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How does working from home affect health and wellbeing?

Key findings from a national survey in Wales during the COVID-19 pandemic

Date: December 2022

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Summary

- This evidence briefing summarises the key findings from a recent journal article Exploring the health impacts and inequalities of the new way of working: findings from a cross-sectional study.
- We report data from the second wave of the COVID-19, Employment and Health in Wales survey. Data was collected between November 2020 and January 2021, coinciding with the second wave of the pandemic in Wales.
- Within the context of more recent data, we consider the applicability of our findings from the pandemic for home working practices now. We reflect on which segments of the population are best equipped for working from home, and most open to doing so, while also exploring the ways in which home working might impact the health and wellbeing of the workforce.
- These insights are useful as UK nations consider how more remote ways of working can be adopted while fulfilling existing goals of providing fairer and greener employment for the future.

Background

The COVID-19 pandemic has transformed the way we work. Orders to work from home were first issued in March 2020 to limit the spread of the virus. While these legal restrictions were lifted in Wales in January 2022, the transition to more remote ways of working has persisted. In Wales, latest ONS figures suggest that nearly a third (30.4%) of people mainly work from home – more than double the proportion doing so pre-pandemic (12.4%). Additionally, more than 1 in 10 (11.5%) of those not working mainly from home report working from home at least once a week.

Unlike other UK nations, Wales is actively encouraging and promoting a remote working strategy, aiming to provide more choice and flexibility in determining working models going forward. The ambition is to see 30% of the workforce working remotely on a regular basis, which is in line with the most recent statistics. According to the Welsh Government, this can provide benefits to the environment through reducing congestion, whilst also increasing opportunities for participation in fair work, another of their key policy commitments.

Despite the fact that these changes were largely brought forward in response to experiences during the pandemic, we have little evidence to demonstrate the ways in which home working impacted the population's health during this time.

A Health Impact Assessment (HIA) carried out by Public Health Wales in 2020 suggested that more remote ways of working could both benefit and harm health and wellbeing (e.g., while home working can improve work life balance, it can also increase isolation and stress; home working may be associated with more sedentary lifestyles and in turn increased risk of obesity). The HIA also highlighted issues of equity for those that may be less able to work from home e.g., due to digital exclusion.

In this evidence briefing, we provide new evidence on home working, capturing the experiences of those in employment during the COVID-19 pandemic, and answering the following three questions:

1. **Who was able to work from home?**
2. **How does working from home impact people's health and wellbeing?**
3. **Which models of work do people prefer for the future?**

Our Approach

Methodology

Between May 2020 and January 2021 Public Health Wales carried out a household survey called the *COVID-19 Employment and Health in Wales Study*.

The study was completed in two waves. In wave 1 (May-June 2020), adults (aged 18-64 years) living in Wales and in any type of employment were recruited through a push to web household survey. Those who consented to follow up were asked to complete a second survey between November 2020 and January 2021 (wave 2). The findings reported within this briefing are from those who responded to wave 2 – equating to 615 adults.

Due to the survey design, these findings represent the views of those in employment (including self-employment and furlough) during the pandemic. They may not reflect the views of those not in work or those in full-time education during that time. Full details of our methodology can be found here.

Analysis

We conducted Chi^2 analyses to explore whether responses to our three key questions varied dependent on sociodemographic factors, employment and income, or health. We report weighted proportions for key findings where these analyses found significant relationships (p = 0.05). Whole sample descriptives are also presented as weighted proportions of survey respondents. The weights applied were based on mid-year 2018 population estimates (see ONS).

To explore whether these relationships were still significant when adjusting for variability across all other factors[1], we ran logistic regression models. Odds ratios were reported where key findings were statistically significant.

All respondents provided responses to Questions 1 and 3, while only those able to work from home provided answers to Question 2 (N = 299).

A full account of our results can be viewed here.

1 The factors adjusted for include age group, gender, deprivation quintile, highest qualification level, employment contract, wage precarity, furlough status, job skill level, general health, mental wellbeing and the presence of limiting pre-existing conditions.

Key findings

1. Who was able to work from home?

Our findings suggest that as of November 2020/January 2021, nearly half (48%) of adults in employment in Wales were able to work from home. However, the data also highlights that the ability to work from home varied across population groups.

