

Covid-19 in Wales: the mental health and wellbeing impact

BRIEFING PAPER

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Preface

Declaration of funding

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About us

Wales Fiscal Analysis (WFA) is a research body within Cardiff University's Wales Governance Centre that undertakes authoritative and independent research into the public finances, taxation and public expenditures of Wales.

The WFA programme adds public value by commenting on the implications of fiscal events such as UK and Welsh budgets, monitoring and reporting on government expenditure and tax revenues in Wales and publishing academic research and policy papers that investigate matters of importance to Welsh public finance, including the impact of Brexit on the Welsh budget and local services, options for tax policy, and the economics and future sustainability of health and social care services in Wales.

Working with partners in Scotland, Northern Ireland, the UK and other European countries, we also contribute to the wider UK and international debate on the fiscal dimension of devolution and decentralisation of government.

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Covid-19 in Wales: the mental health and wellbeing impact

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1. Executive Summary

The COVID-19 pandemic and the social distancing restrictions resulting from it have taken a huge toll on people's wellbeing and mental health. We can expect significant pressures and demand for mental health services in Wales over coming years. This will be a crucial public health challenge for the Welsh Government as mental health is a key determinant of educational success, future earnings, employment, and physical health of an individual. This paper intends to quantify the impact of the COVID-19 pandemic, lockdowns and social restrictions on mental health outcomes using the UK household Longitudinal Study (UKHLS), covering the pre-COVID-19 pandemic period (2009-2019) and during-COVID-19 pandemic (April 2020 to March 2021).

Pre-pandemic trends and patterns in mental health

- In Wales, mental health problems reach a peak for individuals in their late 30s, with much lower levels for both those at the beginning of their life and those moving into the age of retirement.
- Mental health also has a seasonal trend, which means depending on the month in which the survey takes place the reported mental distress varies. This means mental health improves during the summer and spring months and deteriorates in winter months.
- Before the pandemic, women reported worse levels of mental distress after accounting for seasonal trends, life cycle effects, and trends across waves.

Mental health in Wales during COVID-19

- During the period immediately before the pandemic, 11.7% of Welsh people suffered severe mental health issues. This share climbed to 28.1% in April 2020. This means mental health conditions in Wales during the first lockdown almost tripled compared to the period before the onset of the pandemic. The deterioration in average mental health was equivalent to that associated with an individual moving from being employed to unemployed during the pre-COVID-19 period.
- Young people experienced the largest deterioration as a result of COVID-19 at the beginning of the pandemic. The average GHQ score among those aged 16-24 in November 2020 rose by 3 points, or 24%, relative to the pre-pandemic period.¹
- On average, women exhibited worse levels of mental health after the onset of the pandemic, with the gap between reported wellbeing between men and women increasing from 9.9% to 14.1%.

¹ The GHQ-12 score is a widely used measure to assess the severity of a mental health problem. The indicator reflects reported symptoms such as difficulties with sleep, concentration, problems with decision making, strain, and feeling depressed and overwhelmed. Scores range from 0 to 36, with higher scores indicating worse conditions.

Mental health by demographic and socio-economic characteristics

- The Covid-19 pandemic has had a more detrimental effect on the mental health of those of Black, Asian and minority ethnic (BAME) backgrounds. For instance, in June 2020, BAME individuals in Wales reported on average more than 4.1 problems associated with mental distress, whilst White British individuals reported 2.7, a difference of 55% in relative terms.
- The mental health gap between the lowest and highest income quintiles has widened significantly during the pandemic. The average GHQ-12 score in November 2020 for the lowest income quintile increased by 39% compared to the pre-COVID-19 period. In contrast, the highest income earners only experienced a deterioration in their mental health of 0.6 points (or 6.5%) over the same period.

2. Introduction

The COVID-19 pandemic and the social distancing restrictions resulting from it have taken an enormous toll on people's wellbeing and mental health. This represents an unprecedented challenge for the Welsh Government considering mental health is a key determinant of educational success, productivity, future earnings, and life expectancy (Layard, 2020). Moreover, mental health problems can exacerbate and cause physical illness, increasing the demand and cost of health services. For these reasons, it is important for policymakers, service providers and the public in general to have reliable information about the mental health consequences associated with the COVID-19 pandemic.

In Wales, 1 out of 6 deaths during the period March 2020– May 2021 (7,892 deaths) was related to COVID-19.² There were 213,188 confirmed positive cases until June 2021, and the economy registered a strong economic contraction of 9.9% in 2020. The economic cost of the pandemic in Wales has also unequally affected some groups more than others. For instance, (Rodríguez and Ifan, 2020) show the pandemic and lockdown measures negatively hit younger employees, females, low-income earners, and Black, Asian and minority ethnic (BAME) groups the hardest.

As part of Wales Fiscal Analysis' ongoing work examining the impact of Covid-19 on Wales, this briefing paper evaluates the effects of the COVID-19 pandemic and associated policy responses on mental health. We analyse the UK household longitudinal data (UKHLS) from the Understanding Society Covid-19 Study 2020, relative to data from previous waves.

We conduct a graphical and descriptive analysis to assess the evolution of mental health in Wales over time in order to compare pre- and post-pandemic outcomes. Data suggest a substantial deterioration of mental health in the Welsh population after the onset of the pandemic and the implementation of interventions to contain the virus. Our analysis also shows that women reported worse levels of mental distress after accounting for the month in which the individual responded to the survey (seasonal component), the age of the individual (life cycle) and trends across waves. The unequal impact on mental health in Wales is also seen among the young, BAME individuals and low-income earners. Covid-19 seems to have exacerbated inequalities in mental health.

The report proceeds as follows. First, we describe the data and methodology applied to construct the main variables used for measuring mental health outcomes. Second, we analyse pre-pandemic trends and patterns in mental health across age groups and gender. Third, we evaluate the mental health outcomes after the appearance of COVID-19 and compare Wales's performance with other UK nations. Lastly, we provide descriptive evidence for pre- and post-COVID-19 trends in mental health by a set of socio-economic and socio-demographic variables.

² Office for National Statistics. Deaths involving COVID-19, UK: deaths occurring between 1 March 2020 and 30 May 2020.

3. Data and methodology

This briefing uses panel data from the UK household Longitudinal Study (UKHLS), which covers the pre-COVID-19 pandemic period (2009-2019) and the COVID-19 pandemic (April 2020 to March 2021). The first period contains the waves 1-11, and for the second period, Understanding Society conducted a special survey (called COVID-19 Study, 2020), which contains eight waves starting in April 2020 until March 2021. The study includes 33,377 individuals (2,084 in Wales) in wave 11 (2019-Feb 2020) and an average of 13,890 individuals (816 in Wales) for the COVID-19 Study. Since April 2020, participants from wave 9 were invited to complete a short online interview with questions related to COVID-19. The sample is weighted to be nationally representative.

Our main outcome variable to measure mental distress and wellbeing is the overall GHQ-12 score (the Likert scale), which is a widely used measure to assess the severity of a mental health problem over the past two weeks. This indicator comprises symptoms such as difficulties with sleep, concentration, problems in decision making, strain, and feeling depressed and overwhelmed, etc. Scores range from 0 to 36, with higher scores indicating worse conditions. The variable has been measured by Understanding Society in all the waves to date and was also included in the special COVID-19 study, allowing us to track the evolution of mental health over time to compare pre- and post-pandemic outcomes.

Based on the raw GHQ-12 score, we derive two additional and complementary measures of mental distress. The first one captures the number of problems reported, which was built by counting the number of components out of 12 with a score of 3 or above. The second variable is a binary indicator that attempts to quantify the proportion of the population with a severe mental health problem. It takes the value of 1 if any of the GHQ-12 components has a score of 4.

In most of our analysis, we also use the outcome variable 'unhappy or depressed' in an attempt to capture the way people feel in terms of depression or anxiety and it will be used as a proxy measure of wellbeing and mental distress during the current pandemic. This variable was taken from one of the components of the overall GHQ-12 score. With these four measures of mental wellbeing, we intend to disentangle whether the patterns in the average "GHQ-12 score" is a result of mild trends across all items for all individuals, or of trends in the number of problems reported or the number of severe problems for some people in particular.

