RESPOND

RAPID APPRAISAL REPORT ON HEALTH SYSTEM RESPONSIVENESS AND MENTAL HEALTH IMPACT ASSESSMENT, VERSION 2

DELIVERABLE D3.2

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RESPOND: Improving the Preparedness of Health Systems to Reduce Mental Health and Psychosocial Concerns Resulting from the COVID-19 Pandemic

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TABLE OF CONTENTS

1. AIMS AND OBJECTIVES

The COVID-19 pandemic continues to be one of the most dominant public policy issues, alongside climate change, not only in Europe, but worldwide. Globally 5.1 million people have now died directly from COVID during the pandemic, with many more hospitalised. Even more people are still living with the short-term and potentially longer-term consequences of the disease.

Sadly, the impacts of the pandemic go well beyond individuals who have contracted the disease and their families. COVID-19 initially triggered a wider health crisis: health systems had to deal with the pressures brought on by different waves of the pandemic, which reduced their ability to meet all routine demands for chronic and acute mental and physical care. All countries and all populations will have been affected by the pandemic, but the magnitude of mortality and morbidity impacts, including impacts on mental health and wellbeing have varied considerably. While many factors will contribute to these differences in country experiences, the ways in which health systems have responded to this public health crisis are likely to have played a major role.

Economies also have come under great pressure, due to a combination of major sudden reductions in economic activity and major investment in COVID-related financial protection as well as in public health measures. Measures to address the pandemic, such as lockdowns, school closures, travel restrictions, home working, as well as the roll out of mass and some mandatory vaccination programmes may have consequences for mental health; there has also been some social unrest by a minority of populations who believe these measures to be unnecessary restrictions on civil liberties.

This briefing report is the second in a series of rapid assessment reports that look at the potential impacts of COVID-19 on population psychosocial health across Europe, including ongoing examination of how immediate and changing policy responses to counter the pandemic may have protected and/or exacerbated risks to mental health and wellbeing. This work has been undertaken as part of the EU Horizon 2020 RESPOND project (P**RE**paredness of health **S**ystems to reduce mental health and **P**sychosocial concerns resulting from the C**O**VID-19 pa**ND**emic). Ultimately, RESPOND aims to improve the preparedness of European mental health care systems to meet the challenges of further waves of the current pandemic as well as future pandemics.

In this second report, we set out an updated timeline of key policy measures that have been implemented to tackle the pandemic and mitigate against some of its consequences, with a particular focus on how countries have responded to the need to protect resilience, wellbeing and mental health. Here we focus on our eight RESPOND countries: Netherlands, Belgium, France, Germany, Italy, Spain, Sweden and the UK. We also use our impact assessment framework matrix, described in our first rapid appraisal report, to document mental health consequences of selected pandemic policy response measures and mitigations across selected RESPOND countries. The framework identifies risk factors and determinants of mental health and wellbeing and considers how these may be affected by the pandemic and pandemic policy responses.

The report also contains case studies that have been highlighted in the media as potential areas of concern. The first focuses on the accumulating evidence on the risks of self-harm and suicide during the pandemic. The second updates our work on the challenges faced in the long-term care sector and the consequences for the mental health and wellbeing of care staff, families and people with long term care needs.

A further version of this rapid report will be published in November 2022, with information collected on a recurring basis from different sources including analysis of policy documents, scientific advisory recommendations, behavioural-psychology informed public health communication strategies, print, social media, radio and broadcast media content analysis, as well as interviews with a range of stakeholders, will be iteratively refined to highlight key steps and

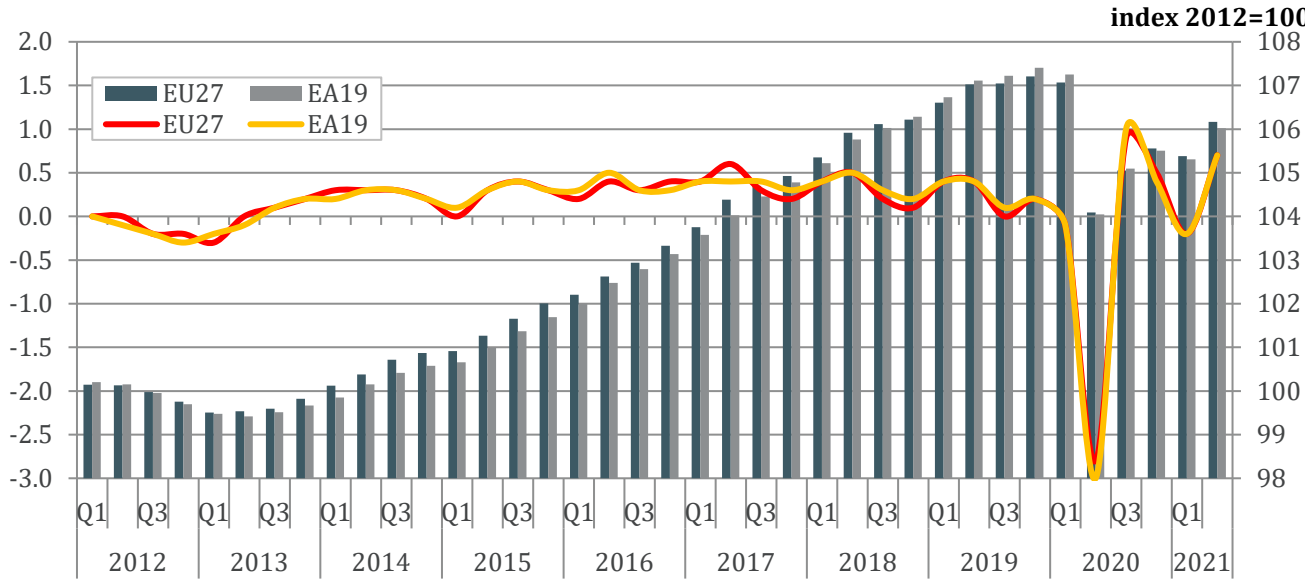
infrastructure to help adequately prepare health systems to respond rapidly to any future pandemic or similar public health shocks.

2. AN ECONOMIC CRISIS UNLIKE PREVIOUS CRISES

Before going on to look at the impacts on mental health, to set the context it is useful to look at how the economic crisis has developed as this has in the past been critical to mental health. 20 months on from the initial imposition of public health restrictions across Europe in March 2020 an increasing amount of economic data indicates that, overall, European economies have strongly rebounded from the major economic shocks that they have experienced. As Figure 1 shows employment levels in the second quarter of 2020 contracted sharply, but increased sharply in the following quarter, then contracted again, albeit less sharply during winter 2020-2021 when COVID-19 rates across the continent again rose sharply (1). Employment grew by 0.7% in both the EU-27 and the euro area (EA-19) in the second quarter of 2021 compared to the previous one. Compared with the same period of the previous year, it increased by 1.9% (1.8% in the euro area).

Undoubtedly strong social welfare and job protection measures in many European countries have helped to markedly reduce the impact of the virus on economic activity. GDP grew by 2.1% in the EU in the second quarter of 2021 compared to the first quarter; compared with the second quarter of 2020 this was an increase of 13.8%. With the continued roll out of vaccines, in summer 2021 the EU forecast a return to pre COVID-19 GDP levels by the end of 2021. Whether these growth rates will be achieved, given the increase in COVID-19 cases across Europe in autumn 2021 and the emergence of the Omicron variant remains to be seen, but it is clear that economists have become more optimistic with their predictions. Official forecasts on levels of unemployment in the UK, have also been revised downwards, with levels of unemployment already near the historically low levels seen just before the pandemic (2).

Figure 1: **Employment level and employment growth – EU and euro area, 2012-2021**

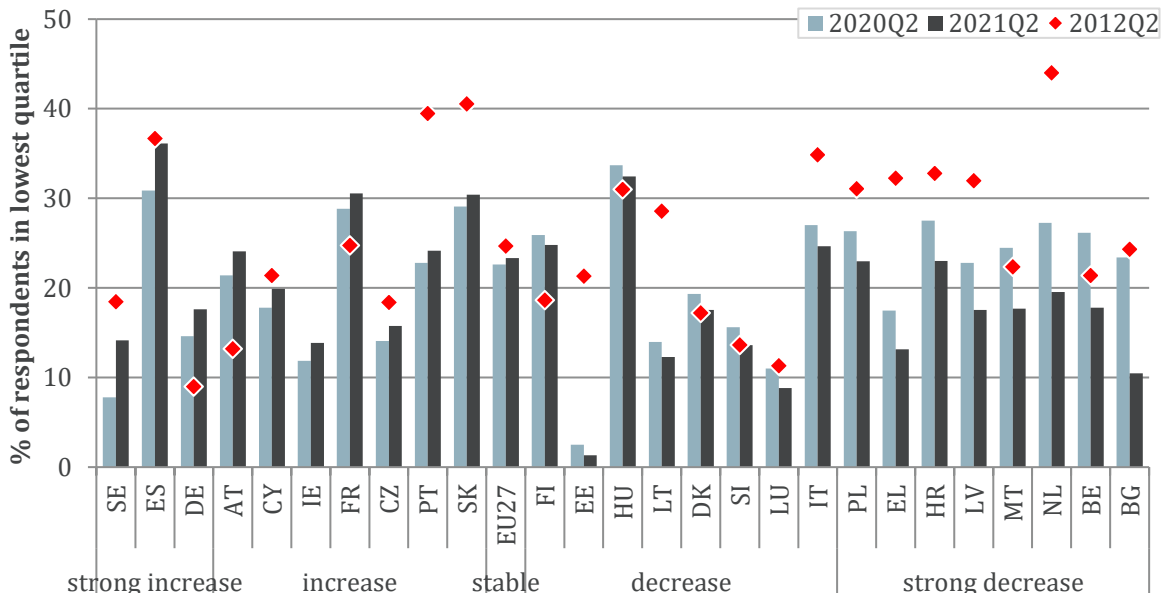


Source: Eurostat, National Accounts, seasonally and calendar adjusted data. Note: Cumulative growth (bars, right-hand scale), % change on the previous quarter (lines, left-hand scale)

The change in these economic indicators means that the pandemic has led to a very different type of economic crisis to that seen in 2008-2009 where economic recovery was very slow taking many years to achieve. This makes it difficult to predict what the long-term consequences will be for population mental health; that said it can still be expected that individuals who do not benefit from the anticipated economic recovery are more likely to experience poor mental health. There is accumulating evidence that some population segments have been more adversely affected by the economic consequences of the pandemic across Europe. These include workers who have been fully on furlough and other welfare support schemes, compared to workers who have been able to continue to work on a part time basis, as well as older workers. Workers with temporary contracts rather than permanent employment have also been at greater risk of becoming unemployed during the pandemic (3). Unemployment rates are only part of the picture; individuals can be at increased risk of poor mental health when they drop out of the labour force and become economically inactive. Groups that have been highlighted at higher risk include women, school leavers, higher education students and the retired. Additional resources to protect the mental wellbeing and resilience of individuals at high risk of not being in employment, education or training are likely to be needed.

Increased risk of poor mental health is also associated with increased levels of debt, as well as the fear of unmanageable debt. Financial distress is one way of potentially identifying these risks early. The pandemic has had very variable impacts on the level of financial distress, defined as being the need to draw on savings or to run into debt to cover current expenditures, based on personal perceptions, across the EU (1). While levels of financial distress across the EU have fallen in 2021 relative to 2020 for the second, third and highest income quartiles, these levels of distress have remained stable at a high level affecting 24% of all in the lowest income quartile in 2021. Figure 2 shows that these effects have also varied across countries, with levels of financial distress in the lowest income quartile increasing strongly in three countries Sweden, Germany and Spain in 2021, with some increased risk in another 7 countries. Going forward it will be important to monitor financial distress and ensure that sufficient supports are in place, which may include measures for debt relief, protection from eviction and continued social welfare support. These may help reduce the future need for mental health support.

Figure 2: Reported financial distress in lowest income quartile – EU Member States, 2021 Q2



Source: European Commission, Business and Consumer Surveys 3-months moving average (DG EMPL A.4 calculations)

3. TIMELINE OF POLICY RESPONSE TO COVID ACROSS THE 8 COUNTRIES

3.1. INTRODUCTION

This section discusses policy timelines, each depicting the eight RESPOND partner countries. As we have noted in this report, the COVID-19 pandemic has created a multitude of policies in each country, including social distancing and quarantining, travel bans, school closures, policies related to employment and the economy, or the health and care sector, to name a few. The majority of these policies are likely to have an impact on individuals' mental health, even though they may not be directly targeted at mental health (as is the case with the provision of online mental health services, for instance). In our previous report to illustrate the impact of distinct policies on the population's mental health, we focused on the following three policy timelines:

1. *School closures,*
2. *Restrictions on gatherings, and*
3. *Stay at home requirements.*

These three policies were purposefully chosen, the literature indicating that they likely have a strong and continuous impact on the vast majority of the population. In this report we update on how these policies have evolved in response to the pandemic and also consider three additional areas for policy intervention:

4. *Measures to protect older people*
5. *Income support, and*
6. *Debt relief.*

We now look at the policies put in place to protect older people, a group we noted in our first assessment of policy responses that have been perhaps most vulnerable to contracting severe COVID, with rates of COVID mortality increasing with age. The income support and debt relief measures have been chosen as policy areas to examine because these measures have been strongly associated with population mental health in previous economic crises.

Before looking at the policy timelines, we briefly note the methodology and data sources needed to create the policy timelines will be discussed. This is followed by a descriptive analysis of the timelines.

3.1.1. AIM

Having highlighted these three examples of policy responses to COVID-19, the broader objective of this project is to measure the impact of policies on mental health and wellbeing over time. In order to do so, the first step is to receive a general overview of what policies have been taken at what time. The description and analysis of these timelines will indeed help us get an initial grasp of timing and strictness in each respective country, as well as how they compare. This will be useful for more in-depth measures and analyses throughout the project.

3.1.2. DATA SOURCES AND APPROACH

The data used for the policy timelines was gathered from the Oxford COVID-19 Government Response Tracker (OGRT) a project developed by researchers at the University of Oxford's Blavatnik School of Government (Hale et al., 2020a). The

data and their respective sources are publicly available online. There may be some inconsistencies in the data, due to coding flaws by the OGRT. Data was usually collected at a national level, though as indicated by the OGRT, "A country is coded as 'required closures' if at least some sub-national regions have required closures." (Hale et al., 2020b).

The data collected by the OGRT for the aforementioned policies are ordinal, meaning that they are measured in terms of their strength. For the two support measures higher scores represent stronger support; a 0-2 scale was used for both income support and debt relief. For the four policy restriction areas, higher scores represent stronger levels of restriction: a 0-3 scale was used for school closures, stay at home requirements, and protection of older people, and a 0-4 scale was used for restrictions on gatherings. For all policies, a score of 0 meant that there were no COVID-19 measures in place. Detailed descriptions of the different levels are now described.

In the case of school closures, the distinct levels signified the following:

- *Level 1: Recommendation to close schools or that all schools remain open with alterations (resulting in significant differences compared to non-COVID-19 operations).*
- *Level 2: Only some tiers or categories require closing (e.g. just secondary schools (for older children), or just publicly funded schools).*
- *Level 3: All schools are required to close.*

Regarding restrictions of public gatherings, the levels are coded as follows:

- *Level 1: Restrictions on very large gatherings (the limit is above 1000 people).*
- *Level 2: Restrictions on gatherings between 101-1000 people.*
- *Level 3: Restrictions on gatherings between 11-100 people.*
- *Level 4: Restrictions on gatherings of 10 people or less.*

When looking at stay at home requirements, the scale is the following:

- *Level 1: Leaving the house is not recommended.*
- *Level 2: Leaving the house is not permitted with exceptions for daily exercise, grocery shopping, and 'essential' trips.*
- *Level 3: Leaving the house is not permitted other than for minimal exceptions (e.g. allowed to leave once a week, or only one person can leave at a time, etc.).*

Regarding protection of older people, the following scale was used*:*

- *Level 1: Recommended isolation, hygiene, and visitor restriction measures in Long Term Care Facilities (LTCFs) and/or older people to stay at home.*
- *Level 2: Narrow restrictions for isolation, hygiene in LTCFs, some limitations on external visitors and/or restrictions protecting older people at home.*
- *Level 3: Extensive restrictions for isolation and hygiene in LTCFs, all non-essential external visitors prohibited, and/or all older people required to stay at home and not leave the home with minimal exceptions, and receive no external visitors.*

When looking at the level of financial support available to protect salaried income the scale had two levels:

- *Level 1: Government is replacing less than 50% of lost salary (or if a flat sum, it is less than 50% median salary).*

- *Level 2: Government is replacing 50% or more of lost salary (or if a flat sum, it is greater than 50% median salary).*

Regarding debt relief measures for households the following scale was used

- *Level 1: Narrow relief, specific to one kind of contract.*
- *Level 2: Broad debt/contract relief.*

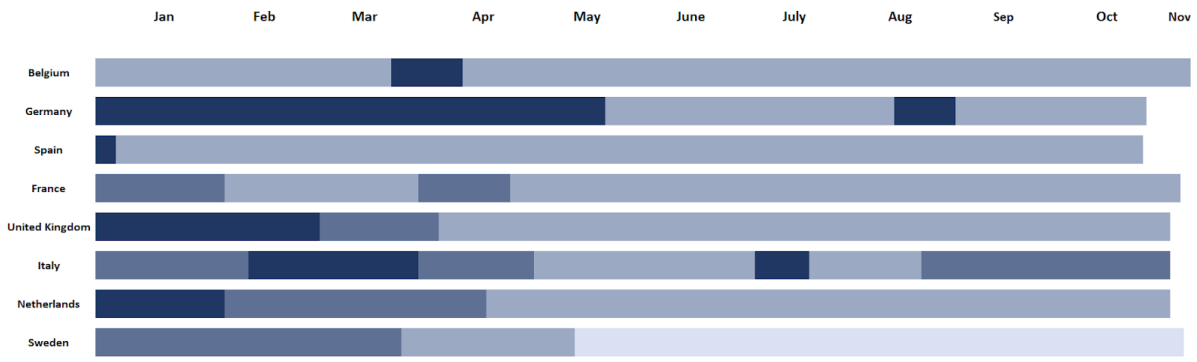
As will be seen in the policy timelines in the Figures, these levels were represented by different colours; a very light blue represents a level '0', whereas a light/middle blue will represent '1', a middle blue will represent '2', a middle/dark blue will represent level '3', and a dark blue will represent a level '4'. This was done to give a clearer overview of the change in policy strength, resembling a 'heat map'.

3.2. SCHOOL CLOSURE POLICY TIMELINE ANALYSIS

3.2.1. TIMING OF POLICIES

To recap on our first rapid assessment review covering the period until February 2021, we highlighted that all eight countries, with the exceptions of Belgium and Sweden started closing down their schools approximately at the same time, i.e. in the period of late February-mid March. Indeed, all eight EU RESPOND partner countries, with the exceptions of Belgium and Sweden took this measure at some point of the pandemic, particularly throughout spring/summer 2020 – a period with strict suppression policies overall. Some countries, such as the Netherlands, Spain, Germany and France, initially had relatively short periods of complete school closures, while the UK and Italy, on the other hand, had much longer periods of complete closure. In the case of the UK, other than some limited use for vulnerable children and the children of key workers, schools were closed for the rest of the 2019/20 academic year. From autumn 2020 a 'second wave' of school closures took place across all countries other than Sweden, with Spain and the UK closing down all schools for a period in September and October. These closures were relatively short, but by late 2020, the emergence of the more infectious Delta variant of the COVID-19 virus led to longer restrictions in some countries.

