Nordic Welfare Centre

The impact of the COVID-19 pandemic on social isolation and loneliness

A Nordic research review

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Foreword

The COVID-19 pandemic has in many ways challenged the health and well-being of people, and more widely, the welfare systems in the Nordic countries. Due to regulations and lockdowns, many people have experienced social isolation, and certain vulnerable groups – such as older adults and those with disabilities – have been hit especially hard. As loneliness has implications for people's long-term mental and physical health, the consequences of the pandemic are significant for health and social care as a whole.

To draw attention to the social impact of COVID-19, the Nordic Council of Ministers assigned the Nordic Welfare Centre to explore the experiences of social isolation and loneliness during the pandemic and to provide a compilation of available Nordic knowledge. Did loneliness increase during the pandemic, then? If so, for whom? How can social isolation and loneliness be reduced? In two separate publications, we strive to answer these questions.

The first report, The impact of the COVID-19 pandemic on social isolation and loneliness. A Nordic research review, surveys empirical studies conducted in the Nordic countries. The literature review was carried out by professor Marja Aartsen and research assistant Franziska Rothe at OsloMet between April and September 2022. The report describes the impact of the pandemic on loneliness and social isolation among adults, and also identifies groups that were particularly vulnerable to loneliness and social isolation.

The second report, Reducing social isolation and loneliness during the COVID-19 pandemic. Examples of promising practice from the Nordic countries, presents cases of what was done in the Nordic region to alleviate loneliness during the pandemic. The material for this report was collected between June and September 2022. Michaela von Kügelgen, a journalist and a social scientist, draws from a pool of different examples to show that there are many ways to tackle social isolation and loneliness.

The COVID-19 pandemic highlighted many challenges to our Nordic welfare systems. To realise our vision of a socially sustainable Nordic region, we need means, reforms, and methods that contribute to good health and welfare for all. By sharing research and experiences across the Nordic region, we hope to be better prepared for future crises.

The Nordic Welfare Centre would like to thank the authors Marja Aartsen, Franziska Rothe, and Michaela von Kügelgen for their excellent work. Invaluable support has been received by the Nordic expert group of specialists and researchers on loneliness and social isolation. Thank you for insightful conversations over the years.

Eva Franzén, Director, Nordic Welfare Centre

Executive summary

Background and aim

In March 2020, the World Health Organization declares the COVID-19 outbreak to be a global health crisis. In the more than two years following this declaration, governments over the world take measures to slow down the spread of the virus and to ensure that hospitals can cope with surges of COVID patients. The social distancing regulations and lockdowns have a deep impact on people's social lives, and many are cut off from in-person contact with family, friends, and some even from their partners, and the wider society.

This report describes the impact of the COVID-19 pandemic on loneliness and social isolation among younger and older adults living in the Nordic countries, with and without disabilities, and in different situations. By means of a literature review of empirical studies on Nordic residents, this report answers the following questions: 1) What was the impact of the pandemic in terms of loneliness and social isolation among various groups in the Nordic countries; 2) Which groups were particularly susceptible to loneliness and social isolation during the COVID-19 measures?; 3) What were the (typical) mechanisms through which COVID-19 measures affected loneliness and social isolation in each group; and 4) Did the findings vary across the Nordic countries, and if so, how?

Methods

A literature review of research on the social impact of COVID-19 was conducted between April 11 and September 22, 2022. We searched the Web of Science, a global citation database giving access to multiple electronic databases, and the WHO Global research database. We selected all articles that (1) focused on the COVID-19 pandemic, (2) reported on experiences of loneliness and/or social isolation as an outcome of the pandemic, and (3) included studies where the study participants came from the Nordic countries. In total, 45 studies provided information that helped us to answer the research questions.

Findings

The social distancing regulations imposed by the government, healthcare institutions, and by people themselves led to a substantial and sudden drop of in-person contact with family, friends, colleagues, neighbours, students, and healthcare professionals in all parts of society. However, while a large proportion of the population were socially isolated during lockdowns, the increase in loneliness was relatively modest in the first wave, at least among healthy people without special support needs, but loneliness increased gradually the longer the pandemic lasted.

For people with underlying health issues and specific needs for support, the negative consequences of the pandemic were more substantial. The loneliest people included severely ill patients in intensive care units (ICUs), hospital patients in general,

students, older adults in care homes, and people who self-isolated to mitigate the risk of infecting others or being infected themselves. COVID patients who were hospitalised experienced strong feelings of isolation and loneliness and nightmares, even after being discharged from hospital. Students were disconnected from their peers at a critical time of life marked by complex hormonal, cognitive, behavioural, and social transformations, when support from peers and friends is important. Other people at risk for loneliness were the oldest-old (85+), people with disabilities, those living alone, people with lower education, unemployed people, and those with a psychiatric diagnosis or mental illness. Women had a greater risk of becoming lonely, which may be partly related to other factors that occur more often among women (living alone, unemployment, higher levels of depression).

Another aspect that might have contributed to loneliness was the way in which healthcare institutions and governments communicated regulations on social distancing and adhered to it, especially at the beginning of the pandemic. Some studies mentioned that the communication and instructions were unclear and/or inconsistently followed, especially in the first wave, which lowered trust in institutions and increased concerns. Worrying and low levels of trust are associated with enhanced feelings of loneliness. At the same time, public debate about loneliness raised awareness of who were most at risk of becoming lonely. This encouraged staying in contact with the most vulnerable people by telephone or online and provide practical help. It also raised awareness of a sense that we are all in the same isolated situation together, which may have increased resilience against loneliness even among risk groups. The way in which healthcare professionals coped with the overwhelming number of patients prompted public praise and encouragement for medical staff in hospitals and care homes (e.g., healthcare professionals being publicly applauded).

Our fourth question, about potential differences between the Nordic countries, could not be answered as there were no studies comparing the countries directly. While available data from European and worldwide databases allowed us to compare the statistics about numbers and severity of COVID-19, no direct comparisons could be made on the social impact of the pandemic.

Limitations of the selected studies

Most of the studies included in this review were conducted during the first wave of the pandemic, which means that the findings mainly relate to the first two lockdowns. Most studies were based on one measurement, which does not provide solid information on the impact of the pandemic on loneliness and social isolation. Moreover, healthier, higher educated people and women are often overrepresented, while the loneliest people and oldest-old are often underrepresented. This may have slightly distorted the results.

Advice to policy and practice

Lessons learned so far from the pandemic and its impact on loneliness and social isolation show that it is important to provide a clear and consistent message about

the regulations to slow down the spread of the virus. While the impact on loneliness was modest during the first wave, the consequences increased the longer the pandemic lasted. It is essential to focus on groups at risk for loneliness, that is, people in hospital and nursing or care homes, people with disabilities, those with mental diseases, oldest-old and students, and to some extent the lower educated and unemployed people. It is also important to realise that the pandemic-related feelings of loneliness did not disappear immediately for all groups once the social distancing regulations were lifted. This calls for long-term attention to the most vulnerable groups. Interventions seeking to prevent increased loneliness as resulting from social distancing or social isolation should be tailored made, as the one-size-fits-all approach does not do justice to the heterogeneity of the population, especially among the oldest old.

Introduction

This report describes the impact of the COVID-19 pandemic on loneliness and social isolation among younger and older adults living in the Nordic countries. The social distancing regulations and lockdowns have had a deep impact on people's social lives.

In March 2020, the World Health Organization declared the COVID-19 outbreak, which started in December 2019, to be a global health crisis. In the more than two years following this declaration, governments in the Nordic countries, as well as in the rest of the world, took a series of measures to slow down the spread of the virus and help hospitals, which had been pushed to the edge of their capacities by the surge of COVID patients.

Schools and public places closed, hospitals and nursing homes did not allow family and other visitors, social gatherings were heavily limited, and movement within and across borders was restricted. This had major consequences on people's social lives, and many were disconnected from family, friends, and the wider society.

Aim of the report and research questions

The Nordic Council of Ministers is now interested in the social consequences of the COVID-19 pandemic, specifically with respect to the impact on loneliness and social isolation. They asked the Nordic Welfare Centre (NWC) to provide this knowledge. This report will do so by answering the following four questions:

1. What was the impact of the pandemic on loneliness and social isolation among different groups living in the Nordic countries?
2. Which groups were particularly susceptible to loneliness and social isolation during the COVID-19 measures?
3. What were the (typical) mechanisms through which COVID-19 measures affected loneliness and social isolation in each group?
4. Did the findings vary across the Nordic countries? How?

Our answers to these questions are based on a literature review of recent empirical studies on COVID-19 in the Nordic region, including Denmark, Finland, Iceland, Norway, and Sweden, and, if data is available, the Faroe Islands, Greenland, and Åland. Public databases such as Our World in Data provided information about the number of cases, deaths, intensive care unit (ICU) admissions, and excess mortality rates. Research papers on children, refugees, and immigrants were excluded as these groups are studied in more detail in other projects at the Nordic Welfare Centre.