Demographic characteristics

- The ability to work from home was not associated with age.
- Women were nearly twice as likely as men to report being able to work from home (adjusted odds ratio aOR = 1.85; 95% confidence interval 95% CI = 1.11-3.08).
- A significantly smaller proportion of respondents that lived in the most deprived areas reported being able to work from home (WIMD 1 = 36.5%; WIMD 5 = 62.8%).
- Half of those that lived with others reported being able to work from home (50.3%) compared to just over a third of people who lived alone (36.4%).
- A higher proportion of those with children in their households said they could work from home (56.4% compared to 43.2% for those without).

Deprivation was derived from the postcodes of respondents and calculated using the Welsh Index of Multiple Deprivation.

Health characteristics

- The proportion of adults in employment who reported being able to work from home was not dependent on general health.
- Less than a third (32.6%) of people with poorer mental wellbeing reported they were able to work from home compared to half (50.3%) of people with better mental wellbeing.
- 4 in 10 of those who said they were living with limiting pre-existing health conditions said they were able to work from home, compared to 5 in 10 people without such a health condition.

Job characteristics

- The likelihood of reporting being able to work from home was lower for:
  - those experiencing high (as opposed to low) wage precarity (aOR = 0.29; 95% CI = 0.15-0.55).
  - those that were in atypical (as opposed to permanent) employment (aOR = 0.11; 95% CI = 0.01-0.88).

Wage precarity was computed from total personal income from main job, and the extent to which this income covers basic needs and unexpected expenses. Higher wages and being able to cover costs more regularly were indicative of lower wage precarity and vice versa.

Atypical employment includes those with temporary, non-fixed term, or zero hour contracts; and those in work but without an employment contract

Key message

Not all adults in employment reported being able to work from home. Men and those living alone were less likely to be able to do so. Several population groups that often face additional employment related insecurities were also less likely to be able to engage in home working. These included those living in more deprived areas, those in non-permanent job joles, and those with poorer mental and physical health. However, differences by health and household circumstance may be related to demographics and/or type of employment.

2. How does working from home impact people's health and wellbeing?

Self-reported reflections during the pandemic

We asked respondents to reflect on the ways in which they felt home working impacted their health and wellbeing during November 2020 and January 2021.

The proportions in Figure 1 show that, amongst adults in employment in Wales who stated they were able to work from home (N = 299):

- 1 in 2 (48.1%) reported increased feelings of loneliness.
- 1 in 2 (45.1%) felt home working had worsened their mental wellbeing.
- People were more likely to feel that working from home had worsened their health behaviours, however some did report a beneficial impact:
  - 1 in 4 (25.7%) felt that their alcohol consumption worsened, but some (5.7%) reported drinking less.
  - Nearly 4 in 10 (37.8%) thought that their levels of physical activity decreased, whereas around 3 in 10 (30.8%) thought they had improved.
  - More than 1 in 3 (34%) felt that their healthy eating habits had worsened, but more than 1 in 4 (26.5%) thought that they had improved.