Figure 3: School Closure Policy Timeline January 2021 – November 2021



As Figure 3 shows nearly a year after the WHO termed the COVID-19 pandemic an international public health crisis, EU RESPOND countries have generally relaxed school closures. As a general trend, Sweden remains the most 'liberal' nation, never having entirely closed down schools, and having all schools fully opened since May 2021. Germany is

undoubtedly the strictest country in this regard, having shut down all schools from December 2020 to end of July 2021, i.e. the entire spring/summer semester, as well as for a short period towards the end of August. There were also long closures until February and March in the Netherlands and the UK respectively. Italy also closed schools for around two months in total in 2021.

Overall, however, RESPOND countries were relatively lenient in 2021, compared to 2020. As will be discussed in more depth below, this may be due to the strong negative impacts school closures have on individuals' mental health, not only affecting students, but also staff as well as parents. Furthermore, there was some increased evidence in some countries, that children were not, as previously believed, 'super-spreaders' of the virus, meaning that the negative effects of closing schools outweigh the positive benefits of reducing the spread of the disease (4). As of late spring/summer 2021, the majority of EU RESPOND countries recommended only closing schools or alternatively particular school grades or classrooms in case of one or several COVID-19 outbreaks (level 1). It is however worth mentioning that except for Sweden, in all EU RESPOND countries, schools ask or have previously asked students and/or staff to be tested through rapid tests on a regular basis in order to ensure COVID-19 safety (5). Nevertheless, this policy varies between regions and schools, and is not always mandatory (ibid.).

Studies indicate several short and likely long-term repercussions of closing schools and switching to online learning on students, staff and parents' mental health. Students are likely to suffer from a lack of structure to daily activities, a lack of physical exercise, increased screen time, and the lack of resources (including learning materials, help in learning, as well as food and safety) (6). This can lead to increased levels of anxiety, boredom, frustration, and overall reduced quality of life (ibid.). Parents, particularly less-educated mothers with primary-aged school children, suffer from worsening mental health (7). This might be due to several factors: firstly, women are nowadays still more likely to take up child rearing, putting additional stressors on working mothers' shoulders. Secondly, less-educated women may feel less able to help their school-aged children, particularly when there are language barriers. Thirdly, less-educated women are more likely to occupy lower-paying jobs that cannot be done at home, which can add to frustration when they cannot properly help their child with home schooling. Lastly, young children require more help than older children, which may explain why mothers of younger children are particularly stressed, ultimately negatively impacting their mental health (ibid.). In addition, teachers are likely to feel a worsening in mental health due to online learning as well. The additional pressure of switching to online classes, as well as feeling unprepared to properly help students with both their learning and socio-emotional needs while teaching online can also lead to stress and anxiety (8).

Likewise, students' learning progress was also disrupted by online learning, and these losses are likely to be felt more in the long term. For instance, Grewenig and colleagues found that during online schooling, students cut their average learning time of 7.4h a day by approximately half (9). More worryingly, low-achieving students cut their learning hours by even more, i.e. an average of 4.1h per day, as compared to 3.7h for high-achievers (ibid.). The lost time to learning was mainly replaced by "detrimental activities" including additional screen time playing computer games or watching TV, which are not considered beneficial to child learning or development (9). An increase in daily screen time during school closures was also found in other studies (10). With regards to learning progress, similar results were found by Engzell, Frey and Verhagen who studied student progress in the Netherlands, which the authors called a 'best case scenario', since as can also be seen in Figure B, the country had relatively lenient school closing policies (11). Nevertheless, the study found that all, and in particular, lower-income students, made little to no learning progress when studying entirely from home (11).

It is however worth mentioning that some children have benefitted from school closures. A small number of children reported feeling happier and more relaxed, particularly those with a pre-existing mental illness, those who are on the autism spectrum and/or students who have previously been bullied (12). This was especially the case during the first lockdown (6). Nevertheless, a recent systematic review found that children and adolescents with disabilities, and/or pre-existing mental health issues had a significantly higher risk of developing anxiety during periods of lockdowns (13).

The authors argue that with many special education services being closed, students with special needs who usually rely on carefully constructed routines may feel anxious and stressed due to the lack of their usual daily activities (ibid.).

At the time of writing, given the currently relatively similar levels of (non) school closures in the EU RESPOND partner countries, we may hypothesise that there are only small discrepancies between students, staff and parents' mental health, if any at all, between RESPOND countries. Given Germany, the UK and Italy's relatively longer periods of school closures, it may be that UK, German and Italian individuals affected by school closures have had some stronger negative impacts on mental health compared to those from countries with fewer restrictions such as Sweden. However, in order to confirm this, longitudinal studies comparing the mental health of students, staff and parents of RESPOND countries are required.

3.3. RESTRICTIONS ON GATHERINGS: POLICY TIMELINE ANALYSIS

3.3.1. TIMING OF POLICIES

As our first report indicated most RESPOND countries imposed the strictest level of restrictions on gatherings of 10 people or less, in mid to end March, with Italy and France being the first countries to do so at the end of February (23rd and 29th of February, respectively). Generally speaking, in 2020 France had the longest period of level 4 restrictions, followed by the UK. Belgium, Spain and Germany, have had similar lengths of periods when it comes to restricting gatherings of 10 or less individuals (level 4), restricting gatherings between 11 and 100 individuals (level 3) and restricting gatherings between 101 and 1000 individuals (level 2). Italy, surprisingly, was relatively lenient with the former (i.e. level 4); during spring, summer, and beginning of autumn 2020, the country switched between level 1, 2, and 3, with level 2, i.e. being able to have gatherings of between 101 and 1000 people, being the longest period with approximately three months and three weeks. The Netherlands and Sweden only imposed the strictest measures, at a much later stage; at the beginning of August and end of November 2020 respectively.

As can be seen in Figure 4, restrictions on gatherings have remained relatively strict throughout 2021 in all RESPOND countries. This is because social distancing measures remained crucial to slowing the spread of the virus. The strictest country was Spain, followed by Belgium and the UK respectively, who stayed at level 4 for the majority of winter, spring, and summer 2021, and Spain and the UK even until the beginning of autumn. The most lenient country was the Netherlands, having only restricted very large gatherings with people above 1000 from mid-June onward, followed by Sweden and Italy.

It is also worth noting that the levels show large discrepancies within and between themselves, potentially meaning differences in how they impact the mental health of people. There is a major difference between levels 2 and 3, for instance; being able to meet with 11 people rather than 100 (level 3), is very different to being allowed to meet with 101 people vs. 999 (level 2). As an example, a funeral with only 11 people will have more negative impacts on individuals than a funeral with 100 people. Additionally, it is unlikely that there are large effects on mental health between levels 1 and 2, since these both allow very large gatherings, and may therefore only negatively impact those who want to hold or attend large celebrations such as weddings, for example. It should moreover be mentioned that restrictions on gatherings are likely to mainly have punctual or acute effects on mental health rather than long-term, 'chronic' effects. School closures, for instance, are likely to impact people on a longer basis, as was discussed in the previous section.

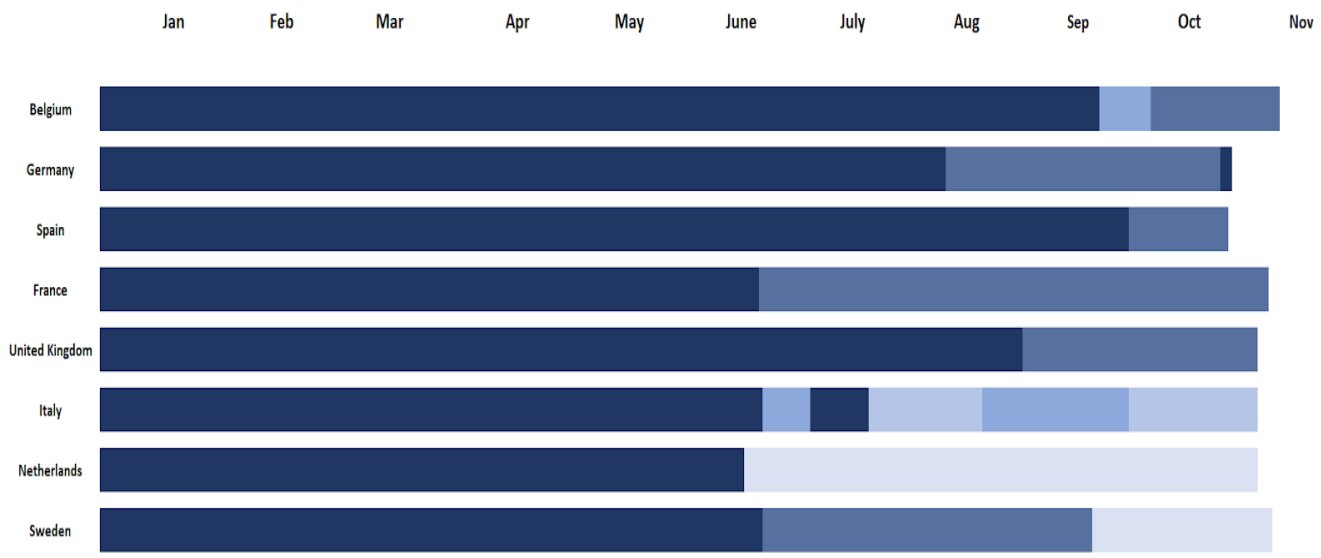
While restrictions of religious gatherings, such as gatherings of worship, or funerals, in particular are likely to negatively impact people's mental wellbeing, the long-term effects still need to be further researched. During the first wave of the pandemic in Italy an online survey of 1,250 adults from across the country looked at the impact of the pandemic on

spiritual levels of wellbeing and mental health (14). 41% of survey participants indicated that they were agnostic/atheist or did not have any religious beliefs, while 57.4% indicated they were religious, with 53% being Roman Catholic. The study reported lower levels of spiritual wellbeing, measured using the Jarel Spiritual Well-Being Scale (JSWB) (15), as well as lower levels of mental health (measured using the Italian version of the GHQ-12 (16), following the onset of the pandemic compared to data available before the pandemic. Spiritual wellbeing was lower in both the religious and the non-religious. The authors suggested that spiritual wellbeing may help strengthen resilience and possibly be protective of mental health during the pandemic; they also highlighted the importance of maintaining (as far as possible) traditional funeral rites following a COVID related death to bolster resilience.

Outside of Europe, a study by Osei-Tutu and colleagues (2021) on Christian church-leaders in Ghana indicated some negative effects on mental wellbeing due to restrictions of religious gatherings. Church-leaders mentioned "spiritual slacking, loss of fellowship, (and) disruption of normal routine" (p. 335) (17). However, some positive impacts were mentioned too, such as "increased faith, reduced stress, and increased family time" (p. 335). Another study on US adults found that more time spent outside (which may be more difficult in times of restrictions of gatherings, which also occur outside) was associated with better mental health, regardless of how physically active participants were (18). Although these studies suggest that religious gatherings may potentially be important factors in protecting mental health and wellbeing during the pandemic, especially for specific target groups such as older religious people, it remains the case that little information is available on this issue in RESPOND countries. We were only able to find one study thus far from Italy that specifically focuses on these issues; additional longitudinal research on how restrictions of gatherings impact individuals' mental health in RESPOND countries is required.

While restrictions on gatherings had reduced markedly across Europe, this issue may become very important again in the immediate future in Europe in winter 2021-2022 where some recent lockdowns, e.g. in Austria have been initiated, and new travel restrictions in relation to the new Omicron variant of concern are rapidly being introduced.

Figure 4: Restrictions on Gatherings Policy Timeline January 2021 – November 2021



3.4. STAY AT HOME REQUIREMENT POLICY TIMELINE ANALYSIS

3.4.1. TIMING OF POLICIES

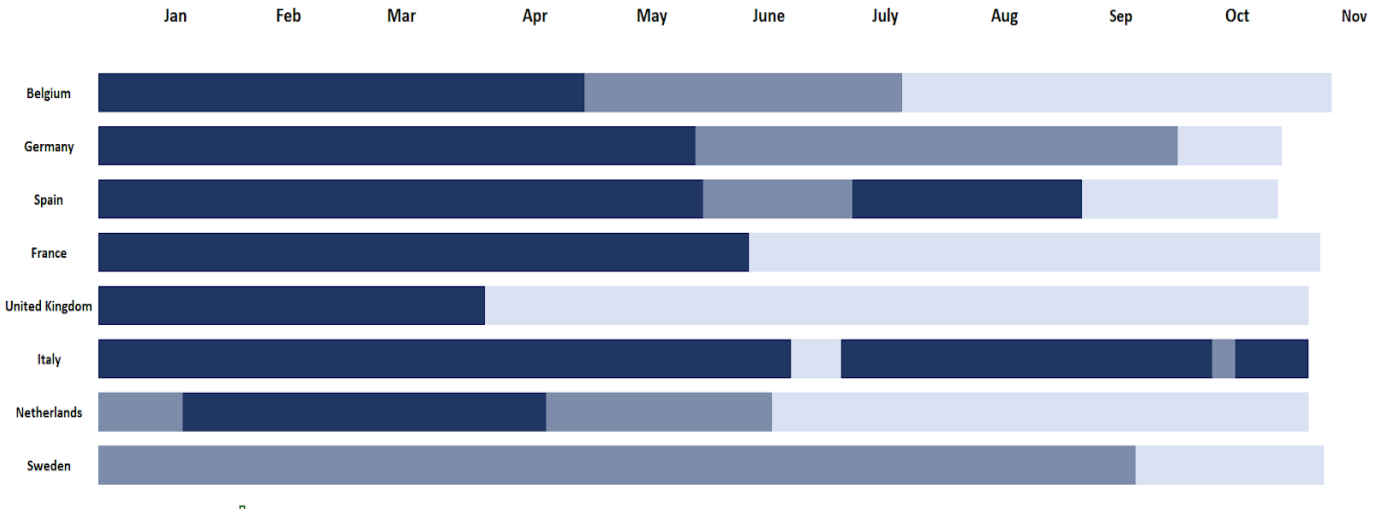
In our first report, we noted that in 2020, with the exception of Sweden, there was a general trend in countries to require their populations to stay at home (with very limited exceptions) from during the first wave of COVID from mid-March onward. Generally restrictions were reduced between May to October, the period when incidence rates of COVID were lower, but then ramped up again in winter 2020. In this second general lockdown period, Belgium, Spain, France, and Italy consistently stayed in a strict level 2 lockdown, whereas Germany and the UK had periods of alleviating the lockdown to purely recommending staying at home, to even a short period of no measures (only the UK: a short period at the end of November).

As Figure 5 shows stay at home requirements, or lockdown, were some of the most used policies in order to halt the spread of the virus in early 2021, a period where access to vaccines was beginning to roll out at very different speeds across RESPOND countries. As can be seen, lockdowns were present in nearly all RESPOND countries, with the exception of Sweden, from the beginning of 2021 until spring 2021. Italy was hereby the strictest country, with nearly a continuous lockdown in at least a few of its regions. The UK, which has the fastest roll out of vaccinations in the over 50s of the RESPOND countries, essentially completing this task by end of February 2021 also had a relatively lenient stay at home possible. Scientific advisors felt it was possible to exit lockdown because of the success of the vaccination campaign, with many restrictions removed from mid-April 2021, although advice to work from home where possible remained until late summer. The Netherlands also reduced lockdown restrictions to level 2 from mid-January 2021 to the end of April 2021.

Lockdown measures are potentially the most severe suppression measures with regards to mental health, as they greatly impact individuals' day-to-day lives and ability to socialise. Socialising represents an important buffer to adverse effects of stressors (19, 20). Therefore, when people are unable to socialise as per usual, they will run into greater risks of developing mental health issues such as symptoms of anxiety and depression (21). This is even more so the case in the already difficult period of the pandemic, where buffers such as social contacts are particularly crucial. Additionally, the loss of routine, daily activities, including for leisure, as well as the inability to socially interact proves very difficult to everyone, increasing levels of depression and anxiety in the general population (22); however, systematic reviews indicate that particularly women, young people, and individuals with previous mental health disorders suffer from lockdown measures as compared to the rest of the population (13, 22-24).

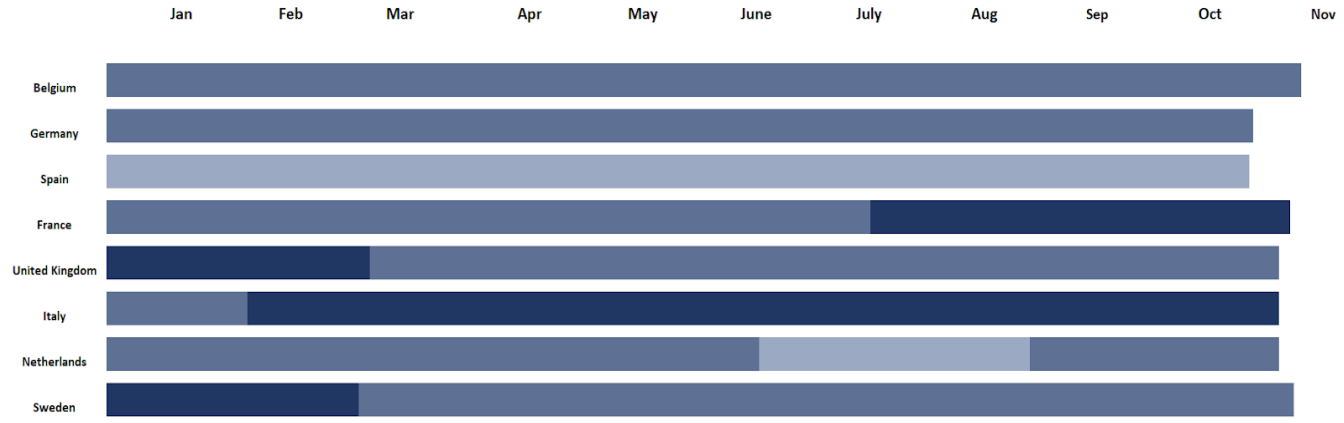
In general, women are particularly at risk of poorer mental health outcomes for several reasons: 1) likely increase in carer responsibilities as well as general chores at home, 2) financial disadvantages, including greater risk of unemployment, salary cuts, less savings, 3) higher chances of being victims of domestic violence, which increased during lockdown periods (22). Likewise, young people are particularly at risk of developing mental health problems as they rely on peer relations for identity formation and wellbeing to a greater extent than adults (13, 22, 25). During strict lockdown restrictions, meeting friends and peers becomes increasingly difficult, if not impossible, which can lead to increased anxiety and depressive symptoms, anger, and irritability (13). Moreover, individuals with pre-existing mental health problems are highly vulnerable during pandemics due to a reduction in psychiatric services as well as psychiatric hospitalisation (24). Individuals with pre-existing mental health problems are also more likely to be more vulnerable to life stressors and disruptions in routine than the general population, which can lead to increase in anxiety (ibid.).