We carry out a descriptive approach that shows trends and patterns in raw (unadjusted) differences in the change in mental health pre- and post-pandemic for Wales.³ The graphical analysis presented includes a set of socio-economic and demographic variables, such as: age group; gender; income quintiles; ethnicity (BAME vs White British); and place of residence.

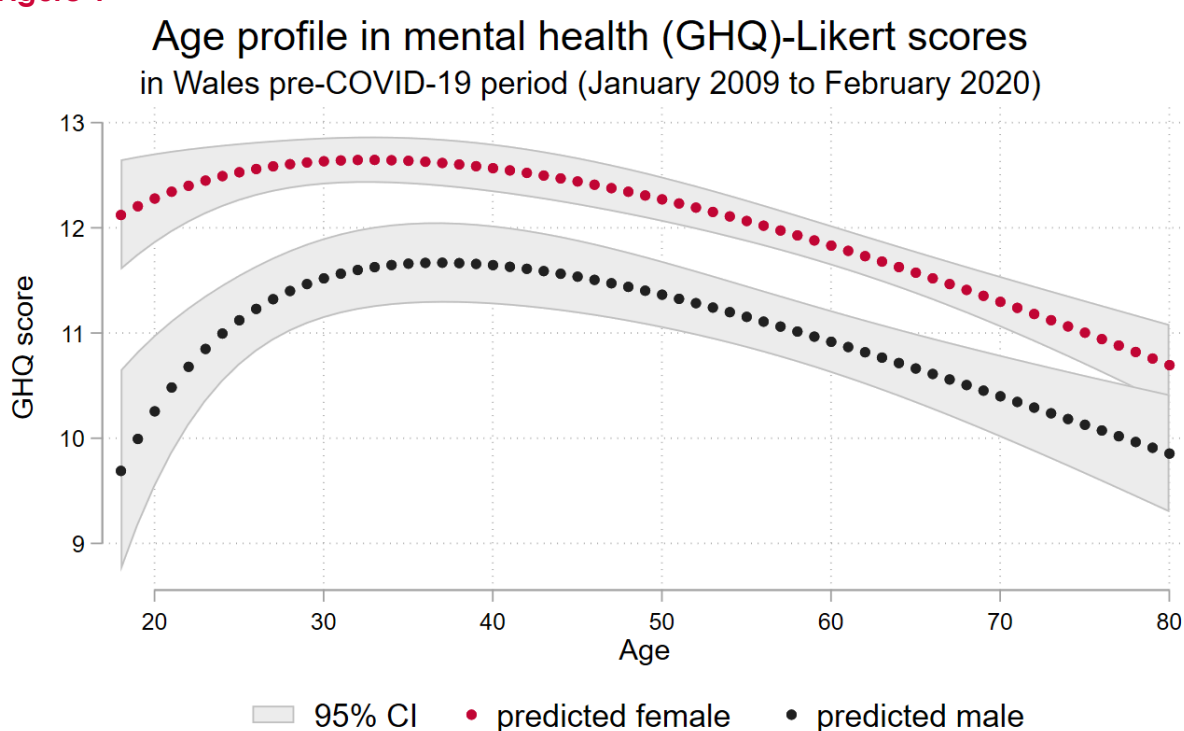
³ Figures 2 and 6 include data for England as well as Wales in order to increase the sample size and get more clear patterns in the data.

4. Pre-pandemic trends and patterns in mental health

Before studying the impact of COVID-19 on mental health and subjective well-being outcomes, it is important to bear in mind the importance of mental health as a key determinant of educational success, future earnings, employment, and the physical health of an individual. In advanced economies mental health accounts for 40% of all illnesses in the working-age population and over 30% of disabilities and absenteeism from work (Layard, 2020). In addition, mental health issues can exacerbate or cause physical illness, increasing the cost of health services. Some studies estimate that the current cost of physical healthcare for chronic diseases in the absence of mental illness would be one third lower (Layard 2020). In sum, mental health and well-being can influence and drive a number of other individual choices, behaviours, and outcomes.

The COVID-19 pandemic and the social distancing restrictions resulting from it have put an enormous pressure on people's wellbeing and mental health. To investigate the impact of the pandemic on mental health, we firstly study mental health trends and patterns before the onset of COVID-19. We consider three important elements that will help us understand the evolution of mental health before the pandemic. Firstly, **Figure 1** depicts the inverted U-shaped form exhibited by the GHQ score - as a proxy of mental health - over the individual life cycle in Wales. As we can see, mental health problems reach a peak for those in their late 30's and show much lower levels for both those at the beginning of their life and those moving into the age of retirement.

Figure 1

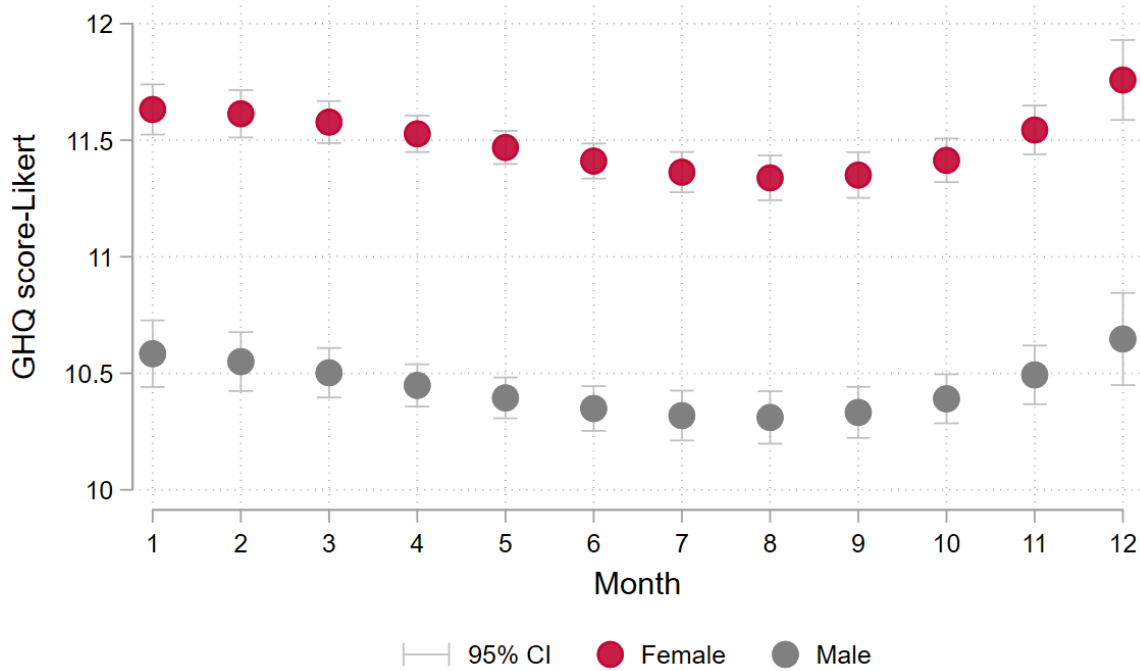


Source: UKHLS Waves 1-11, Understanding Society.

Secondly, **Figure 2** shows that mental health has a seasonal trend, which means that depending on the month in which the survey takes place the GHQ score varies. For instance, GHQ scores decrease (mental health improves) during the summer and spring months and increase (mental health deteriorates) in winter months. This suggests we must be cautious when comparing waves in which the sample took place in August with another wave in which the individual was interviewed in January last year.

