the local suppression measures. The conflicting incentives are partially mitigated by the central government's promise to cover local government expenditures associated with COVID-19. However, since the benefits of suppression are widespread and the costs local, the government should consider over-compensating the costs of measures to municipalities. Such economic incentives could allow the government to guide local authorities more efficiently than current recommendations.

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The signatories of this memorandum represent exclusively themselves. The signature is in their own personal capacity. The signature does not represent the position of their employer, research community, or working organization. The signature should not be read as the perspective of the signatory's employer or his community in dealing with the COVID-19 crisis.

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