Figure 5: Stay at Home Requirements Policy Timeline January 2021 – November 2021



3.5. MEASURES TO PROTECT OLDER PEOPLE

Figure 6: Measures to protect older people Policy Timeline January 2021 – November 2021



3.5.1. TIMING OF POLICIES

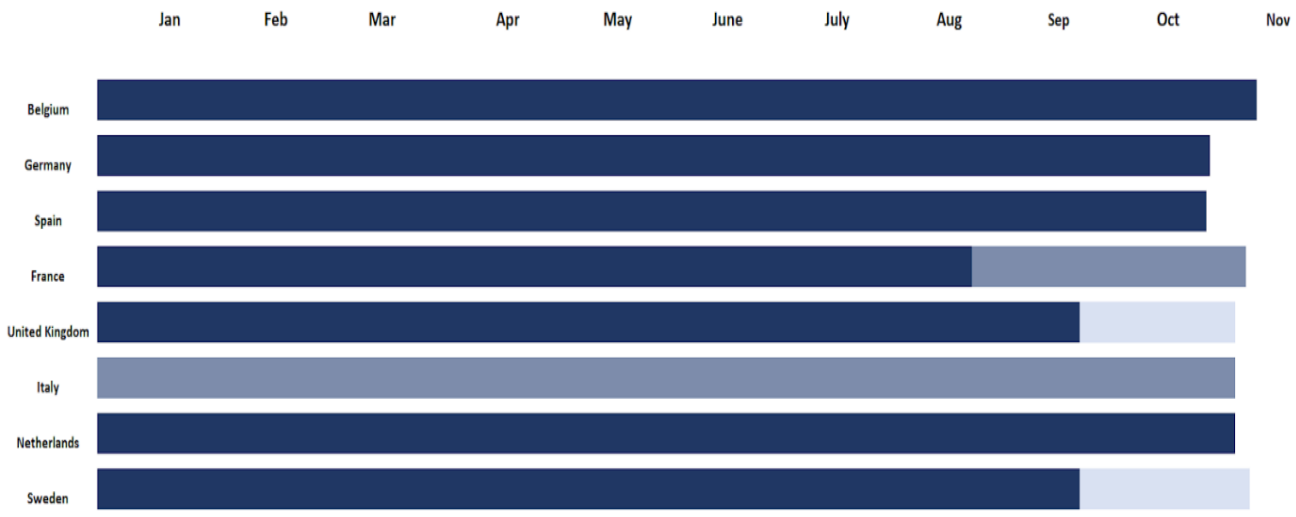
During the first months of the pandemic there were growing concerns across many countries that not enough had been done to protect older people, who had been shown to be at much greater risk of hospitalisation and mortality from COVID-19. By 2021 some of the early public health lessons had been learnt, with stricter measures in place to protect older people, and in particular measures to restrict contacts for individuals living in residential care homes.

As Figure 6 shows, all RESPOND countries implemented some level of isolation/contact restriction to protect vulnerable older people during 2021. Italy is the country with the highest level of restriction, starting with Level 2 early in the year and progressing to Level 3 from February 2021 until now. In Sweden and in the UK, restrictions went in the opposite direction to Italy, starting with the year with level 3 and moving to level 2 from February/March, remaining at this level until the current date. In the UK this was probably made possible by the mass rollout of vaccination starting with the oldest age groups from December 2020. By early April 2020 most of the over 70s had been double vaccinated.

In Belgium and Germany, restrictions have been kept at level 2 throughout the entire year, while in France they remained at this level until July, when it progressed to level 3, at which it remains until now.
In the Netherlands, restrictions were kept at level 2 from January to June and eased to Level 1 from June to August, when it moved back to level 2. In Spain, restrictions have been kept at level 1 throughout the entire year until the current date. Very recently in November 2021, as part of measures to prevent a repeat of the very high deaths seen at the beginning of the pandemic mandatory requirements for workers in residential care homes to be double vaccinated against COVID-19 have been introduced across the UK.

3.6. INCOME PROTECTION MEASURES

Figure 7: Income Protection Measures Policy Timeline January 2021 – November 2021



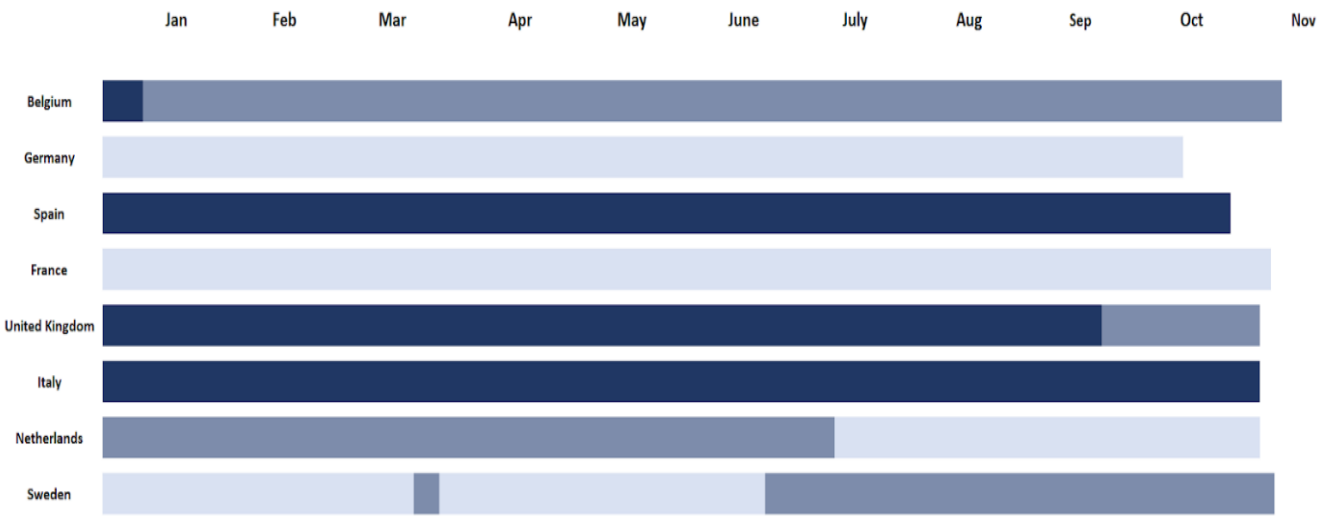
3.6.1. TIMING OF POLICIES

As can be seen in Figure 7, with the exception of Italy, all RESPOND countries have implemented the highest level of income support (level 2: government replacing 50% or more of lost salary) throughout 2021. At the time of writing of this report, this level of income support was still in place in half of RESPOND participating countries (Belgium, Germany, Spain and the Netherlands). France provided level 2 support until August 2021, when it was replaced by level 1 income support (government replacing less than 50% of lost salary). In the United Kingdom and Sweden level 2 support lasted until September/2021. Since then, these countries have offered limited income support; in the case of the UK some financial support of £500 is still available when individuals on low incomes have to self-isolate (Test and Trace Isolation

Payments), while an additional £20 per week for those on low incomes (universal credit uplift) was available until the end of October 2020. In Italy, level 1 financial support has been offered throughout 2021.

3.6.2. DEBT RELIEF MEASURES

Figure 8: Debt Relief Measures Policy Timeline January 2021 – November 2021



3.6.3. TIMING OF POLICIES

In contrast to income support measures, only three of RESPOND countries implemented extensive debt relief programmes (Figure 8) - in Italy and Spain, level 2 (broad debt/contract relief) programmes have been in place throughout the entire year, until the time of writing of this report; in the UK, level 2 has also been implemented in 2021, and replaced with limited (level 1, narrow relief, specific to one kind of contract) debt relief from September, 2021 until the current date.

Belgium offered extensive debt relief only very early in 2021 which was soon, in January 2021, replaced with limited debt relief until the current date. In the Netherlands, limited debt relief was available from January to June, when the programme was halted. Since then, the country offers no debt relief to its citizens. In Sweden, limited debt relief was made available for a short period of time in March 2021 and, again, from June 2021 until the current date; no debt relief was offered in the remaining months. France and Germany have implemented no debt relief programmes in 2021.

4. A FRAMEWORK FOR EXPLORING THE IMPACTS ON MENTAL HEALTH OF COVID-19 AND POLICY RESPONSE MEASURES

RESPOND is focused on the potential impacts of COVID-19 on population psychosocial health across Europe, including ongoing examination of how immediate and changing policy responses to counter the pandemic may have protected and/or exacerbated risks to mental health and wellbeing. In our previous appraisal report we highlighted a number of areas where we might anticipate impacts of COVID-19 on mental health. Many of these would be recognised determinants of mental health and wellbeing (26). It is well known that, beyond individual vulnerability, key social determinants play an important role on wellbeing and mental health, acting either as aetiological factors for the development of mental disorders (e.g., violence, deprivation and other contextual features that might increase psychological distress) or as protective factors (e.g., social capital, job and economic security and other factors that might buffer negative effects of adversity). The availability of protective factors that might increase resilience is also critical.

Additionally, it is also well established that "[positive] mental health is a fundamental element in the resilience, health assets, capabilities and positive adaptation that enable people both to cope with adversity and to reach their full potential" (27), and that, therefore, mental health should be defined as a cross-cutting component of life, which interacts with all other dimensions in a bidirectional way, so that both impacts on and is impacted by whatever happens in other spheres of life (e.g., physical health, economic circumstances, participation in social life etc.).

As a result, our framework is based on two fundamental principles:

1. *That even "a small improvement in population wide levels of wellbeing will reduce the prevalence of mental illness [and bring a number of] benefits associated with positive mental health" (27) and, as result, increase resilience and enhance people's ability to cope.*

2. *That although specific policy/interventions targeting mental health are needed/welcome, the importance of mental health as a driving force should be considered across all sectors and in all policy-making decisions, and that potential mental health impact of any policy should be considered before implementation.*

Table 1 lists key transitions in the life course where we believe the social determinants of mental health are particularly visible and may be further influenced by the pandemic. Table 2 also highlights specific additional risk factors that may be exacerbated during the pandemic. These were all described in detail in the first version of our appraisal report. In doing this we want to highlight that while a lot of attention understandably is focused on the immediate risks for mental health of the pandemic, there are also potential consequences that may not be immediately visible but nonetheless have consequences for decades to come. This is perhaps most evident when we look at childhood and adolescence, a key developmental period during the life course when mental capital is formed and accumulated (28). Mental capital 'encompasses a person's cognitive and emotional resources, including their cognitive ability, how flexible and efficient they are at learning, and their 'emotional intelligence', such as their social skills and resilience in the face of stress' (29).

Table 1: Key periods in the life course where mental health and wellbeing may be particularly vulnerable and potentially exacerbated by COVID-19

Perinatal period	Maternal, paternal and infant health, parental and infant bonding. Potential benefits to mental health of more time spent by both parents with infants during pandemic. Risks to mental health, include limited access to external support e.g. from extended families due to pandemic restrictions.
Pre-school period	Child cognitive and emotional development benefits from contact with other young children. Opportunities for structured group play may be limited during periods of pandemic restriction. Potential benefits to mental health of more time spent by both parents with young children during pandemic.
School – period	Protective impacts of school attendance, educational attainment; risks of adverse impacts of disrupted social bonding and interrupted education during periods of school closure or self-isolation from school due to pandemic.
Transition from school to higher education or work	Time period when incidence of severe mental disorder can be greatest, especially in young men. Moreover, not being in employment, education, or training (NEET) increases risk of long-term economic disadvantage and social exclusion, including increased risks to mental health. Risks likely to increase due to pandemic. Also, reduction / uncertainty in career aspirations due to pandemic uncertainty.
Working life period	Stable, secure employment in good working environment with opportunities for personal development can be protective to mental health. Maybe income and employment uncertainties due to pandemic varied effects on employment sector. Potentially also impacts on self-employed, if less access to governmental support than employed workers. Differential impacts on mental health linked to ability to work from home. Risks to mental health of workers who feel more 'exposed' to virus as working in 'public facing roles'.
Family period	Can be risks to mental health of family carers if not adequately supported. Not just caring for children, but potentially double caring for parents; significant caring responsibilities still more likely to be faced by women. During pandemic may be additional responsibilities for parents, e.g. long periods of home schooling or bringing an older relative into COVID bubble. Potential benefits of more time spent with families during periods of lockdown, but also potential risks of more interpersonal mental and physical violence.
Transition from work to retirement	Retirement can mean the loss of role, social status, income and social networks, all of which can be protective to mental health. Risks may be greatest for men, who still are more likely to have social networks that revolve solely around work than women.
Older age period	Increased risks to mental health due to multi-morbidities, physical frailty, bereavement and isolation.

Table 2: Additional determinants of mental health and wellbeing potentially exacerbated by COVID-19

Living with pre-existing mental ill health	Potential impacts on access to mental health services and other supports may impact on mental health.
Living with pre-existing physical illness and/or disability	Potential impacts on access to physical health services and other supports may impact on mental health.
Specific family circumstances	Single parent households may be at greater risk because of lack of support. 'Looked after' children not living with families may be at higher risk.
Ethnicity and cultural factors	Marginalised populations often at higher risk of poor mental health.
Housing and living conditions	Housing conditions are associated with mental health. In addition, physical space and location of housing may be of greater importance during periods of lockdown and enforced home working.
Financial insecurity	Financial insecurity or fear of financial insecurity associated with risks to mental health, which can be heightened during pandemic. Critically important may be security of accommodation; may be fears of home repossessions or evictions if unable to pay mortgage or rent due to COVID related impacts on income.
Access to green space	Green space may be protective to mental health. During lockdowns, with some exceptions, RESPOND countries have permitted periods of outdoor exercise. Individuals who live in settings with little access to parks, nature or other green space may be at more risk of poor mental health.

5. MENTAL HEALTH IMPACT ASSESSMENT OF THE COVID-19 RESPONSE

As part of RESPOND we have developed a mental health impact assessment framework to look specifically at the additional impacts of COVID-19, either in exacerbating existing risks to the determinants of mental health, as well as documenting impacts that has arisen solely to conditions seen in the pandemic. Further details of the development of the framework are provided in the first version of our assessment report. In this section we provide illustrative preliminary summary information on the initial mental health impact assessment for all six policy responses that we have described earlier in the policy timeline section of this report. In these illustrations we have considered evidence across all 8 RESPOND countries as well as comparable information from other relevant country contexts, e.g. other high income countries. It should be stressed that for the full mental health impact assessment we will also take into account the opinions of multiple stakeholders in a mix of quantitative and qualitative research in WP3. Ultimately, we will have country specific impact assessments for each of these policy areas, taking account additionally of information that we are collecting in the next few months, both from an online survey of a wide range of stakeholders as well as interviews with a range of key stakeholders in each of the RESPOND countries.

So therefore, the indicative mental health impact assessments shown here will be further built on in our third appraisal report where in addition to information from literature we will also take into account detailed analysis of interviews

with stakeholders on the necessity for policy measures, the strictness of these measures and the potential trade-offs to be faced between pandemic control and population mental health. We will also draw on information on the way in which the pandemic and its response are communicated and in particular the way in which mental health impacts are covered by both **traditional and social media**. More information on our approach to media analysis is set out later in this report. Our analysis will also iteratively be informed by and in turn will inform other work packages. In particular, we are looking at the **policy and practice implications of analysis of data sets** being explored in WP2, as well as **practical experience in implementing mental health supports** in WPs 4 and 5.

Table 4 provides information on the potential impacts on mental health and wellbeing of stay at home requirements across RESPOND countries. We highlight direct impacts on mental health and wellbeing for the general population and for specific groups across the life course. We also include indirect impacts on mental health and wellbeing. These include impacts on access to relevant services, as well as impacts on some determinants of mental health and wellbeing. We have adopted a convention that has been used in health impact assessment, that looks at both positive (shaded green) and negative impacts (shaded red) of policy actions. In each case using this approach we look at the likelihood that the positive or negative impact will happen; this draws heavily on published literature and will ultimately also make use of material from WP2 in RESPOND. The intensity of each impact as well as its duration is also considered, using the terminology used by Public Health Wales in their health impact assessments (30). (See Table 3). Where we leave cells blank, insufficient information is available to make any judgement on impact.

Table 3: Measures of impact used in mental health impact assessment framework [Source: (30)]

Type of impact	
Positive: Impacts that are considered to improve mental health or wellbeing directly or indirectly	**Negative:** Impacts that are considered to reduce mental health or wellbeing directly or indirectly
Likelihood of impact	
Confirmed	Strong direct evidence e.g. from a wide range of sources that an impact has already happened or will happen
Probable	More likely to happen than not. Direct evidence but from limited sources
Possible	May or may not happen. Plausible, but with limited evidence to support
Intensity / severity of impact	
Major	Significant in intensity, quality or extent. Significant or important enough to be worthy of attention, noteworthy
Moderate	Average in intensity, quality or degree
Minimal	Of a minimum amount, quantity or degree, negligible
Duration of impact	
Short term (Short)	Impact seen in 0 – 1 year
Medium term (Medium)	Impact seen in 1 – 5 years
Long term (Long)	Impact seen in > 5 years

5.1. INTERIM MENTAL HEALTH IMPACT OF SCHOOL CLOSURES

Table 4: Interim mental health impact assessment of school closures

School Closures							
	Positive impacts			Negative Impacts			
	Likelihood	Intensity	Duration	Likelihood	Intensity	Duration	Comments
Direct Impacts							
Direct Impacts on mental health and wellbeing of people with caring responsibilities	Possible	Minimal	Short	Confirmed	Major	Short	Multiple studies report parents experienced higher levels of stress due to extra home schooling responsibilities
Direct Impacts on mental health and wellbeing of infants, children and adolescents				Confirmed	Major	Short	Multiple studies reporting adverse impacts on mental health and wellbeing of school children
Impact on Access to Mental Health Promotion, Prevention and Treatment Services							
Access to specialist mental health services	Possible	Minimal	Short	Possible	Minimal	Short	Some increase in online provision of school - based mental health promotion services may increase access to support In some countries school-based mental health promotion services would potentially have identified problems.
Impacts on determinants of mental health and wellbeing							
Physical activity	Possible	Minimal	Short	Possible	Minimal	Short	Government guidance in RESPOND countries encouraged regular exercise during school closures which may promote mental health Loss of access to regular sport exercise activities and active commutes to school

Home working				**Probable**	**Moderate**	**Short**	**Women more likely to have to home school children and experiencing more adverse mental health events (Sarker, 2020)** **Home working parents reported more stress than home workers without children**
Domestic violence and abuse				**Probable**	**Moderate**	**Short**	**Some studies reporting increased physical abuse of children in households where family dynamics poor**
Housing				**Possible**	**Moderate**	**Short**	**More stress and reduced mental health reported in children and parents where living space limited**
Green Space	**Possible**	**Minimal**	**Short**	**Possible**	**Minimal**	**Short**	**Some evidence for more than one study that children living in areas where possible to access green space had better mental health than children with limited access to green space**
Low household income				**Probable**	**Moderate**	**Medium**	**Lack of access to internet and digital equipment more likely in low income households hampering learning**

Table 4 summarises our mental health impact assessment of school closures. There is evidence from multiple sources that school closures can have detrimental impacts on the mental health of school aged children, as well as their parents. Long-term disruption to school may lead to interrupted learning (31, 32), which may impact on life chances as education “is one of the strongest predictors of the health and the wealth of a country's future workers” (32).

Parents, and in particular women, typically are more affected by school closures. Because of gender norms, women are more likely to take care of children who need to be home-schooled due to COVID-19 school closures (33), even if both partners are working from home. In situations where gender norms are strong, women have tended to have less time available for their jobs, take more holidays to cope with the additional tasks of home-schooling, or switch to part-time work (potentially resulting in a loss of financial resources and independence, which can cause psychological distress). Moreover, if they decide to keep working, they may feel like they have to juggle several distinct tasks simultaneously, which can also lead to psychological distress (34). While researching the effects of the current pandemic on individuals’ mental wellbeing, several studies have indeed demonstrated a gender difference in psychological distress between men and women (35-37). Traunmüller and colleagues for instance argue that this is due to an increase in unpaid care labour, such as taking care of children at home, which today is still largely done by women (37).