Figure 2

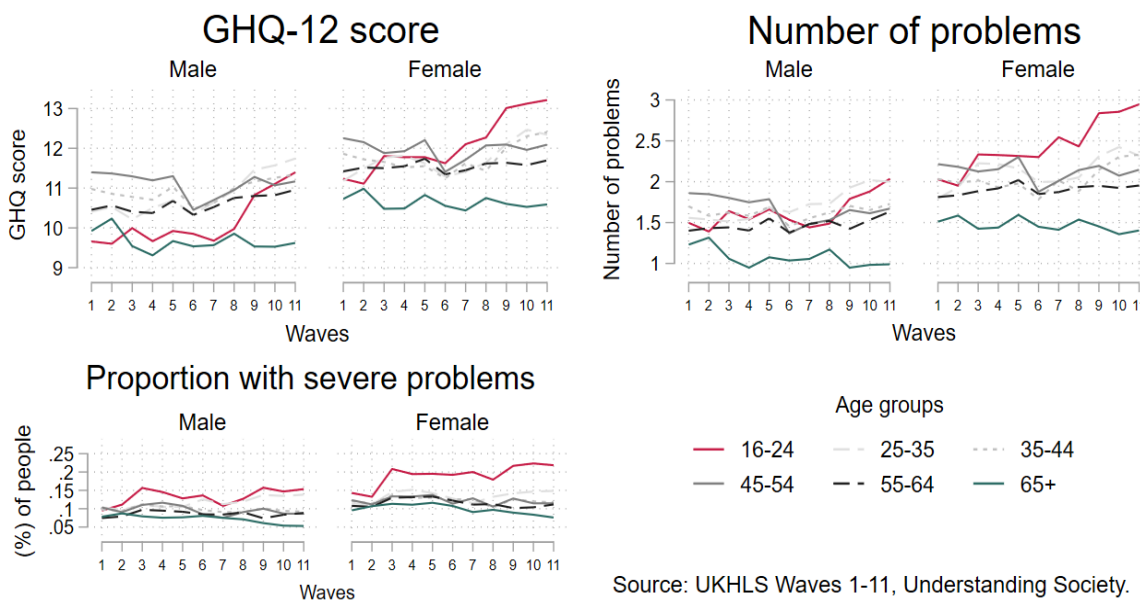
Seasonal trends in GHQ scores in Wales and England, waves 1-11 (Jan 2009 to Feb 2020)



Source: UKHLS Waves 1-11, Understanding Society.

Figure 3

Trends in mental health by age groups and gender in Wales pre-COVID-19 period



Source: UKHLS Waves 1-11, Understanding Society.

Third, another aspect we consider relevant is to account for pre-existing trends in mental health, particularly by gender and age groups in order to understand the underlying mechanisms that could explain the changes in mental wellbeing before the pandemic. **Figure 3** illustrates that between wave 6 (2014-2016) and wave 11 (2018-2019), mental health distress measured by two complementary

indicators -overall GHQ-12 score and number of mental health problems reported - rose across most age groups, and the deterioration is particularly larger among the young. However, the proportion of people who reported any severe problem slightly declines over the recent years, with older people experiencing a bigger reduction.

Table 1. Distribution of GHQ-12 score, average from waves 9-11 (Jan 2017 to Feb 2020)

Main statistics	GHQ-12 score	Number of problems	(%) severe problems	Unhappy/depressed
10th percentile	6.33	0.00	0.00	1.00
25th percentile	8.00	0.00	0.00	1.33
50th percentile	10.33	0.67	0.00	2.00
75th percentile	13.33	2.67	0.00	2.33
90th percentile	18.00	6.00	0.33	2.67
Mean (all)	11.41	1.84	0.10	1.89
Standard deviation	4.87	2.66	0.24	0.68
By gender:				
Male	10.71 (4.63)	1.49 (2.43)	0.08 (0.22)	1.80 (0.67)
Female	11.98 (4.99)	2.12 (2.79)	0.12 (0.26)	1.96 (0.69)
By age groups:				
Self-employed	10.49 (4.18)	1.40 (2.28)	0.06 (0.19)	1.77 (0.64)
Employed	11.33 (4.44)	1.76 (2.46)	0.09 (0.22)	1.90 (0.65)
Unemployed	14.37 (6.11)	3.36 (3.34)	0.24 (0.36)	2.28 (0.72)
Inactive	11.50 (5.34)	1.93 (2.87)	0.12 (0.27)	1.87 (0.72)
By income quintile:				
1 (lowest)	12.50 (5.45)	2.45 (3.00)	0.16 (0.30)	2.04 (0.73)
2	11.80 (5.23)	1.99 (2.86)	0.12 (0.27)	1.92 (0.70)
3	11.59 (4.95)	1.91 (2.71)	0.11 (0.25)	1.91 (0.68)
4	11.22 (4.71)	1.73 (2.54)	0.09 (0.23)	1.87 (0.67)
5 (highest)	10.53 (4.09)	1.43 (2.23)	0.06 (0.19)	1.77 (0.63)
N (observations)	14,784	14,784	14,784	14,784

Source: Understanding Society, pre-COVID-19 period, 2007-2019. Results are mean scores with standard deviations in parentheses.

A key element to highlight from **Figures 1 to 3** is the fact that across all measures of mental health, women exhibit worse levels of mental distress even accounting for the month in which the individual responded to the survey (seasonal component), the age of the individual (life cycle) and trends across waves. For that reason, one of the main challenges for future studies is to find a causal effect on whether the changes in mental health observed after the lockdown corresponds with pre-existing patterns or in contrast mental health was directly impacted by the COVID-19 crisis.

In order to help interpret the magnitude of the changes in mental health across the different measures used in the analysis below, **Table 1** presents descriptive statistics for the mental health measures in the most recent pre-pandemic period (waves 9-11). Mean GHQ-12 score was 11.41 for the whole sample, with a difference of around 1.27 (11.9%) on average between female and male, and 1.97 (18.7%) between the top and bottom quintiles of the income distribution. The average number of problems reported was 1.84, although the median number of problems was 0.67. The average share of the population who reported a severe mental health problem pre-pandemic was 10%. This figure was much higher (24%) among people who were unemployed.

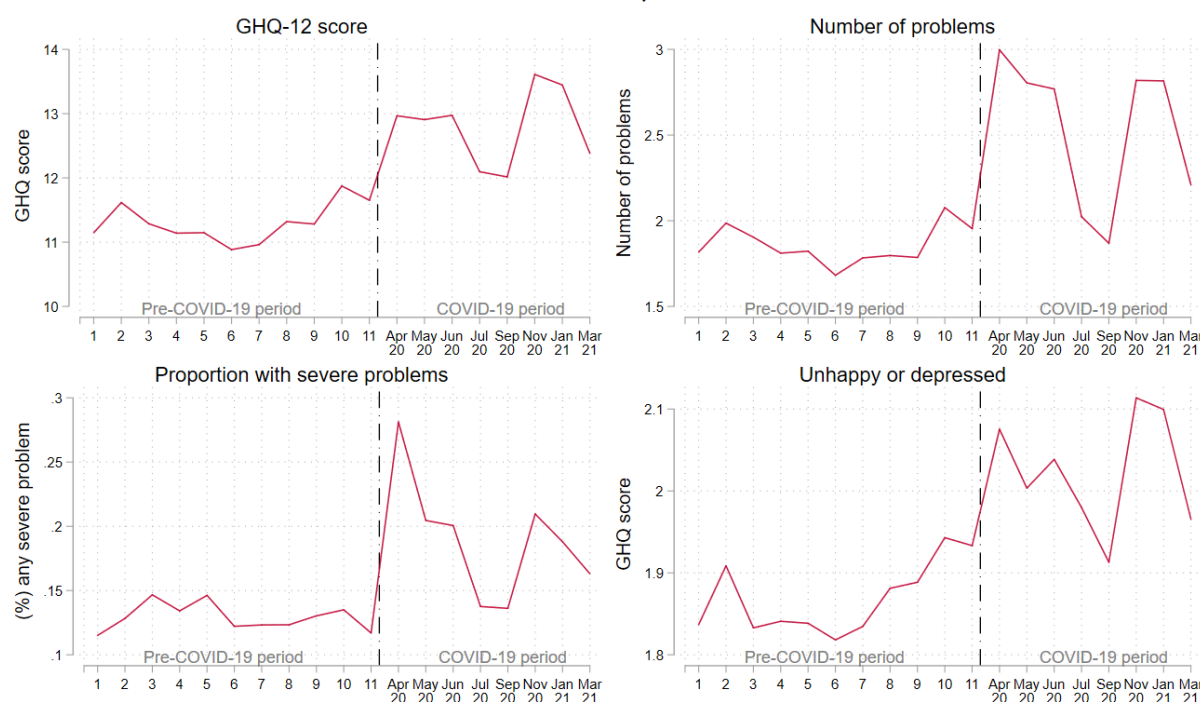
5. Mental health in Wales, before and after COVID-19

According to the ONS, the UK experienced a 48% increase in numbers reporting high levels of anxiety between February 2020 and the first month of lockdown in March 2020.⁴ In addition, from cross-sectional surveys we know that the prevalence of depressive symptoms among adults in the UK showed a significant rise, increasing from 9.7% in the period from July 2019 to March 2020, to 19.2% in June 2020.⁵

If we analyse the evolution of mental health in Wales, we can see from **Figure 4** that from wave 11 of the panel data, which took place during the period immediately before the onset of COVID-19 (2019 to February 2020), to November 2020 there was an increase in mental health issues of 17%, with average GHQ-12 scores increasing from 11.6 to 13.6. On the other hand, measuring mental health in terms of the 'number of problems' reported, it can be noticed that the peak was reached in April 2020, when an increase of 50% was recorded compared to the pre-COVID-19 period. Under this indicator, people reported to suffer 3 types of mental health problems versus 2 problems during 2019 to February 2020. Considering the share of the population with 'severe mental health problems', data show that during the period most prior to the pandemic, 11.7% of Welsh people suffered severe mental health issues. This share increased to 28.1% in April 2020, a month in which Wales experienced the first lockdown to mitigate the spread of COVID-19. This means the prevalence of mental health conditions across individuals in Wales almost tripled at the onset of the pandemic, as shown in the lower-left panel of **Figure 4**.

