Evaluation of Denmark's handling of the COVID-19 pandemic – Subreport 2: Economy and companies, wellbeing and learning, and patient treatment in hospitals

Key Findings

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VIVE

Key Findings

This report is part of VIVE's overall evaluation of the experiences from the handling of the COVID-19 pandemic in Denmark. The evaluation was carried on behalf of The Epidemics Committee of The Danish Parliament based on eight broad policy-oriented questions formulated by The Committee.

Each of the overall questions in the evaluation was converted to a number of operational survey questions, which were subsequently presented to The Epidemics Committee of The Danish Parliament. The present report answers the two overall questions regarding secondary effects on economy, wellbeing and learning, and patient treatment in hospitals. The questions are covered in three separate analyses.
Though the assignment for the two questions for investigation addressed in the report was specifically to uncover secondary effects, the report does not treat causal effects but rather tendencies. As no credible counterfactual scenario exists, it is not known how the situation would have developed if the pandemic had not occurred, had taken a different path or had been handled differently, and therefore no causality can be inferred.

Effects on wellbeing and learning

Mental and social wellbeing were especially challenged – and the effects appear to be lasting

Mental wellbeing among children and adolescents has been declining over a longer period, and the pandemic has most likely exacerbated this development. The data are influenced by previous tendencies, however, which makes it difficult to draw conclusions on the direct effect of the pandemic. In contrast, questionnaire and qualitative investigations that are directly concerned with the pandemic and wellbeing indicate a more unambiguously negative effect for many groups of students. For social wellbeing, the picture is clearer. Here, clear breaks from the previous development tendencies are seen during the pandemic, which have persisted after the pandemic. In particular, the feeling of community in school decreased, while teasing increased. These changes appear as potential consequences of the social limitations, lockdowns and interrupted social communities caused by the pandemic. Interviews with experts confirm that especially social wellbeing was impacted, and that the influence of this can presumably still be seen in 2025. It is important to note, however, that there are methodical limitations. No clear counterfactual scenario exists, and there are several other factors at play that affect wellbeing.

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Academic wellbeing and learning were affected – particularly in primary and lower secondary school

Several indicators point to a considerable loss in learning in primary and lower secondary school. Both PISA results and data from The Leaving Examination of the Folkeskole (the primary and lower secondary school) show marked decreases in academic performance, particularly in reading and maths. The increasing number of students who do not pass Danish and maths at the end of 9th grade constitutes a deviation from the development in the previous years and suggests that the pandemic may have had a lasting effect on parts of the student cohort. It is important to note, though, that methodological limitations also apply here. No counterfactual scenario exists, and several other factors – such as digitalisation, changes in requirements to teaching and differences in school resources – may also have played a part.

The teachers' assessments immediately after the lockdowns were largely optimistic. Most of them expected that the students would catch up on the lost learning. However, the subsequent development in grades and passed rates indicate that not all the students managed to do this.

Large gender differences – girls were impacted more severely

Girls appear to be more severely affected by the consequences of the pandemic than boys – with regard to wellbeing and academic performance. In PISA and TIMSS surveys, a greater decrease in scores is seen among girls, and more girls than boys fail the final exams in Danish and maths at the end of 9th grade. The mental and social wellbeing among girls was also lower than for boys, both before and after the pandemic. Among other things, girls experience social isolation to a higher degree and have a lower degree of perceived class community. At the same time, the surveys do not show clear differences for all indicators, and there is still a need for more nuanced knowledge about gender and wellbeing during crises.

Age differences and transition age groups – particularly vulnerable groups

Across age groups, it is clear that they all experienced reduced mental wellbeing during the pandemic. Interviews and qualitative investigations find that transition age groups were particularly vulnerable. Many of these students had not yet developed stable group relationships and were therefore more severely impacted socially, e.g. in the form of increased isolation and weakened class togetherness. Furthermore, some data indicate that particularly the older students in primary and lower secondary school and students in general and vocational upper secondary education experienced more adverse consequences in terms of wellbeing.

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No clear social skew in quantitative data – but vulnerable students were challenged

Surprisingly, the quantitative investigations and data do not show systematic differences in the development of learning and wellbeing based on parents' level of education or ethnic origin. This is in contrast to qualitative investigations and interviews, where both school leaders and professionals believe that children and adolescents from vulnerable homes and with mental challenges were particularly severely affected. The reason for this discrepancy may be that traditional socioeconomic indicators do not fully capture the complex kinds of vulnerability that were triggered or increased during the pandemic. Factors such as housing conditions, social relationships, parents' mental health, Danish language skills and how much the family are affected by the pandemic are all mentioned as important in the assessment of children's vulnerability.