Many parents were unprepared to take up the role of substitute teacher during the pandemic (38). A survey of more than 6,700 parents across all RESPOND countries, except France, during the first wave of the pandemic in Spring 2020 reported many negative impacts of home schooling on parents and their children aged 5 to 19 (39). There was a significant difference in parental stress due to the extra workload of home schooling in six RESPOND countries compared with Sweden. Rates of parental stress were just 14% in Sweden compared to rates between 47% and 59% in the other countries. This is unsurprising as in Sweden only schools for young people aged 16-19 closed; all other schools remained open, in contrast to the other countries. In all countries, parents of children with mental health conditions felt significantly more stressed than parents of children without mental health conditions. Separate analysis of survey data of 1586 parents of children in the first wave of COVID in Germany also found that the number of children experiencing mental health problems in general as well as anxiety almost doubled during this immediate pandemic period (40). There is also some limited evidence on increased exposure to violence and abuse of pupils spending an

increasing amount of time in vulnerable situations at home (41) but further empirical research is required to confirm these initial concerns.

Overall, in the cross-country study on school closures 67% and 57% of children and their parents also felt socially isolated during this period (39). Young people heavily rely on school and extra-curricular activities to meet with friends and peers (42). During adolescence, friendships become increasingly crucial, with research suggesting that they become even more important than youngsters' relationship with parents. While a good relationship to one's parents evidently also plays a crucial role to adolescents' mental health, adolescents' identity formation has been indicated to rely on friendships with peers (43). Any resulting increase social isolation, despite the maintenance of online connections, and a loss in daily structure (due to school closures, no longer being able to pursue hobbies outside, etc.) is likely to negatively impact on child and adolescent mental health (44, 45). This has also been found in preliminary research, studying the effects of COVID-19 on young people's mental health, as indicated by a systematic review by Nearchou and colleagues (46).

While most of the evidence points to negative impacts of school closures, there is also some evidence indicating that between a quarter and one third of parents felt that home schooling had been a positive experience for themselves and their children (39).

5.2. INTERIM MENTAL HEALTH IMPACT OF RESTRICTIONS ON GATHERINGS

Table 5: Interim mental health impact assessment of restrictions on gatherings

Restrictions on Gatherings							
	Positive impacts			**Negative Impacts**			
	Likelihood	**Intensity**	**Duration**	**Likelihood**	**Intensity**	**Duration**	**Comments**
Direct Impacts							
Direct Impacts on mental health and wellbeing of general population				**Confirmed**	**Major**	**Short**	**Multiple studies indicate decrease in mental wellbeing, increased levels of stress, anxiety and depression**
Direct Impacts on mental health and wellbeing of people with pre-existing mental health problems				**Confirmed**	**Major**	**Short**	**Multiple studies indicate that mental health of people with pre-existing problems has declined**
Direct Impacts on mental health and wellbeing of infants, children and adolescents				**Confirmed**	**Major**	**Short**	**Multiple studies point to increased isolation and loneliness in children and adolescents**

Direct Impacts on mental health and wellbeing of older people				**Probable**	**Moderate**	**Medium**	**Mixed evidence on impacts on older people; loss of social networks associated with increased isolation**
Impacts on determinants of mental health and wellbeing							
Physical activity				**Probable**	**Moderate**	**Short**	**Studies point to reduced participation in team sporting activities and general leisure activities, e.g. indoor swimming**
Employment				**Confirmed**	**Moderate**	**Medium**	**Studies point to decreased levels of mental health in employees of industries most affected by pandemic, e.g. hospitality, leisure. Especially if not able to access income protection schemes,**
Crime rates	**Probable**	**Moderate**	**Short**				**Crime surveys and official crime statistics point to reduced levels of crime during periods of restriction**

Table 5 summarises our mental health impact assessment of restrictions on gatherings. After studying the mental health of adults in Germany, one study found that a general increase of social restrictions led to lower life satisfaction, as well as an increase in psychosocial concerns and loneliness (47). Being unable to have the same level of social contact, coupled with an increase in perceived life changes due to public health policies and a negative perception of these policies, was positively linked with increased anxiety, depression, psychosocial distress and overall lower life satisfaction. The authors stressed that it was the perception of public health policy mandated social restrictions rather than the actual restrictions that impacted on adult mental health in Germany.

Looking at impacts on determinants of mental health and wellbeing. Loneliness is associated with increased risks to physical and mental health. This may be exacerbated due to social restriction measures and increase risks of mental health issues such as anxiety, depression and PTSD (48, 49). Additionally, particularly vulnerable individuals with pre-existing mental health issues are likely to have much reduced contact with their social support networks and the general communities during lockdowns, which may worsen their condition (50). For example, Bu and colleagues indicated that individuals who were struggling with self-harm or suicidal thoughts were facing difficulties in accessing formal mental health support in the first month of the pandemic (50). On the other hand, by studying the initial month of UK lockdown and its impacts on adults' mental health, another study suggested that there was no relation between being vulnerable to the effects of the pandemic and mental health (51).

The pandemic may have had some benefits for previously marginalised populations, such as people with physical disabilities. One Spanish study compared levels of loneliness in the population before and after the lockdown (52). Results indicate that individuals felt significantly less lonely than before the pandemic, particularly when it came to the

feeling of exclusion, even when one was confined alone. The authors believe that the feelings of community, inclusion and belonging fostered at the beginning of the lockdown helped in this regard.

Additionally, it is noteworthy that certain personal factors may increase vulnerability of developing mental health issues due to the effects of the pandemic. Indeed, being female, a student, having pre-existing health issues, a lower SES, and lower levels of education have been linked to higher risks of developing mental health disorders during the pandemic (35-37, 53-55). The fact that women are particularly affected may be due to a higher risk of developing mental health issues such as depression, as well as due to the fact that they are more likely to face an increase of household chores, child rearing due to school closures, and other unpaid labour tasks, in addition to their own jobs (37), as previously mentioned. As we have noted in our discussion of the determinants of mental health and wellbeing, socioeconomic status and income play an important role. Individuals in lower socio-economic groups may be particularly vulnerable as they may either have jobs which may be less easily performed at home, which may mean either that they have to contend with higher risks of contracting COVID-19 in the workplace or may be at increased risk of worklessness. They have a higher likelihood of experiencing COVID-related job loss, in addition to pre-existing issues such as unstable working conditions, financial hardship, poorer health conditions (e.g. living in overcrowded areas) and poorer access to health care services (54).

5.3. INTERIM MENTAL HEALTH IMPACT OF STAY AT HOME REQUIREMENTS

Table 6: Interim mental health impact assessment of stay at home requirements

Staying at Home Requirement							
	Positive impacts			Negative Impacts			
	Likelihood	Intensity	Duration	Likelihood	Intensity	Duration	Comments
Direct Impacts							
Direct Impacts on mental health and wellbeing of general population				Confirmed	Moderate	Short	
Direct Impacts on mental health and wellbeing of people with pre-existing mental health problems				Confirmed	Major	Short	
Direct Impacts on mental health and wellbeing of people with pre-existing physical health problems				Possible	Moderate	Short	
Direct Impacts on mental health and wellbeing of people with caring responsibilities	Possible	Moderate	Short	Possible	Moderate	Short	
Direct Impacts on mental health and wellbeing of infants, children and adolescents				Confirmed	Major	Short	
Direct Impacts on mental health and wellbeing of students				Probable	Moderate	Short	
Direct Impacts on mental health and wellbeing of homeless							
Direct Impacts on mental health and wellbeing of older people				Probable	Moderate	Medium	
Impact on Access to Mental Health Promotion, Prevention and Treatment Services							
Access to specialist mental health services	Possible	Moderate	Short	Probable	Moderate	Short	Some evidence of preference for use of new online mental health services and reduced use of physical services

							Some evidence in RESPOND countries that current demands for mental health services may be greater than current use
Impacts on determinants of mental health and wellbeing							
Alcohol consumption				Possible	Minimal	Short Term	Some evidence of changes in alcohol consumption patterns, with increased consumption / binge drinking in minority of lockdown populations
Physical activity	Probable	Moderate	Short	Possible	Moderate	Short	Pandemic guidance has encouraged daily exercise during lockdown; normalised regular exercise Evidence also that physical activity has reduced in some populations
Home working	Probable	Moderate	Long	Probable	Moderate	Short	Mixed evidence: home working associated with improved mental health and wellbeing in some and significant decline in mental health and/or increase in stress, anxiety and depression in others
Employment				Confirmed	Moderate	Medium	Studies point to decreased levels of mental health in employees of industries most affected by pandemic, e.g. hospitality, leisure. Especially if not able to access income protection schemes
Domestic Violence and Abuse				Confirmed	Moderate	Short	Multiple studies in RESPOND countries indicate increased reporting of domestic violence during pandemic
Crime rates	Probable	Moderate	Short				Crime surveys and official crime statistics point to reduced levels of crime during periods of restriction

Housing				**Probable**	**Moderate**	**Short**	**Restricted living space associated with poor mental health in several studies in RESPOND countries**
Green Space	**Possible**	**Minimal**	**Short**	**Possible**	**Minimal**	**Short**	**Some studies indicate proximity / access to green space may be associated with mental health status both before and during pandemic**

There are both positive and negative impacts on mental health from stay at home policies (Table 6). There is growing evidence from multiple sources that lockdowns have adverse impacts on mental health; however the magnitude of this impact is variable according to in a meta-analysis of longitudinal studies during the pandemic (56). This meta-analysis, including European studies found a small but significant impact of COVID-19 lockdowns on mental health. That review also found no impact on mental wellbeing, nor on loneliness. The impact of social distancing and quarantine measures on individuals' mental health is complex, but variations in study methodology may also explain variations. Some studies reported lower rates of mental health, higher rates of anxiety and depression and increased alcohol consumption in individuals during the very strict quarantine imposed in China due to the COVID-19 pandemic (57, 58). Recent analysis in the UK compared differences in the duration of lockdown measures in England and Scotland and their association with mental health (59). Using a 'difference in difference' methods approach the study indicating that more rapid easing of lockdowns was associated with improvements in mental health, measured using the GHQ-12. This was equivalent to a 31% improvement in mental health status following the end of lockdown measures. The study also found that individuals with lower socioeconomic status in terms of education or financial situation benefited more from the end of the strict lockdown, whereas they experienced a larger decline in mental health where the lockdown was extended.

Lower mental wellbeing was also reported in 31% of 560 survey participants during the first lockdown in Austria (60). Patterns of alcohol use generally can be complex; one Belgian cross-sectional convenience survey of more 2800 people found that alcohol consumption patterns remained stable in around 50% of respondents during the first lockdown, with consumption declining in 25% and increasing in the remaining 25% (61). There was an association between anxiety and depression and increased levels of alcohol consumption in this analysis. Concerns have been raised that living in a small space (62, 63), living in environments that are psychologically draining or have increased risk of interpersonal violence and abuse (64-66), being unable to revert back to coping mechanisms, such as sports or religious activities (67), boredom and frustration (68), and generally having to witness significant lifestyle changes (69), may lead to mental health issues during times of lockdown.

There is also however evidence that the lockdowns have had some positive impacts on mental health and wellbeing, Home working was a positive experience for many workers; it also opened up the possibility of a permanent shift in working arrangements, avoiding time and costs of commuting, having more time with families and generally having a better work life balance (70). In Ireland a one day snapshot survey was conducted with 604 members of the public just after the imposition of a national lockdown in March 2020 (71). The survey found that 'while most time was spent in the home (74%), time spent outdoors (8%) was associated with markedly raised positive affect and reduced negative emotions. Exercising, going for walks, gardening, pursuing hobbies, and taking care of children were the activities associated with the greatest benefits [for positive affect]. Public health messages on the importance of daily exercise may also have nudged individuals into more exercise, something that should have benefits for mental health. Crime rates fell during lockdowns, something that should impact on mental health. Homeworking has also been associated

with better levels of wellbeing in a longitudinal study comparing individuals pre-pandemic and during the first wave of the pandemic in the UK (72).

Studies across Europe also continue to have generally reported lower rates of contact with mental health services and reduced levels of self-harm (see suicide and self-harm section of this report) until November 2021. There is some evidence that demand for services is now increasing but it has not surpassed levels seen pre-pandemic.

5.4. INTERIM MENTAL HEALTH IMPACT OF MEASURES TO PROTECT OLDER PEOPLE

Table 7: Interim mental health impact assessment of measures to protect older people

Measures to Protect Older People							
	Positive impacts			Negative Impacts			
	Likelihood	Intensity	Duration	Likelihood	Intensity	Duration	Comments
Direct Impacts							
Direct Impacts on mental health and wellbeing of older people with pre-existing mental health problems				Possible	Moderate	Short	Some limited evidence from cross sectional data that the mental health of people with dementia has been adversely affected during the pandemic.
Direct Impacts on mental health and wellbeing of older people with pre-existing physical health problems							
Direct Impacts on mental health and wellbeing of people with caring responsibilities	Possible	Minimal	Short	Confirmed	Major	Medium	Some limited evidence of benefits to carers who live with person they care for Multiple studies indicate mental health of carers . including family members, especially those who do not live with person they care for, has been adversely impacted. Many worries about impacts of loss of human contact with relatives

Direct Impacts on mental health and wellbeing of older people				**Confirmed**	**Major**	**Short**	**Multiple studies across RESPOND countries report adverse impacts on mental health and wellbeing of very vulnerable (housebound or institutionalised)**
Impact on Access to Mental Health Promotion, Prevention and Treatment Services							
Access to specialist mental health services				**Possible**	**Moderate**	**Short**	**Insufficient evidence on access to non-dementia related mental health services specifically for older people, but contact for all populations with mental health services reduced.**
Impacts on determinants of mental health and wellbeing							
Physical activity	**Probable**	**Moderate**	**Short**	**Possible**	**Moderate**	**Short**	
Employment				**Possible**	**Moderate**	**Short**	
Domestic Violence and Abuse							
Low household income							

Table 7 summarises our mental health impact assessment on measures to protect older people. As we note in our case study (see Section 8 of this report) institutionalised older people have been particularly vulnerable. High levels of mortality in long-term care residences, coupled with a fear among staff, visitors and residents of contracting and passing on the virus potentially create the conditions for substantial additional levels of psychological stress. There is now growing albeit small scale and often qualitative evidence that this did indeed affect the mental health of care home residents. For instance, one small qualitative study of 56 nursing home residents in Belgium reported that the loss of independence because of pandemic restrictions had an impact on their psychological wellbeing and increased levels of depression and anxiety (73).

There are also multiple studies that indicate that the mental health and wellbeing of care home workers and social care staff visiting people in their own homes has been affected. Early evidence from northern Italy in a survey of 1000 long term care workers found that 43% of workers had moderate to severe symptoms for PTSD or anxiety; 18% of workers had both conditions. The prevalence of PTSD was almost double that of anxiety disorders. The study also reported that female workers were twice as likely to have moderate-to-severe symptoms of PTSD or anxiety as men. Workers in

recent contact with other workers suspected of having COVID-19 were 1.7 times more likely to have moderate symptoms of PTSD or anxiety (74). Increased workloads on care workers as a result of pandemic restrictions and the need for regular staff self-isolation has also been associated with a decline in mental wellbeing in a survey of UK care workers during and after the first wave of the pandemic in 2020. Two studies in Spain looked at the working conditions of care home workers. One survey of nursing home workers in Madrid and Barcelona during the first wave of the pandemic actually reported a high level of job satisfaction; it emphasised the importance of working conditions and social support to help prevent staff burnout (75). Another survey of care workers came to similar conclusions, noting that the risk of burnout was linked to rapid deterioration in mental health and lack of support for care workers in stressful situations (76).

Adverse impacts on care home staff appear to be long lasting. Recent analysis in Ireland looked at the mental health of 390 care home workers during the third wave of the pandemic between November 2020 and January 2021 (77); a period by which significant measures to protect older people were firmly in place. Albeit just a cross-sectional survey 45% of staff were found to have moderate to severe PTSD, while 38% of all staff reported low levels of mental wellbeing (measured using the WHO-5). In the Netherlands a qualitative study looking at the lifting of some pandemic restrictions in long-term care homes, reported that even months after restrictions had been eased, wellbeing for both staff and care home residents was perceived to be adversely affected. This was partly because of an increased workload on care home staff and a continued reduction in the number of people visiting their relatives (78). Similar findings in a small qualitative survey were also seen in Finland, a country with a relatively low level of pandemic impact (79).

A rapid review of evidence on the impact of the COVID-19 pandemic on unpaid care found that, as well as other financial, care commitment and physical health impacts, a large proportion of carers, in several countries, have experienced increased stress related symptoms, more social isolation and loneliness and worsened depression and anxiety (80). A small survey of informal carers in France in the first wave of the pandemic reported that more than 50% of carers had depression, anxiety or stress. There was no difference in the level of adverse mental health between carers who lived with the person they cared for and people who lived independently (81). There is also some emerging evidence that the mental health of people living with dementia, as well as their carers has been adversely affected by the pandemic. Informal carers in Finland reported being frustrated and anxious about not being able to visit their relatives, and felt there had been a rapid decline in their relatives' health during the pandemic (79).

5.5. INTERIM MENTAL HEALTH IMPACT OF INCOME PROTECTION MEASURES

Table 8: Interim mental health impact assessment of income protection measures

Income Protection Measures							
	Positive impacts			Negative Impacts			
	Likelihood	Intensity	Duration	Likelihood	Intensity	Duration	Comments
Direct Impacts							
Direct Impacts on mental health and wellbeing of general population	Probable	Major	Medium				Causal link yet to be established but multiple economic data indicate mass increased in unemployment averted
Direct Impacts on mental health and wellbeing of people with pre-existing mental health problems	Possible	Major	Medium				Limited specific evidence on populations with mental health problems but also likely to benefit from income protection
Direct Impacts on mental health and wellbeing of people with pre-existing physical health problems	Possible	Major	Medium				Limited specific evidence on populations with physical health problems but also likely to benefit from income protection
Direct Impacts on mental health and wellbeing of people with caring responsibilities	Possible	Moderate	Short				Limited specific evidence on caring populations with physical health problems but working carers also likely to benefit from income protection
Direct Impacts on mental health and wellbeing of students							
Direct Impacts on mental health and wellbeing of homeless							
Direct Impacts on mental health and wellbeing of older people	Possible	Moderate	Short				Limited specific evidence on caring populations with physical health problems but working carers also likely to benefit from income protection

Impacts on determinants of mental health and wellbeing							
Employment	**Probable**	**Moderate**	**Short**				**Multiple economic data indicate mass increased in unemployment averted, unlike previous economic crises without this level of income protection**
Domestic Violence and Abuse							
Crime rates	**Possible**	**Moderate**	**Short**				
Housing	**Probable**	**Moderate**	**Short**				**Multiple data indicated home repossessions and eviction rates not significantly different to pre-pandemic levels**
Low Household Income	**Probable**	**Moderate**	**Short**				**Causal link yet to be established but multiple economic data indicate mass increased in unemployment averted. Some income protection measures targeted also at non-working households**

Table 8 summarises our mental health impact assessment of income protection measures. The link between economic hardship and mental health problems has already been documented in a survey carried out in six European countries (four of them included in the RESPOND project: Germany, Italy, Netherlands and Spain) (82). The study found that, among active members of the labour market, economic consequences of the pandemic led to increased prevalence of mental health complaints, particularly of feelings of depression and anxiety.