Figure 4

Mental health evolution in Wales, before and after COVID-19



Source: UKHLS Waves 1-11 and COVID-19 Study 2020 (Waves 1-8), Understanding Society.

Moreover, the graphical analysis suggests that the deterioration in mental health was more pronounced in the measures reflecting the "number of problems" and the "proportion with severe problems". The significant jump in the 'number of problems' reported is equivalent to the average difference between those in the top quintile of the income distribution and those in the bottom quintile before the onset of the pandemic. In another example, the difference (16.4%) in the share of

⁴ <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalandeconomicwellbeingintheuk/may2020>

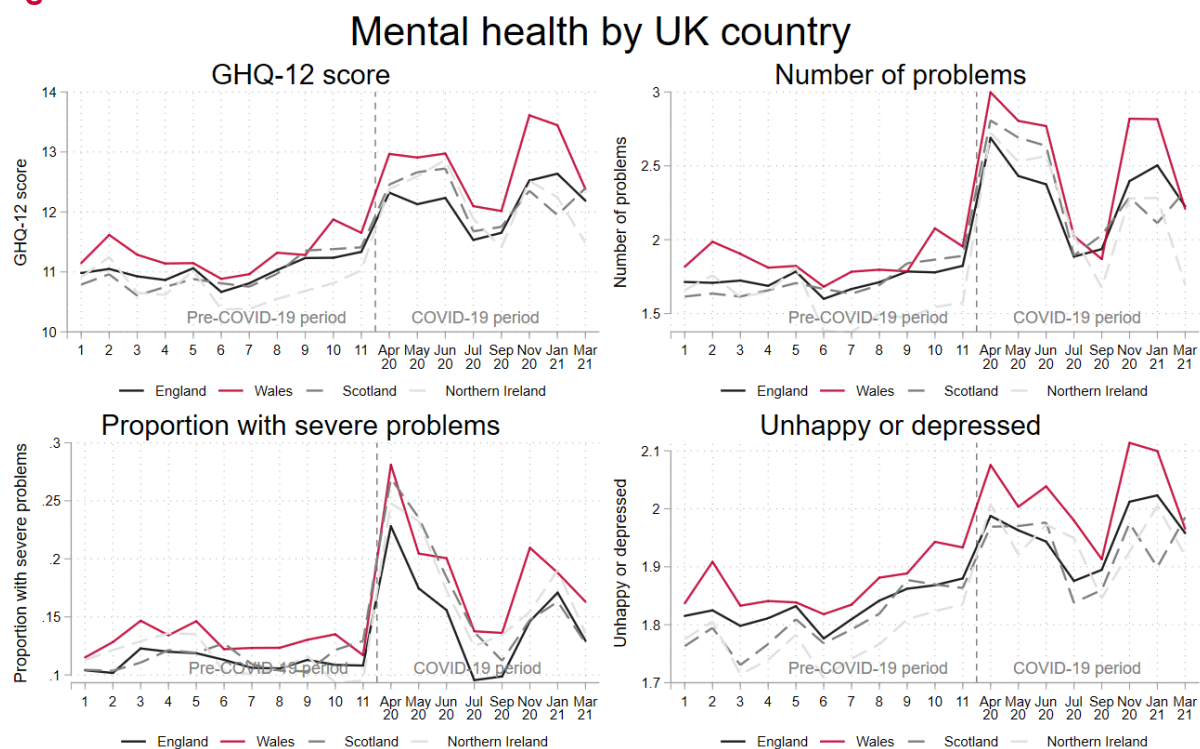
⁵ <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/coronavirusanddepressioninadultsgreatbritain/june2020>

people with a severe health problem from wave 11 (11.7%) to April 2020 (28.1%) is equivalent to the average difference between those employed (9%) and those unemployed (25%) registered during the pre-COVID-19 period.

The data also reflect an improvement in the mental health indicators during the months lockdown and social distancing measures were relaxed. This occurred between May and September 2020, a period in which the economy also showed signs of recovery, particularly retail and hospitality sectors. However, due to the appearance of new COVID-19 variants and the fact that COVID-19 cases sharply increased in Wales in October, the Welsh Government introduced a new 'firebreak lockdown' on 23 October 2020. This introduced new mobility restrictions aimed at containing the spread of Covid-19 and preventing the NHS from being overwhelmed. Survey data for January 2021, was also conducted during a period of nation-wide lockdown. Mental health was negatively affected again, reaching the second highest average GHQ-12 score (13.4) since data was available, which represents an increase of almost two points compared with the last pre-COVID period wave.

The latest available survey data for March 2021, show a significant recovery in the four mental health indicators, perhaps reflecting both the start of a new phase of easing restrictions and better prospects due to the successful vaccination campaign in Wales.

Figure 5

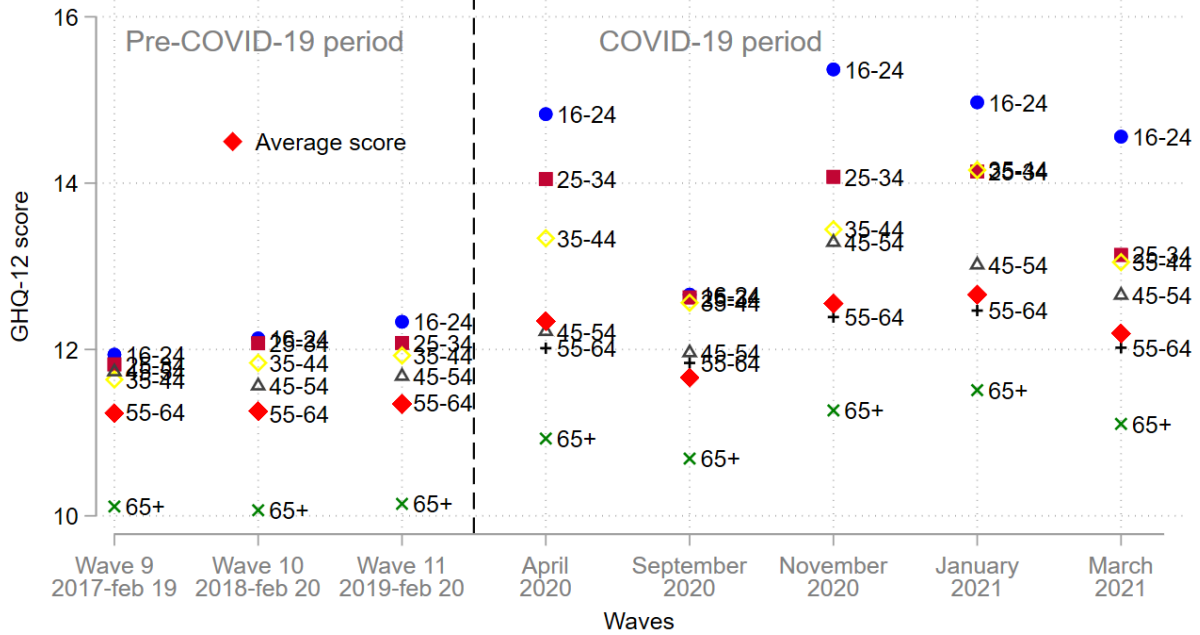


Source: UKHLS Waves 1-11 and Covid-19 Study 2020 (Waves 1-8), Understanding Society.

