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Challenges to the legal regulation of health services and protection under the Covid-19 pandemic: Combining new health technologies, health protection, ethics and social trust, the Norwegian case and a Nordic comparison

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Introduction

The end of the 20th and the start of the 21st centuries have been labelled as risk society. The combination of the use of *complex technologies* and *an intensified use of our natural environment* have created a number of *significant risks* with to some extent unpredictable dynamics and effects, and which have become inherent parts of vital social and economic infrastructures and practices. The exploitation of our natural habitat and the use of new technologies have at the same time resulted in enormous social and economic possibilities, increased social welfare and security. Regulating the risks resulting from the intensified and global exploitation of natural resources have become a vital, but complex task for public law. Many reports and research documents have pointed to the fact that on several dimensions our common exploitation of natural resources have reached dangerous tipping points in terms of decline of the number of species, decline in reproduction, decline in untouched natural territory, pollution of the high seas etc, and with a lack of knowledge in how to deal with negatively spiraling dynamics.[1] The Covid-19 pandemic is probably one example of the risks resulting at least partly from the intense closeness and exploitation of natural resources by human beings and partly from the intensive global human interaction with travel and communication where epidemics and disease contamination may spread easily and be difficult to contain. Virus infections can be anything from manageable influenza to more deadly diseases.

[1] Se references in Elizabeth Kolbert, *The Sixth Extinction*, 2014; Bonneuil and Fressoz, *The Shock of the Anthropocene*, 2017; The Paris Agreement, 2015, under the UN Framework Convention on Climate Change.

Pandemics and epidemics have occurred throughout history at varying intervals and varying degrees of severity and risk. The 'black death' epidemic in the fourteenth century and the 'Spanish disease', 1914-1918, are some of the most severe.[2] Currently diseases may spread faster globally and regionally than previously due to more effective ways of travelling. Complex and technology-dependent societies are vulnerable to any crisis situation and to obstacles of human and technological communication. With severe and highly contagious pandemics the functionality of modern societies may be challenged by the disease itself and by the measures of containment. Public health and disease control agencies and general regulations exist in many democratic states, but in different versions. Under Covid-19 both existing general disease control regulations and new and specific Covid regulations have been applied again with a variety of different approaches to what measures to be applied. The degree of severity of a pandemic depends partly on *the degree of contamination*, and partly on *how serious the disease is in terms of health consequences and death rates.* New mutations may develop and with increased degrees of contamination. Pandemics can thus spread in exponential, chaoslike and unpredictable ways. Their risk patterns have a high degree of variation, uncertainty and severity.

A global pandemic – what challenges and what measures?

By May 20 the WorldoMeter statistics show that 3,5 mill are dead from the disease and 167 mill have tested positive. Both numbers are probably much higher due to poor statistics in many regions.

Covid-19 has spread and is still spreading in different ways in different countries and regions. Specific outbreaks and travelling patterns have resulted in geographical variations in how it has spread over time and in intensity. *Health governance* is organized differently with variations of responsibility for and among the government, health public agencies, public health research institutions, municipalities, hospitals etc. *Health services* are organized in equally different ways among public and private actors and with different medical resources. *The strategies* applied have varied from country to country, from severe lock-downs and state responsibility to more voluntary approaches and private responsibilities. A variety of health political and legal questions have

[2] Mark Honigsbaum, *The Pandemic Century*, 2019

been dealt with from lock-down measures, closing borders to medical treatment, vaccines and vaccine certificates.

Technological and scientific developments have meant that this pandemic has been significantly different from previous ones, for good and for bad. Travelling patterns have meant that it has spread much faster than previously, but information on the disease and on treatment has been disseminated more effectively, within states and among the citizens and between regions and states. Experience with measures and treatment was effectively shared. *Vaccine research* was started immediately and was given far better resources than similar diseases previously. Already in December 2020 the first vaccination programs were started in the US and the UK. By August/September 2021 much of the adult population in Europe, North-America, Australia, New Zealand and some Asian countries will have been vaccinated. The pandemic is however still spreading fast in African, South-American and Asian countries, some with huge populations and some with poor health services. The danger is that further mutations may emerge.

Internet technologies have been enormously helpful both in coping with the pandemic itself (effective conveying of information) and with organizing social and economic life online when comprehensive measures for disease control have limited normal and live interaction.