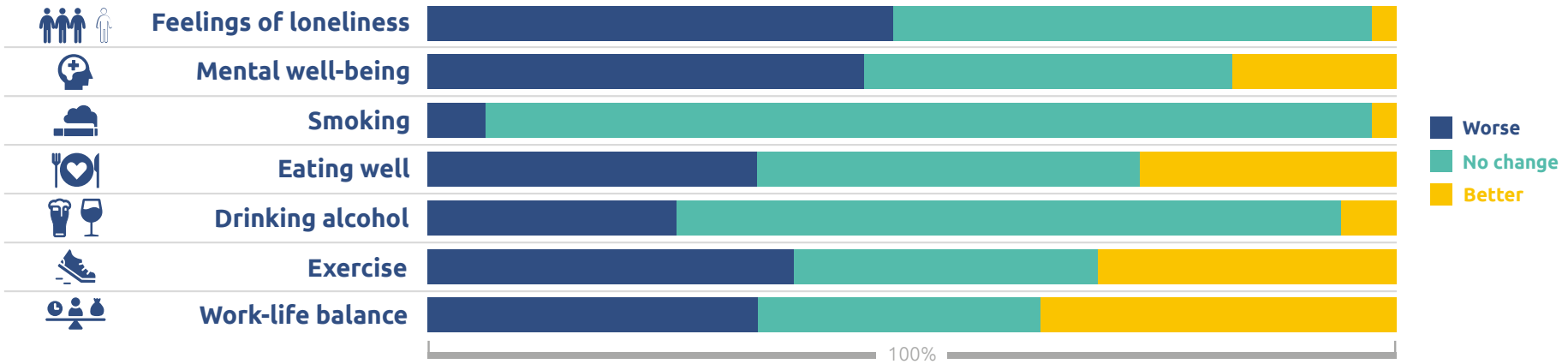
Demographic characteristics

Some population groups were more likely to report a detrimental impact to health and wellbeing as a result of home working, with age appearing to be an important factor:

- Young people in their 30s were more likely than those in their 40s to say that when they worked from home:
  - they felt lonelier (aOR = 3.32; 95% CI = 1.24-8.88).
  - their diet worsened (aOR = 4.56; 95% CI = 1.44-14.44).
  - they exercised less (aOR = 6.10; 95% CI = 1.76-21.15).
- A higher proportion of women reported feeling lonelier (55.4% compared to 38.8% for men).
- Similar proportions of those living in each deprivation quintile reported each health and wellbeing outcome.
- Those that lived alone were more likely to report feeling lonelier when working from home (70.5% compared to 43.2%).
- Having children in the household was not associated with any health impacts of home working.

Figure 1. Self-reported health impacts of working from home (Nov 2020 – Jan 2021)

Based on responses of all those reporting being able to work from home (N = 299). Proportions weighted against Welsh adult population estimates in 2018.



Health Characteristics

- People reporting poorer general health were more likely to report deteriorations in their:
  - diets (aOR = 7.24; 95% CI = 2.33-22.49).
  - levels of physical activity (aOR = 5.26; 95% CI = 1.72-16.12).
  - smoking habits (aOR = 7.94; 95% CI = 1.03-61.43).
  - alcohol consumption (aOR = 2.73; 95% CI = 1.05-7.10).
- Those with poor mental wellbeing were more likely to say that working from home had made them lonelier (aOR = 18.98; 95% CI = 3.53-102.07), and more likely to say their mental wellbeing had deteriorated as a result of home working (aOR = 4.44; 95% CI = 1.25-15.79). Half of these individuals also reported that their alcohol use worsened (48.4% compared to 22.8%), and that their work life balance had deteriorated (54.8% compared to 31.7%).
- Compared to those living without such conditions, a higher proportion of people living with limiting pre-existing health conditions reported that working from home worsened their mental wellbeing (61.4% compared to 41.7%) and their work-life balance (53.5% compared to 31.3%).

Job Characteristics

Amongst those who could work from home;

- More than half (51.7%) of those with low wage precarity reported a deterioration in their levels of physical activity. The proportion reporting a deterioration in physical activity was lower amongst those with moderate (29.3%) or high (35.1%) levels of wage precarity.
- Half of those in self-employment reported a deterioration to their work-life balance, while only 1 in 10 reported an improvement. In contrast, there was more variation in the reported impact on work life balance amongst those with permanent contracts, with similar proportions reporting positive and negative impacts.

Key message

During this challenging time, approximately 50% of our survey respondents who could work from home felt that doing so worsened their mental wellbeing and increased feelings of loneliness.

While the impacts on these two aspects of health and wellbeing were largely negative across respondents, reports of impacts on work-life balance, diets and physical activity were more varied, with similar proportions reporting both positive and negative impacts. However, some groups were more likely to report deteriorations for several aspects of health, including younger people and those with poorer health.

As this survey captured working from home during a pandemic, it is not possible for us to separate out the direct effects of working from home from the context of a pandemic and wider restrictions on social contacts on mental health.

Given these variations in health impacts, we wanted to explore preferences for future home working, and how they might differ dependent on demographics, job characteristics and crucially, health.