Comparison with Sweden shows that the effects cannot be ascribed to school lockdowns alone

An attempt to isolate the effect of school lockdowns was made by comparing the development in wellbeing and learning indicators in Denmark with the development in Sweden, where schools were kept open to a higher degree. For most of the indicators of both wellbeing and learning, the same tendencies were seen in Denmark and Sweden, which challenges the assumption that school lockdowns alone can explain the losses in learning. At the same time, Swedish teachers report widespread absence and disruption in classes, which shows that open schools can also be severely affected by the pandemic. The overall picture, therefore, indicates that many of the observed wellbeing and learning problems are not necessarily due to school lockdowns per se.

Long-term consequences still require attention

Several of the negative tendencies in wellbeing that were exacerbated during the pandemic appear to be lasting – especially for social wellbeing. This is confirmed by both quantitative data and expert assessments. However, the long-term consequences – for both wellbeing and learning – remain unclear and require further follow-up and more data sources to be assessed properly. This especially applies to students who were in general and vocational upper secondary education during the pandemic, where the data basis is still limited.

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Effects on the economy

The first phase of the COVID-19 pandemic dealt a severe blow to the economy

The COVID-19 pandemic created a rarely seen double blow to the economy. A negative supply blow due to higher sickness absence and lockdowns, and a negative demand blow due to uncertainty, restrictions and changes in consumer behaviour. This led to a severe drop in GDP in the second quarter of 2020 in practically the whole world – in Denmark, GDP dropped by 6%. Growth soon returned in the third quarter of 2020, however. As early as in the second quarter of 2021, Denmark reached a higher GDP level than before the pandemic, and in late 2024 it was approximately 15% higher. The qualitative development was the same in other countries, but it varied how soon the countries returned to the level of the situation prior to the pandemic.

Large aid packages protected the economy

To avoid a large increase in unemployment and a large number of company closures, several aid packages were introduced in Denmark and in many other countries, providing wage compensation, compensation for fixed costs and coverage of losses from cancelled events. This had severe negative effects on the state treasuries in all the countries involved. In Denmark, the balance fell by almost 4% of GDP, but a deficit was avoided. The low interest rates made it possible to finance the aid packages at a low cost.

The aid packages contributed to preventing an increase in the number of bankruptcies during the pandemic, and there was only a small increase in unemployment. The main reason for this was that wage compensation was given for more than 250,000 jobs during the first phase of the pandemic.

In total, the public expenses directly related to the pandemic were approximately 120 billion DKK, two thirds of which were expenses for aid packages and a third of which were expenses for increased health measures, including test centres and the vaccination intervention.

The economy soon returned to a normal level

By and large, the economy already returned to a normal level after the first lockdown in 2020. The economic indicators clearly show that the economy was not impacted to nearly the same degree in the second and third phase of the pandemic, neither in Denmark nor abroad. This is most likely due to a combination of less uncertainty and an adaptation to the situation during the later phases. Although the

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second and third phases are less visible in the overall economic overview, there was a large influence in the specific sectors with limited ability to adapt production, such as hotels, course centres, nightclubs and bars.

Despite expectations of a drop, house prices rose

Cyclical backlash usually also affects the housing market, so the expectation at the beginning of the pandemic was that the housing market would see a considerable drop in prices. In Denmark, however, real house prices increased by 12% from late 2019 to mid-2022. Low interest rates, fewer consumption options because of lockdowns, limitations on, for instance, travelling abroad and an increased housing demand all contributed to this development.

Following the COVID-19 pandemic: A sharp rise in inflation in 2022

From mid-2021 to the autumn of 2022, inflation rose sharply all over the world – to levels not seen for decades in most Westerns countries. Among the reasons for this high inflation were increasing energy prices, Russia's invasion of Ukraine, increases in demand and disruptions in supply chains. The increase in demand and disruptions of supply chains were partly caused by aftereffects of political interventions during the pandemic.

Insights: Economic aid packages and an active involvement of experts worked well

Independent experts played an important role in the handling of the pandemic, and several work groups with various roles were set up. Common to them all was that they were required by the government to analyse various aspects of the COVID-19 situation. In March 2020, informal meetings were held with a few economists, but it was not until April 2020 that an expert group of economists was appointed to advise on the reopening of Denmark. The multidisciplinary collaboration and the collaboration between civil service and experts is emphasised as something Denmark handled well.

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Effects on the hospitals' treatment of patients

Intensive care staff were a critical factor – at no time did Denmark reach maximum capacity in the intensive care area

The area of intensive care was central to the health service's handling of COVID-19. Especially in early 2020, the authorities were worried about a shortage in intensive care beds, as the prognosis showed a need that was greater than the capacity. Therefore, on March 13, 2020 the health authorities instructed the regions and hospitals to reduce, in particular, planned (elective) treatment to free resources. Denmark never exceeded maximum capacity in the area of intensive care during any of the phases. The largest number of intensive care patients was about 150, but the worst-case scenario in March 2020 prescribed a need for 925 intensive care beds for COVID-19 alone. Hospital beds for non-intensive medical treatment, on the other hand, came close to the capacity limit, especially during phase 2.