Severe epidemics and pandemics among human beings have occurred historically from time to time. *WHO has for a long time listed pandemics as one of the most severe global health risks,* but when Covid-19 emerged in December 2019/January 2020 unleashing an enormous health risk globally and rapidly, *most countries were unprepared* for this type of severe pandemic, lacking proper plans, protective equipment and intensive care facilities. This was true also for the Scandinavian welfare states with their developed national health systems. For EU member states health care is still one of the domestic governance areas without EU harmonization, but with several common health directives and coordinating institutions such as the *European Medical Agency, EMA*, who has been active during the pandemic, particularly in terms of negotiations and contracts for vaccines. The pandemic itself emerged to different degrees in European states in the spring of 2020. The degree of planning, legislation and the variety of measures in February/March 2020 varied significantly, and these variations have continued.

The handling of the pandemic has raised *a whole range of questions*: - *medical, public health, legal, human rights, ethical, economic, governance, social and educational.* The handling of each question and theme has meant also taking other perspectives into consideration. The first and most fundamental task was *the factual assessment of the pandemic*: how contagious was it, how severe, what groups of persons were hit the hardest etc. The next was an assessment of *the health and hospital services available* in each country. With these presumptions the first decisions on *what measures to apply* had to be made on the basis of the legal and administrative instruments available in each country. Following that assessment most governments went on to consider whether *new and rapid legislation* on the specific Covid-19 situation needed to be passed. The measures consider was for most governments on a wide scope *from total lockdown, to selective lockdown, social distancing, closing borders, dealing with schools* etc. Medical advice varied from epidemologists who argues for herd immunity and open societies to bacteriologists who favoured lockdown and strict measures, and many between the two positions. Many governments went for the third position of putting on hard brakes, but without total lockdown. *Ethical and human rights questions* were raised concerning the necessity and proportionality of the various selective close-downs. Legally the scope of the mandate in disease control legislation was discussed, and the division of powers between the government, the parliament, municipalities and public health agencies. There were particular questions concerning whether the whole or partial closing of schools would be proportional and defensible in relation to *childrens' rights*. Later *economic measures* to support businesses and organisations who were forced to lock down, were discussed by government and parliament. Many discussions took on a different character as the pandemic lasted into the next winter and spring, and possibilities of *a further time scope* for the global situation.

As mentioned both state authorities and civil society soon discovered what *positive resources* could be used in the situation, both existing resources and new and new ways of applying existing resources. *The internet* played a vital role. *News and information dissemination* became vital. *Press conferences* with government representatives and health authorities played a vital role in many countries. The general *trust* between state and municipal authorities and citizens may have played a vital role in how the measures functioned. *Internet technologies,* with zoom and teams meetings and lectures, were crucial for the use of home offices and home schooling. Many areas of society were kept

running even if many sectors were shut down. This enabled effective limitations in the use of collective traffic.

The variation in measures implemented in March included *the Nordic countries*, but with their common general features of national welfare and health services, democratic constitutions and high degree of public trust in the public authorities, they make for an interesting case of comparative analysis in dealing with the pandemic. There are differences in the Nordic countries' Covid-19 case on at least three dimensions: - *health governance*, forms of legislation and decision-making structures, - *the scope and severity of measures*, - and the *number of Covid-contaminated and deaths* pr 100 000 inhab. Sweden is the most exceptional case. Their public health system is expertbased. The Public Health Agency (PHA) (Folkhälsomyndigheten) is the responsible and decisionmaking body in public health questions including decisions on what strategy and measures to be enacted under the pandemic. In the other Nordic countries power was divided among the government, the ministry, the national health agencies and institutes and the local municipalities. Decisions were more policy-driven. Sweden followed a more cautious approach than the other countries in not shutting society, and relying on general disease-control measures and public trust, but with the result of experiencing the most severe consequences by far in terms of contaminated and number of deaths, in the area of 5 to10 times more than the other Nordic countries.

In the following the main focus will be on a comparison between the three Scandinavian countries, Sweden, Denmark and Norway, and their different approaches to pandemic and health governance.