3. Which models of work do people prefer for the future?

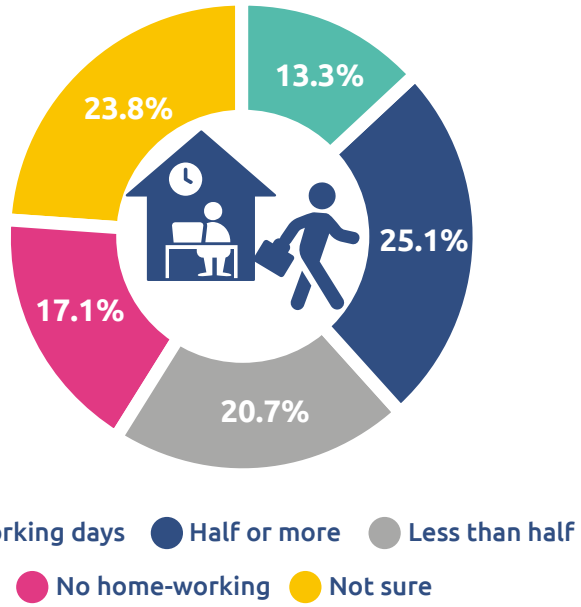
Preferences for time spent working from home

We asked all respondents (regardless of ability to work from home) to tell us their preferences for time spent working from home in the future.

The proportions in Figure 2 show that:

- 3 in 5 adults in employment in Wales (59.1%) wanted to spend at least some or all of their working week working from home.
  - Almost half (45.8%) preferred a hybrid approach.
  - More than 1 in 8 (13.3%) wanted to work from home all the time.
- Nearly 1 in 5 (17.1%) wanted to avoid home working entirely.

Figure 2. Preferences for number of days spent working from home every week (Nov 2020 – Jan 2021). All respondents. Proportions weighted against Welsh adult population estimates in 2018.



Demographic characteristics

- Those in their 30s were less likely to want to work from home every working day than those in their 40s (aOR = 0.29; 95% CI = 0.09-0.96).
- Women were nearly 3 times more likely than men to say they wanted to work from home all the time (aOR = 2.63; 95% CI = 1.06-6.50).
- 1 in 4 (26.1%) of those living in the most deprived areas said they wanted to avoid home working (compared to 15.5% in the least).
- Individuals who lived alone were twice as likely to say they wanted to avoid working from home entirely (aOR = 2.40; 95% CI = 1.05-5.50).
- A higher proportion of people with children in their households wanted to spend all week (19.6% compared to 10%), or at least half the week (27.3% compared to 23.8%) working from home.

Health characteristics

- Preferences for future home working were not associated with general health.
- Across all respondents, 3 in 10 of those with low mental wellbeing wanted to spend less than half the week working from home (compared to 2 in 10 for those with average mental wellbeing). Only 15.1% of those with low mental wellbeing wanted to spend more than half the week home working (compared to 27.3%).
- Living with limiting pre-existing conditions did not shape preferences for future home working.

Job characteristics

Certain population groups were more likely to express uncertainty about their preferences for future home working. These included individuals:

- with high wage precarity (aOR = 4.32; 95% CI = 1.69-11.05).
- in atypical employment (52.6% unsure, compared to 22.9% among the permanently employed).

These same groups were also more likely to say they were unable to work from home at the time. Our findings cannot dissect whether their uncertainty arises from having limited experience of working from home, or whether the fact that at that moment, they were unable to work from home raised doubts about its future feasibility for these groups.

Looking at how preferences for days spent home working every week compared across those that were and were not able to work from home between November 2020 and January 2021 helps shed some light on this matter:

Figure 3. Preferences among those **able to work from home** (N = 274[2])

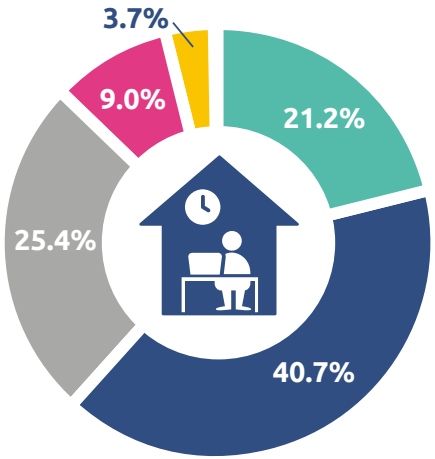
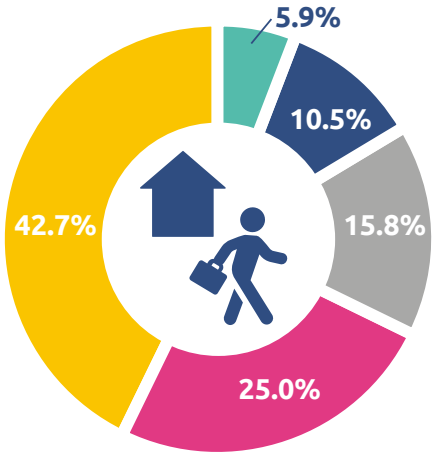