From a wellbeing and mental health perspective, we consider that income support during the pandemic is a fundamental protective factor, as the link between economic hardship and mental health problems has been well documented. There is ample evidence from previous economic crises that economic hardship affects not only those directly hit by loss of income, but many others in the entire population (83-86). There are a number of high risk groups consistently identified across studies, “including children, young people, single-parent families, unemployed people, ethnic minorities, migrants and older people” (87) - e.g., economic pressure may lead to family economic stress and undermine the quality of parenting and of family environment, which, in turn, may affect the mental health of children and young people (ibid.).

Considering differences in income support policies across RESPOND countries, we can hypothesise based on previous crises that mental health and wellbeing will be more affected in countries with lower levels of support, and/or in those countries which halt support earlier. We also consider it to be important to look at the available data in more detail so as to examine, e.g., which proportion of the population has had access to support and whether this has reached the most vulnerable subgroups, as evidence shows that economic crises tend to hit vulnerable groups the hardest (87) and that the economic burden of the pandemic had disproportionately fallen “on the shoulders of workers in lower prestige-ranked jobs”.

Although evidence on the causal link has yet to be formally established during the current COVID-19 pandemic between income support and better mental health and wellbeing, the limited overall impact of the pandemic on unemployment and employment rates strongly suggests that social protection measures have been effective. In the UK data from the Understanding Society UK Household Longitudinal COVID-19 study was used to examine the impact of reduced hours of working during the first wave of the pandemic on 8,708 employees (88). Despite the reduction in working hours no significant increase in psychological distress was found; indeed a non-significant reduction in psychological distress was found in workers that had been placed on furlough (reduced working hours with up to 80% of salary paid by the government). In contrast and predictably workers who did lose their jobs did have higher rates of distress, but loss of employment was very low because of furlough – only 1% of employees in this survey were made redundant. This study does suggest that income protection has been extremely important, but longer term evidence is needed to measure the potential impact of income support in protecting mental health and wellbeing throughout the pandemic, including impacts as furlough as similar schemes drew to a close in Autumn 2021. There is also a need to look at the impacts on different population groups; we have mentioned older workers as one group, another are young adults who may not have been in employment and not able to benefit from furlough schemes.

5.6. INTERIM MENTAL HEALTH IMPACT OF DEBT RELIEF MEASURES

Table 9: Interim mental health impact assessment of debt relief measures

Debt Relief Measures							
	Positive impacts			**Negative Impacts**			
	Likelihood	**Intensity**	**Duration**	**Likelihood**	**Intensity**	**Duration**	**Comments**
Direct Impacts							
Direct Impacts on mental health and wellbeing of general population							
Direct Impacts on mental health and wellbeing of people with pre-existing mental health problems							
Direct Impacts on mental health and wellbeing of students							
Impacts on determinants of mental health and wellbeing							
Employment							

Crime rates							
Housing							
Low household income							

There remains little evidence on the specific impact of debt relief schemes on mental health and wellbeing during the pandemic (Table 9), so while we have identified domains which may be affected, they are left blank currently. While little is available on the impact of schemes during the pandemic the link between debt and poor mental health has been well documented, with evidence suggesting debt as being a potential mechanism through which economic difficulties affect mental health and wellbeing. For example, a study with a representative sample of households in the UK, found that the relationship between low income and mental disorders was attenuated after adjustment for debt, suggesting that the latter acts as a mediator of such relationships (89). Other studies have found debt remains associated with perceived mental and physical health problems even after controlling for socioeconomic status and other potential confounders, suggesting it to be an independent risk factor (90). Debt or the fear of unmanageable debts can be a risk factor for suicide and self-harm (see section 6.X in this report).

Protection from unmanageable debts is likely to be an important tool in protecting mental health, for instance eliminating the fear of being evicted through rent arrears protection. In the UK protection against eviction was introduced during the pandemic; and evidence on this and other similar schemes may become available to incorporate in our third appraisal report.

6. MEDIA ANALYSIS

The media Twitter analysis of WP3 is currently in its piloting phase. Twitter is a popular platform for policy stakeholders to share beliefs and opinions. There is hence a growing interest in analysing Twitter content in order to understand what is termed the 'symbolic policy agenda' of stakeholders, i.e. topics that political actors care and worry about (91). Twitter analyses have previously been conducted to examine the policy agendas of the US Congress (92), Canadian politicians (93), President Trump's Trade Policy Agenda (94), as well as nurses' perspectives of the current pandemic (95), to name a few. Analysing the Tweets of RESPOND policy stakeholders is therefore an important addition in order to comprehend the way mental health was understood by RESPOND policy stakeholders involved in COVID-19 policymaking.

The pilot involves an initial analysis of the Tweets of Belgian core elite policy stakeholders' involved in COVID-19 policymaking. They were qualitatively examined in order to get a better understanding of whether mental health was raised as an issue by policy stakeholders, and if so, in what context. Furthermore, at a later stage, a time series analysis will indicate whether a change in policies led to policy stakeholders mentioning mental health to an increased degree. For example, if schools closed, did stakeholders begin to discuss student mental health on Twitter? Or alternatively, did schools reopen after an increased discussion of student mental health on Twitter? The direct causal link can in this case not be entirely proven; however, at a larger scale, and once all RESPOND countries are involved, potential causal links will be more visible.

The pilot project is necessary as Tweets are searched via Boolean equations, and it is hence crucial to perfect the equations before 'launching' the Twitter scraping tool (i.e. collecting twitter data via a media analysis software), which is costly both in terms of time and monetary resources. With seven distinct RESPOND languages, the quality of the media analysis is dependent on the quality of the Boolean equations and the keywords used. At this stage, French and Dutch keywords were used to perfect the Belgian, French, and Dutch Boolean equations.

Method

A media analysis software was used in order to collect Tweets of five core elite Belgian policy stakeholders involved in COVID-19 policymaking from 1st March 2020 until 16th of November 2021: Alexander de Croo (current Belgian PM), Sophie Wilmes (ex-PM, from 27 October 2019 to 1 October 2020, and current Belgian Minister of Foreign Affairs since the ending of her previous mandate), Maggie De Block (ex-Belgian Minister of Health, from 2014 to 1 October 2020), Christie Morreale (Walloon Minister of Health) and Wouter Beke (Flemish Minister of Health). Frank Vandenbroucke, the current Belgian Minister of Health, does not have a Twitter account. The aforementioned time frame was chosen to capture the entire course of the pandemic up to the last day of pilot data collection.

The following terms were searched to find Tweets: détresse (distress), bien-être (wellbeing), santé mentale (mental health), anxiété (anxiety), peur (fear), depression, mentale gezondheid (mental health), welzijn (wellbeing), ongerust / ongerustheid (anxious/anxiety), stress, depressie (depression), angst (fear).

Results

Tables 10 – 17 show results for specific keywords in French and Dutch

Table 10 Keyword: Détresse (Distress)

	Number of times mentioned (total)	Number of times mentioned in relation to pandemic	Context	Timing
Alexander de Croo (@alexanderdecroo)	0	/	/	/
Sophie Wilmes (@Sophie_Wilmes)	3	2	- Summary of discussion with Pascal Vrebos regarding pandemic in general; mental health of independent workers was mentioned in specific. - since beginning of pandemic, socio-economic aid was proposed and should not be stopped.	- 10/01/21 - 01/05/21
Maggie De Block (@Maggie_DeBlock)	0	/	/	/
Christie Morreale (@christiemorreal)	3	1	- end of lockdown, domestic violence support hotline remains available.	- 10/06/20
Wouter Beke (@wbeke)	0	/	/	/

Table 11 Keyword: Bien-être (Wellbeing)

	Number of times mentioned (total)	Number of times mentioned in relation to pandemic	Context	Timing
Alexander de Croo (@alexanderdecroo)	1	1	- Economic difficulties of pandemic and need for agreement of social partners, welfare matters and increase of lowest pensions.	- 19/04/21
Sophie Wilmes (@Sophie_Wilmes)	1	1	- Long crisis, priority of Belgian people's mental health.	- 02/03/21
Maggie De Block (@Maggie_DeBlock)	0	/	/	/
Christie Morreale (@christiemorreal)	3	1	- Well-being of older people in nursing homes; testing of nursing home staff	- 24/08/2020
Wouter Beke (@wbeke)	0	/	/	/

Table 12: Keyword: Santé mentale (Mental health)

	Number of times mentioned (total)	Number of times mentioned in relation to pandemic	Context	Timing
Alexander de Croo (@alexanderdecroo)	1	1	- Interview with volunteers from Teleaccueil; importance of caring about loneliness and mental health of people during Covid-alarm level 4.	- 26/10/20
Sophie Wilmes (@Sophie_Wilmes)	1	1	- Visits in two Belgian hospitals and discussion with staff about health situation, protections, mental health, valuation of the profession, health care financing.	- 16/05/20
Maggie De Block (@Maggie_DeBlock)	1	1	- Mental health care has been significantly strengthened in the past parliamentary term, but more investment is still needed.	- 07/09/20
Christie Morreale (@christiemorreal)	13	13	- Launching prevention campaigns in Wallonia, importance of taking into account mental health of (mental health) care staff, of individuals with disability and pre-existing mental health conditions, etc. (deeper analysis required)	- 23/03/20 - 01/04/20 - 02/04/20 - 05/04/20 - 06/04/20 - 13/04/20 (2x) - 05/05/20 - 26/06/20 - 02/07/20 - 09/10/20 - 26/11/20 - 08/04/21
Wouter Beke (@wbeke)	0	/	/	/

Keyword: Anxiété (Anxiety)

No tweets found with this keyword.

Table 13: Keyword: Peur (Fear)

	Number of times mentioned (total)	Number of times mentioned in relation to pandemic	Context	Timing
Alexander de Croo (@alexanderdecroo)	1	1	- Fear-mongering and spread of misinformation.	- 07/01/21
Sophie Wilmes (@Sophie_Wilmes)	0	/	/	/
Maggie De Block (@Maggie_DeBlock)	1	1	- Many people afraid of pandemic; video-consultations with psychologists are now reimbursed.	- 27/03/20
Christie Morreale (@christiemorreal)	0	/	/	/
Wouter Beke (@wbeke)	0	/	/	/

Keyword: Dépression No tweets found.

Table 14: Keyword: mentale gezondheid (mental health)

	Number of times mentioned (total)	Number of times mentioned in relation to pandemic	Context	Timing
Alexander de Croo (@alexanderdecroo)	1	1	- (same tweet as previously mentioned in section 'santé mentale' but in Flemish)	- 26/10/20
Sophie Wilmes (@Sophie_Wilmes)	0	0	/	/
Maggie De Block (@Maggie_DeBlock)	0	/	/	/
Christie Morreale (@christiemorreal)	0	/	/	/
Wouter Beke (@wbeke)	7	7	- Importance of mental health in general, importance of physical contact for mental health but also general contact over skype, telephone, etc., mental health at work, self-care tips.	- 13/03/20 - 20/04/20 - 27/04/20 - 28/04/20 - 09/06/20 - 15/07/21 - 27/07/21

Table 15: Keyword: Welzijn (wellbeing)

	Number of times mentioned (total)	Number of times mentioned in relation to pandemic	Context	Timing
Alexander de Croo (@alexanderdecroo)	1	0	/	/
Sophie Wilmes (@Sophie_Wilmes)	0	/	/	/
Maggie De Block (@Maggie_DeBlock)	0	/	/	/
Christie Morreale (@christiemorreal)				
Wouter Beke (@wbeke)	52	?	Further analysis required.	- first tweet: 02/03/20 - 35 additional in 2020 - 15 in 2021 - last tweet: 11/11/21

Keyword: Ongerust

No tweets found.

Table 16: Keyword: Stress

	Number of times mentioned (total)	Number of times mentioned in relation to pandemic	Context	Timing
Alexander de Croo (@alexanderdecroo)	0	/	/	/
Sophie Wilmes (@Sophie_Wilmes)	0	/	/	/
Maggie De Block (@Maggie_DeBlock)	2	2	- Importance of freedom of time and schedule for workers through working from home, should keep this flexibility even after covid	- 01/05/20 - 04/06/20
Christie Morreale (@christiemorreal)	1	0	/	/
Wouter Beke (@wbeke)	2	2	- Importance of mental wellbeing of students and teachers, hotline for mental health distress for everyone during difficult covid times.	- 23/03/20 - 26/05/20

Keyword: Depressie

No tweets found.

Table 17: Keyword: Angst (Fear)

	Number of times mentioned (total)	Number of times mentioned in relation to pandemic	Context	Timing
Alexander de Croo (@alexanderdecroo)	0	/	/	/
Sophie Wilmes (@Sophie_Wilmes)	0	/	/	/
Maggie De Block (@Maggie_DeBlock)	0	/	/	/
Christie Morreale (@christiemorreal)	0	/	/	/
Wouter Beke (@wbeke)	5	2	- Tweets already discussed in section 'stress' and 'welzijn'	- 23/03/20 - 26/05/20

6.1. DISCUSSION OF MEDIA ANALYSIS PILOT FINDINGS

The initial pilot analysis shows that five of the key Belgian policy stakeholders in COVID-19 policymaking, i.e. Alexander de Croo, Sophie Wilmes, Maggie de Block, Christie Morreale and Wouter Beke, did indeed discuss mental health in relation to the COVID-19 pandemic on Twitter, from beginning of March 2020 until mid-November 2021 (approximately 90 Tweets were collected; some require additional analysis of whether or not they are directly related to the COVID-19 pandemic (see Table 15).

Initial qualitative rapid analyses indicate that the general importance of mental health was addressed, as well as mentioning mental health hotlines or awareness campaigns, self-care tips, specific discussions and interviews with other stakeholders, the mental health of vulnerable groups (i.e. students, teachers, individuals with pre-existing mental health conditions and/or other disabilities, hospital staff, (independent) workers, the elderly in nursing homes, and victims of domestic violence). However, a further in-depth qualitative analysis is required to better grasp the content of the Tweets and the context they were published in.

In terms of timing, it can be seen that the majority of COVID-19 related mental health Tweets are from 2020 (n= 66), vs. 2021 (n=24). The first Tweets go back to March 2020, showing that mental health was indeed a topic of concern to policy stakeholders from the start of the pandemic. However, it may be that the general difficulty of the pandemic was taken into consideration at the very beginning of the pandemic rather than the mental health repercussions of COVID-19 suppression measures; further analyses are required for confirmation.

However, in terms of timing, one reason why the majority of Tweets are from 2020 rather than 2021 may indeed be that measures were particularly harsh in 2020 as compared to 2021, meaning that policy stakeholders might have felt the need to address mental health to a greater degree at that stage. Time-series analyses are needed to receive a more detailed picture of how tweets and COVID-19 policies relate.

Finally, the pilot project indicated that certain terms, i.e. anxiété, dépression, depressie, and ongerust/ongerustheid were not at all used in Tweets by the aforementioned policy stakeholders, meaning we can likely remove them from our Boolean equation.

7. CASE STUDY: RISKS OF SUICIDE AND SELF-HARM DURING AND POST THE COVID-19 PANDEMIC. CAN WE LEARN FROM PAST ECONOMIC SHOCKS?

Non-fatal deliberate self-harm and completed suicide are often seen as important indicators of population mental health. In our first version of this rapid appraisal report we noted that studies are starting to emerge looking at patterns of self-harm and suicide after the onset of the pandemic. We noted in that report that early studies of suicide patterns need to be treated very cautiously as it can take considerable time for any potential suicide to be formally investigated and cause of death to be determined; moreover, there is often a substantial time lag in the release of suicide data by national statistical agencies. That said, our first report came to the view that by early 2021 no substantive impact of the pandemic on suicide rates in Europe had been reported.

Since then, evidence has continued to accumulate, with most of it still indicating that the pandemic has had no impact on suicide rates. The most comprehensive and striking evidence to date comes from interrupted time series analysis of changes in suicide rates, pre and post the onset of the pandemic in 21 countries, including data from 5 RESPOND countries: Germany, Italy, The Netherlands, Spain and the UK (96). In an effort to overcome reporting time lags in official suicide statistics, this study sought to obtain validated real-time suicide surveillance data during the first waves of the pandemic until July 2020. This study found no significant increase in suicide rates in any of the countries in the analysis; in fact, suicide rates fell significantly compared to expected rates in data from 12 countries, including in Germany and Australia. When extending the analysis to include data up to October 2020, the results remained unchanged, with the exception of data from the city of Vienna in Austria and from all of Japan. In both cases a small but significant increase in suicide rates was observed.

Separately analysis in England, using real time suicide surveillance data covering one quarter of the English population also looked at changes in suicide rates, pre and post the pandemic (97). No significant difference in suicide rates was found, either during the first period of national lockdown in April and May 2020, nor during subsequent months to October 2020 during which most of the restrictions had been lifted. Similarly, an interrupted time series looking at suspected suicides in the Australian state of Queensland in the first 7 months after the pandemic also found no change in suicide rates, nor did it find any change in economic reasons for suicide that might be due to the pandemic such as unemployment or unmanageable financial problems (98). In Germany, suicide rates in Leipzig in the nine months from April 2020 in an interrupted time series were also not found to be significant different from expected trends based on previous suicide rates (99). Research still under peer review also reports no difference in suicide rates for young people aged under 18 between April and December 2020 using data from the National Child Mortality Database in England (100).

Thankfully suicide remains a relatively rare event, which potentially can make it difficult to identify statistically significant changes in suicide rates. This means that potentially hospital-presenting self-harm will initially be of more use to policy makers. Such self-harm events often precede completed suicide and any increase in self-harm may be associated with an increase in the rate of suicide. In our first rapid assessment we highlighted a number of early analyses in Europe which indicated that that during the first period of national lockdown in Spring 2020, that rather than an increase, a reduction was seen in rates of hospital-presenting self-harm. For instance, data from English hospitals in Oxford and Derby that have collected detailed data on self-harm for many years found little change in self-injury presentations but marked reductions in poisoning-related presentations (101). Similar findings of reduced rates of hospital presenting self-harm were reported in Paris (102), Madrid (103) and Geneva (104). Trauma centres in both London and Milan that had to adapt to the COVID pandemic both however reported higher proportions of patients presenting as a result of traumatic self-injury during the early phase of the pandemic (105, 106).

Again data on rates of hospital-presenting self-harm, as well as related indicators such as suicidal ideation, has continued to accumulate during the pandemic. An update of a systematic review on self-harm and suicidal behaviour published in June 2021, again indicated that overall that there had been a fall in hospital presentations for self-harm although there was some limited evidence of an increase in suicidal thoughts among people who had contracted COVID (107). In Spain, one early output from RESPOND is analysis of a longitudinal survey that looked at changes in levels of depression and suicidal ideation in more than 1,100 respondents in Barcelona and Madrid in the immediate COVID period when stringent measures were introduced in Spain (108). While suicide ideation rates did increase, this difference was not significant. The study did however find that there was a significant association between levels of social support and suicidal ideation, with each standard deviation increase in social support associated with a 66% reduced rate of reporting suicidal ideation. Interrupted time series analysis in Denmark looking at hospital records from hospitals that cover nearly half of the population also found no significant change in hospital presenting suicidal behaviour in the both the first Danish lockdown in March to May 2020 and the second lockdown from December 2020 and February 2021 compared to the pre COVID period (109). There was also no change in hospital presenting suicidal behaviour in the period between the two lockdowns in 2020. While most publications from Europe also indicate little impact on suicidal behaviour and self-harm presentations during the first year of the pandemic, there are some exceptions. One Italian analysis assess the characteristics of psychiatric admissions to 12 general hospitals during different time periods during the COVID-19 pandemic. This study looked at admissions and suicidal ideation pre pandemic with the initial first three months of the pandemic and found some limited evidence of a 35% increase in inpatients with suicidal ideation (110).