Defining terms

To interpret the study results and to design interventions, we need a clear understanding of the key concepts of loneliness and social isolation, and how they differ from being alone. While the terms are sometimes used as synonyms, they are in fact rather different. Loneliness is a subjective feeling that is different from being alone. People can feel lonely in a crowd, and those who are alone are not always lonely. Social isolation, in turn, is an objective state of being alone as a consequence of regulations or other people's behaviour that excludes people, or makes them exclude themselves from other people and society. In line with current scientific practice, we use the following definitions:

Loneliness is

> "... a situation experienced by the individual as one where there is an unpleasant or inadmissible lack of quality of certain relationships. This includes situations in which the number of existing relationships (or quantity) is smaller than is considered desirable or admissible, as well as situations where the intimacy (or quality) one wishes for has not been realized (de Jong Gierveld, 1987, p. 120)."

Sometimes, a distinction is made between social and emotional loneliness as two qualitative distinct types of loneliness. Social loneliness occurs when the number of social relations is too small, whereas emotional loneliness refers to the lack of an attachment figure or an intimate relation such as a partner (Weiss, 1973). A third type of loneliness, existential loneliness, is increasingly being recognised as a type of loneliness associated with a general lack of meaning in life (van Tilburg, 2022).

Social isolation is an objective state of being alone marked by few or infrequent social contacts, which is the outcome of processes and regulations in the society in which people live that exclude people or force people to exclude themselves.

Being alone refers to the objective situation in which people have no contact with other people for a relatively short period of time. It is a necessary but not sufficient condition for social isolation. Being alone can be a positive situation if people want to be alone, in solitude (Cacioppo et al., 2010).

Developments in COVID cases in Nordic countries from January 2020 to April 2022

To contextualise this report, we will first provide a short overview of the COVID-19 statistics in the Nordic countries and highlight measures that may have affected the social functioning of people during the first 28 months of the pandemic (January 2020 to April 2022). For a more detailed overview of the developments of the pandemic, see State of the Nordic Region 2022.

The first cases of COVID-19 in the Nordic countries were detected in Finland and Sweden at the end of January 2020. The virus started to spread more visibly a month later when people took the virus with them on their return from winter holidays. On March 11, 2020, the World Health Organization (WHO) declared COVID-19 to be a pandemic. At this point more than 2500 cases were observed in the Nordic countries, mainly in Norway (912) and Denmark (755). The SARS-CoV-2 coronavirus that dominated during the first wave gradually mutated from Alpha, Beta, Gamma, and Delta into Omicron, which is currently the dominant variant (https://www.who.int/activities/tracking-SARS-CoV-2-variants). The virus grew more contagious, but the symptoms became less severe. Consequently, the number of daily cases rose exponentially in the period between October 2021 and April 2022, while the number of ICU admissions remained low.

Absolute and relative number of cases

Until April 2022, there were three waves or periods with steep increases in the number of cases in the Nordic countries. The first wave was from March to July 2020, the second from November 2020 until roughly June 2021, and the third from late October 2021 until April 2022. On April 25, 2022, the cumulative number of cases in the Nordic countries since the start of the pandemic was 8,228,503, of which 31,417 (0.38 per cent) died due to COVID-19.

Denmark and Sweden were the two Nordic countries with the highest absolute number of cases (> 3 million and 2.5 million cases, respectively), followed by Norway (1.4 million), Finland (1.0 million), Iceland (185,000), Faroe Islands (34,000) , Greenland (12,000), and Åland (9,508). However, the Faroe Islands, Iceland, and Denmark had the highest proportion of people infected in the whole population (64 per cent, 50 per cent, and 50 per cent, respectively). (Data comes from Our World in Data and WHO for all countries, except for Faroe Islands (data derived from korona.fo, and updated until 22/2/2022) and Åland (data derived from Reuters, updated until July 2022).)

Number of deaths

The cumulative number of COVID-19 deaths per million people until April 25, 2022 was highest in Sweden (1,785) and Denmark (1,046) and lowest in Greenland (373), Iceland (321), and Åland (no reported deaths). Note that the number of cases or deaths only gives an impression of the magnitude of the problem within the countries. It cannot be used to compare countries (Fitzpatrick, 2021), as cases and the number of deaths

depend, among others, on demographic factors such as age distribution and population density, number of tests per person, registration practice, and ethnicity, which tend to be rather diverse in the different Nordic countries.

Admissions to intensive care and excess mortality rate

A better way of making between-country comparisons is to compare the number of ICU admissions and the excess mortality rate, which give an impression of the severity of the disease. According to Our World in Data, the COVID-19 disease was most severe in Sweden and Denmark with 50 and 25 admissions, respectively, per million during the first wave and 40 and 22, respectively, during the second wave. Information was not available from Norway. In Iceland, the severity was especially high during the third wave.

The excess mortality rate is the number of deaths during a crisis above and beyond what is expected under normal conditions (Fitzpatrick, 2021). All Nordic countries except Greenland and the Faroe Islands had an excess mortality of +3 per cent to +5 per cent, indicating more deaths than normal. At the beginning of the pandemic, Sweden had the highest excess mortality rate (+10 per cent), but the rate went down as the pandemic progressed. The negative percentages observed in Greenland and the Faroe Islands (fewer deaths than normal) may be a consequence of the small number of inhabitants, leading to more uncertain estimations. This finding should therefore be interpreted with caution.

COVID-19 measures

In response to the COVID-19 pandemic, all Nordic governments took measures to curb the transmission of the virus, albeit in different intensity and with different timing. The most impactful responses both for individuals and societies were the worldwide development of vaccines, introduction of vaccination programmes, social distancing, and lockdowns. Sweden differed from the other Nordic countries by later introduction of lockdowns. This may explain why the number of cases in Sweden rose quite quicky and why, among the Nordic countries, the disease was the most severe in Sweden. Regulations which had the strongest social consequences were without doubt the social distancing measures such as the closing of hospitals and care homes for visitors; closing schools, restaurants, cafes, and other public places; remote working; and the self-isolation of older adults (in Sweden, for people aged 70+); quarantine for people with symptoms; and travel restrictions both between and within countries.

After(?) the pandemic

After April 2022, most of the measures were lifted in all Nordic countries, as the number of new cases was low and the symptoms were on average mild. Currently (September 2022), the 7-day average of cases lies between 0 (Faroe Islands and Greenland) and 800 in most other Nordic countries, which is lower than in August 2022. But we have already seen that the situation can change rapidly, and it is unlikely that the pandemic is over. On July 19, 2022, the WHO warned of 'rapidly escalating COVID-19 cases' in the whole European region in the autumn and winter of 2022. Lessons learned from the first two years of the pandemic may nevertheless inform future interventions to lower the impact on the social lives of citizens in the Nordic countries.

Methods

This study is a literature review of empirical studies on the social impact of COVID-19 on Nordic residents. The research search was conducted between April 11 and September 22, 2022. In total 45 studies were used for the study.