Overview of hospitalisations, including for intensive care, when the incidence of COVID-19 infection was highest for each phase

	First phase	Second phase	Third phase
Number of patients in hospital with a positive test for SARS-CoV-2	Approx. 530	Approx. 960	Approx. 650
Number of patients in intensive care units with a positive test for SARS-CoV-2	Approx. 150	Approx. 140	Approx. 75

Source: Statens Serum Institut (2020a); Sundhedsstyrelsen (2021d), (2022a).

An important learning point is that staff – not equipment or beds – is the most critical factor in the intensive care capacity. As intensive care staff are highly specialised and few in number, the work during the pandemic was restructured to utilise the resources better. In order to strengthen future pandemic preparedness, there should be a special focus on securing sufficient intensive care staff. This can be done, for instance, by making plans for relieving this group and determining the best way to include private intensive care capacity, as well as ensuring sufficient dimensioning in the training of intensive care staff. Furthermore, it is important from the outset also to consider the intensive care specialty in central decision-making forums.

The hospital system had no plans to stand on but managed nevertheless

When COVID-19 hit Denmark, the hospital system lacked plans for an extended pandemic. In spite of this, hospitals succeeded in adapting their running quickly and

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effectively. This success, however, was made possible by, for instance, extra economic freedom, existing collaborations and the ability to expand because of ongoing hospital building projects – factors that we cannot or should not count on being present in the next unexpected health crisis. The evaluation points to the need for clear expectation reconciliation with the authorities with regard to what the right level of preparedness should be in the future.

Particularly the first phase severely challenged the hospital system

The evaluation shows that the reduction in activity in March of 2020 especially affected elective treatment, which was almost halved – in accordance with the recommendations of the Danish national board of health. Secondary effects were also seen, however. For instance, people who did not see a doctor out of fear of infecting others or uncertainty regarding access to health services. The lockdown most likely also led to fewer accidents and infections. Some patients had their treatment postponed several times with no follow-up on developments, which made their condition worse.

A central learning point is that the Danish hospital service is a very large entity, and that the centrally decided reduction in activity led to considerable overcapacity so that staff were sent home or had no relevant tasks to perform, just as hospitals got behind in treatments.

The COVID-19 pandemic increased social inequality in health, as vulnerable groups were both more vulnerable and more often did not seek treatment. This highlights the need for targeted interventions for vulnerable groups in future health crises.

General practice and private hospitals experienced challenges in the collaboration with the public hospitals, which limited the combined health service's ability to adapt. An important learning point is that more reasonable frameworks should be created for collaboration, if hospitals need to prioritise among different patient groups in a future crisis situation.

Scaling plans are effective in flexible planning and require real-time data

Unlike in the first phase – where sudden and centrally controlled reduction in activity led to pockets of overcapacity – later in the pandemic alle regions began working with scaling plans as a tool for flexible planning and adaptation of hospital services to follow the changes in COVID-19 infection levels.

A central learning point from the pandemic is that scaling plans are an effective tool for flexible planning and adaptation of capacity. Scaling plans can thus be used to

find a balance between different treatment needs, and real-time data and a systematic data infrastructure are crucial in relation to this.

The second and third phases: Extended pressure a challenge along several parameters

The long duration of the pandemic put a large strain on the hospital staff both mentally and practically, which made fatigue a central challenge. In future, prevention of fatigue among key staff should be a priority. There were also considerable regional differences in infection levels, which shows the need for regional relief in extended crises.

The nature of sequelae treatment changed, and the activity is back to pre-pandemic levels

With COVID-19, a new patient group suffering from sequelae following infection with COVID-19 appeared. Due to, among other things, fewer patients than expected and the fact that the condition is difficult to delimit, sequelae clinics were closed in 2023 and treatment was moved to the primary sector. This caused some patients to voice a desire for more cohesive treatment processes, which confirms some of the challenges encountered by the specialised health service in relation to meeting the treatment needs of patients with diffuse symptoms.

The pandemic led to longer waiting times, but activity levels returned to normal in the spring of 2021. The subsequent lagging behind in treatments was not due to the pandemic only, but also to the nurses' strike in the summer of 2021, among other circumstances. The emergency plan resulted in waiting times and activities returning to pre-pandemic levels in late 2024.

Facts about the investigation

The evaluation combines desk research with qualitative interviews. 18 interviews were carried out with 16 different organisations, and supplementary quantitative data sources were used from national and international databanks and statistics. The literature mainly consists of grey literature with emphasis on Danish reports, evaluations and papers from public authorities.

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