It still remains too early to know what impact the pandemic will have on mid to long term suicide and self-harm rates. Undoubtedly the high levels of fiscal support and other social welfare protection measures have helped to reduce the immediate suicide risk. It is essential to have good surveillance systems in place to monitor how rates may change in future to determine whether there is any longer-term impact. Economic theories on motivation for suicide and suicidal behaviour would suggest that risks increase when economic resources are depleted, or when there is great concern and anxiety that these resources will be depleted. Although we have highlighted that European economies have rebounded positively from the initial waves of the pandemic, we have noted that not everyone has returned to their pre-pandemic situation. For instance, the self-employed in some countries have not had the same level of income protection as employees and may be more vulnerable. Not everyone will be able to return to fulltime work and they also may be more vulnerable. A feature of this pandemic that we have highlighted is that many of most adverse impacts on mental health have been in younger people. Studies already point to a detrimental effect of the pandemic on young people with a worrying increase in suicidal thoughts in young people in particular in one UK longitudinal analysis (25). They may, for instance, be concerned about their future career prospects and they have also lost out on some life experiences. This may also lead to future levels of poor mental health, including risks of suicidal behaviour if supports for young people are not put in place and/or maintained.

7.1. CAN WE LEARN FROM PAST ECONOMIC SHOCKS?

COVID-19 is a global economic as well as public health shock. While it is still too early to see how self-harm and suicide rates may have been affected by COVID-19 and the policy response, there is potentially much that we can learn from looking at how suicide rates changed during and after the end of previous economic shocks. A previous systematic review looked at what is known on how rapid economic change, including recessions, economic recoveries and economic uncertainty may impact on suicidal behaviour (83). The review focused on identifying econometric or statistical analyses of the association between non-fatal suicidal behaviour and/or completed suicidal acts during times of economic recession (defined as two or more quarters of negative growth) or economic recovery following recession. Longitudinal studies, both individual- and aggregate-level, were eligible for inclusion.

7.1.1. UNEMPLOYMENT AND ECONOMIC SHOCKS

Several multi-country aggregate-level longitudinal studies in the review suggest that the link between suicide and the economy is important in most countries, but that a change in unemployment rates is just one of many risk factors. It is also important to remember that people with existing mental health problems may also be at increased risk of unemployment during an economic downturn. Analysis of data from 27 European countries suggests that during an economic downturn, the gap in the rate of employment between those with and without mental health problems will widen (111).

At a macroeconomic level three different patterns of association between economic conditions and suicide have been identified: an interruption in the downward trend in suicide caused by the economic crisis followed by a period of stabilisation (as seen in France and the UK), a temporary interruption of a downward trend in suicides (Belgium, Spain and Sweden) or a reverse in the downward trend (Germany, Italy, the Netherlands) (112).

One analysis of eight western European countries, including France, Germany, the Netherlands, Spain, Sweden and the UK, modelled changes in the level of unemployment between 2008 and 2010, relative to unemployment rates in 2000 (113). A 10% increase in a country's unemployment rate was associated with 2% increase in suicide in France and 1% increase in Germany and the Netherlands, adjusted to take account of the 2008-2010 economic crisis. An association between changes in unemployment rates and changes in male suicide rates between 2007 and 2011 was also reported for 20 EU countries, including all RESPOND countries except Belgium (114). Overall, across all countries a significant 0.94% increase in completed suicides was observed for every 1% increase in unemployment. Each 1% increase in financial debt was also associated with a significant 0.54% increase in suicide.

At country level, Ireland has a very detailed national self-harm registry, in addition to suicide data. Ireland was also badly affected by the global economic crisis, with severe austerity measures having to be introduced, and rates of unemployment rising to a peak of 15% in 2012. A positive association between suicide and the recession was found when comparing the periods 2000-2007 with 2008-2012 (115). Male suicide rates increased 57% more than would have been expected if pre-recession trends had continued. There was also an age effect for men, with completed suicides being significantly higher in the 25-44 and 45-64 age groups only. Hospital presenting self-harm was also significantly higher than expected in women. Positive associations between non-fatal self-harm and rising unemployment in men were also reported after the onset of the 2008 economic crisis in Andalucia, Spain (116). RESPOND is also looking at the situation in Australia; in the past analysis has reported that compared with 2006, the year before the financial crisis began in Australia, the risks of suicide in unemployed/ economically inactive men and women were also significantly higher by 22% and 19% respectively in 2008 (117).

While there is much to be learnt from the past, it is important to stress that not all studies in Europe and beyond conclude that there is evidence of a positive association between economic downturns and suicidal behaviour. For instance while most US analysis support this association analysis using national, state and county level data from all 50 states between 1976 and 2013 found that periods of economic recessions were associated with a small reduced risk of suicide which more than offset the increased risk of suicide that was found to be associated with increasing unemployment. No interpretation was made by the author of this finding, other than arguing for more research into better understanding of the local versus national impacts of recessions (118).

We can also look to the past to potentially consider the long-term impacts of the COVID-19 related economic downturn and eventual economic recovery. Risks of suicide and self-harm may remain higher in individuals who are 'left-behind' by economic recovery. An individual level study following more than three million Swedes who had been employed in 1990 indicates that suicide rates for those who lost their jobs in the economic crisis in the mid-1990s and were still unemployed when the country was recovering were at greater risk of suicide than during the crisis itself. These effects

were more pronounced for unemployed men, who were 1.5 times more likely to have completed suicide in the period of economic recovery between 1997 and 2002 compared to those who were employed, compared to a 1.3 times increased rate of suicide for women (119, 120). Other studies found that the risks of suicide in Sweden and Denmark (men only) in those who had lost their jobs were almost double those of individuals who remained in employment for up to four years following job loss (121, 122).

7.1.2. JOB INSECURITY AND ECONOMIC DOWNSIZING

We potentially can learn from the past not just about the impacts of rapid changes in unemployment, but also about other labour market impacts. One of the consequences of the COVID-19 pandemic is an increase in job insecurity arising from restrictions in economic activity. Some sectors of the economy have been particularly affected, with redundancies likely if and when additional government support for wages is phased out. Some business, such as retailers, have also started to downsize because of these public health restrictions. Risks to mental health among those who experience job insecurity may be as great as for those who are unemployed (123), as well as for employees who keep their jobs and 'survive' a workplace downsizing (124).

7.1.3. UNMANAGEABLE FINANCIAL DEBT

Interviews in England with both employed and economically inactive individuals that self-harmed as a result of economic pressures document the profound levels of distress experienced as a result of unmanageable debt. Analysis of coroner records of nearly 300 people who died by suicide in England in 2010 and 2011 has also revealed that "4% of suicides entirely related to the recession, employment or financial-related difficulties and a further 9% where such difficulties contributed a lot to the suicide" (125). In Spain 90% of women and 84% of men in mortgage arrears and threatened with eviction had poor mental health compared with rates of 15% and 10% in the general population (126). A Swedish study linked data on 23,000 court imposed rental eviction notices with use of mental health services and records of completed suicides or deaths of undetermined cause in the following 12 months (127). After controlling for mental health, socio-economic status, receipt of social welfare benefits, having a criminal record and being a substance abuser, individuals who received an eviction notice were four times more likely to complete suicide than the general population.

7.2. DISCUSSION

The pandemic has had significant impact on mental health, but it is still too early to see if this will translate itself into a national rise in suicide/self-harm across countries. However, policy can potentially be informed by looking at the similarities and differences between the current crisis and previous economic shocks.

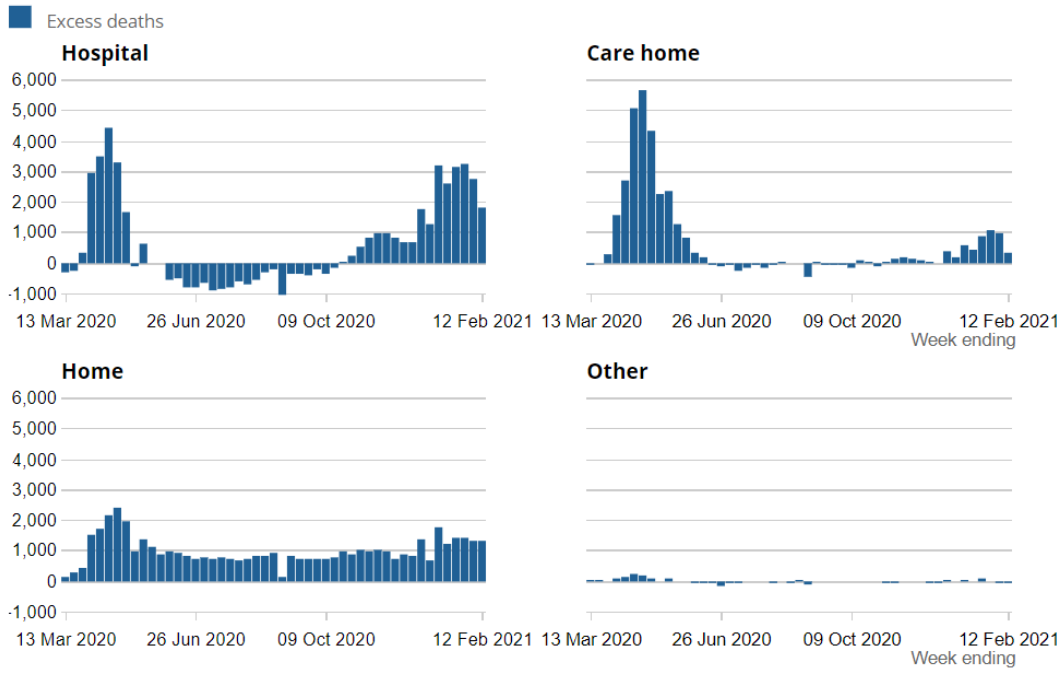
Much literature from Europe suggests that individuals experiencing socio-economic disadvantage during periods of economic change are at increased risk of suicidal behaviour. There can be an elevated risk of suicide when crises end, especially for individuals or communities whose economic circumstances do not recover. These increased risks can last for several years; potentially they may be further compounded if governments maintain austerity measures in the longer term beyond the end of any period of economic crisis. Involuntary part-time work, job insecurity and workplace downsizing can be important risk factors for suicidal behaviour. Individuals with pre-existing mental health problems may be particularly vulnerable to the risk of job loss. There is also empirical evidence that unmanageable debt is a risk factor for suicidal behaviour.

Like the economic crisis in 2008, this crisis appears to have the most severe economic impacts on young people; there is an evidence base on actions to alleviate the mental health impacts of economic crises (86). We can potentially learn from how different countries responded to the previous economic crisis as part of RESPOND, for instance in terms of differences in social protection policy and other measures and impacts on self-harm and suicide, and examine how these measures may work in the current context.

8. CASE STUDY: COVID AND THE LONG-TERM CARE SECTOR

A second illustrative example we briefly highlight in this report is the long-term care sector. We highlight the care sector given that mortality rates from COVID-19 are highly correlated with age and care homes have been particularly vulnerable across Europe. In some European countries (Belgium, France, the Netherlands, Slovenia, Spain, Sweden and the UK) more than 5% of all care home residents have died from COVID-19. In England and Wales, for example, in the first wave of the pandemic, care homes were the most common place of excess deaths (128). (See Figure 9)

Figure 9: Location of excess deaths in England and Wales post pandemic outbreak. Source: (128)



Source: Office for National Statistics – Deaths registered weekly in England and Wales

8.1. PSYCHOLOGICAL IMPACTS OF THE PANDEMIC ON CARE SECTOR STAFF

High levels of mortality in long-term care residences, coupled with a fear among staff, visitors and residents of contracting and passing on the virus potentially create the conditions for substantial additional levels of psychological stress. This is in part because of the difficulties in supporting people who may have significant physical and behavioural difficulties, but it is also because of pre-existing factors that have meant that long term care workplaces tend to have

elevated levels of psychosocial stress compared to many other health workers. These factors include less income, qualifications and status compared to their health care counterparts.

What do we know about the immediate psychosocial impacts on the pandemic on staff? Among the most robust peer-reviewed evidence from the current pandemic is a detailed survey of more than 1,000 residential and other long-term care workers undertaken in Northern Italy in June and July 2020, a time period after the end of the first COVID wave in the country (74). More than 70% of all nursing residential care home in Italy are in this northern part of the country and the survey sample covered about one third of all nursing home staff in the area. 85% of workers surveyed were women.

The survey used self-report measures to determine the prevalence of post-traumatic stress disorders (PTSD) and anxiety disorders. 43% of workers had moderate to severe symptoms for one of these conditions; 18% of workers had both conditions. The prevalence of PTSD was almost double that of anxiety disorders. The study also reported that female workers were twice as likely to have moderate-to-severe symptoms of PTSD or anxiety as men. Workers in recent contact with other workers suspected of having COVID-19 were 1.7 times more likely to have moderate symptoms of PTSD or anxiety.

The authors of this study did not find any difference in prevalence of mental health problems related to differences in access to personal protective equipment (PPE), hours worked in previous two weeks or rules on family visits. This is in contrast to studies in the US and Poland, where less access to PPE was linked to significantly higher rates of depression, anxiety and PTSD in nursing home staff (129, 130). While the authors were careful to note that they did not have any information on prevalence of PTSD or anxiety disorders in these workers prior to the pandemic, so the results must be treated cautiously, they do point to potential substantive increased risks to psychological wellbeing following the first major wave of the pandemic. This would suggest brief psychological interventions, including those being examined in RESPOND, are appropriate for these long-term care workers.

Elsewhere a survey of nearly 300 frontline care workers from across the UK was also conducted in summer 2020 (131). This survey found that 56% of these had increased their working hours and 81% had increased their workload as a result of the pandemic. This is partly because of the large number of care staff who stopped working during the pandemic. Moreover, nearly 20% of staff who had to self-isolate or stop working because of COVID-19 received no pay. The survey also asked about carer psychological wellbeing, with substantial numbers indicating that their jobs made them feel depressed, gloomy or miserable as well as being tense, uneasy or worried (Figure 10). Service users that they are supporting may also become distressed by pandemic restrictions which also has an adverse impact on the working environment.

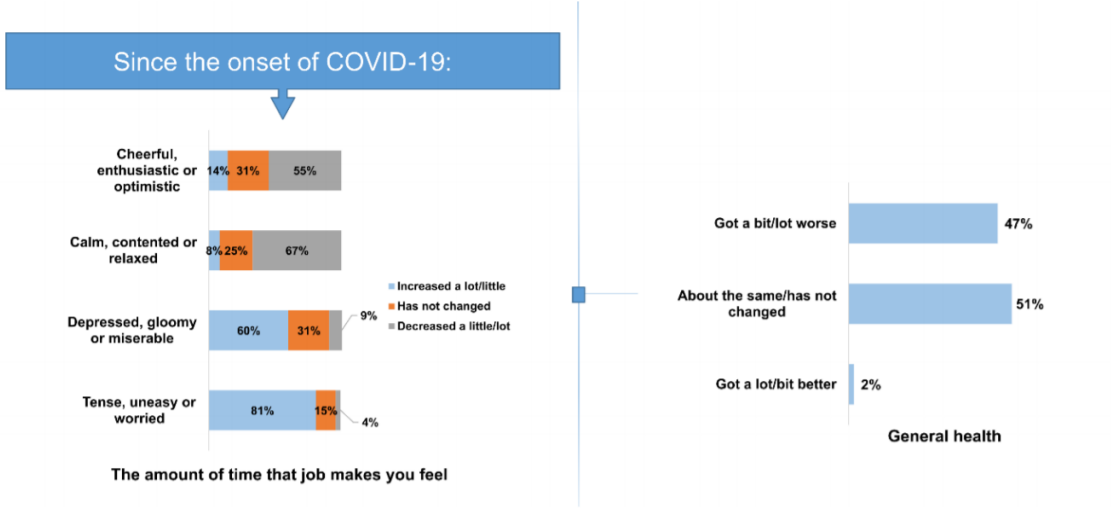
Recent analysis in Ireland looked at the mental health of 390 care home workers during the third wave of the pandemic between November 2020 and January 2021 (77); a period by which significant measures to protect older people were firmly in place. Albeit just a cross-sectional survey 1 the 1-week prevalence of moderate to severe PTSD in staff was 45%, while 38% of all staff reported low levels of mental wellbeing (measured using the WHO-5). The study found that mental health outcomes were significantly worse in nurses compared with health care assistants; while 2.5% of participants reported severe suicidal ideation. 13.8% of staff had some suicidal ideation in the past week.

Two studies in Spain looked at the working conditions of care home workers. One survey of nursing home workers in Madrid and Barcelona during the first wave of the pandemic actually reported a high level of job satisfaction; it emphasised the importance of working conditions and social support to help prevent staff burnout (75). Another survey of care workers came to similar conclusions, noting that the risk of burnout was linked to rapid deterioration in mental health and lack of support for care workers in stressful situations (76).

In the Netherlands a qualitative study looking at the lifting of some pandemic restrictions in long-term care homes, reported that even months after restrictions had been eased, wellbeing for both staff and care home residents was

perceived to be adversely affected. This was partly because of an increased workload on care home staff and a continued reduction in the number of people visiting their relatives (78). Similar findings in a small qualitative survey were also seen in Finland, a country with a relatively low level of pandemic impact (79).

Figure 10: Self-reported changes in UK long term care worker psychosocial health after onset of the pandemic. Source: (131)



8.2. EVIDENCE OF PSYCHOLOGICAL DISTRESS AMONG CARE HOME RESIDENTS AND THEIR FAMILY MEMBERS

There is also growing evidence of adverse psychosocial impacts for people living in care homes and their relatives attributed to some of the measures adopted to try to reduce the risk of COVID-19 infections and deaths. The restrictions on family visits over a long period of time have been a particularly difficult issue, but other measures such restrictions of the movement of residents within the care home and staff wearing PPE may have also played a role, particularly as some residents may not be able to understand why some of these measures are in place or with the disruption in well-established routines.

An international review of evidence and policies in relation to visiting restrictions during the pandemic found accumulating evidence of severely negatively impacted mood and behaviour of care home residents, resulting in a significant increase in psychotropic medication use (132). It also found evidence suggesting that visiting bans increased feelings of guilt, fear, worry and isolation in residents' families. There are also multiple examples of adverse impacts from qualitative analysis. For instance, one small qualitative study of 56 nursing home residents in Belgium reported that the loss of independence because of pandemic restrictions had an impact on their psychological wellbeing and increased levels of depression and anxiety (73).

Meanwhile, experience in the Netherlands suggests some of the adverse psychosocial impacts can be resolved. A qualitative study across 26 nursing homes reported overcoming pandemic restrictions is associated with positive improvements in the wellbeing of both staff and residents when family visits were permitted under strict guidance (133). This also reduced the guilt and disquiet that staff had felt when they previously had to deny access to families to visit very frail relatives.