Literature review

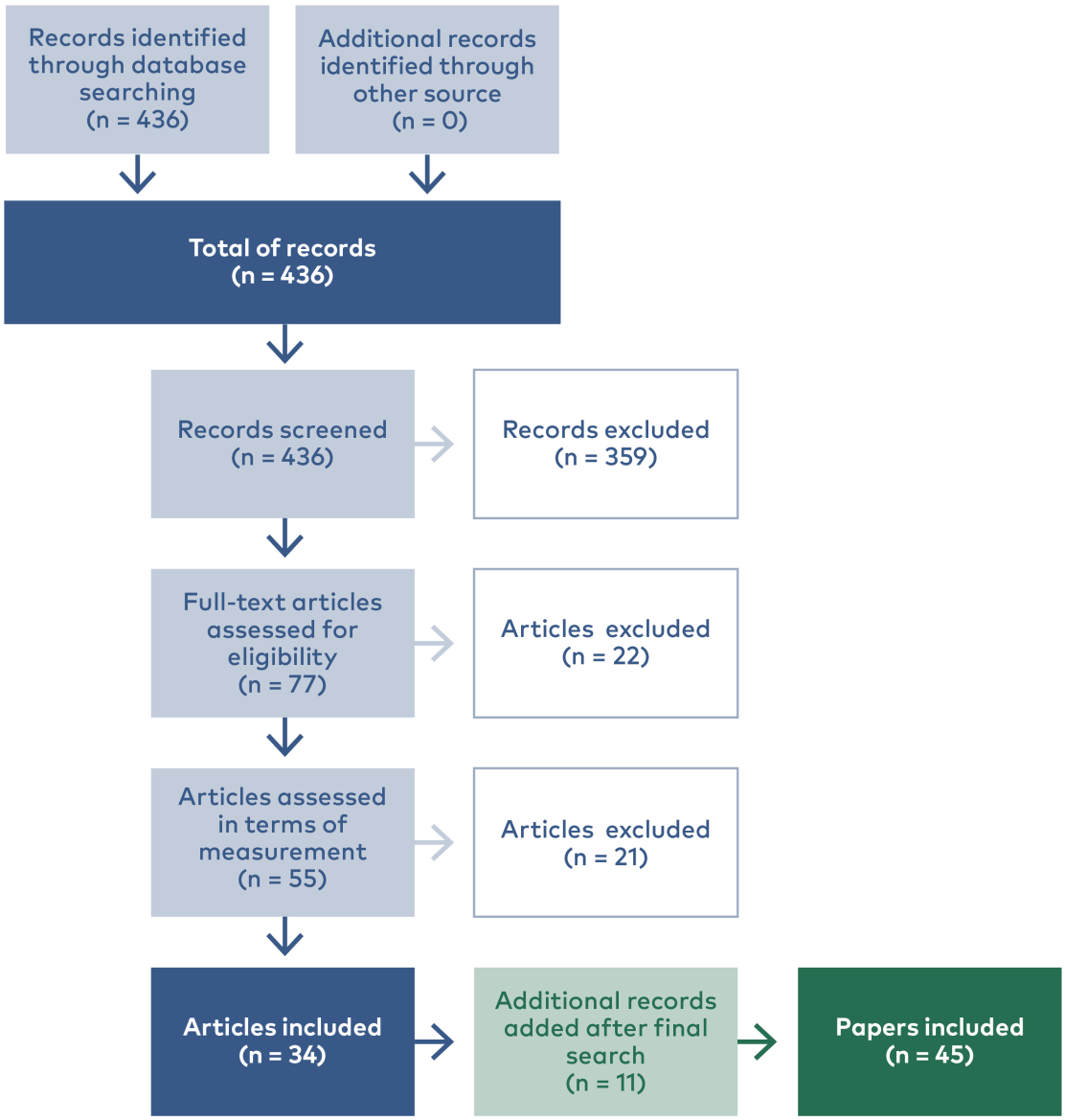
The literature review is based on a search of Web of Science, a global citation database which gives access to multiple electronic databases. The initial search was conducted between April 11 and April 19, 2022. Articles had to fulfil the following inclusion criteria: (1) focus on the current COVID-19 pandemic, (2) report on experiences of loneliness and/or social isolation as an outcome of the pandemic, and (3) study participants should come from the Nordic countries. This could involve participants from other countries, too. Taken as a whole, the studies cover the entire population except children, refugees, and immigrants, who are included in other NWC projects. We searched the database using the keywords 'COVID-19' (or coronavirus, or corona pandemic, or SARS-CoV-2) and 'social isolation' or 'loneliness'. The search was then refined by the Nordic countries.

This initial search resulted in a total of 436 records. Those that did not meet our inclusion criteria were excluded after screening the abstract, and the remaining full-text articles (n=77) were then screened for eligibility. Literature reviews, commentaries, and studies that did not measure loneliness or social isolation were removed (n=22). We also excluded articles (n=21) that treated loneliness or social isolation as predictors of other indicators of well-being or which combined loneliness or social isolation with such indicators.

On July 22, we checked the WHO Global research database for any additional papers but there were no other publications relevant for this report. On September 21, 2022, the draft report and selection of studies was discussed in the project's reference group of Nordic researchers studying loneliness and social isolation. As a result, two reports with information on older Swedish people were added. We did a final search of Web of Science with the same keywords on September 22 to include relevant

studies published after our initial search and found 11 more studies. In total, 45 studies provided information for answering the research questions (Figure 1).

Figure 1. Flowchart of the selection of literature for the report



Limitations in the selected studies

Before discussing the studies and answering the research questions, we stress that the studies included in this report were not designed to answer our research questions. This resulted in several limitations. The perfect study to answer our research questions would include all Nordic countries, have representative samples of all subgroups, and follow the same people before and during the whole pandemic. Such studies do not exist. Most studies were conducted during the first wave, while a limited number (also) included data until the end of the second lockdown (March–May 2021). Our findings thus emerge mainly from the first one or two lockdowns of the pandemic. Many studies were cross-sectional, that is, a study at a specific point in time. This does not allow for conclusions on changes in loneliness from before or during the pandemic. Study samples were not always representative for the population under study, as healthier, higher educated people, and women are often overrepresented, while the loneliest, the oldest-old, and the most isolated people may be underrepresented. Many studies collected the data online, which is a reasonable method given the social distancing regulations, but it excludes people who have no access to internet or lack the skills to use it (most often the oldest-old).

A positive exception was the study of Pedersen and others (2022), where many of the limitations did not apply. In this study, data were collected from a large sample of Danish people aged 18 years and over in Denmark during the first 16 months of the pandemic. From March 2020 until July 22, 2021, data were collected at 43 points in time, and at each of these points a sample of individuals 18 years and over were asked to fill in an online questionnaire. The data of each survey was weighted to account for age, gender, and the regional composition of Denmark. This weighting and unique data collection enabled researchers to estimate precise developments in loneliness and social isolation (among others) during the first two waves. They further investigated differences between men and women, younger middle-aged and older adults, and people who had previously self-reported a diagnosed chronic and/or mental illness.

Results

Based on a literature review, this report answers the following questions: 1) What was the impact of the pandemic in terms of loneliness and social isolation, 2) Which groups were particularly susceptible to loneliness and social isolation?, 3) What were the typical mechanisms for this; and 4) Did the findings vary across the Nordic countries?

Most of the selected studies for this report were based on Norwegian people (10 studies) or included people from Norway and other countries (5), followed by studies based on Danish people (10) or studies including Danish and other people (2), Sweden (9), Finland (6), and Faroe Islands (1) (see Table 1). We are not aware of studies with people from Greenland, Iceland, or Åland that met our selection criteria. The selected studies have a wide variety of study populations. Twenty-eight studies had samples drawn from the general population, including the whole population (2), the older population (11), the younger population (2), informal caregivers (2), and other subgroups (workers, unemployed people, and people using social media; 11 in total). Seventeen studies were based on clinical samples (people with COVID-19, diabetes, cancer, chronic obstructive pulmonary disease, or psychiatric illnesses), and four on groups at risk (pregnant women, those at risk of dementia, and people with disabilities).

What was the impact of the pandemic on loneliness and social isolation among different groups living in the Nordic countries?

The 45 studies selected for this review were categorised as focusing on the following groups of people: older adults, younger adults, people with health problems or disabilities, social media users, pregnant women, and informal caregivers.

Older adults

A large online survey in Norway among more than 10,000 people found that the proportion of older (65+) people feeling lonely during the first months of the pandemic was two to three times lower than among younger age groups (aged 18–24

years). Almost 10 per cent of the older men and 11–14 per cent of the older women were lonely, compared to 28 per cent of the younger men and 21 per cent of the younger women. Loneliness increased slightly during the first months of the pandemic with 0.4 to 1.8 per cent for 65+ men, and with 2 to 6.5 per cent for older women (Hansen et al., 2021c). In the second half of November 2020 –at the start of the second wave and after prolonged health threats and social distancing –the same people were contacted again. Now the increase in loneliness as compared to before the pandemic was more substantial especially for older women, regardless of educational background or place of residence (rural area or city), (Hansen et al., 2021b). While the prevalence of loneliness was lower among older adults, they felt lonely for a longer time. For some, loneliness remained at a higher level even after the regulations were lifted (Hoffart et al., 2020).

A Danish study (Clotworthy et al., 2021) collected online data during the first months of the pandemic among older people (65+), families with children living at home, and the general population (aged 18–87). The researchers did not measure loneliness but raised one question about social isolation. Overall, feelings of social isolation increased slightly in the oldest age groups but were rather stable in the general population and in families with children. It was concluded that people in Denmark coped well with respect to loneliness during the first wave of the pandemic, although the majority was worried about someone close to them becoming seriously ill. In another Danish study, Pedersen et al. (2022) collected data at 43 points in time from March 20, 2020, until shortly after the second wave (July 22, 2021). The study found a fluctuating pattern in the development of social isolation and loneliness for all ages, with peaks in social isolation and loneliness during the lockdown periods. Danish older adults experienced lower levels of loneliness than younger age groups during the first 16 months of the pandemic.

In a wealthy urban area in Stockholm, Beridze and others (2022) conducted telephone interviews during the first months of the pandemic to investigate, among others, loneliness among people aged 68+. Study participants (N=1231) came from the Swedish national study on aging and care in Kungsholmen (SNAC-K), a downtown area of Stockholm with higher socio-economic positions than in the average population in Sweden. The findings are therefore not representative for the whole older population in Sweden. Overall, Beridze and colleagues found that one-third (33.4 per cent) felt severely lonely. To put this percentage into perspective, the pre-pandemic prevalence figures ranged from 7 per cent (Yang & Victor, 2011) to 13 per cent (Dahlberg et al., 2018) and 14 per cent (Sonde & Johansson, 2020) among older adults in Sweden. Conclusions that the higher prevalence in Kungsholmen is due to the pandemic are, however, compromised by the nonrepresentative sample. In another Swedish study among older adults aged 65–71 years (Kivi et al., 2021), the level of loneliness was rather stable over four years preceding the pandemic and including the first two months of the pandemic.