How do mental health trends and changes post-pandemic in Wales compare to the rest of the UK nations? **Figure 5** shows the evolution of mental health in each UK nation over the period 2009-2021, measured by different indicators that reflect the deterioration of mental health suffered by the UK population after the introduction of lockdown and social distancing measures in the whole country. Trends in reported mental health in Wales followed a similar path to the other countries of the UK. Wales experienced worse average levels of mental health on some indicators over most of the time periods covered, both before and during the Covid-19 period, though many of these differences were not statistically significant at 95% confidence level.

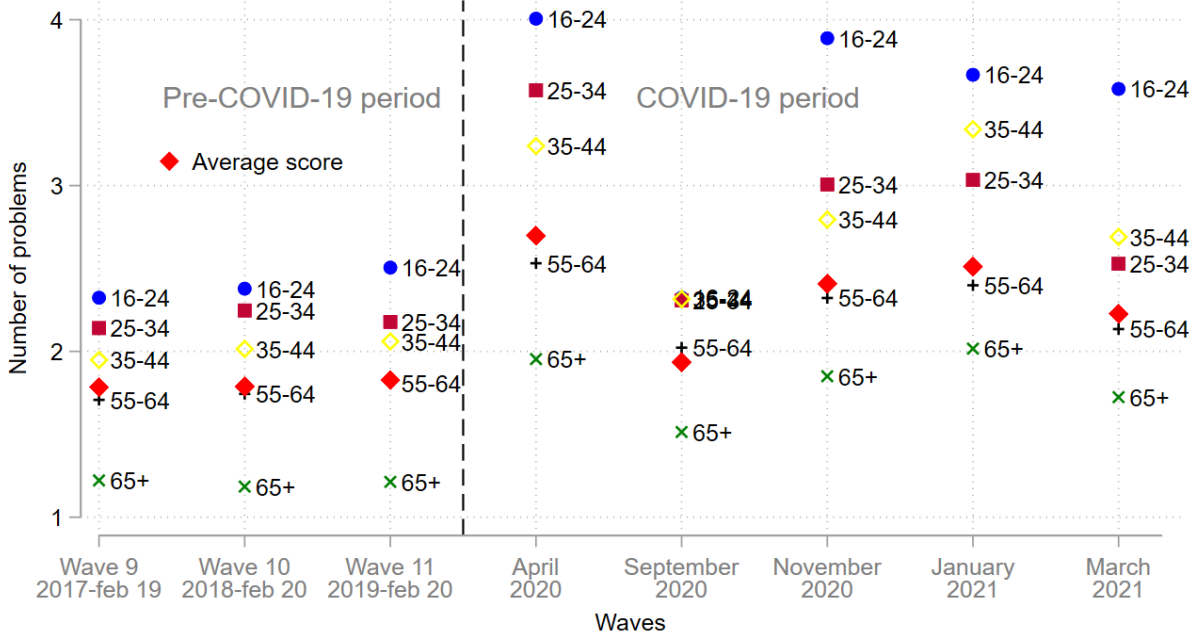
Figure 6

Mental health by age group in Wales and England measured by GHQ-12 score



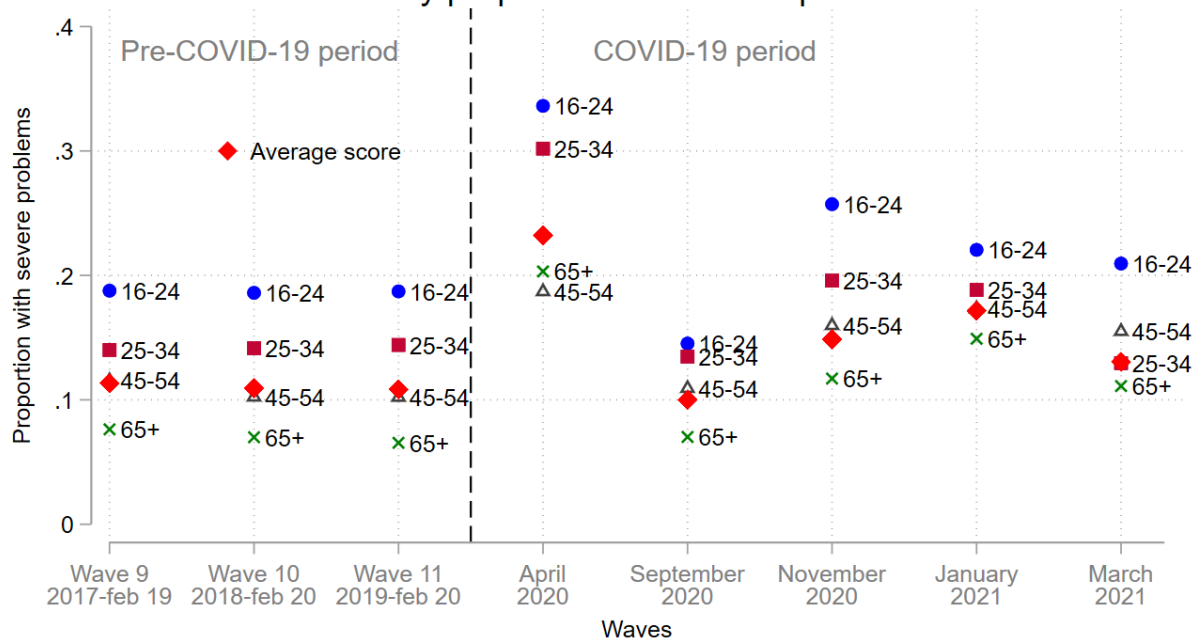
Source: UKHLS waves 1–11 and COVID-19 Study 2020 (Waves 1-8), Understanding Society.

Mental health by age group in Wales and England measured by number of problems



Source: UKHLS waves 1–11 and COVID-19 Study 2020 (Waves 1-8), Understanding Society.

Mental health by age group in Wales and England measured by proportion with severe problems



Source: UKHLS waves 1–11 and COVID-19 Study 2020 (Waves 1-8), Understanding Society.

On the other hand, Covid-19 seems to have exacerbated inequalities in mental health among age groups and worsened pre-existing inequalities. Across all three measures, **Figure 6** depicts how groups that had poor mental health before the pandemic suffered the largest deterioration in mental health, both in absolute and percentage terms.⁷

As shown in the graph, young people experienced the largest deterioration as a result of COVID-19 in Wales and England. The average GHQ score among those aged 16-24 in November 2020 rose by 3 points or 24% relative to wave 11. This jump is equivalent to the difference in mental health reported by people employed and unemployed in the pre-COVID-19 period. Similarly, the average number of mental health problems reported by those aged 16-24 increased by 58% (or 1.5 problems) from wave 11 to April 2020. On the other hand, those aged 65 and over saw relatively little change in their GHQ scores and the number of problems reported, though the share reporting any severe problems increased sharply in percentage terms.