8.3. IMPACTS ON UNPAID CARERS

We have focused in this section on long term care staff and residents, but briefly we also can indicate that there may be risks for informal carers. A recent rapid review of evidence on the impact of the COVID-19 pandemic on unpaid care found that, as well as other financial, care commitment and physical health impacts, a large proportion of carers, in several countries, have experienced increased stress related symptoms, more social isolation and loneliness and worsened depression and anxiety (80).

A small survey of informal carers in France in the first wave of the pandemic reported that more than 50% of carers had depression, anxiety or stress. There was no different in the level of adverse mental health between carers who lived with the person they cared for and people who lived independently (81). There is also some emerging evidence that the mental health of people living with dementia, as well as their carers has been adversely affected by the pandemic. Informal carers in Finland reported being frustrated and anxious about not being able to visit their relatives, and felt there had been a rapid decline in their relatives' health during the pandemic (79). A cross-sectional survey of nearly 1000 caregivers in the Netherlands also found that carers who had frequently visited their relatives in long term care facilities before the pandemic were more anxious than carers who had more limited contact with their relatives; the authors potentially suggested that the former are a possible group to target for mental health support (134).

8.4. CAN WE LEARN FROM PAST INFECTION OUTBREAKS?

Unlike the example looking at suicide and self-harm, where there may be much to learn from past economic shocks, there may be fewer parallels with previous events. One option is to look at very early experience with the current pandemic in countries such as China, but is it possible to look at the psychological impacts of previous infectious disease outbreaks, such as SARS? A recent rapid review looked at the potential impact of infection outbreaks on the psychological state of long-term care staff identified six previous studies on this topic (135). Two of these were from RESPOND countries, Sweden and the UK, while another was from Australia, but all were very small-scale studies. All identified fear of illness and infection, workplace tension and stress as concerns. A larger study of nearly 400 residential care workers in Norway identified included in the review looked at the impacts of an MRSA outbreak (136). Although this study did not use validated instruments to assess psychological health, fear and anxiety associated with being infected or becoming a carrier, as well as restrictions on social life because of infection were reported by more than 75% of survey participants.

9. CONCLUSIONS

This is the second health systems appraisal report of RESPOND WP3, whose overarching aim is to provide an ongoing and evolving assessment of policy responses to the wellbeing and mental health impact of the COVID-19 pandemic. These responses are being investigated for the general population and high-risk groups. Below we briefly provide a first conclusion of our preliminary findings.

The economic crisis linked to the pandemic is very different to previous crises

This second report (Deliverable 3.2) first highlights that the economic crisis has turned out to be quite different to recent economic crises. Unlike the 2008/2009 economic crises, key economic indicators such as economic growth and employment rates have rebounded quickly in all RESPOND countries and by summer 2021 had broadly returned to their pre-pandemic levels. Although causal evidence is not yet available, it is highly probable that the very high levels of additional income protection and social protection measures have helped to mitigate the immediate economic impacts of the pandemic. That said, there is evidence that specific population groups have been more adversely affected by the economic consequences of the pandemic across Europe. These include workers who have been fully on furlough, women, school leavers, higher education students and the retired. Additional resources to protect the mental wellbeing and resilience of individuals at high risk of not being in employment, education or training are likely to be needed. Financial distress levels remain high, or have continued to increase in some countries, particularly in low income households. This is also a potential indicator of future risks to mental health.

Policies to control the pandemic and their impacts on mental health

We have looked at six policy responses that are particularly important: school closure, gathering restrictions, stay at home instructions, measures to protect older people, as well as income support and debt relief. These policies were chosen because they affect a large share of the population (horizontal equity), they are likely to hit vulnerable groups harder (vertical equity), they were more strictly imposed where the COVID-19 pandemic was more severe and finally they strongly affect the social life and thus mental health status of individuals. The policies were tracked with Oxford COVID-19 Government Response Tracker (OGRT) for the eight countries reviewed in this report. We found first that different countries had different levels of restriction (ranging from level 1 (minor) to level 4 (severe). We noted that our previous report indicated that these restrictions changed over time between March and December: Belgium and Sweden had somewhat less strict policies in comparison with Italy and the UK. Also, some policies began with very stringent enforcement; they were relaxed later on (school closure) whereas other policies (restrictions on gatherings) were strictly implemented and remained strict for the rest of 2020, thus offering possibilities to assess the differential effect of these policies on mental health. In the winter of 2020/2021 high levels of restriction were in place in most countries as a result of the spread of the Delta variant of COVID-19. These periods of restriction were longer than those initially seen in Spring 2020.

Information is now emerging on the impacts of these measures on population mental health, although it remains the case that much of the recently published literature is still concentrated on impacts in 2020. We have used our previously developed mental health impact assessment framework and used this to examine each of these six policies, looking at what can be said about their direct impacts on mental health and wellbeing, impacts on access to mental health services and impacts on determinants of health and wellbeing. While we would stress that this is a partial mental health impact assessment as we have yet to incorporate the views of stakeholders, and information on the longer-term impacts of the pandemic and later waves of the pandemic is not available, it is already clear that pandemic responses will have influenced population mental health. We know that there are some adverse impacts of school closures, social distancing, lockdowns and measures to protect older people on mental health, particularly on depression and anxiety; but what we don't know is what the impacts on mental health and wellbeing would have been had the pandemic not been controlled.

There are also issues that we have not directly included in the impact assessment framework at the moment because they cannot be linked to one single policy action, but rather are a consequence both of the pandemic and collective policy measures. For instance, there is emerging evidence that depression and anxiety in adults with substance abuse problems deteriorated between the first and second waves of the pandemic, as for instance observed in the Belgian analysis, but this cannot be associated with a single policy, but rather with a range of measures that may have reduced access to relevant support services (137). As policies overlap, we may hypothesise that the countries which have the

longest, stricter and more overlapping policies may experience the greatest impacts on mental health; some evidence would support this hypothesis, but it is still limited. For instance, we noted that earlier removal of measures such as lockdowns in England has been associated with better levels of mental health compared with Scotland where lockdowns were longer lasting (59).

When looking at the impact of multiple policies there are also clear differences in timing patterns between policies across countries that we need to account for. For example whereas school closures started off strict, the majority of the countries (with the exceptions of Germany, the Netherlands, and the UK), went back to more lenient policies and stayed this way until winter 2020/2021. Strict restrictions on gatherings began nearly simultaneously to school closures, but in comparison to school closures, stayed very strict for the vast majority of the time (with some exceptions in the summer months). Regarding stay at home requirements, policies started off strict in spring 2020, became more lenient in the summer, and became stricter again during the second wave in autumn 2020 (with the exception of the Netherlands and Sweden), similarly to school closure patterns in Germany, Spain, the UK, and the Netherlands.

In our final appraisal report, we will make further use of media information to help us identify more about the strictness of policies. We expect the media to be keener to raise mental health issues of the general population and of young people in countries and over time where these policies were more strictly implemented. We also expect to see more direct discussion by stakeholders on trade-offs between pandemic protection measures and mental health impacts.

Highlighted themes

We also updated what we know in this second report on two issues that have been discussed much in the media in relation to the pandemic: risks of suicide and self-harm and mental health impacts in the long-term care sector, to provide a brief summary of what is actually known in peer-reviewed publications, and also consider whether policy and practice can be informed from past public health or economic shocks.

Suicide and self-harm

Suicide is a negative indicator of mental health and is also considered as an indicator of mental health system performance. Suicide has decreased in most EU countries over the last decade by about 20%. It is thus important to assess whether suicide was affected by the COVID-19 pandemic. There is now multiple and consistent evidence that the first year of the pandemic was associated with stable or in many cases significantly lower rates of hospital presenting self-harm as well as suicide. Yet, despite this overall downward trend, more sophisticated analyses over a longer time frame are needed to monitor whether there is an impact. Although the pandemic does not appear to have led to a long lasting economic crisis, some population groups have not benefited from the economic recovery. Past economic shocks suggest that there could be longer term increased risks of self-harm and suicide even when the crisis has ended and it is prudent to take measures to try to identify these population groups early and provide appropriate support. These groups include new entrants into the labour market as well as older workers, women and individuals in the lowest socio-economic groups. These groups overlap with many of the groups that have been identified in Europe as having had the greatest impacts on their mental health from the pandemic. It is vital that surveillance systems carefully monitor changes in some of the risk factors for future poor mental health such as financial distress and levels of loneliness.

Long-term care

We highlight the long-term care sector, given the high levels of mortality in long-term care residents, and the pre-existing vulnerability to elevated levels of psychosocial stress in long-term care workplaces. We note that evidence remains limited, but experience in Northern Italy in particular, suggests that levels of PTSD and anxiety were very high

in care workers after the first COVID-19 wave. Further subsequent studies across Europe have also reported further impacts on the mental health of care staff; these impacts are more evident when workplace support for staff is not available. There is also emerging review evidence from across Europe suggesting that the pandemic may lead to a severe deterioration in the mood and behaviour of care home residents, with potential increased use of psychotropic medication use. Unlike suicide and self-harm, there appears to be much more limited evidence from past public health or economic shocks that could inform policy thinking.

10. REFERENCES

1. European Commission: Employment Social Affairs & Inclusion. Employment and social developments in Europe. Quarterly Review. Luxembourg: Publications Office of the European Union; 2021.
2. Brewer M, McCurdy C. Post-furlough blues. What happened to furloughed workers after the end of the Job Retention Scheme? London: Resolution Foundation; 2021.
3. Gray BJ, Kyle RG, Song J, Davies AR. Characteristics of those most vulnerable to employment changes during the COVID-19 pandemic: a nationally representative cross-sectional study in Wales. J Epidemiol Community Health. 2021.
4. Buonsenso D, Roland D, De Rose C, Vásquez-Hoyos P, Ramly B, Chakakala-Chaziya JN, et al. Schools Closures During the COVID-19 Pandemic: A Catastrophic Global Situation. Pediatr Infect Dis J. 2021;40(4):e146-e50.
5. Verge P. Editorial Perspective: The mental health impact of school closures during the COVID-19 pandemic. Les Echos. 2021.
6. Almeida M, Challa M, Ribeiro M, Harrison AM, Castro MC. Editorial Perspective: The mental health impact of school closures during the COVID-19 pandemic. Wiley Online Library; 2021.
7. Yamamura E, Tsustsui Y. School closures and mental health during the COVID-19 pandemic in Japan. Journal of Population Economics. 2021:1-38.
8. Müller L-M, Goldenberg G. Education in times of crisis: The potential implications of school closures for teachers and students. A review of research evidence on school closures and international approaches to education during the COVID-19 pandemic Chartered College of Teaching Retrieved on. 2020;2(6):2020.
9. Grewenig E, Lergetporer P, Werner K, Woessmann L, Zierow L. COVID-19 and educational inequality: How school closures affect low- and high-achieving students. European Economic Review. 2021;140:103920.
10. Kovacs VA, Starc G, Brandes M, Kaj M, Blagus R, Leskošek B, et al. Physical activity, screen time and the COVID-19 school closures in Europe–An observational study in 10 countries. European Journal of Sport Science. 2021:1-10.
11. Engzell P, Frey A, Verhagen MD. Learning loss due to school closures during the COVID-19 pandemic. Proceedings of the National Academy of Sciences. 2021;118(17):e2022376118.
12. Ford T, John A, Gunnell D. Mental health of children and young people during pandemic. Bmj. 2021;372:n614.
13. Panchal U, Salazar de Pablo G, Franco M, Moreno C, Parellada M, Arango C, et al. The impact of COVID-19 lockdown on child and adolescent mental health: systematic review. European Child & Adolescent Psychiatry. 2021.
14. Coppola I, Rania N, Parisi R, Lagomarsino F. Spiritual Well-Being and Mental Health During the COVID-19 Pandemic in Italy. Front Psychiatry. 2021;12:626944.
15. Hungelmann J, Kenkel-Rossi E, Klassen L, Stollenwerk R. Focus on spiritual well-being: harmonious interconnectedness of mind-body-spirit--use of the JAREL spiritual well-being scale. Geriatr Nurs. 1996;17(6):262-6.

16. Piccinelli M, Bisoffi G, Bon MG, Cunico L, Tansella M. Validity and test-retest reliability of the Italian version of the 12-item General Health Questionnaire in general practice: a comparison between three scoring methods. Compr Psychiatry. 1993;34(3):198-205.
17. Osei-Tutu A, Kenin A, Affram AA, Kusi AA, Adams G, Dzokoto VA. Ban of Religious Gatherings during the COVID-19 Pandemic: Impact on Christian Church Leaders' Well-Being in Ghana. Pastoral Psychology. 2021;70(4):335-47.
18. Cindrich SL, Lansing JE, Brower CS, McDowell CP, Herring MP, Meyer JD. Associations Between Change in Outside Time Pre- and Post-COVID-19 Public Health Restrictions and Mental Health: Brief Research Report. Frontiers in Public Health. 2021;9(8).
19. Cohen S, Wills TA. Stress, social support, and the buffering hypothesis. Psychol Bull. 1985;98(2):310-57.
20. Umberson D, Crosnoe R, Reczek C. Social relationships and health behavior across the life course. Annual review of sociology. 2010;36:139-57.
21. Umberson D, Montez JK. Social relationships and health: a flashpoint for health policy. J Health Soc Behav. 2010;51 Suppl(Suppl):S54-66.
22. Santomauro DF, Mantilla Herrera AM, Shadid J, Zheng P, Ashbaugh C, Pigott DM, et al. Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic. The Lancet. 2021;398(10312):1700-12.
23. Xiong J, Lipsitz O, Nasri F, Lui LMW, Gill H, Phan L, et al. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. Journal of Affective Disorders. 2020;277:55-64.
24. Neelam K, Duddu V, Anyim N, Neelam J, Lewis S. Pandemics and pre-existing mental illness: A systematic review and meta-analysis. Brain, Behavior, & Immunity - Health. 2021;10:100177.
25. O'Connor RC, Wetherall K, Cleare S, McClelland H, Melson AJ, Niedzwiedz CL, et al. Mental health and well-being during the COVID-19 pandemic: longitudinal analyses of adults in the UK COVID-19 Mental Health & Wellbeing study. Br J Psychiatry. 2020:1-8.
26. Lund C, Brooke-Sumner C, Baingana F, Baron EC, Breuer E, Chandra P, et al. Social determinants of mental disorders and the Sustainable Development Goals: a systematic review of reviews. Lancet Psychiatry. 2018;5(4):357-69.
27. Friedli L, World Health Organization. Mental health, resilience and inequalities. Copenhagen: WHO Regional Office for Europe:; 2009.
28. McDaid D, Hamilton M, King D, Park A-L, Scopel Hoffman M, Silva-Ribeiro W, et al. An investment framework to build mental capital in young people. Melbourne: Orygen and World Economic Forum; 2020.
29. Government Office for Science. Mental Capital and Wellbeing: Making the most of ourselves in the 21st century. London: Government Office for Science; 2008.
30. Green L, Ashton K, Azam S, Dyakova M, Clemens T, Bellis MA. Using health impact assessment (HIA) to understand the wider health and well-being implications of policy decisions: the COVID-19 'staying at home and social distancing policy' in Wales. BMC Public Health. 2021;21(1):1456.
31. Onyema EM, Eucheria NC, Obafemi FA, Sen S, Atonye FG, Sharma A, et al. Impact of Coronavirus pandemic on education. Journal of Education and Practice. 2020;11(13):108-21.
32. Viner RM, Russell SJ, Croker H, Packer J, Ward J, Stansfield C, et al. School closure and management practices during coronavirus outbreaks including COVID-19: a rapid systematic review. Lancet Child Adolesc Health. 2020;4(5):397-404.
33. Sarker MR. Labor market and unpaid works implications of COVID-19 for Bangladeshi women. Gender, Work & Organization. 2020.
34. Heggeness ML. Estimating the immediate impact of the COVID-19 shock on parental attachment to the labor market and the double bind of mothers. Review of Economics of the Household. 2020;18(4):1053-78.
35. Gandré C, Coldefy M, Rochereau T. Les inégalités face au risque de détresse psychologique pendant le confinement: Premiers résultats de l'enquête COCLICO du 3 au 14 avril 2020. Questions d'économie de la santé. 2020(249).

36. Wang C, Pan R, Wan X, Tan Y, Xu L, McIntyre RS, et al. A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. Brain, behavior, and immunity. 2020;87:40-8.
37. Traunmüller C, Stefitz R, Gaisbachgrabner K, Schwerdtfeger A. Psychological correlates of COVID-19 pandemic in the Austrian population. BMC Public Health. 2020;20(1):1395.
38. Garbe A, Ogurlu U, Logan N, Cook P. Parents' experiences with remote education during COVID-19 school closures. American Journal of Qualitative Research. 2020;4(3):45-65.
39. Thorell LB, Skoglund C, de la Peña AG, Baeyens D, Fuermaier ABM, Groom MJ, et al. Parental experiences of homeschooling during the COVID-19 pandemic: differences between seven European countries and between children with and without mental health conditions. Eur Child Adolesc Psychiatry. 2021:1-13.
40. Ravens-Sieberer U, Kaman A, Erhart M, Devine J, Schlack R, Otto C. Impact of the COVID-19 pandemic on quality of life and mental health in children and adolescents in Germany. Eur Child Adolesc Psychiatry. 2021:1-11.
41. Abramson A. How Covid-19 may increase domestic violence and child abuse. American Psychological Association. 2020.
42. Crosnoe R. Friendships in childhood and adolescence: The life course and new directions. Social psychology quarterly. 2000:377-91.
43. Jones RM, Vaterlaus JM, Jackson MA, Morrill TB. Friendship characteristics, psychosocial development, and adolescent identity formation. Personal Relationships. 2014;21(1):51-67.
44. Imran N, Zeshan M, Pervaiz Z. Mental health considerations for children & adolescents in COVID-19 Pandemic. Pakistan journal of medical sciences. 2020;36(COVID19-S4):S67.
45. Power E, Hughes S, Cotter D, Cannon M. Youth mental health in the time of COVID-19. Irish Journal of Psychological Medicine. 2020;37(4):301-5.
46. Nearchou F, Flinn C, Niland R, Subramaniam SS, Hennessy E. Exploring the impact of CoViD-19 on mental health outcomes in children and adolescents: a systematic review. International journal of environmental research and public health. 2020;17(22):8479.
47. Benke C, Autenrieth LK, Asselmann E, Pané-Farré CA. Stay-at-home orders due to the COVID-19 pandemic are associated with elevated depression and anxiety in younger, but not older adults: results from a nationwide community sample of adults from Germany. Psychological Medicine. 2020:1-2.
48. Palgi Y, Shrira A, Ring L, Bodner E, Avidor S, Bergman Y, et al. The loneliness pandemic: Loneliness and other concomitants of depression, anxiety and their comorbidity during the COVID-19 outbreak. Journal of affective disorders. 2020.
49. González-Sanguino C, Ausín B, Castellanos M, Saiz J, López-Gómez A, Ugidos C, et al. Mental health consequences during the initial stage of the 2020 Coronavirus pandemic (COVID-19) in Spain. Brain Behav Immun. 2020;87:172-6.
50. Bu F, Steptoe A, Fancourt D. Who is lonely in lockdown? Cross-cohort analyses of predictors of loneliness before and during the COVID-19 pandemic. Public Health. 2020;186:31-4.
51. White RG, Van Der Boor C. Impact of the COVID-19 pandemic and initial period of lockdown on the mental health and well-being of adults in the UK. BJPsych open. 2020;6(5).
52. Bartrés-Faz D, Macià D, Cattaneo G, Borràs R, Tarrero C, Solana J, et al. The paradoxical effect of COVID-19 outbreak on loneliness. BJPsych Open. 2021;7(1):e30.
53. Institut français d'Edmr. Conseil Supérieur de la Santé. Prise en charge psychosociale pendant la pandémie COVID-19. Bruxelles: CSS; 2020. Avis n° 9589. Institut français d'EDMR; 2020.
54. Patel JA, Nielsen FBH, Badiani AA, Assi S, Unadkat VA, Patel B, et al. Poverty, inequality and COVID-19: the forgotten vulnerable. Public health. 2020;183:110.
55. Zhu S, Wu Y, Zhu C-Y, Hong W-c, Yu Z-x, Chen Z-k, et al. The immediate mental health impacts of the COVID-19 pandemic among people with or without quarantine managements. Brain, behavior, and immunity. 2020.
56. Prati G, Mancini AD. The psychological impact of COVID-19 pandemic lockdowns: a review and meta-analysis of longitudinal studies and natural experiments. Psychol Med. 2021:1-11.