Health and disease control governance and regulation in three Scandinavian countries

As referred to above the Covid-19 measures and legislation applied in the various countries have depended on 1) an assessment of the epidemic situation and the risks, 2) medical and public health theories on how to deal with epidemic, and 3) health governance traditions and the legislation available. European and other western countries were among the first hit, after the Wuhan outbreak, probably because these are countries with much external and internal mobility. Covid-19 started spreading before there was sufficient knowledge of the degree of contamination and severity. A long time had passed since the

previous widely spread and highly serious pandemic, the Spanish flu 1918-1920. There have been almost yearly influenzas and more narrowly spread, but dangerous epidemic. The SARS virus of 2003 was serious, but contained. The swine flu of 2009 was feared, but turned out to be not so dangerous. Even if epidemics and pandemics are a vital part of the public health security programs, they seem to be difficult to prepare for partly because of their varieties and unpredictability. WHO and many national public health agencies, including the Nordic, have had pandemics high and on the top of their list of serious risk situations for a long time, but still most experts agree that health authorities were insufficiently prepared for the Covid-19 outbreak.

Public governance and regulation will in general occur in a triangle of politics, law and expertise. Health governance is a particularly interesting example. Public authorities have a general and constitutional responsibility for dealing with societal risks and catastrophes. Public health experts in public agencies and research do however have the specialized expertise necessary to give advice and/or make decisions when pandemics and epidemics occur. In public health and disease control agencies public health expertise have generally played a dominant role. The three Scandinavian countries, Norway, Denmark and Sweden, have similar models of democratic government, social welfare systems, public health services and regulation, but they have slightly different political and public administrative forms and traditions of organization and legislation. These differences may have been decisive in the different Covid-19 strategies chosen.

Denmark has an updated *law on infectious disease control* with amendments on 2019 and 2020. Legislative responsibility is always by the Parliament, but the government has the responsibility to prepare. The *minister of Health* in the government is given the main decision-making competence in the law on infection control (lov om foranstaltninger mod smitsomme sygdomme og andre overførbare sygdomme, 2020), § 1, concerning the application of infection control measures. The powers can be delegated to other ministers or authorities such as the epidemic commissions which are regional and cross-sectoral bodies with responsibility under the law. The minister of health can also make decisions on secondary legislation within the framework of the law. The public health directorate, *Sundhedsstyrelsen*, shall contribute with information and guidance to the minister and other authorities. The research institute on public health in Denmark is *Statens Serum Institutt*. The institute is not included in the

legislation, but it is owned by the state and has a mandate of research, statistics and information on public health including the handling of infectious diseases.

In each region of Denmark (9) a *Commission for epidemics* is appointed with representatives from several relevant public authorities (police, veterinarian, medical doctor on patient security, food security, custom, regional hospitals, general security, but with head of police as the chair), the infection control law § 3. Representatives from the same authorities shall assist the minister of Health and Sundhedsstyrelsen in their informative and operative tasks. On some of the possible measures the minister of Health shall negotiate with the minister of Justice before making decisions om measures.

A particularly interesting aspect of the Danish legislation is the emphasis in the legislative division of compretences on *formalized cooperation* among public authorities. The regional epidemic commissions consist of representatives from different authorities charged with a demand of cooperation, instead of making a particular local agency for the task. There is thus a combination of specialized authorities and cooperation among several. It is the politically accountable Ministry which makes the secondary statutes, and not the Agency or any public health institute. The latter shall give information to the ministry.

During the handling of the pandemic in Denmark the Prime Minister has stood forward as the main decisionmaker politically and during press conferences. The Health minister and Sundhedsstyrelsen have acted under delegated powers and the powers of the legislation. Sundhedsstyrelsen and the Serum Institute have however continuously supplied health data and information on the pandemic situation, including recommendations on measures. The Health minister and the Prime Minister/government have made the decisions on measures on when to lock down or open various sectors of society. In Denmark there has been a clear distinction between political and scientifically based actors and their equivalent decisions and recommendations. On press conferences this distinction has been clearly expressed. The Prime Minister has played the main role. Generally the government has been in close contact with Sundhedsstyrelsen and relied on their information and advice, but both the Prime Minister and the Health Minister have made decisions on measures during the pandemic which have not been supported by advice from Sundhedsstyrelsen or the Serum Institute, and even when they have disagreed. There has however continuously been an exchange of information, discussions and negotiations between the Health minister and the

Director of Sundhedsstyrelsen. There have also been open disagreements expressed between the directors of Sundhedsstyrelsen and the Serum Institute.