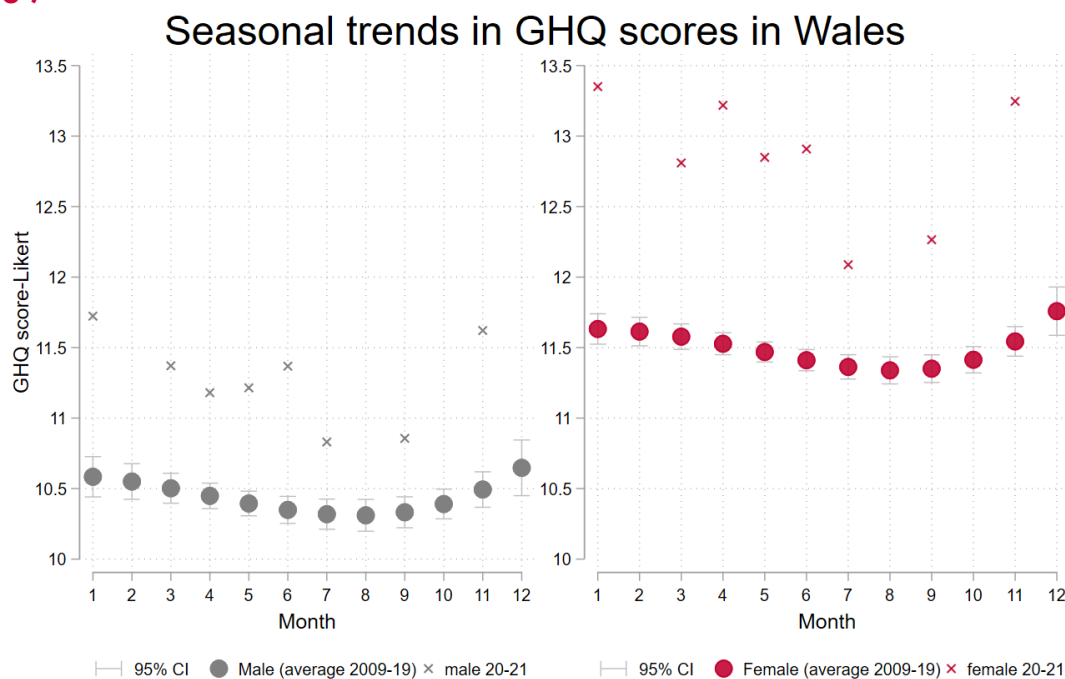
In sum, for each age group, all post-COVID-19 waves show worse levels of mental health. The situation improved somewhat during the middle of 2020 – however there was another increase in November 2020, coinciding with the worsening public health situation and the reintroduction of mobility restrictions. Also, after the implementation of lockdown and social distancing measures there is a clear pattern in the graph that suggest that younger groups have been more affected by the pandemic. The largest gap by age group can be observed in November 2020, when the difference between the GHQ score of individuals aged 16-24 and those over 65 reached 36%.

As discussed in the previous section, comparisons of mental health levels before and after the pandemic cannot be taken as estimates of the pandemic's causal effect. For instance, simple comparisons do not account for seasonal trends in mental health, which may be necessary when assessing mental health at a single point in time. We provided evidence in **Figure 2** on the presence of seasonal trends in GHQ-12 scores in Wales, with mental health deteriorating in the autumn and winter months and improving in the spring and summer. Therefore, a sample observed entirely at one point in time (for example, November 2020) is not comparable to samples in previous surveys, typically interviewed over an entire year.

⁷ Sample size by age group for Wales is small, therefore we use data for England and Wales.

As a first step to address this issue, we take the average GHQ-12 score for the corresponding month of each year in the pre-pandemic period and compare it with the mental health scores registered in each month in which the special survey “COVID-19 Study 2020” took place. By doing so, we can compare the GHQ-12 score reported for example in April 2020 with the average GHQ-score value registered every April in previous waves before the pandemic and so on, accounting for the seasonality component of mental health.

Figure 7



Source: UKHLS (Waves 1-11) and Covid-19 Study 2020 (Waves 1-8), Understanding Society.

Figure 7 shows the results of this approach by gender. As previously noted, before the onset of the pandemic there was a persistent and clear disparity between men and women in terms of mental health. On average women exhibited lower levels of mental health of 1.04 points, or 9.9%, relative to men over the period 2009-2019. This gap widened to 1.59 points or 14.1% after the onset of the pandemic and subsequent interventions.

In relative terms, both men and women saw the largest deterioration in mental health in January 2021 compared to the average of the same month during the pre-COVID-19 period, with 11.5% and 16.2% respectively. Also, women and men registered the second largest decline in November 2020, with a mental health deterioration of 14.5% and 9.4% respectively. In contrast, the months in which there was a lesser deterioration in mental health levels were July and September 2020, which coincides with the relaxation of restrictions and the reopening of some closed sectors.

It is important to bear in mind that this is only a comparative exercise and cannot be taken as estimates of the pandemic’s causal effect, as these comparisons do not account for what would have happened in the absence of the pandemic. For instance, as we showed in **Figure 3** some mental health measures in Wales had already been deteriorating in recent years, before COVID-19. Considering this pattern may have continued even in the absence of the pandemic, if we attribute the entire worsening in mental health to the virus, we may be overestimating the actual effect of the pandemic. In addition, we also saw that there are significant differences in pre-existing trends across demographic groups: mental distress worsened dramatically among younger people than older groups between wave 6 (2014-2016) and wave 11 (2019- Feb 2020). This means simple comparisons before and after the appearance of COVID-19 may lead us to wrong estimates of the relative effect of the pandemic across age groups.

Table 2. Difference in mental health GHQ-12 score before and after the pandemic

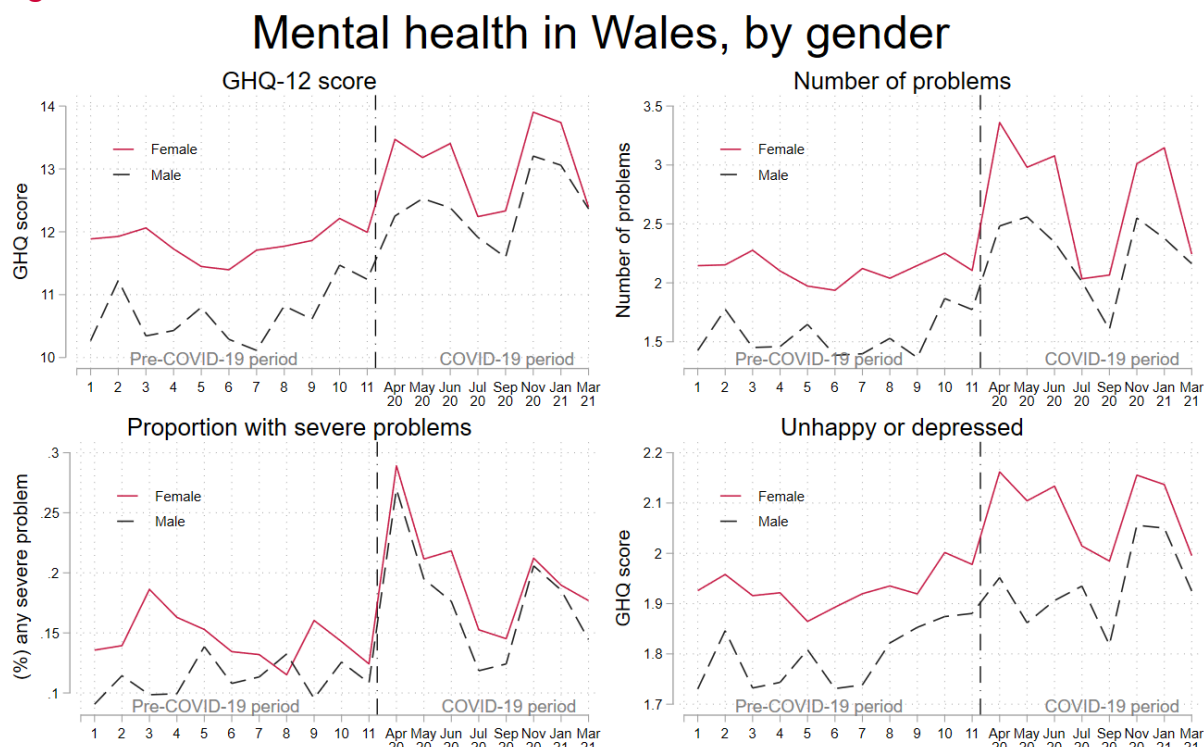
Month	Gender	GHQ-12 score average (2009-2019)	GHQ-12 score COVID-19 period	Raw Difference	Percentage change
January-21	Male	10.52	11.72	1.21	11.5%
March-21	Male	10.67	11.37	0.70	6.6%
April-20	Male	10.49	11.18	0.70	6.6%
May-20	Male	10.29	11.21	0.92	9.0%
June-20	Male	10.40	11.37	0.97	9.3%
July-20	Male	10.24	10.83	0.59	5.7%
September-20	Male	10.41	10.86	0.45	4.3%
November-20	Male	10.62	11.62	1.00	9.4%

Month	Gender	GHQ-12 score average (2009-2019)	GHQ-12 score COVID-19 period	Raw Difference	Percentage change
January-21	Female	11.49	13.35	1.86	16.2%
March-21	Female	11.61	12.81	1.20	10.3%
April-20	Female	11.62	13.22	1.60	13.8%
May-20	Female	11.54	12.85	1.31	11.4%
June-20	Female	11.40	12.91	1.51	13.3%
July-20	Female	11.25	12.09	0.84	7.5%
September-20	Female	11.36	12.26	0.91	8.0%
November-20	Female	11.57	13.25	1.68	14.5%

6. Mental health by demographic and socio-economic characteristics in Wales

In this section we study the evolution of mental health outcomes before and after the pandemic using a set of demographic and socio-economic factors that we consider relevant to determine whether there has been an asymmetric effect on mental health. The purpose is to explore which groups have been most impacted by the pandemic.