We found two Finnish studies that investigated the impact of the pandemic on the social life of older adults, one qualitative study (Kulmala et al., 2021) and one

quantitative study (Latikka et al., 2022). In the quantitative study of older adults until the age of 77 (Latikka et al., 2022), it was found that the prevalence of loneliness shortly after the first wave (May–June 2020) was 9.7 per cent. This is similar to the prevalence of loneliness in December 2017 (9.8 per cent) but lower than in March-April 2019 (11.4 per cent). Note that this prevalence is based on the 21–77 age group and that the results were not specified by age group.

In the qualitive study among 15 people aged 80+ living in eastern Finland, Kulmala et al. (2021) examined changes in social contacts during the first and second wave of the pandemic. During this time, the number of in-person social contacts reduced significantly, and many of the 15 study participants felt socially isolated. However, the researchers also found that for some people the number of people with whom they interacted had increased, as some contacts were re-established with friends who they had not met in many years. For another group, in-person contacts were replaced by online social contacts, for example by means of calling or using WhatsApp or other social media. Some were careful to a fault, avoiding all in-person contacts and at times refusing help with going for a walk, because they did not want to be a burden. They felt that they lacked the cognitive capacities to learn how to interact socially online and refused to use social media. It is this latter group where loneliness increased during the first two waves of the pandemic. However, results of this qualitative study cannot be extrapolated to the general older population because of the small non-representative sample.

One study addressed older adults living in the Faroe Islands (Eliasen et al., 2022). In total, 227 people aged between 82 and 87 were included in the telephone interviews. Most of these people stayed in voluntary isolation at home. The prevalence of loneliness at the end of the first wave increased from 7 per cent two years before the pandemic to 22 per cent in June–July 2020 (Eliasen et al., 2022). However, the assessment basis of loneliness changed from a self-administered questionnaire before the pandemic to a telephone interview during the pandemic. People may be reluctant to admit in a personal interview that they are lonely, which means that the real increase may be (slightly) higher. There was no information about social isolation, but two questions about satisfaction with social relations and satisfaction with supportive friends suggested that people were happier with their social networks during the pandemic than before.

Younger adults

Based on an online survey in Norway among more than 10,000 people, Hoffart and colleagues published two studies that also included young people. The data collection is representative for the whole population, except for gender and education, where women and higher educated people are overrepresented. The first study (Hoffart et al., 2020) was conducted when the social distancing regulations were implemented for two weeks. In these weeks, levels of loneliness were higher in the younger age groups as compared to the older adults, but age differences were small. On a scale from 8 to 32 where higher scores indicate more loneliness, every year younger was related to a 0.02 higher score on the scale. After most social distancing protocols

were lifted, loneliness was measured again (Hoffart et al., 2022). It was found to be stable among most (80 per cent) of the younger adults, but it increased among 7.4 per cent and reduced among 13.6 per cent of the younger adults. Younger adults recovered more quickly than older adults, when the regulations were lifted.

Other studies have also observed a higher prevalence of loneliness among younger as compared to older adults. In Denmark, the younger adults felt loneliest and most isolated during the pandemic compared to all other age groups (both during and after the waves) (Pedersen et al., 2022). In the online study by Hansen et al. (2021c), it was also observed that the prevalence of loneliness was higher among the youngest cohorts (18–24 years) at the beginning of the pandemic in Norway. More than one quarter of the younger men (28 per cent) and one out of five of the younger women (compared to 8–9 per cent for older men and 11–14 per cent for older women) felt lonely during the first wave. The higher prevalence of loneliness among younger adults can only partly be attributed to the pandemic, as loneliness increased with a relatively modest 4.7 per cent in younger men and was stable for most of the younger women.

People with health problems or disabilities

It can be argued that people with mental, cognitive, or functional health problems and people with functional disabilities are a specific group of people with respect to loneliness and social isolation. Their symptoms of COVID-19 might be more severe and their fear of getting infected higher. Consequently, people self-isolated to a great extent, which in turn increased the risk for loneliness. Studies have found that the social impact of the disease has been particularly severe for people with health problems or functional limitations.

One study (Engström et al., 2022) examined **COVID-19 patients** who had been treated in ICUs. These people expressed strong feelings of isolation and loneliness, and had nightmares about terrifying events, death, and dying, even months after hospital discharge (Heiberg et al., 2022). We do not know whether the strong feelings of loneliness and isolation were a consequence of the isolation of COVID patients, or if they related to the life-threatening disease as such, but similar results for loneliness were found in another study among people with a life-threatening disease such as cancer (Hanghøj et al., 2021). Not being able to provide or receive support was challenging. Some also had to make vital decisions on their own as access to the hospitals and doctors was restricted to the patients alone. This arguably impacted heavily on their feelings of loneliness. It was concluded that the forced isolation from meaningful contacts was the most important reason for the loneliness of people with a life-threatening disease.

In a qualitative study among 13 **chronic obstructive pulmonary disease (COPD) patients** (Mousing & Sørensen, 2021), it was observed that this group of patients often self-isolated because of their intense fear of dying of COVID. This led to intense and frequent feelings of loneliness and being forgotten or isolated. Not only was contact with friends and relatives limited, but they also missed the contact with healthcare professionals. Telephone and video calls could substitute the physical

contacts to some extent. Self-isolation was also identified in another Danish study of (Kusk et al., 2021), in which 18 people with COPD were interviewed shortly after the end of the first COVID wave (June–July 2020). These patients felt similarly forgotten and not being part of society. Some were completely isolated for weeks, only seeing the family through the window.

There are concerns that **people with mental health problems** may be particularly vulnerable to the impact of the pandemic. We found five studies that included people with mental health problems. In an online survey during the first months of the pandemic among a representative sample of people with mental disorders living in Denmark, Kølbæk and others (2021) observed that more than half of the sample felt that their mental health became worse during the pandemic because of increased feelings of loneliness and the social isolation. In a Norwegian online survey that took place two weeks after the implementation of the first lockdown, Hoffart and colleagues (2020) recognised that people with a psychiatric diagnosis, and those with anxiety and depressive symptoms, were lonelier than mentally healthy people. The differences, however, were small. According to Pedersen and others (2022), people with one or more mental illnesses felt more socially isolated during the whole pandemic than did people without mental illness. Feelings of social isolation were highest during the lockdowns and faded as soon as the society re-opened. Also, loneliness was more common among people with mental illnesses as compared to people without them, but in contrast with developments in social isolation, loneliness did not fade immediately after lockdown ended. Finally, Barrett and others (2021) found that more than half (55 per cent) of the people with a bipolar and/or psychotic disorder were lonely and 51 per cent felt that their condition got worse during the first lockdown (data from June 2020). Also, 76 per cent of the people with a bipolar and/or psychotic disorder felt socially isolated, while 69 per cent said that social isolation became stronger during the first lockdown.

A quantitative Finnish study (Lehtisalo et al., 2021) during the first months of the pandemic included **older adults with an increased risk of cognitive impairment**. Most (80 per cent) of them had one or more chronic diseases. Based on a postal questionnaire among 613 older adults with an average age of 77, it was observed that three quarters of the respondents adopted social isolation practices, mostly by reducing contact with friends and some by reducing contacts with family. Approximately one-third of the respondents felt totally isolated (self-initiated or authority-enforced), while loneliness increased for only 21 per cent of the people during the first wave. Other study participants (40 per cent in total) increased remote contacts with others. People who lived with a partner and did not adhere to any of the social distancing regulations did not feel isolated. The authors concluded that older adults with cognitive problems and often with other diseases as well as those living alone were more susceptible to increased feelings of social loneliness. Overall, however, the negative effects on loneliness among Finnish older adults were smaller than the authors had expected.

People with diabetes feared being affected by the virus, and those who had more worries also felt more lonely and more socially isolated (Joensen et al., 2020). These people with diabetes were followed over time and interviewed six times between March 19 and June 2020 (Madsen et al., 2021). Loneliness increased slightly during the first weeks of the pandemic by 0.4 scale points (on a scale of 3–9) but decreased after the regulations expired. In that same period, feelings of social isolation did not change until May 2020, but reduced significantly after this (1.9 scale points on a scale of 1–10). The decline in loneliness and social isolation may be related to the lifting of the social restrictions, as the Danish society began to re-open from May 8 (Madsen et al., 2021). There was no comparison with a healthy group, which is why we cannot conclude whether effects of the pandemic on loneliness and social isolation were different for people without diabetes. Nevertheless, increases in loneliness in the first weeks of the pandemic are modest and, in line with other studies, loneliness reduced once the restrictions were lifted.

In July 2020, 38 community-dwelling older adults (50+, average age 78 years) living in Stjørdal (Norway) who **received health and/or care services** were interviewed about the ways in which the COVID-19 restrictions had affected services and the quality of life of service recipients (Kjerkol et al., 2020). Stjørdal is a small municipality of approximately 25,000 inhabitants and with a mix of rural and urban areas. People with dementia and seriously ill and terminal patients were not included. When asked how loneliness had changed, the majority (23 of the 38 respondents) said that they felt lonelier in July 2020 than before the pandemic started. This increase in loneliness among people who received home care was confirmed by the service providers to whom the care recipients also told that they had felt lonelier after the COVID-19 restrictions had been imposed.