Figure 4. Preferences among those **not able to work from home** (N = 302[2])



All working days | Half or more | Less than half | No home-working | Not sure

Among those **able to work from home**, 87.3% wanted to continue home working (21.2% full-time; 66.1% hybrid), while just 9% wanted to stop. Only 32.2% of those **unable to work from home** wanted to do so going forward, with 42.7% saying they were uncertain of their preferences.

[2]N excludes those that did not provide a response to Question 3

Key message

Most people want to spend at least some time working from home, with hybrid approaches preferred by many.

Along the spectrum of preferences for home working, some groups were more likely to indicate a preference for spending less time working from home e.g., those in their 30s, those living in the most deprived areas, those that lived alone and those with low mental wellbeing.

Individuals that were unable to work from home during the pandemic were more uncertain of their preferences for the future, while those that were able to work from home showed a clear preference for continuing to do so.

This preference for continued home working amongst those who were able to work from home is despite the reported negative impacts of health and wellbeing, as outlined above. There may be other benefits to working from home, beyond health, which have not been captured.

When looking to the future, beyond the specific circumstances of the second wave and any associated restrictions to ways of working, respondents may have sought to balance the benefits of home and site-based work through adopting more hybrid ways of working.

Comparisons to other data

The ability to work from home

Our finding that around half of adults in employment in 2020/21 (52%) were not able to work from home is reflected in other studies. Data from the UK Household Longitudinal Study in September 2021 reported that 1 in 2 of the UK population were still working from home to some extent. Furthermore, in their analysis of data from the Understanding Society COVID-19 study, Felstead and Reuschke (2020) showed that only 43.1% of UK workers always worked from home in April 2020 (when restrictions determining that only those unable to work from home should attend their workplace were in place). This suggests that 56.9% were not always able to work from home at this time. In addition, others have also highlighted that those living in the most deprived areas, those in atypical employment, and those with high wage precarity are less likely to be able to work from home.

The health impacts of home working

Public Health Wales' Health Impact Assessment in 2020 suggested that home working could lead to more sedentary lifestyles and increased risks of obesity – we found evidence of such effects, particularly for those in their 30s and those in poorer health. Our study provides novel insights into the experiences of workers in Wales with poorer health as they worked from home during the pandemic. These individuals were more likely to say that their smoking habits and levels of alcohol consumption had worsened as a result of home working. Furthermore, those with worse mental wellbeing and those living with limiting pre-existing conditions were more likely to feel that their mental wellbeing had deteriorated, with the latter group also more likely to report that their work-life balance had been negatively affected.

The self-reported impacts of working from home on mental wellbeing and isolation that were found in our study are comparable to those reported elsewhere. For example, Felstead and Reuschke (2020) also reported that those who worked from home full-time during the UK's first national lockdown reported significant deteriorations in their wellbeing. Whereas those able to work at home part-time were found to have better outcomes.

Later evidence collected during the second wave of the pandemic suggests that these detriments to wellbeing persisted. Data from the UK Household Longitudinal Study in January 2021 showed that psychological distress was higher amongst those who had worked from home on any occasion in the four weeks prior to interview.

While our respondents felt that it was home working that produced the negative health outcomes reported, account must be taken of the possibility that other co-occurring factors such as societal shutdown and social isolation played their part. Unpicking whether these detriments were a direct result of home working, or a combination of pandemic related stressors is challenging (Bertino et al. 2021).