The composition of the epidemic commissions is an interesting example of formally structured negotiations between different public authorities which is not found in other Scandinavian countries.

Denmark has had comprehensive and strict close down measures both in the spring of 2020 and in the winter of 2020/21. The strategy has been a strict 'putting the brakes on', and not complete extinguishing of the virus, even if that is the long term goal. The Prime Minister announced opening up measures relatively early in the spring 2021 and with a successive plan in stages. This plan is currently being followed even if there is a rise in infections (due to the opening up).

Pr. May 25 Denmark has registered 47 000 infected cases pr million and 432 deaths pr mill inhabitants. This is well above European average, but harder hit than Iceland, Norway and Finland.

A particular situation arose in Denmark with the infection spreading to some of the mink farms in Jutland. This was a potentially very dangerous situation, but which also happened very fast and with uncertain factual documentation and several disagreements on how to handle. The Prime minister took the decision to kill off all minks as a precautionary measure which was later criticized for a lack of documentation on the risks, and a lack of advice from Sundhedsstyrelsen.

In ***Sweden*** the ministries are generally smaller than in Denmark and Norway and a large part of the operations of public authority is placed in public directorates which are run by bureaucrats and experts, and based on their experience and knowledge. In the Covid-19 legislation (lag om särskilda begränsningar för at förhindra sprdning av sjukdommen Covid-19) *the government or the authority the government delegates its authority to*, are authorized to give secondary legislation as specified in the Covid-19 law. The government is thus given the formal responsibility for the measures to be undertaken to limit the spreading of Covid-19. The authority has however generally been delegated to the public agency Folkhälsomyndigheten which is in close contact with the public research institute, Smittskyddsinstitutet.

The public agency *Folkhälsomyndigheten* has been the main expert and operative authority on public health including epidemics. The director for epidemics in the agency bears the title of *statsepidemiolo*g and has a wide

ranging authority regarding measures under epidemics and pandemics. *Smittskyddsinstituttet* is the research institute for epidemics. Under Covid-19 Folkhälsomyndigheten and the *statsepidemiolog Anders Tegnell* have been the main operative decision-making authorities concerning the measures to be taken for the protection of public health under the Covid-19 pandemic. The authority of the government to make decisions on measures according to the legislation on infectious diseases and Covid-19 has been delegated to Folkhälsomyndigheten. Such wide delegations are normal in the Swedish governance system. When such delegations have been made, the competences of the directorates (myndighed) are generally protected by statutes in the Swedish constitution. It is of course still up to the government to make decisions on political importance when considered necessary.

Press conferences have regularly been held on the Covid-19 situation. The *statsepidemolog* Anders Tegnell has been the dominant actor on these occasions. There have been other representatives from the *public health agencies* as well presenting information. At times government ministers have also participated, but it has been the presumption that the statsepidemolog has the general mandate of assessing the situation and information on the pandemic and on what measures to apply. Over time *the Prime Minister* has made more political statements on the Covid situation and has become more active in decisions on the general framework of the measures and on the overall assessment of the situation.

Sweden chose in March 2020 to keep society open, but emphasizing general anti-infection and hygenic measures such as washing hands and social distancing, and maintaining the citizens' individual responsibility for being careful and not participate in spreading the disease. The individual responsibility of citizens and their voluntary participation was underlined as politically important.

§ 3 of the Swedish Covid-19 legislation points to the attention and precariousness of each individual to contribute to avoid the spreading of Covid-19. It is an interesting aspect of the Swedish legislation that the individual responsibility is emphasized as an introduction to the following measures by public authorities. Similar statutes are not found in the Danish and Norwegian legislation, but there are statutes on the responsibility of persons who are contaminated, to cooperate with health authorities.

Schools, restaurants, shops, supermarkets, training centers, work places etc were all kept open. The statsepidemologist kept the view that an epidemic would have to run its course, and that Sweden had good enough health services to deal with it. Swedish authorities believed that they would achieve a sufficient form of herd immunity in the spring/summer of 2020, and that they over time would manage to deal with the pandemic in ways comparable to other countries who chose more precautionary strategies.