57. Ahmed MZ, Ahmed O, Aibao Z, Hanbin S, Siyu L, Ahmad A. Epidemic of COVID-19 in China and associated psychological problems. Asian journal of psychiatry. 2020;51:102092.
58. Xiang Y-T, Yang Y, Li W, Zhang L, Zhang Q, Cheung T, et al. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. The Lancet Psychiatry. 2020;7(3):228-9.
59. Serrano-Alarcón M, Kentikelenis A, McKee M, Stuckler D. Impact of COVID-19 lockdowns on mental health: Evidence from a quasi-natural experiment in England and Scotland. Health Econ. 2021.
60. Simon J, Helter TM, White RG, van der Boor C, Łaszewska A. Impacts of the Covid-19 lockdown and relevant vulnerabilities on capability well-being, mental health and social support: an Austrian survey study. BMC Public Health. 2021;21(1):314.
61. Schmits E, Glowacz F. Changes in Alcohol Use During the COVID-19 Pandemic: Impact of the Lockdown Conditions and Mental Health Factors. Int J Ment Health Addict. 2021:1-12.
62. Luo X, Estill J, Wang Q, Lv M, Liu Y, Liu E, et al. The psychological impact of quarantine on coronavirus disease 2019 (COVID-19). Psychiatry Research. 2020;291:113193.
63. Ma K-x, Hang Y-d, Hou T-y, Wu M-l, Cai W-p, Wen T. Investigation of physical and mental health in isolated people during the outbreak of novel corona virus pneumonia. 2020.
64. Mazza M, Marano G, Lai C, Janiri L, Sani G. Danger in danger: Interpersonal violence during COVID-19 quarantine. Psychiatry research. 2020;289:113046.
65. Lee J. Mental health effects of school closures during COVID-19. The Lancet Child & Adolescent Health. 2020;4(6):421.
66. Sacco MA, Caputo F, Ricci P, Sicilia F, De Aloe L, Bonetta CF, et al. The impact of the Covid-19 pandemic on domestic violence: The dark side of home isolation during quarantine. Medico-Legal Journal. 2020;88(2):71-3.
67. Ammar A, Chtourou H, Boukhris O, Trabelsi K, Masmoudi L, Brach M, et al. COVID-19 home confinement negatively impacts social participation and life satisfaction: a worldwide multicenter study. International journal of environmental research and public health. 2020;17(17):6237.
68. Serafini G, Parmigiani B, Amerio A, Aguglia A, Sher L, Amore M. The psychological impact of COVID-19 on the mental health in the general population. QJM: An International Journal of Medicine. 2020;113(8):531-7.
69. Usher K, Bhullar N, Jackson D. Life in the pandemic: Social isolation and mental health. Wiley Online Library; 2020.
70. Green L, Morgan L, Azam S, Evans L, Parry-Williams L, Petchey L, et al. A Health Impact Assessment of the 'Staying at Home and Social Distancing Policy' in Wales in response to the COVID-19 pandemic. Main Report. Cardiff: Public Health Wales NHS Trust; 2020.
71. Lades LK, Laffan K, Daly M, Delaney L. Daily emotional well-being during the COVID-19 pandemic. Br J Health Psychol. 2020;25(4):902-11.
72. Pelly D, Daly M, Delaney L, Doyle O. Worker Well-being Before and During the COVID-19 Restrictions: A Longitudinal Study in the UK. 2021.
73. Kaelen S, van den Boogaard W, Pellecchia U, Spiers S, De Cramer C, Demaegd G, et al. How to bring residents' psychosocial well-being to the heart of the fight against Covid-19 in Belgian nursing homes-A qualitative study. PLoS One. 2021;16(3):e0249098.
74. Riello M, Purgato M, Bove C, MacTaggart D, Rusconi E. Prevalence of post-traumatic symptomatology and anxiety among residential nursing and care home workers following the first COVID-19 outbreak in Northern Italy. R Soc Open Sci. 2020;7(9):200880.
75. Blanco-Donoso LM, Moreno-Jiménez J, Gallego-Alberto L, Amutio A, Moreno-Jiménez B, Garrosa E. Satisfied as professionals, but also exhausted and worried!!: The role of job demands, resources and emotional experiences of Spanish nursing home workers during the COVID-19 pandemic. Health Soc Care Community. 2021.
76. Navarro Prados AB, Jiménez García-Tizón S, Meléndez JC. Sense of coherence and burnout in nursing home workers during the COVID-19 pandemic in Spain. Health Soc Care Community. 2021.

77. Brady C, Fenton C, Loughran O, Hayes B, Hennessy M, Higgins A, et al. Nursing home staff mental health during the Covid-19 pandemic in the Republic of Ireland. Int J Geriatr Psychiatry. 2021.
78. Backhaus R, Verbeek H, de Boer B, Urlings JHJ, Gerritsen DL, Koopmans R, et al. From wave to wave: a Dutch national study on the long-term impact of COVID-19 on well-being and family visitation in nursing homes. BMC Geriatr. 2021;21(1):588.
79. Paananen J, Rannikko J, Harju M, Pirhonen J. The impact of Covid-19-related distancing on the well-being of nursing home residents and their family members: a qualitative study. Int J Nurs Stud Adv. 2021;3:100031.
80. Lorenz-Dant K, Comas-Herrera A. The impacts of COVID-19 on unpaid carers of adults with long-term care needs and measures to address these impacts: a rapid review of the available evidence. . London: LTCcovid.org; 2020.
81. Borg C, Rouch I, Pongan E, Getenet JC, Bachelet R, Herrmann M, et al. Mental Health of People with Dementia During COVID-19 Pandemic: What Have We Learned from the First Wave? J Alzheimers Dis. 2021;82(4):1531-41.
82. Witteveen D, Velthorst E. Economic hardship and mental health complaints during COVID-19. Proc Natl Acad Sci U S A. 2020;117(44):27277-84.
83. McDaid D. Suicide and socio-economic disadvantage during times of economic recession and recovery. In: Platt S, Stace S, Morrissey J, editors. Socioeconomic disadvantage and suicidal behaviour. London: Samaritans; 2017.
84. Quaglio G, Karapiperis T, Van Woensel L, Arnold E, McDaid D. Austerity and health in Europe. Health Policy. 2013;113(1-2):13-9.
85. Silva M, Resurrección DM, Antunes A, Frasquilho D, Cardoso G. Impact of economic crises on mental health care: a systematic review. Epidemiol Psychiatr Sci. 2018;29:e7.
86. Wahlbeck K, McDaid D. Actions to alleviate the mental health impact of the economic crisis. World Psychiatry. 2012;11(3):139-45.
87. Wahlbeck K, Anderson P, Basu S, McDaid D, Stuckler D. Impact of economic crises on mental health. Copenhagen: World Health Organization Regional Office for Europe; 2011.
88. Ferry F, Bunting B, Rosato M, Curran E, Leavey G. The impact of reduced working on mental health in the early months of the COVID-19 pandemic: Results from the Understanding Society COVID-19 study. J Affect Disord. 2021;287:308-15.
89. Jenkins R, Bhugra D, Bebbington P, Brugha T, Farrell M, Coid J, et al. Debt, income and mental disorder in the general population. Psychol Med. 2008;38(10):1485-93.
90. Sweet E, Nandi A, Adam EK, McDade TW. The high price of debt: household financial debt and its impact on mental and physical health. Soc Sci Med. 2013;91:94-100.
91. Walgrave S, Soroka S, Nuytemans M. The mass media's political agenda-setting power: A longitudinal analysis of media, parliament, and government in Belgium (1993 to 2000). Comparative Political Studies. 2008;41(6):814-36.
92. Golbeck J, Grimes JM, Rogers A. Twitter use by the US Congress. Journal of the American society for information science and technology. 2010;61(8):1612-21.
93. Deschamps BRD. Policy Agenda Setting and Twitter-Three Cases from Canada: The University of Regina (Canada); 2017.
94. Ishido H, Tashiro Y, Liang R. US President Donald Trump's Twitter Analysis and His Trade Policy Agenda. International Relations and Diplomacy. 2018;6(9):476-99.
95. O'Leary L, Erikainen S, Peltonen LM, Ahmed W, Thelwall M, O'Connor S. Exploring nurses' online perspectives and social networks during a global pandemic COVID-19. Public Health Nursing. 2021.
96. Pirkis J, John A, Shin S, DelPozo-Banos M, Arya V, Analuisa-Aguilar P, et al. Suicide trends in the early months of the COVID-19 pandemic: an interrupted time-series analysis of preliminary data from 21 countries. Lancet Psychiatry. 2021;8(7):579-88.
97. Appleby L, Richards N, Ibrahim S, Turnbull P, Rodway C, Kapur N. Suicide in England in the COVID-19 pandemic: Early observational data from real time surveillance. Lancet Reg Health Eur. 2021;4:100110.

98. Leske S, Kõlves K, Crompton D, Arensman E, de Leo D. Real-time suicide mortality data from police reports in Queensland, Australia, during the COVID-19 pandemic: an interrupted time-series analysis. Lancet Psychiatry. 2021;8(1):58-63.
99. Radeloff D, Papsdorf R, Uhlig K, Vasilache A, Putnam K, von Klitzing K. Trends in suicide rates during the COVID-19 pandemic restrictions in a major German city. Epidemiol Psychiatr Sci. 2021;30:e16.
100. Odd D, Williams T, Appleby L, Gunnell D, Luyt K. Child Suicide Rates During the COVID-19 pandemic in England. medRxiv. 2021:2021.07.13.21260366.
101. Hawton K, Casey D, Bale E, Brand F, Ness J, Waters K, et al. Self-harm during the early period of the COVID-19 pandemic in England: Comparative trend analysis of hospital presentations. J Affect Disord. 2021;282:991-5.
102. Pignon B, Gourevitch R, Tebeka S, Dubertret C, Cardot H, Dauriac-Le Masson V, et al. Dramatic reduction of psychiatric emergency consultations during lockdown linked to COVID-19 in Paris and suburbs. Psychiatry Clin Neurosci. 2020;74(10):557-9.
103. Hernández-Calle D, Martínez-Alés G, Mediavilla R, Aguirre P, Rodríguez-Vega B, Bravo-Ortiz MF. Trends in Psychiatric Emergency Department Visits Due to Suicidal Ideation and Suicide Attempts During the COVID-19 Pandemic in Madrid, Spain. J Clin Psychiatry. 2020;81(5).
104. Ambrosetti J, Macheret L, Folliet A, Wullschleger A, Amerio A, Aguglia A, et al. Impact of the COVID-19 Pandemic on Psychiatric Admissions to a Large Swiss Emergency Department: An Observational Study. Int J Environ Res Public Health. 2021;18(3).
105. Hay D, Jamal MS, Al-Tawil K, Petohazi A, Gulli V, Bednarczuk NF, et al. The effect of the COVID-19 pandemic on mental health associated trauma, admissions and fractures at a London major trauma centre. Ann R Coll Surg Engl. 2021;103(2):114-9.
106. Chevallard G, Veronese G, Giudici R, Pressato L, Pozzi F, Compagnone C, et al. Facing increased suicide attempts during COVID-19 pandemic lockdown: the experience from the major trauma center in Lombardy, Italy. Minerva Anestesiol. 2021;87(2):243-5.
107. John A, Eyles E, Webb RT, Okolie C, Schmidt L, Arensman E, et al. The impact of the COVID-19 pandemic on self-harm and suicidal behaviour: update of living systematic review. F1000Res. 2020;9:1097.
108. Ayuso-Mateos JL, Morillo D, Haro JM, Olaya B, Lara E, Miret M. Changes in depression and suicidal ideation under severe lockdown restrictions during the first wave of the COVID-19 pandemic in Spain: a longitudinal study in the general population. Epidemiol Psychiatr Sci. 2021;30:e49.
109. Rømer TB, Christensen RHB, Blomberg SN, Folke F, Christensen HC, Benros ME. Psychiatric Admissions, Referrals, and Suicidal Behavior Before and During the COVID-19 Pandemic in Denmark: A Time-Trend Study. Acta Psychiatr Scand. 2021;144(6):553-62.
110. Boldrini T, Girardi P, Clerici M, Conca A, Creati C, Di Cicilia G, et al. Consequences of the COVID-19 pandemic on admissions to general hospital psychiatric wards in Italy: Reduced psychiatric hospitalizations and increased suicidality. Prog Neuropsychopharmacol Biol Psychiatry. 2021;110:110304.
111. Evans-Lacko S, Knapp M, McCrone P, Thornicroft G, Mojtabai R. The mental health consequences of the recession: economic hardship and employment of people with mental health problems in 27 European countries. Plos One. 2013;8(7):e69792.
112. Fountoulakis KN, Kawohl W, Theodorakis PN, Kerkhof AJFM, Navickas A, Höschl C, et al. Relationship of suicide rates to economic variables in Europe: 2000-2011. The British Journal Of Psychiatry: The Journal Of Mental Science. 2014;205(6):486-96.
113. Laanani M, Ghosn W, Jougla E, Rey G. Impact of unemployment variations on suicide mortality in Western European countries (2000-2010). Journal Of Epidemiology And Community Health. 2015;69(2):103-9.
114. Reeves A, McKee M, Gunnell D, Chang S-S, Basu S, Barr B, et al. Economic shocks, resilience, and male suicides in the Great Recession: cross-national analysis of 20 EU countries. European journal of public health. 2015;25(3):404-9.

115. Corcoran P, Griffin E, Arensman E, Fitzgerald AP, Perry IJ. Impact of the economic recession and subsequent austerity on suicide and self-harm in Ireland: An interrupted time series analysis. International journal of epidemiology. 2015;44(3):969-77.
116. Córdoba-Doña JA, San Sebastián M, Escolar-Pujolar A, Martínez-Faure JE, Gustafsson PE. Economic crisis and suicidal behaviour: the role of unemployment, sex and age in Andalusia, southern Spain. International Journal For Equity In Health. 2014;13:55-.
117. Milner AJ, Niven H, LaMontagne AD. Occupational class differences in suicide: evidence of changes over time and during the global financial crisis in Australia. BMC Psychiatry. 2015;15:223.
118. Ruhm CJ. Health Effects of Economic Crises. 2015.
119. Garcy AM, Vagero D. The length of unemployment predicts mortality, differently in men and women, and by cause of death: a six year mortality follow-up of the Swedish 1992-1996 recession. Social science and medicine. 2012;74(12):1911-20.
120. Garcy AM, Vågerö D. Unemployment and suicide during and after a deep recession: a longitudinal study of 3.4 million Swedish men and women. American Journal Of Public Health. 2013;103(6):1031-8.
121. Browning M, Heinesen E. Effect of job loss due to plant closure on mortality and hospitalization. Journal of health economics. 2012;31(4):599-616.
122. Eliason M, Storrie D. Does job loss shorten life? The Journal of Human Resources. 2009;44(2):277-303.
123. Kim TJ, von dem Knesebeck O. Is an insecure job better for health than having no job at all? A systematic review of studies investigating the health-related risks of both job insecurity and unemployment. BMC Public Health. 2015;15:985.
124. Brenner MH, Andreeva E, Theorell T, Goldberg M, Westerlund H, Leineweber C, et al. Organizational downsizing and depressive symptoms in the European recession: the experience of workers in France, Hungary, Sweden and the United kingdom. Plos One. 2014;9(5):e97063.
125. Coope C, Donovan J, Wilson C, Barnes M, Metcalfe C, Hollingworth W, et al. Characteristics of people dying by suicide after job loss, financial difficulties and other economic stressors during a period of recession (2010–2011): A review of coroners' records. Journal of affective disorders. 2015;183:98-105.
126. Vasquez-Vera H, Rodriguez-Sanz M, Palencia L, Borrell C. Foreclosure and Health in Southern Europe: Results from the Platform for People Affected by Mortgages. J Urban Health. 2016;93(2):312-30.
127. Rojas Y, Stenberg SA. Evictions and suicide: a follow-up study of almost 22 000 Swedish households in the wake of the global financial crisis. J Epidemiol Community Health. 2016;70(4):409-13.
128. Office for National Statistics. Deaths registered weekly in England and Wales, provisional: week ending 12 February 2021. London: Office for National Statistics,; 2021.
129. Arnetz JE, Goetz CM, Sudan S, Arble E, Janisse J, Arnetz BB. Personal Protective Equipment and Mental Health Symptoms Among Nurses During the COVID-19 Pandemic. J Occup Environ Med. 2020;62(11):892-7.
130. Senczyszyn A, Lion KM, Szcześniak D, Trypka E, Mazurek J, Ciułkowicz M, et al. Mental Health Impact of SARS-COV-2 Pandemic on Long-Term Care Facility Personnel in Poland. J Am Med Dir Assoc. 2020;21(11):1576-7.
131. Hussein S, Saloniki E, Turnpenny A, Collins G, Vadean F, Bryson A, et al. COVID-19 and the Wellbeing of the Adult Social Care Workforce: Evidence from the UK. Canterbury: PSSRU, University of Kent; 2020.
132. Low L-F, Hinsliff-Smith K, Sinha S, Stall N, Verbeek H, Siette J, et al. Safe visiting at care homes during COVID-19: A review of international guidelines and emerging practices during the COVID-19 pandemic. London: LTCcovid.org, International Long-Term Care Policy Network; 2021.
133. Verbeek H, Gerritsen DL, Backhaus R, de Boer BS, Koopmans R, Hamers JPH. Allowing Visitors Back in the Nursing Home During the COVID-19 Crisis: A Dutch National Study Into First Experiences and Impact on Well-Being. J Am Med Dir Assoc. 2020;21(7):900-4.
134. Prins M, Willemse B, van der Velden C, Pot AM, van der Roest H. Involvement, worries and loneliness of family caregivers of people with dementia during the COVID-19 visitor ban in long-term care facilities. Geriatr Nurs. 2021;42(6):1474-80.

135. Embregts P, van Oorsouw W, Nijs S. Impact of infection outbreak on long-term care staff: a rapid review on psychological well-being. Journal of Long-Term Care. 2020;2020:70-9.
136. Thorstad M, Sie I, Andersen BM. MRSA: A Challenge to Norwegian Nursing Home Personnel. Interdiscip Perspect Infect Dis. 2011;2011:197683.
137. Van Baelen L, Gremeaux L, Antoine J, Bruggeman H, Gisle L, Plettinckx E, et al. COVID-19 and people who use drugs: Impact of the pandemic on general anxiety and depressive disorders among adults in Belgium. J Affect Disord. 2021;295:946-53.