However, more recent data from the UK Household Longitudinal Study in September 2021 (when the majority of UK COVID-19 legal restrictions were lifted) demonstrated some improvements. Levels of loneliness amongst those working from home were lower compared to those who do not work from home. While levels of psychological distress had also decreased among both those that did and did not work from home by this timepoint, the reverse pattern was found, where psychological distress remained higher for those still working from home (22% compared to 18%).

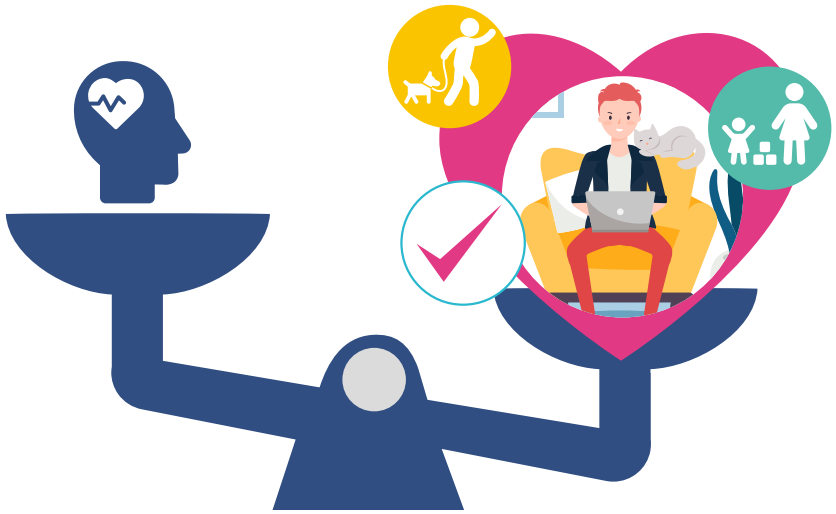
It is difficult to fully understand whether this reflects that those experiencing higher levels of psychological distress did so due to home working and the move away from site-based work, or whether poorer mental wellbeing reduced the likelihood that people returned to the workplace. One factor to consider is the extent to which people were able to select their working environment. Nonetheless, our findings highlight the importance of a proactive approach to supporting the mental wellbeing of the workforce, in particular those working from home.

Preferences for the future

The preferences for future working models that we report (taken between November 2020 and January 2021) are comparable to findings from the ONS Opinions and Lifestyle Survey in February 2022. In both cases, a large majority who worked from home during the pandemic, want to continue to do so (with the majority preferring a hybrid model). The ONS data shows that in Wales, 30.4% of workers reported working mostly from home. Of those that worked from home during the pandemic, 80% reported wanting to adopt a hybrid approach moving forward (compared to our 66%). Many therefore welcomed home working, yet combining it with working on-site was preferable on the whole.

While this is the most recent data we are aware of giving the employee's perspective, from an employer's perspective, latest ONS figures from the Business Insights and Conditions Survey in August 2022 show that 35% of employers said that their employees worked from home at least once a week (21% one to two days; 14% three or more). Home working, be that fully or through hybrid models, is therefore still prevalent.

The persistence of home working practices in 2022 suggests that people value some of the benefits it can offer over site-based work, with these gains possibly outweighing the costs to mental wellbeing as workers decide how to spread their time.



Limitations

It must be considered that this data was collected during a very challenging time in the pandemic. Our findings therefore may not reflect longer term views relating to working from home, particularly as working patterns have evolved as COVID-19 related restrictions have relaxed. While the similarities between our data (collected between November 2020 – January 2021) and that collected in February 2022 within the ONS Opinions and Lifestyle Survey suggest that preferred working models could have stayed relatively consistent, we don't know whether people's perceptions of the ways in which home working affects their health and wellbeing have now changed as hybrid working patterns have become more accessible, and pandemic-related stressors have become less prominent e.g., removal of requirement for social distancing.

It should also be noted that those who responded to our survey may not be representative. Women and older responders were over-represented in the data collected. Although the figures reported here are weighted to better reflect the Welsh population, there are likely some variations within those groups under-represented that our survey was unable to capture.

While we have highlighted the potential impacts on mental wellbeing in a cross-sectional sample, in the absence of individual level data over time, it is difficult to ascertain the longer term impacts of full-time or hybrid home working. Gaining a better understanding of these differences across working patterns will enable the intuitive development of working models and health and wellbeing practices that strike the right balance for different employees and their differing needs.