Already in the spring of 2020 Sweden had much higher numbers of contaminated persons and deaths per million than Denmark, Finland and Norway. In Sweden there is per May 25 2021 104 000 contaminated persons per 1 mill inhabitants and 1415 deaths per 1 million. Despite the high numbers of infected and deaths Swedish authorities have kept to their strategy of keeping society relatively open and relying on the voluntary participation of the citizens as primary value of the Swedish society. In 2021 the government has however implemented more sever restriction on social mobility than in 2020. Unexpectedly Sweden has had a serious third wave in the winter/spring of 2021. The herd immunity was lower than expected, and the new British mutant had its consequences.

The reasons for the difference in strategy and in numbers of contaminated citizens and deaths compared to the other Nordic welfare states have been discussed widely. One specific reason may have had to do with the organization of old peoples' homes. A large number of such homes were privatized. A large part of the staff did not have specialized health care education and was also hired on short time contracts. They were thus scared to not go to work even if they fell ill and had symptoms during the pandemic. A proportionally large number of persons living in old people's homes died because the management of the homes was not able to keep the infection out of the homes. Admittedly this seems to have been a general problem also because old age seems to have been a main risk factor for severe disease and Covid deaths. Still it is probably the case that privatization and outsourcing of old people's homes seems to have been a risk factor.

Another explanation which has been offered, of the *Swedish difference in the pandemic strategy, and the more serious infectious rates as a result, within the Nordic context,* is the differences *on several dimensions of the institutions of governance* among Nordic countries. Some of these differences seem to have been relevant for the how the Covid-19 situation has been handled. First, *the*

natural sciences with their empirical methods are generally highly regarded and have a significant degree of prestige in Sweden compared to other sciences. This includes expertise working with medicine in general and epidemics. Secondly, the mandate and the power of the 'statsepidemolog' in the oversight and the handling of epidemics is an expression of this. He is both the director of the part of Sundhedsstyrelsen working on epidemics and holds a particular position. The background of his position and power is the general prestige and authority of empirical natural sciences. Third, Sweden has a constitutional system where public agencies are given comprehensive mandates on the basis of administrative and/or scientific competences, whereas government ministries are smaller and more directed to legislation and budgets. The Swedish constitution, Regeringsformen (1974) ch.2, § 2, protects the independent authority of the public agencies thus limiting the possibilities of instructing the agencies also by other state authorities. The characteristics of Swedish institutions and governance may be part of the explanation of the difference in the selection of pandemic strategy compared to Denmark and Norway.

The Covid-19 legislation lists specifically what measures can be taken in terms of limitation of public mobility. In § 11 there is authority to limit the number and size of private gatherings, but it is unclear whether this includes gatherings in private homes. In the preparatory text it is pointed to private gatherings in areas for that purpose, including private gatherings such as birthdays, dinners, studentparties etc, but not in private homes when they are loaned to other persons. There does not seem to be legislative authority to regulate gatherings in private homes. Much of the legislation of infectious diseases are also similar in the Nordic countries. Infection control is clearly a prioritized theme which is particularly regulated in health law. Sweden has chosen to enact a particular Covid-19 law where all measures which might be applied, are mentioned. The law was passed well into the pandemic. The specification and implementation of measures is however done by local authorities.

Norway had an *infection control law* for some time which previously was reformed in 1994 during the HIV-Aids epidemic, and with an emphasis on how to deal with that type of less contagious, but extremely serious disease. The reform concerned discussions on when coerced treatment, quarantines or vaccinations could be used legitimately. The act includes chapters on what type of measures can applied, and by what authorities. The condition is that there is an outbreak of a severe and contagious disease. *Municipality councils* on advice of the municipality doctor have a mandate to make decisions on and implement

infection control measures within the municipality as far as is deemed necessary and proportional. *The Health Directorate* can make decisions on similar measures for the whole country. *The government* has an additional mandate to make any decisions necessary to protect public health when an infectious disease is threatening society.

The mandate of *the Health directorate* is based on its medical and administrative competences. It cooperates with and receives information on medical research and expertise, including advice on what measures to apply, from the *Public Health Institute* (Folkehelseinstituttet). The Health Directorate has a general mandate to maintain and develop medical and administrative expertise, but can be instructed by the Ministry of Health and the government concerning what tasks to perform more specifically.