Figure 8



Source: UKHLS Waves 1-11 and COVID-19 Study 2020 (Waves 1-8), Understanding Society.

There is plenty of evidence that suggests women have been hit harder than men by lockdowns and social distancing restrictions associated with the COVID-19 pandemic. For instance, (Adams-Prassl et al. 2020) find that women in the UK are more likely to have lost their jobs and also less likely to be able to work from home. In the same line, the ONS released data that suggest that a consistently greater number of women than men have been furloughed because of the pandemic.⁸ In Wales, Rodríguez and Ifan (2020) show that the economic disruption caused by the COVID-19 pandemic has negatively impacted women the hardest relative to men.

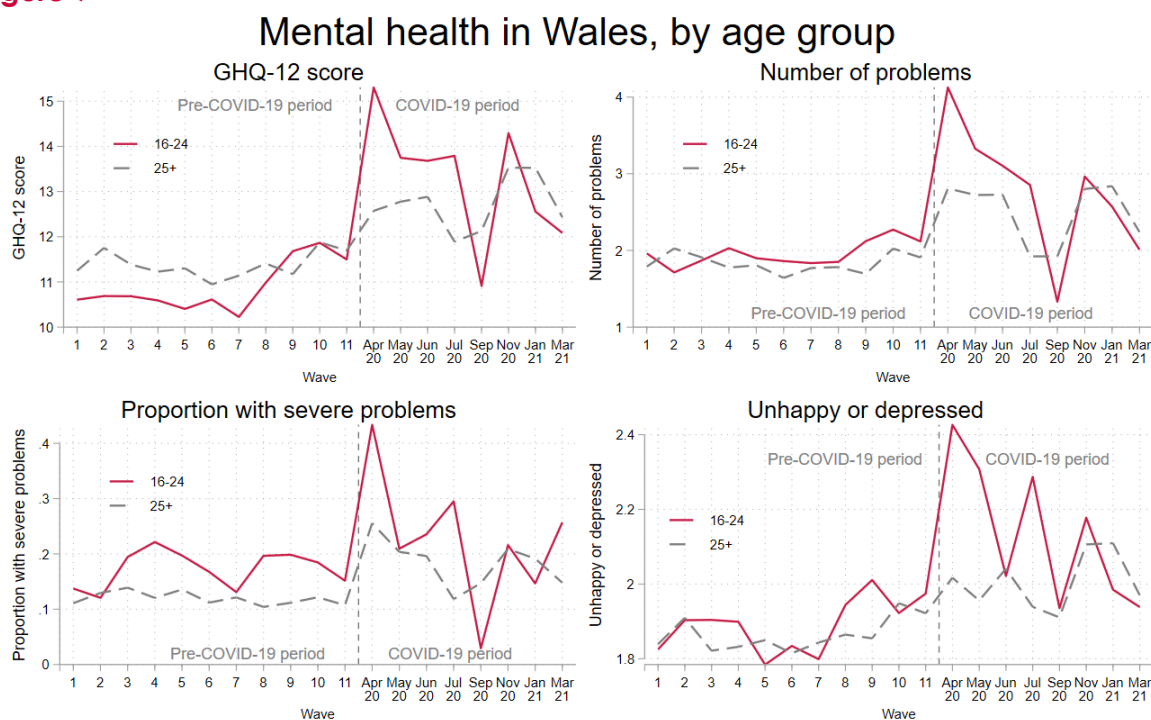
Furthermore, women spend significantly more time in home-schooling and taking care of the children, even if they are working from home or still employed. Similarly, the ONS finds that women regularly spent more time on unpaid childcare and unpaid household work throughout the pandemic.⁷ In terms of mental health, Etheridge and Spantig (2020) reveal that there has been a gender gap in mental health in the UK during the COVID-19 outbreak. The authors find that women experienced a decline in mental well-being twice as large as that of men during the pandemic. They also show that this higher deterioration can be explained by social factors (e.g. having larger social

⁸<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronavirusandthedifferenteffectsonmenandwomenintheukmarch2020tofebruary2021/2021-03-10>

networks), family responsibilities and financial circumstances. More recently, the ONS released data indicating women reported higher anxiety, depression, and loneliness than men in 2021.⁷

In **Figure 8**, we observe the performance of mental health in Wales by gender before and during the pandemic. Across the four mental health indicators there is a mental health gap between men and women before the pandemic. However, this gap widened during the COVID-19 period, particularly in the month after the first lockdown, April 2020. It is clear that after the onset of the pandemic there has been a detrimental impact on both women and men, but this impact has been greater for women.

Figure 9



Source: UKHLS Waves 1-11 and Covid-19 Study 2020 (Waves 1-8), Understanding Society.

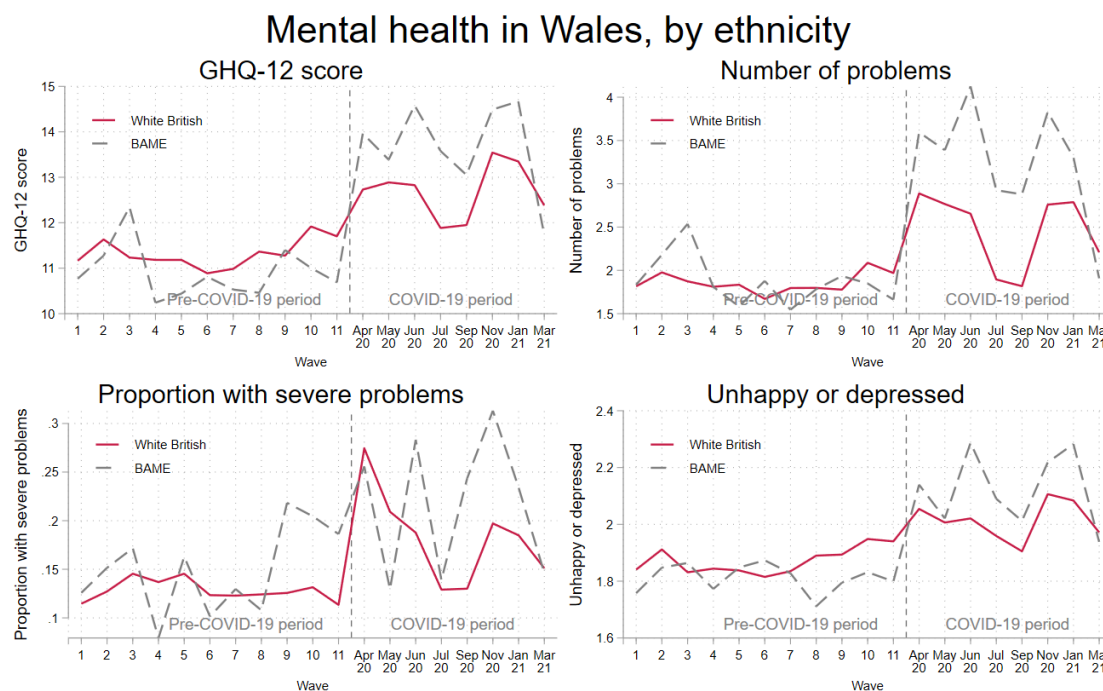
Other studies have shown that the economic disruption caused by coronavirus has been felt most acutely by younger workers. In the UK and US younger individuals are significantly more likely to experience a fall in their earnings (Adams-Prassl et al. 2020). In Wales, employees under the age of 25 were almost three times as likely to have been working in shutdown sectors during the pandemic (Rodriguez and Ifan 2020). In this regard, younger people are bearing the brunt of the COVID-19 crisis and facing uncertainties in terms of financial security, so we may expect more detrimental effects on mental health in younger individuals as well.