Based on population-based data from the Finnish survey on health, welfare, and services, a survey was carried out in 2020 to 2021 among people aged 20+ (N= 22,165) to investigate whether **people with disabilities** – those with impaired mobility, vision, hearing, or cognition, and any other disabilities – reported more loneliness than people without disabilities (Holm et al., 2021). It turned out that all disability groups, except those with vision disabilities, reported significantly more often increased loneliness than people without disabilities, but the disability groups did not differ from people without disabilities in terms of decreased social contacts.

Social media users

Three studies relevant for this report drew on social media users living in Norway, the United Kingdom, the United States, and Australia (Geirdal et al., 2021a, 2021b; Ruffolo et al., 2021). Data were collected online during the first wave (April/May 2020). Compared to other countries, Norwegian social media users had the lowest levels of loneliness. On a scale of 0–24, where higher levels indicate more loneliness, the average level was 7.8 in Norway, 10.2 in the US, 11.0 in the UK, and 9.4 in Australia (Geirdal et al., 2021b). In Norway, female social media users were slightly more lonely than male social media users (difference 0.5 scale points). Interestingly, people who had a high frequency of social media use were on average 0.4 scale points lonelier

than less frequent social media users. As data in this study was collected only once, we cannot conclude that it is the social media use itself or the replacement of in-person contacts with online contacts that make people lonelier. It may also be that lonelier people use social media more often. Moreover, the associations are between two variables, which means that the association can be caused by other factors, such as age: younger adults use social media more frequently and are more often lonely. Also, the association between social media use and loneliness was not specified for the countries separately. The association may have been driven by one of the countries.

In a follow-up study, Geirdal and colleagues (Geirdal et al., 2021a) investigated stability and change in loneliness among social media users between April 2020 and nine months later (November 2020). One-fifth (n=771) of the April 2020 study and 16 per cent (n=547) of the November 2020 study were Norwegian. Most (77 per cent) of the study participants in the total sample were female. Age differences in the prevalence of loneliness in Norway in April and November were small but significant, with younger social media users being slightly more lonely than older social media users. Living alone was significantly associated with higher levels of loneliness in Norway and the other countries. The average level of loneliness among social media users in Norway increased from April 2020 to November 2020 by 0.6 scale points (on a scale from 0 to 24). This increase was significant among younger adults and people living alone. While female social media users were slightly lonelier on average than male social media users in the total sample, the gender differences were no longer significant in Norway when controlling for other sociodemographic variables[1].

A study among social media users specifically compared loneliness of unemployed people (n=125) with those who are employed (n=646) (Ruffolo et al., 2021). Unemployed people in Norway had higher levels of social loneliness (i.e., one point higher on a scale of 0–12) and higher levels of emotional loneliness (1 point higher). The effect of being unemployed on loneliness during the pandemic was moderate (Cohens *d* = 0.45).

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[1] This was a repeated cross-sectional study, which means that respondents included in April were not the same as those that were included in November. However, the researchers controlled for important social demographics, which means that the many changes cannot be attributed to potential differences in age, gender, education, civil status, employment, place of employment (e.g., healthcare, or industry) and urbanicity.

A Finnish study (Latikka et al., 2022) used data from a longitudinal survey on digital age in Finland to investigate the impact of social media use on loneliness during the pandemic. The data of this sample of people aged 21–77 was collected before the pandemic (in 2017 and 2019) and shortly after the first wave (May–June 2020). The researchers expected to find a buffering effect from social media use on the impact of pandemic on loneliness: social media users were envisioned to be less lonely during the pandemic. In line with this expectation, it was found that people who were strongly involved in homogeneous online social groups (so-called social media identity bubbles) were less lonely than people who were not involved in such groups. This finding was corrected for problematic social media use. Furthermore, the researchers did not see an average increase in loneliness from before the pandemic into the first lockdown.

Pregnant women

While pregnancy may be an emotional upheaval, it may also be associated with more feelings of loneliness during the pandemic, but studies comparing loneliness between pregnant and non-pregnant women are rare. The pandemic may have particularly affected pregnant women because of pregnancy-related uncertainties, limited access to healthcare resources for the partners, and lack of social support.

In a Danish study (Severinsen et al., 2021) during the second half of the first wave (April–July 2020), social isolation and loneliness were assessed by means of an online questionnaire and 647 women aged 20–46 who were 20 weeks pregnant. They were compared to 858 women of the same age from the general population (some of whom could be pregnant as well). Social isolation was measured on a ten-point scale (higher scores indicating more social isolation), whereas loneliness was the sum of three questions (UCLA scale) rated 3–9, where higher scores indicated more loneliness. The level of loneliness was significantly lower among pregnant women than in the general population (mean loneliness score 4.4 vs. 5.0). Also, this was not the result of the higher percentage of people living alone among the general population (96 per cent vs. 72 per cent) nor of the higher prevalence of mental disorders in the general population (9.8 per cent vs. 23.0 per cent).

A study in Sweden (Rydelius et al., 2022) investigated the impact of the pandemic on women seeking abortion. Those who received hospital treatment felt much lonelier and socially isolated than women who were treated at home. It was suggested that those receiving treatment at home still had access to social support from their partner or family, whereas those in hospital were not allowed to bring their partners with them.

Informal caregivers

Social restrictions during the pandemic have upset the informal caregivers' routines and disrupted the normal support services (Alzheimer Europe). Day care, group activities, and cultural events were closed, and care home residents were not allowed to receive visitors. Much of the informal care was typically provided by the spouse, other relatives, or close friends. The pandemic may therefore have had particularly serious consequences for informal caregivers.

A qualitative study in Norway among 17 **spouses of people with dementia** investigated how the pandemic had affected the lives of informal caregivers, 14 women and three men aged 52–82 (Rokstad et al., 2021). They were interviewed by telephone between December 2020 and February 2021, that is, during the second wave. The respondents felt that during the first months of the pandemic they had been left alone to manage the responsibility to care for their demented spouse, while many had a greater need for support services than before the pandemic. Most of the formal care stopped or was significantly reduced. In-person contact with other family members was replaced by contact online, which was confusing for the demented spouses.

Another qualitative study (Kynø et al., 2021) investigated how **parents of babies in the neonatal intensive care units** were affected during the first wave, when fathers but not mothers were excluded from the hospital and could not have any contact with their children. Nine mothers and four fathers whose baby spent at least 14 days in Oslo University Hospital were interviewed after the baby had been discharged. One of the regulations was that mothers could be with the baby. Emotional loneliness was experienced by both fathers and mothers. While mothers were with their new-born babies, and could catch up with other mothers, they could not share their joys and concerns with the fathers. Parents also feared long-term problems of attachment between the fathers and the child.

Which groups were particularly susceptible to loneliness and social isolation during the COVID-19 measures?

To answer this question, we would ideally need studies that compare all possible subgroups, but again, such studies do not exist. Nevertheless, we were able to derive factors related to increased loneliness from studies that compared a limited number of subgroups, such as men and women, young and old, or people living alone as opposed to those living with a partner. We were able to make comparisons with respect to five demographic factors (gender, age, living alone, education, and unemployment) and with respect to health problems and disabilities.

Gender

Studies have consistently found that COVID-19 and related regulations had a greater impact on women's loneliness as compared to men (Beridze et al., 2022; Geirdal et al., 2021b; Hansen et al., 2021b; Hoffart et al., 2020; O'Sullivan et al., 2021; Pedersen et al., 2022) and social isolation (Pedersen et al., 2022; Varga et al., 2021). With respect to different types of loneliness, women felt more emotionally lonely than men, while men reported feeling more socially lonely than did women (Bonsaksen et al., 2021a, 2021b, 2021c). One study also showed that people who did not identify with their biological sex experienced higher levels of loneliness than those who did (Hoffart et al., 2020).

Age

Younger adults were lonelier (Bonsaksen et al., 2021b; Geirdal et al., 2021a; Hansen et al., 2021c; Hoffart et al., 2020; Pedersen et al., 2022; Varga et al., 2021) and felt more

socially isolated than middle-aged and older adults (Pedersen et al., 2022). More specifically, young and middle-aged adults (aged 18–49) experienced more emotional and overall loneliness (Bonsaksen et al., 2021a, 2021b, 2021c). It should also be noted that the oldest-old experienced a stronger increase in loneliness during the pandemic than the young-old (Hansen et al., 2021b; Lehtisalo et al., 2021).

Living alone

People living alone reported higher loneliness levels (Bonsaksen, et al., 2021a, 2021b, 2021c; Geirdal et al., 2021a; Hansen et al., 2021b, 2021c; Hoffart et al., 2020; Lehtisalo et al., 2021; Mäkiniemi et al., 2021) and had an increased risk of social isolation (O'Sullivan et al., 2021) in comparison with those living with someone or having a partner.