As the pandemic started in January/February 2020 *the Public Health Institute and the Health Directorate* followed the situation and conveyed information to the Ministry which started its crisis management January 29. Observations of infection incidences in Norway were tracked by the institute and the Ministry starting in February and preparations were under way, but it was not until the beginning of March that incidences without a certain source were reported. March 11 the Directorate reported that the situation was getting serious, and that comprehensive measures had to be considered. The government signaled its concerns to the Directorate. In the morning of March 12 a meeting was called by the Directorate, but with the Prime Minister, the Health Minister, the director of the Institute and with several top health and government administrators (kriserådet, the crisis council). There was support for the Directorate's proposal to implement a comprehensive lockdown of society including schools, restaurants, sports, cultural arenas etc. It was the Directorate's proposal which was implemented. The measures and the implementation was within the framework of the infection control disease.

The government sent the day after a proposal for a particular Covid legislation to the parliament primarily concerning emergency mandates for the government to enact economic and administrative statutes necessary, even in contradiction of existing legislation in order to secure that society could function economically and practically as far as possible, the mandate lasting for six months. The proposal was met with harsh criticism for giving too wide a mandate. *The parliament* amended the proposal by creating an enumerated mandate to go beyond existing legislation and with only one month's duration, which was later

extended to two months. Stortinget, the Norwegian parliament, created a particular Corona committee to deal with the Covid legislation in March 2020. This committee has however not continued its function.

During the pandemic there have been in the first months daily *press conferences*, later weekly, with ministers from the *government* (the Prime Minister, the Health Minister, Minister of Justice as the most frequent participants) and representatives from the top management of the *Health Directorate and the Institute of Public Health*. Information on the pandemic and on the measures applied have been conveyed by top representatives of the authorities involved. These actors have clearly played different roles due to their different mandates, but the tone has been one of cooperation among actors with different functions and authorities who have listened to each other and kept to their roles. They have also at times publicly expressed disagreement or different views on what measures would be necessary or the most appropriate at the different stages of the pandemic. The government by the three ministers mentioned above have made the main political decisions including legislative and budgetary proposals for the parliament.

The Health Directorate have played both a medical-expertise and a medical-political role throughout. They have kept their mandate in the infection control legislation. At times they have made proposals to the government, as advice, and at times they have made the decisions. The basis for their advice and decisions is always their medical expertise on pandemics, but which includes the public health aspects on the consequences of how the pandemic evolves and its effects on the population. The government has generally displayed a high degree of respect for the expertise of the Directorate, but they have also combined the scientifically based advice with their own political assessments of the situation including the reaction of the population to the measures. The Public Health Institute's mandate is research and science. Their mandate is also to gather information on international research, on the pandemic and how it evolves internationally. Their advice to the Directorate and the government must only be based on research and medical information. The Institute has however also given advice on what measures to apply, based on their public health knowledge.

The impression from the public documents which have been exchanged, proposals for recommendations and statutes, and the various press conferences and interviews by Norwegian authorities is that there is *an open exchange of information and advice*. There are *different views expressed*, at times, but the

differences are respected. The different actors show *acceptance of their functions and roles*, but there are obviously also overlapping and uncertain boundaries between their mandates. The Institute shall convey information and research-based knowledge to the other actors. They shall also give advice to the Directorate and the government, but they need to be aware that they are not the authoritative decision-makers. At times however their advice can come across as very authoritative advice.

The Norwegian Prime Minister and Health Minister have listened to the medical agencies, but they have not been afraid to make their own political assessments of the situation. At times they have preferred more precaution than the medical experts, other times the opposite. There has been a continuous public presence of government and health authorities presenting information and openly discussing the necessity and proportionality of the measures involved.

Norway has had 22 000 infected persons per million inhabitants and 143 deaths per million. This is one of the western countries with the lowest incidence of infection, severe disease and deaths. Finland and Iceland have similar numbers. Denmark has about twice as many, but is still comparatively low on severe consequences of the pandemic. Sweden has about ten times as many infected and dead compared to Norway, but has still fared better than many other European countries, and has been able to keep a more open society throughout the pandemic. In terms of economic consequences there does not seem to be significant differences between the Nordic countries, so far.

Effective cooperation between public health authorities and medical industries resulted in production of *new vaccines* within 9-10 months. Many aspects of the vaccines are however still unknown. Long term effects for the vaccinated in terms of their own protection and whether they still can transmit the virus is unknown. Various forms of social and health protection such as social distancing, wearing facemasks, limitations on social gatherings etc are thus still on the agenda, but with effects such as social disadvantages, economic hindrances and human rights challenges etc.