From **Figure 9**, we can observe both for the 'number of problems' and 'proportion with severe problems' a slightly higher level of mental distress for those aged 16-24 before the COVID-19 crisis. However, the mental health for this age group clearly worsens during the pandemic. Regarding the raw measure GHQ-12 score, the largest impact on young people occurred in April 2020 when the score reached 15.3 points for those aged 16-24, compared to 12.57 for those aged 25 and over. This means there was a gap of 2.73 points or 22% in relative terms between these two groups. In addition, during the pandemic period the average gap in mental health between young and older people was 0.71 points (5.6%).

It is important to mention that after the immediate onset of the pandemic, there was a reduction in the mental health gap between those aged 16-24 and 25+. We can see this fact in January 2021, when the mental health stress across all measures for those aged 25+ is higher than younger people.

It has been documented that Black, Asian, and minority ethnic (BAME) groups have substantially higher risk of COVID-19 related death (Razaq et al. 2020). The disparities in the COVID-19 mortality rate by ethnicity can be explained by a higher risk of poor outcomes once infected (e.g. in Wales BAME groups are more likely to suffer from health conditions as a result of poverty and income inequality), a higher risk of getting infected by COVID-19 (e.g. BAME groups in Wales are more likely to be employed as “key workers”, putting them at a higher risk of contracting the virus), or both.

Figure 10



Source: UKHLS Waves 1-11 and Covid-19 Study 2020 (Waves 1-8), Understanding Society.

The pandemic-related economic contraction and shutdown have also disproportionately affected ethnic minority groups. These disparities in the economic effect of the COVID-19 recession by ethnicity can be driven by financial instability, income loss and unemployment. For example, over two-fifths of workers of Bangladeshi ethnicity were employed in shut-down industries, three times the share of workers of White British ethnicity (Rodriguez & Ifan 2020).

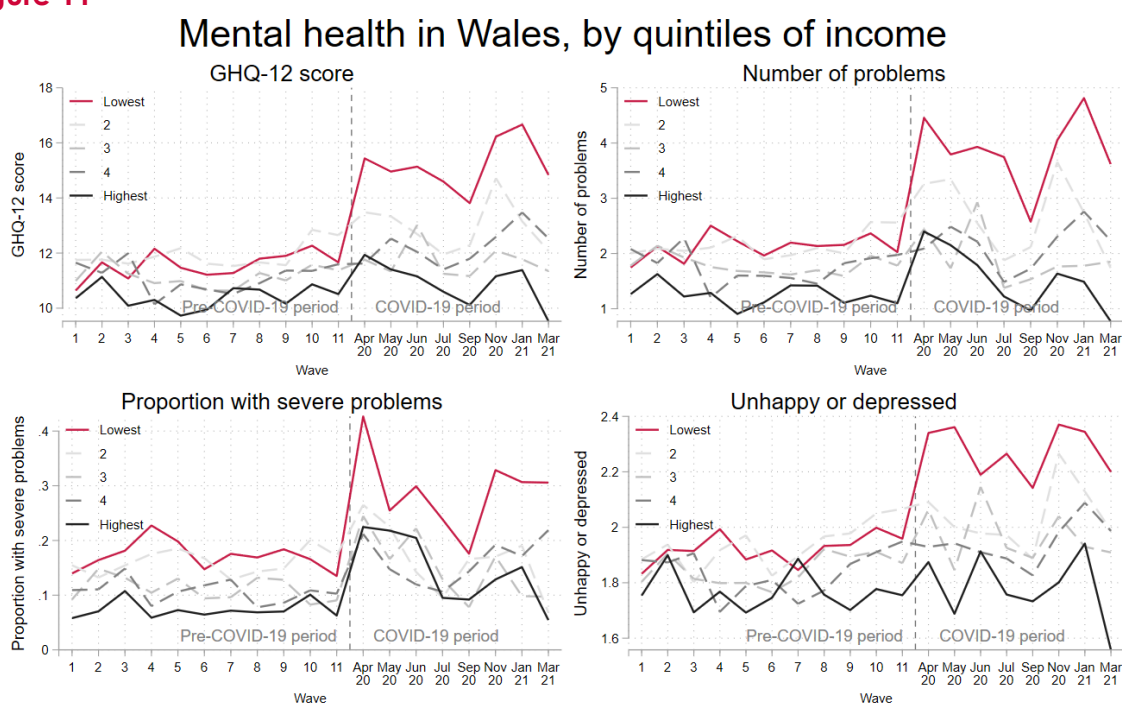
As expected, **Figure 10** shows that COVID-19 has negatively affected both White British and BAME groups in terms of mental health deterioration. However, this impact has been more detrimental for minority ethnic groups. For instance, in June 2020 BAME groups in Wales reported more than 4.1 problems associated with mental distress, whilst White British reported 2.7, this implies a difference of 1.4 problems or 55% in relative terms. In the pre-pandemic period, we do not see significant differences in the number of mental health problems between White and BAME individuals.

COVID-19 related research suggests that those who lost their jobs and suffered income shocks saw particularly sharp deteriorations in mental health (Wright et.al, 2020). In addition, by using quarterly British data from 2002-2016, Janke et al. (2020) established that mental well-being is negatively affected by bad economic outcomes. The authors estimate that a one percent increase in the employment rate leads to a 4.2% reduction in mental health conditions. The rationale behind this is that people from lower socio-economic conditions are more likely to experience adversities, (e.g., loss of income, employment, health condition), are more prone to being exposed to the virus and face challenges meeting basic needs. Moreover, the Health Foundation (2020) highlights the strong

relationship between health and income levels, the poorest 40% were already twice as likely to report poor health than the richest 20% before the COVID-19 pandemic.¹⁰

Almost half of the lowest-earning decile of Welsh workers worked in shut down sectors of the economy. This made them ten times more likely to have been affected by the shutdown compared with the highest-earning decile (Rodriguez 2020). **Figure 11** shows that the prevalence of mental health problems was higher for the lowest quintile of income in the pre-Covid-19 period, and this gap had been somewhat stable. However, COVID-19 has disproportionately affected the mental wellbeing of the lowest income quintile and the mental health gap between the lowest income quintile and the highest one has widened significantly. For instance, the GHQ-12 score in November 2020 for the lowest income quintile registered a value of 16.2, which means an increase of 4.6 points or 39% in relative terms compared to the last wave of the pre-COVID-19 period. In contrast, the highest income earners only experienced a deterioration in their mental health of 0.6 points or 6.5% over the same period.

Figure 11



Source: UKHLS Waves 1-11 and Covid-19 Study 2020 (Waves 1-8), Understanding Society.

¹⁰ <https://www.health.org.uk/publications/long-reads/living-in-poverty-was-bad-for-your-health-long-before-COVID-19>

7. Conclusion

In this paper we show evidence of a substantial mental health and wellbeing deterioration in Wales as a result of the COVID-19 pandemic and measures aimed to mitigate the spreading of the virus. This negative shock was more pronounced in April 2020 in terms of the 'number of problems' reported and the share of the population with 'severe mental health problems'. Reported levels of mental health also deteriorated during winter months as the prevalence of the virus again increased and lockdown measures were reimposed.

The pandemic and public health measures have had a range of consequences that could affect mental health, either directly through contracting the virus and the experience of severe symptoms or hospital admission, or indirectly through being unable to access services, being affected by loneliness and isolation, and experiencing economic hardship. All these factors have the potential to negatively impact the physical and mental health of the population, as well as reducing productivity and educational outcomes.

An NHS Confederation survey found that mental health is expected to be a main concern for future care.¹² We can expect a significant increase in demand for mental health services over coming years, especially considering the potential increases in unemployment and economic hardship resulting from the pandemic. Addressing these public policy challenges will need to be at the top of the Welsh Government agenda after the pandemic.

It is crucial for policymakers and the public to know whether some specific socioeconomic and demographic groups have been more affected by the COVID-19 pandemic in terms of mental wellbeing. From the descriptive analysis in this report, we conclude that mental health in Wales has deteriorated substantially as a result of COVID-19 for the whole population. The impact has not been distributed equally in the population, with the negative effects disproportionately affecting younger adults, women, low-income earners, and ethnic minorities, which are groups that already experienced lower levels of mental health before the onset of the pandemic.

¹² <https://www.nhsconfed.org/publications/nhs-reset-new-direction-health-and-care>

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**Replication file for the paper: " Covid-19 and the Welsh economy: mental health and wellbeing impact" **

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