Education

Several studies found that people with lower education experienced higher levels of loneliness than those with higher education (Bonsaksen et al., 2021a, 2021b, 2021c; Geirdal et al., 2021a; Hoffart et al., 2020; Varga et al., 2021). While the link between education and loneliness has been observed before, it is not so clear why the two are connected, but Fernández-Carro and Gumà Lao (2022) have recently suggested that a low level of education presorts people into life course trajectories with an increased number of events that cause loneliness (e.g., poverty, more health problems, higher unemployment, earlier widowhood).

Unemployment

Unemployed people reported feeling lonelier during the pandemic than did people in employment (Bonsaksen et al., 2021a, 2021c; Hoffart et al., 2020). Compared to their employed counterparts, unemployed people scored higher on social, emotional, and overall loneliness (Bonsaksen et al., 2021b; Geirdal et al., 2021a; Ruffolo et al., 2021). One study mentioned that young people may have been overrepresented in the unemployed group, which could explain why the unemployed were lonelier (Ruffolo et al., 2021), but the study was not able to test this. Another explanation might be that the unemployed worry about the future and their income to a greater extent, which is also associated with loneliness (Clothworthy et al., 2021; Joensen et al., 2020).

Health problems or disabilities

It was consistently found that people with a mental illness were lonelier and more socially isolated than those without (any history of) mental illness (Barrett et al., 2022; Hoffart et al., 2020; Pedersen et al., 2022; Varga et al., 2021). People with COVID-19 infection, either themselves or within the immediate family, felt more socially lonely than those without infection (Bonsaksen et al., 2021b). People with COPD (Mousing & Sørensen, 2021) and frail older people (Lehtisalo et al., 2021) – with cognitive impairment and other diseases – often self-isolated out of fear of infection. People with mobility, hearing, cognitive, and any other disabilities, reported more loneliness than people without disabilities (Holm et al., 2021). Disability groups did not differ from people without disabilities in terms of increased social isolation.

What are the (typical) mechanisms through which COVID-19 measures may have contributed to loneliness and social isolation in each group?

The answer to this question is based on what the included studies suggest, but we have also made use of supplementary knowledge from other countries to better understand the Nordic findings. The increase in social isolation of people is a direct consequence of the social distancing regulations imposed to curb the spread of the virus. Hence the majority (if not all) citizens of Nordic countries were socially isolated to a certain extent. Some people self-isolated for fear of becoming infected or because they were afraid they might infect others, or because others avoided contact not to infect the most vulnerable. This was typically seen among older adults and people with underlying diseases such as COPD or cancer. While most of the Nordic people experienced increased social isolation, a substantial yet smaller number of people also felt lonely. Several hypotheses for the supposed mechanisms through which COVID-19 measures might have affected loneliness are discussed below.

Destigmatisation and social comparison

Public discussion of loneliness may have destigmatised people, which in turn may have reduced feelings of loneliness (Hansen et al., 2021c). Luchetti and others (2020) argue that the feeling of being together in the same isolated situation may have increased resilience to loneliness, even among risk groups. Awareness of collective connectedness (we are all in this together) was also given as an explanation by Latikka and others (2022) for the lack of increased loneliness during lockdown. Downward comparison, comparing oneself to others who are even more isolated and lonely, can further alleviate people's own perception of being alone and its consequences for loneliness. Loneliness is a subjective feeling that occurs 'when the number of existing relationships (or quantity) is smaller than is considered desirable or admissible, as well as situations where the intimacy (or quality) one wishes for has not been realized' (de Jong Gierveld, 1987, p. 120). The personal standard about what is 'desirable or admissible' may have been lowered during the pandemic, compensating a potential loss of social contacts.

Trust and loneliness

Lacking trust in healthcare systems (Kvarstein et al., 2022, Rydelius et al., 2022), political structures, and the government in how they dealt with the rules of lockdown (Geirdal et al., 2021b) may have increased loneliness during the pandemic. Also, some people whose symptoms were so critical that they needed ICU care may have lost trust in their own bodies' (Engström et al., 2022). It is conceivable that this, too, contributed to intense feelings of loneliness. Moreover, lack of information or inconsistent information from healthcare professionals or institutions can induce mistrust, and while there was sympathy with the regulations at the beginning of the social restrictions, people became more frustrated the longer the social restrictions lasted (Rokstad et al., 2021). Studies based on European data before the pandemic have found that people with low levels of trust in other people and/or political

systems have high levels of loneliness (Hansen et al., 2021a; Rapoliene & Aartsen, 2022). Trust in political system varies across countries, and although the Nordic countries are characterised as high-trust countries, there is still variation between countries and regions (Charron et al., 2022), which may also contribute to regional and national variations in loneliness.

Loneliness and mental health

Psychological characteristics such as mastery (the feeling of being in control over the forces that affect one's life) and mental health can protect people from loneliness, even if people encounter risks that are normally related to increased feelings of loneliness (Ben-Zur, 2018). In the studies selected for this report, we found that people with more concerns about health and financial consequences were lonelier (Hoffart et al., 2022; Kivi et al., 2021), and people with more anxiety remained lonelier than healthy people (Hoffart et al., 2022). The finding that people who used social media more often were lonelier (Geirdal et al., 2021a) may be caused by upward comparison (comparing oneself to those who were doing better), but it may also indicate a reversed causal path: high frequency of social media use may reflect an addiction to Facebook or other social media, which has been found to be related to more loneliness.

Pro-active behaviour and loneliness

A qualitative study by Kulmala and others (2021) found that some people responded to social distancing by creating new ways of socialising with others (e.g., WhatsApp, online meeting with social groups, meetings held on the balcony, wearing of facemasks, and increased use of the telephone). Others reactivated old contacts, and for some, pets were an important source for meaningful activity. Some people followed the regulations conscientiously, were afraid to be a burden for others, and insisted on, for example, taking a walk on their own and refused any help. Yet others felt that they lacked the capacities to learn new digital tools and did not use them. It was in this group that a sense of loneliness increased, but there is no quantitative data to confirm this claim.

Differential impact of age on recovery from loneliness

Several studies covered in this report found that while younger adults were lonelier during the pandemic, they also recovered more quickly than older people once the restrictions were lifted. It is hard to pinpoint the underlying mechanism behind these age differences, but Bu et al. (2020) suggest that younger adults have more need to be in physical contact with other people, and once contacts are restored, loneliness reduces.

Do the findings vary across the Nordic countries? How?

There are several remarkable differences between the Nordic countries in the development and number of cases, deaths, ICU admissions, and excess mortality. Also, the timing of the regulations differed, with Sweden notably applying a more liberal strategy and less strict social distancing rules during the first wave. However, it is difficult to say whether subgroups, mechanisms, or the severity of loneliness varied in the Nordic region, as there are no studies directly comparing the Nordic countries.

Of the 45 studies examined in this report, only one (Wester et al., 2022) included data from more than one Nordic country, in this case Denmark, Sweden, and Finland. In their study, Wester and others used COVID data collected in June–August 2020 from the Survey of Health, Ageing, and Retirement in Europe (SHARE). This data could be compared with SHARE data collected shortly before the pandemic (October–March 2020). However, the researchers combined the data of all 27 EU countries, obscuring the specific situation in the Nordic countries. However, countries were compared in terms loneliness, among some other mental wellbeing-factors. Loneliness increased by 2.9 per cent in Denmark, remained stable in Sweden, and decreased by 7.7 per cent in Finland from before the pandemic to shortly after the first wave.

General discussion

The overall aim of this report is to gather new research from the Nordic countries about the social consequences of the COVID-19 pandemic. The knowledge base can serve to support and guide public authorities, experts, organisations, and other Nordic policymakers when dealing with crises and preventing social isolation and loneliness.

Specifically, this report answers four questions; 1) What was the impact of the pandemic on loneliness and social isolation among various groups in Nordic countries; 2) Which groups were particularly susceptible to loneliness and social isolation during the COVID-19 measures; 3) What were the (typical) mechanisms through which COVID-19 measures affected loneliness and social isolation in each group; and 4) Did the findings vary across the Nordic countries? Since not enough information was available to answer question 4, our general discussion refers to the first three research questions about the impact, groups at risk, and typical mechanisms through which the pandemic has affected loneliness and social isolation.

The impact of the pandemic on loneliness and social isolation

The social distancing regulations imposed by the government, healthcare institutions, and by people themselves led to a substantial and sudden drop in the number of contacts with family, friends, colleagues, neighbours, students, and healthcare professionals in all parts of society. While a large share of the population were socially isolated during lockdowns, the increase in loneliness was relatively modest during the first wave among the many social groups that did not need special support.

For people with specific needs or diseases and/or who lacked autonomy, the negative consequences of the pandemic were more substantial. The loneliest people were gravely ill patients in intensive care units (ICUs), pregnant women in hospital, students, older people in care homes, and people who self-isolated to protect themselves against infection or were concerned about infecting others. Informal

caregivers of demented spouses felt left alone as the formal home care services stopped or significantly reduced. Loneliness did, however, become more severe in all groups the longer the pandemic lasted. Ten months since the beginning of the pandemic, loneliness increased to the point where more people felt lonely than before the pandemic.