Considerations for action

The insights on the health and wellbeing impacts of home working reported here only offer a snapshot view of conditions during the pandemic – continued evaluation of full and hybrid home working practices is needed to capture all benefits and potential harms to health, whilst also taking into consideration the wider context. Such data would help shape remote working strategies going forward, and help ensure the benefits to health are fully realised and potential harms minimised, across population groups.

The preference for hybrid working has persisted, and home working remains prevalent. The focus on "voice, choice and flexibility" within the Welsh Government's remote working strategy is welcome - offering greater autonomy and flexibility in terms of ways of working is in alignment with the principles of fair work that is good for health.

Efforts to increase the uptake of remote working should ensure that those living in the most deprived areas, those in atypical employment and those with high wage precarity are not excluded. Those that were unable to work from home during the pandemic were more uncertain of their preferences for the future, and may need additional support in accessing more flexible work. Where home working is not possible, fair access to other flexible ways of working might be achieved through offering adjustments to working patterns e.g., condensed or flexible hours. The accessibility of flexible work should be considered within remote working support (e.g., Healthy Working Wales) and Welsh Government's strategies relating to remote working, fair work, transport and the economy.

Those that worked from home during the pandemic reported deteriorations to mental wellbeing and loneliness. More recent data has suggested that psychological distress remains slightly higher in those working from home.
Action must be taken to:

- ensure that these latest figures are not indicative of those experiencing greater psychological distress being more likely to remain working from home due to facing additional barriers in returning to site-based work.
- proactively support home workers in maintaining social contact and protecting their mental wellbeing (, employer Mental Wellbeing Impact Assessments (see the HIA report)).

Working from home had mixed effects on physical health. While a higher proportion reported worsened diets and decreases in physical activity, more than 1 in 4 said that their diets and levels of physical activity had improved. We must ensure that these benefits are realised by a greater proportion of home workers, and that we protect against the challenges to health (particularly amongst those most likely to report them e.g., young people, people with poorer health).

Embedding tools known to be successful in maximising benefits to health and reducing potential harms should be a priority. Those already working to increase employee and employer understanding of how to improve the health impacts of home working should be supported in expanding this work e.g., Healthy Working Wales.

You may be interested to read (Related reports)

- Griffiths ML, Gray BJ, Kyle RG, Davies AR. Seeking good work in the COVID-19 recovery: shifting priorities and employment choices among workers. Journal of Occupational and Environmental Medicine. 2022. Advance online publication.
- Gray BJ, Kyle RG, Song J, Davies A.R. Characteristics of those most vulnerable to employment changes during the COVID-19 pandemic: a nationally representative cross-sectional study in Wales. Journal of Epidemiology and Community Health. 2021;76(1):8-15.
- Green L, Lewis R, Evans L, Morgan L, Parry-Williams L, Azam S and Bellis MA. 2020. A COVID-19 pandemic world and beyond: The public health impact of Home and Agile Working in Wales. Summary Report. Cardiff, Public Health Wales NHS Trust.

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Public Health Wales

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ISBN 978-1-83766-110-7

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National **Centre for Population Health** & Wellbeing Research

National Centre for Population Health and Wellbeing Research

The National Centre for Population Health & Wellbeing Research, funded by the Welsh Government through Health and Care Research Wales, brings together a world-class team of researchers, statisticians and data analysts from the Universities of Swansea, Cardiff, and Bangor alongside Public Health Wales to understand, evaluate and inform population health improvements.

Funding Statement:

Public Health Wales is an NHS organisation providing professionally independent public health advice and services to protect and improve the health and wellbeing of the population of Wales. Public Health Wales is an NHS organisation providing professionally independent public health advice and services to protect and improve the health and wellbeing of the population of Wales. Production of this report was supported by Public Health Wales on behalf of the National Centre for Population Health & Wellbeing Research, which is funded by the Welsh Government through Health and Care Research Wales. The funded authors worked collaboratively with Public Health Wales and the National Centre for Population Health & Wellbeing Research, however, the views in this report should not be assumed the same as those of Public Health Wales and the National Centre for Population Health & Wellbeing Research.