Conclusions

Many well developed states have by May 2021 experienced several waves of contamination *despite relatively comprehensive and severe, but varying, measures*, and large numbers of seriously ill persons and death rates. Hospitals

and their emergency departments have been overburdened with consequences also for other patients. Many consequences are still unknown, among them the degree of mental burden for children who are not properly taken care of in their homes, and young adults who are particularly dependent on close contact with friends and peers.

Covid-19 has spread with different intensity in different countries. In some cases it spread before the authorities were aware of it. In other cases health services were slow to react, and in high density areas it spread effectively before measures were put in place. *Few health systems, if any, were however prepared* for the comprehensive and rapid spread of the virus. Some countries were however still able to respond in time.

The strategies and measures applied in European countries are similar, but also with *considerable variation*. The relative numbers of hospitalized, patients needing intensive care and death rates have varied. Interesting aspects concern variations in disease control legal regulations and the division of power among political authorities, public health administration and disease control expert institutions.

There are still many things we do not have sufficient information of concerning exactly how the pandemic struck, and why some areas were harder hit than others. An interesting case is the Nordic countries with relatively similar and well functioning both democratic systems and health services, but where differences in infection rate, public health governance and political measures still were significant.

The Swedish approach has relied heavily on a significant trust in their citizens and in an ideology of freedom rights, which is included in their covid legislation. The public health agency and the state epidemiologist have had and still have a high degree of trust from society. The state epidemiologist has been the dominant figure publicly in the weekly or daily press conferences. The tradition of autonomy for specialized state agencies is strong. Sweden has had high rates of infection and death. The health services have coped, but have been severely stressed. Public opinion in Sweden still seems to support the Swedish strategy. The government has however seemed relatively weak.

Denmark’s approach has been lead by the Prime Minister. Denmark has a strong research institute in public health which has been active, but which also has held some controversial opinions. The public health agency/authority has been active

and profiled, but there have been public clear differences of opinion between the Health minister and the public Health Director. The differences of opinion among the various governance actors has been remarkable. Denmark has chosen a middle of the road strategy, but with relatively strict lock-down in the spring 2020 and the winter 2020/21. Denmark chose early this spring to make plans for the reopening public, even if the numbers of infection have increased slightly.

In the health legislation it is a remarkable quality that they include the cooperation among several authorities in the legislation, and the use of cross-disciplinary commissions.

Norway has chosen much the same strategy as Denmark, but has had lower numbers of contaminated. In both countries old people and immigrant populations have been the hardest hit. Denmark may have a more separated immigrant population than Norway with large numbers living within their own cultures, not so integrated. In both countries translation of information and cultural differences has been a problem in conveying information on Covid. In Norway the various governance actors seem to have worked more closely in cooperation than in the other countries. They have had different functions: - medical epidemic expertise (represented by several persons) backed by research, - public health administration combining medical expertise and administrative, - and the government who kept a leading role, but first listening to the epidemic experts. At press conferences they have been seen to overlap and supplement each other, but also allowing for differences of opinion without this being akward. The Prime Minister delegated much to the Health Minister. Both listened to the experts, but were not afraid to make political decisions on when to be strict and when to open up measures.

It is remarkable how, in Denmark and Norway, the citizens have accepted strict measures with lockdown of restaurants, shops, cultural events, with homebased offices, with partial home-schools, with allowing only 2-5 guests in private homes, over long periods of time, and with relatively low numbers of infected compared to many other countries. The British mutation of the winter 2020/21was however so much more infectious that people understood the necessity of respecting infection control measures, social distancing etc. The last year shows a continued high degree of trust in politicians and public health authorities in the handling of Covid.

In Sweden the surprise may be on the opposite side: Even if they have had much higher numbers of infected and deaths, the citizens seem still to have a high degree of trust on politicians and public health authorities.

In all three countries at least three criticisms remain:

1) The elderly were insufficiently taken care of in the first months. Many died. Those who did not were severly isolated from their close families for too long.
2) Children at risk were not sufficiently taken care of when schools closed down. The general lesson has been that one should not close down schools except for short periods.
3) Immigrant populations were not sufficiently informed particularly in the early stages. Culturally based family patterns of close interaction and lower trust in authorities were hard to change.