In Sweden, there was a remarkable difference in impact between people living in the urbanised area of Stockholm as compared to the general older population. The increase in loneliness was substantial in the urbanised area during the first months of the pandemic (Beridze et al., 2022), but loneliness did not increase in a population-based sample of older adults during the same period (Kivi et al., 2021). This may be due to a higher proportion of people living in less urbanised parts of Sweden, or because the loneliest had dropped out. However, in other studies that considered urbanisation in Norway, there were no remarkable differences between the rural areas and the city (Geirdal et al., 2021a; Hansen et al., 2021b). Perhaps the absence of strict regulations in Sweden during the first wave increased the fear of, and concern about, COVID-19 in urban areas, which according to Hoffart et al. (2021) may have led to the higher prevalence of loneliness in cities, while the less strict regulations compared to the neighbouring countries may have felt as a liberation in the less urbanised parts of Sweden. Further research is needed to substantiate this claim.

Groups at risk

People in hospitals and care homes were hard hit by the social distancing regulations. Family and other people were not allowed to visit them, and they had few opportunities to leave their isolated homes themselves. Voluntary initiatives to help people get out (to nature) were not always successful as some older people did not want to be a burden for others and therefore refused such help (Kulmala et al., 2021). Patients in healthcare institutions as well as pregnant women were suddenly on their own: partners and family were not allowed to visit them, adding additional stress to the already high need for emotional support that remained unfulfilled during lockdown. Students were disconnected from friends and peers at a time of life when many complex hormonal, cognitive, behavioural, and social transformations take place and support from peers and friends is very important. Community-dwelling older people aged 70 and over were advised to self-isolate in Sweden, and many people with underlying illnesses self-isolated for fear of becoming infected.

Fear of infection by the virus was often mentioned by people participating in the studies. Many were even more concerned about their loved ones becoming infected. Worries in turn can easily increase feelings of loneliness. Results from the quantitative studies suggest that the loneliest people during the pandemic were women, young and oldest-old (85+) people, people living alone, people with lower education, unemployed people, and people with a mental illness. These findings are largely in line with studies from before the pandemic on risk factors of loneliness (e.g., Dahlberg et al., 2022), where the most prominent risk factors were not being married/partnered

and partner loss; a limited social network; a low level of social activity; poor self-perceived health; and depression/depressed mood and an increase in depressive symptoms.

Typical mechanisms

The social distancing measures isolated people from each other in many if not all social strata of the Nordic societies. Some people also chose to self-isolate, some because of government recommendations (e.g., Swedish people aged 70+) and others out of fear to become infected, which was common among people with COPD or cancer.

Social isolation is an important risk factor of loneliness, but not all socially isolated people became lonely, suggesting that individual or societal factors may have supressed the effect of social isolation on loneliness. The downward comparison with other people in society who are in even worse situations may have contributed to a lower-than-expected level of loneliness. Mechanisms that further helped to reduce the negative impact of social isolation on loneliness may also be attributed to processes in society. People felt that they were not alone in their being alone, and they no longer felt stigmatised for being lonely. Raising the awareness of who was at risk may also have prompted people to stay in contact (online or by telephone) with those most at risk for loneliness or to initiate public action to encourage certain social groups (e.g., public applause for health care professionals).

The consequences of social isolation for loneliness were remarkable for those who most needed the social companionship from their partner, family, or friends. Hence, the loneliest people were severely ill ICU patients, pregnant women in hospitals, people with disabilities, older people in care homes, and people who self-isolated because they were afraid of being infected. Also, the isolation of people with mental illnesses, such as bipolar disorder, anxiety, or depressive symptoms increased the risk of loneliness, apart from some people who felt that reduced social contacts were a relief. Finally, the way in which governments and healthcare institutions communicated rules related to social distancing contributed to loneliness through the overall level of trust that people had in the government or healthcare institution. If people do not trust institutions (government, healthcare institutions, other people), the level of loneliness is high. In some cases, feelings of loneliness have increased as a result of unclear or inconsistent communication and adherence to the general rules.

It is good news that a large part of the population did not become lonely, despite being in social isolation. Yet, studies suggest that not only loneliness, but also social isolation, are deleterious to health (Steptoe et al., 2013; Ward et al., 2021; Lennartsson et al., 2021), and deteriorating health is associated with loneliness in the longer run (Aartsen & Jylhä, 2011). We should therefore not underestimate the impact of social isolation. Social isolation signifies disconnection from other people and the wider society, and it is typically the disconnection and lack of support that have deleterious health effects, especially at a time of emotional stress. The need for social connection also varies from one person to another, and some study participants in fact functioned better with social distancing rules which made their lives less complicated.

Conclusions and recommendations for policy and practice

Below is a summary of the advice and recommendations endorsed in the selected studies. One set of recommendations is aimed at policymakers, the other for health and social care services.

Recommendations for policymakers

1. When social distancing restrictions are introduced, predefined, evidence-based strategies to provide support during and after the pandemic is recommended to those who are most susceptible to loneliness (groups at risk) (Beridze et al., 2022).
2. Social media use may replace real in-person contacts if these contacts are not possible. However, it is not recommended that solutions for combating loneliness be limited to using social media platforms. Moreover, a too high level of social media use can indicate a higher risk of loneliness. More knowledge is needed to assess how social media can be used to enhance people's existing or new social relations (Latikka et al., 2021).
3. Older adults are the most heterogeneous age group; differences between people increase with higher ages. One size does not fit all; what works for some older adults may not work for others. It is important to devise strategies that are effective for the right groups, at the right time. This heterogeneity should be taken into account in the planning of policy actions and interventions to support older adults (Kulmala et al., 2021).
4. Future government measures should include targeted strategies for younger adults and people with a mental illness to decrease the risk of long-term health consequences. Promising examples of interventions may include phone pals or collaborative games and perhaps fewer restrictions for younger adults (Varga et al., 2021).

5. It is important to acknowledge the negative effect of unemployment on mental health. Solutions should be worked out for those who became unemployed during lockdowns (e.g., people working in the hospitality industry or in professions where physical contact cannot be avoided, such as hairdressing and pedicures). The similarities and differences between countries can provide guidance for global recommendations specific to employed and unemployed people (Ruffolo et al., 2021).
6. People who use hard drugs, and other hard-to-reach groups are not always informed about risks factors, symptoms, and protective measures regarding COVID-19. Opportunities should be provided to avoid risks, which may include mobile services for needle distribution, COVID-19 testing, and social support (Kølbæk et al., 2021).
7. Many factors associated with loneliness and isolation are mutable and should be central to social equality and justice policies. Reducing loneliness and social isolation for as many people as possible therefore requires primary prevention and population-based strategies. Factors that need addressing include an adequate income, social engagement and connections, healthy behaviour, and dealing with specific needs for specific groups, such as caregivers and those living alone (O'Sullivan et al., 2021).
8. The psychosocial well-being of people with disabilities should receive special attention during crises such as the COVID-19 pandemic (Holm et al., 2021).
9. Community-based and intergenerational programmes should ensure greater inclusion in society after the pandemic.

Recommendations for health and social care practice

1. Adolescents and young adults with cancer should receive extra support and attention from healthcare institutions also after the lockdown period. If meeting in real life is not possible, online peer-to-peer groups may strengthen the patients' physical and mental health, for example, through online rehabilitation and consultations (Hanghøj et al., 2022).
2. Women who need an abortion can be offered telemedicine as an alternative to abortion care in hospital during lockdowns so that they have their partner's support while unnecessary spread of the infection is avoided, and the safety and availability of abortion care is increased (Rydelius et al., 2022).
3. It is important to be aware of the special needs of mothers with complications during pregnancy and motherhood adaptation, everyday routines, mental health, breastfeeding insecurity, and the social well-being of their children. When telephone/online contact replaced in-person contacts, the level of support provided to the women reduced. Face-to-face care should be highly prioritised during COVID-19 if at all possible, as it helps women to share worries and seek advice (Jensen et al., 2022).

4. Attention is needed for caregivers of spouses who are demented but still living at home. As most of the formal care stopped or was significantly reduced for people with dementia living at home, caregivers of their demented spouses felt left alone during the first months of the pandemic, while many had a greater need for support services than before the pandemic (Rokstad et al., 2021).
5. It is important that healthcare institutions are thorough and consistent in their provision of information (Kynø et al., 2021).
6. Parents of premature children need to be supported both practically and psychologically to reduce any feelings of alienation and help to build a strong nuclear family. Parent support groups and parent peer groups should probably be continued, if not physically then digitally (Kynø et al., 2021).
7. Healthcare professionals should continue to focus on how patients' needs for professional help can be met and how the mental health of patients and their social contact with others can be supported – both virtually and physically (Mousing & Sørensen, 2021).
8. Healthcare institutions might benefit from 'a life-course perspective' that explicitly recognises the causal links between exposure and outcomes within an individual's life course (Savela et al., 2022).
9. The healthcare sector should invest in more online services in the post-pandemic era and educate people in the use of online services. Technology might further contribute to effective caregiving (Savela et al., 2022).
10. There is a need for continued support of individuals who are more affected by the pandemic and who demonstrate greater susceptibility to poor mental health outcomes as the pandemic continues, as well as increased efforts to contain the virus and address the negative impact of the pandemic and associated lockdowns on mental health (Pedersen et al., 2022).

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Table 1. Overview of included studies

	Author and year	Country	Study sample	Sample size	Time of data collection	Mode of data collection	Study design
1	Barrett et al. (2022)	Norway	Patients with mental illness	520	June 5 – July 5, 2020	Online survey	Cross-sectional
2	Hansen et al. (2021b)	Norway	Older adults (aged 65–92)	T1: 4,104 T2: 2,865 T3: 2,831	T1: September 23 – October 18 and January 27 – February 16, 2020 T2: June 4 – 18, 2020 T3: November 18 – December 4, 2020	Online survey	Longitudinal
3	Hansen et al. (2021c)	Norway	Adults (aged 19–92)	10,740	Autumn 2019 / Winter 2020 and Summer 2020	Online survey	Longitudinal
4	Heiberg et al. (2022)	Norway	Older adults (aged 60–96)	17	October – November 2020	Semi-structured in-person interviews	Qualitative interviews at one point in time
5	Hoffart et al. (2020)	Norway	Adults (aged 18+)	10,061	March 31 – April 7, 2020	Online survey	Cross-sectional
6	Hoffart et al. (2022)	Norway	Adults (18+)	T1: 10,061 T2: 4,936	T1: March 31 – April 7, 2020 T2: June 22 – July 13, 2020	Online survey	Longitudinal
7	Kjerkol et al. (2020)	Norway	Older adults (50+) receiving municipal health and care services, and service providers	38 + 30	July/August 2020	Structured interviews	Qualitative interviews at one point in time
8	Kvarstein et al. (2022)	Norway	Patients with personality disorder	133	June – October 2020	Survey	Cross-sectional

9	Kynø et al. (2021)	Norway	Parents of infants in Neonatal Intensive Care Units (NICUs)	13	Autumn 2020	Semi-structured in-person and online interviews	Qualitative interviews at one point in time
10	Sørbye et al. (2022)	Norway	Older adults receiving homecare	30	Spring 2020	Mixed methods: screening instrument and telephone interviews	Qualitative interviews at one point in time
11	Beridze et al. (2022)	Sweden	Older adults (aged 68–103)	1,231	2016 – 2019 and May – June 2020	Mixed methods: questionnaire and telephone interviews	Cross-sectional
12	Engström et al. (2022)	Sweden	Critically ill COVID-19 patients	13	July 2020 – March 2021	Telephone and face-to-face interviews	Qualitative interviews at one point in time
13	Gustafsson et al. (2022)	Sweden	Older adults receiving homecare	45,123	Spring 2019 and 2020	Survey	Longitudinal
14	Hansson et al. (2020)	Sweden	Older adults (aged 65–71)	3,447	Spring 2020	Report	Longitudinal
15	Kivi et al. (2021)	Sweden	Older adults	1,071	2015 – 2020	Survey	Longitudinal
16	Naurin et al. (2020)	Sweden	Pregnant women (weeks 12–19) (and their partners)	3,113	September 16, 2019 – August 25, 2020	Survey	Longitudinal
17	Nordgren & Richert (2022)	Sweden	Social workers	81 + 10	Survey: May 11 – August 20, 2020 Interviews: May 18, 2020 – January 11, 2021	Mixed methods: online survey and semi-structured focus group interviews	Qualitative interviews at three points in time
18	Rydelius et al. (2022)	Sweden	Women (aged 15–44)	1.9 million + 15	Data on abortions: January 2018 – June 2020 Data on births: January 2018 – March 2021 Interviews: June 2020	Mixed methods: register data and interviews	Register data and qualitative interviews

19	Von Berens et al. (2021)	Sweden	Older people (70+)	2,398	June 2020	Report	Cross-sectional
20	Holm et al. (2022)	Finland	People (20+) with disabilities	22,165	2020–2021	Survey	Cross-sectional
21	Kulmala et al. (2021)	Finland	Community-dwelling oldest old people (80+)	15	August 20 – December 1, 2020	Telephone interviews	Cross-sectional
22	Latikka et al. (2022)	Finland	Study 1: aged 21–77 Study 2: 18–64	Study 1: T1: 3,724 T2: 1,134 T3: 735 Study 2: T1: 1,817 T2: 1,318 T3: 1,081 T4: 1,152 T5: 1,018	Study 1: t1 December 2017; t2 March – April 2019; t3 May – June 2020 Study 2: t1 March – April 2019; t2 September – October 2019; t3 March – April 2020; t4 September – October 2020; t5 March – April 2021	Survey	Longitudinal
23	Lehtisalo et al. (2021)	Finland	Older adults at risk of dementia	613	June – September 2020	Postal survey	Cross-sectional
24	Mäkiniemi et al. (2021)	Finland	University employees	1,463	September 28 – October 11, 2020	Electronic survey	Cross-sectional
25	Savela et al. (2022)	Finland	Family caregivers of older adults	101	June – December 2020	Mixed methods: in-person interviews	Cross-sectional
26	Clotworthy et al. (2021)	Denmark	General population (aged 18–87) Families with children (living at home) Older people (65+)	General population: 1,046 Families with children: 1,032 Older people: 1,059	Surveys: March 20 – June 25, 2020 Interviews: March 30 – May 17, 2020	Mixed methods: surveys and telephone interviews	Cross-sectional

27	Hanghøj et al. (2021)	Denmark	Adolescents and young cancer patients and survivors (aged 18–29)	13	April 28 – May 1, 2020	Semi-structured telephone interviews	Cross-sectional
28	Jensen et al. (2022)	Denmark	Women with recent gestational diabetes	11	April – May 2020	Semi-structured telephone/online interviews	Cross-sectional
29	Joensen et al. (2022)	Denmark	Young people (aged 18–24) with and without pre-existing depressive symptoms	COVID-19 survey: wave 1: 7,431 wave 8: 8,808 DNBC-18 (2018): 28,579	COVID-19 survey: April/May 2021 DNBC-18: 2018 – March 2021	Survey	Longitudinal and repeated cross-sectional
30	Kusk et al. (2021)	Denmark	Patients (aged 47–87) of chronic obstructive pulmonary disease (COPD)	18	June/July 2020	Semi-structured telephone interviews	Cross-sectional
31	Kølbæk et al. (2021)	Denmark	Patients with mental illness (18+)	992	Spring 2020	Online survey	Cross-sectional and data from medical records
32	Madsen et al. (2021)	Denmark	People with diabetes	Q1: 1,366	March 19 – June 25, 2020	Online survey	Longitudinal
33	Mousing & Sørensen (2021)	Denmark	Patients (aged 28–81) with COPD	13	June – September 2020	Semi-structured online/in-person interviews	Cross-sectional
34	Pedersen et al. (2022)	Denmark	Adults (18+)	8,261	March 20, 2020 – July 22, 2021	Survey	Repeated cross-sectional
35	Severinsen et al. (2021)	Denmark	Pregnant women (in second trimester) and women (aged 20–46) from the general population	Pregnant women: 647 Women: 858	April 14 – July 3, 2020	Survey	Cross-sectional

36	Eliasen et al. (2022)	Faroe Islands	Older home-dwelling Faroese (aged 82–86)	227	Pre-COVID-19: December 2017 – January 2019 COVID-19: June 8 – July 15, 2020	Pre-COVID-19: survey COVID-19: telephone interviews	Longitudinal
37	Bonsaksen et al. (2021a)	Norway, United States, United Kingdom, and Australia	Adults (18+)	3,810	April/May 2020	Online survey	Cross-sectional
38	Bonsaksen et al. (2021b)	Norway, US, UK, and Australia	Adults (18+)	3,474	October 24 – November 29, 2020	Online survey	Cross-sectional
39	Bonsaksen et al. (2021c)	Norway, US, UK, and Australia	Older adults (60+)	836	April/May 2020	Online survey	Cross-sectional
40	Geirdal et al. (2021a)	Norway, US, UK, and Australia	Adults (18+)	7,284	April (survey 1) and November (survey 2) 2020	Online survey	Cross-sectional
41	Geirdal et al. (2021b)	Norway, US, UK, and Australia	Adults (18+)	3,810	April/May 2020	Online survey	Cross-sectional
42	O'Sullivan et al. (2021)	Finland, combined with 101 other countries in the world	Adults (18+)	20,398	June 2 – November 16, 2020	Online survey	Cross-sectional
43	Ruffolo et al. (2021)	Norway, US, UK, and Australia	Adults (18+)	3,810	April/May 2020	Online survey	Cross-sectional
44	Varga et al. (2021)	Denmark, France, Netherlands, and UK	Adults (18+)	205,084	March – July 2020	Survey Publicly available data sources	Longitudinal
45	Wester et al. (2022)	Sweden, Finland, Denmark, and 25 other countries participating in the Survey of Health and Retirement in Europe (SHARE)	Adults (50+)	36,478	SHARE wave 8: October 2019 – March 2020 Interviews: June – August 2020	Telephone interviews	Longitudinal

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