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A COVID-19 pandemic world and beyond: The public health impact of Home and Agile Working in Wales

Supporting Information Report

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Section 1 – Methodology

The European Centre for Health Policy (1999) Gothenburg Consensus is widely accepted as the seminal definition of Health Impact Assessment (HIA), and defines it as:

'A combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population'[1]

Health Impact Assessment (HIA) is a process which supports organisations to assess the potential consequences of their decisions on people's health and well-being. Currently, it is not statutory in Wales. However, the ***Public Health (Wales) Act 2017***[2] has legislated that HIA will become statutory for public bodies in specific circumstances; this will likely take effect from 2021-22. HIA also supports the implementation of the ***Well-being of Future Generations (Wales) Act 2015***[3] through the ability to address and maximise 'A Healthier Wales' and 'A more Equal Wales' Well-being Goals as part of a 'health in all policies' approach.

A major objective of a HIA is to inform and influence decision-making or policy; however, it is not a decision-making tool per se. HIA provides an evidence based systematic, yet flexible and practical framework that can be used to consider the wider effects of local and national policies or initiatives and how they, in turn, may affect people's health and well-being – in the present and in the future.

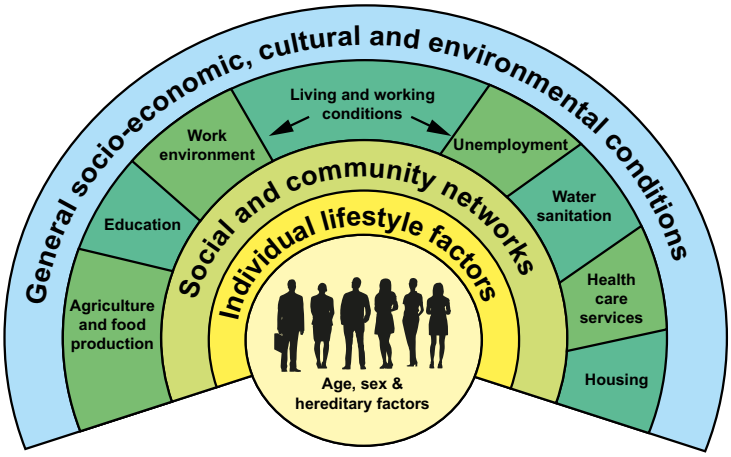
HIA, as practised in Wales, is grounded in the World Health Organisation (WHO) definition of health and well-being (WHO, 1948) which encompasses physical, mental and social health and well-being. HIA also views population impact through the lens and framework of the social determinants of health. This framework considers not just the biophysical and environmental health impacts that can be derived from policies, proposals and plans but also assesses the social factors that can have an impact and the population groups which are affected. These factors, such as environment, transport, housing, access to services and employment can all interact to a greater or lesser extent with an individual's behaviours and genetic makeup to influence health and well-being. The diagram over-page summarises the relationship between these determinants.

1 European Centre for Health Policy. Health Impact Assessment: Main concepts and suggested approach (Gothenburg Consensus Paper). [Online]. Available at: https://web.archive.org/web/20061007033923/http:/www.who.dk/document/PAE/Gothenburgpaper.pdf (Accessed 22 October 2020).

2 National Assembly for Wales. Research Briefing. Public Health (Wales) Act 2017 – Act Summary. Available at: https://senedd.wales/research%20documents/public%20health%20(wales)%20act%202017/17-025-web-english.pdf (Accessed 10 September 2020)

3 Well-being of Future Generations (Wales) Act 2015. Available at: https://www.legislation.gov.uk/anaw/2015/2/contents/enacted (Accessed 10 September 2020)

Figure 1: A social determinants of health and well-being framework



Source: Dahlgren and Whitehead (1991)[4]

HIA can be used to help address the persistent inequalities in Wales by identifying any groups within the population who may be particularly affected by a policy, plan, or proposal.

HIA is based on triangulation of health intelligence and data, stakeholder knowledge / evidence and a review of the literature including peer reviewed research. As practised in Wales, HIA is grounded in this mixed methodological approach and embraces community and lay knowledge. HIA works best when it involves people and organisations who can contribute different kinds of relevant evidence, contextual knowledge and insight. The information is then used to identify measures to maximise opportunities for health and to minimise any detrimental impacts and identify any 'gaps' that need to be filled. Wales emphasises the inclusion of all stakeholders including local community citizens as part of the process. Including this type of qualitative evidence is important to assess individual and community concerns, anxiety and fears, for example, and data can be quantified for use in decision-making and / or mitigation and can give a more holistic, contextual view of impacts.

There are three main types of HIA - prospective, concurrent and retrospective.

- *Prospective HIA* – at the start of the development of a project, proposal or plan
- *Concurrent HIA* – runs alongside the implementation of the project (or policy)
- *Retrospective HIA* - assesses the effect of an existing project or policy and can be used as an evaluation tool. Retrospective assessments can also be utilised for unexpected events, as a way of learning lessons for the future.

HIA is best used prospectively during the development of a proposal. The process should be activated late enough in a proposal's development to be clear about its nature and purpose, but early enough to be able to influence its design and / or implementation.

Within any of the above, HIA can take one of three different forms depending on the focus and the time and resources available - desktop, rapid or comprehensive. A desktop HIA may take only a few hours or a day to execute; a rapid HIA may take a few days to a few months to complete; and a comprehensive HIA is more in-depth / time and resource intensive and can take many months to complete. The most appropriate type to conduct can be decided through a short scoping meeting and discussion of timeframes and resources and levels of stakeholder involvement.

4 Dahlgren G and Whitehead M (1991) "Policies and strategies to promote social equity in health. Background document to WHO - Strategy paper for Europe," Arbetsrapport 2007:14, Institute for Futures Studies. (Accessed 19 August 2020)

Often, however, any particular HIA may fit in between two of these categories, as the approach taken will be determined by the nature of the proposal, the timescales involved and the human, organisational and financial resources available to undertake the process.

HIA is also based on a number of key principles and values – these include equity, robustness, transparency, ethical use of evidence, participation, sustainability and democracy (see Figure 2).

Figure 2:

Health Impact Assessment (HIA) Process							
Evidence – peer reviewed; qualitative; quantitative; health intelligence; stakeholder							
Principles and Values							
Ethical	Equitable	Transparent	Open	Robust	Participatory	Sustainable	Democratic

There are a number of ways in which the potential impacts may be described. Where possible, the following should be assessed:

- **The nature of the impact** - how will the proposal affect health and will the impact be positive or negative? Will it be direct or indirect i.e. via a direct pathway as an associated impact?
- **The likelihood of the impact** - is the likelihood of the impact of the proposal confirmed, probable or possible? (see Glossary in Summary Report)
- **The scale and significance of the impact** - what proportion of the population is likely to be affected? How significant or minimal will the impact be (i.e. will it cause mild distress, improve well-being or increase mortality?)
- **The timing of the impact** - will the impact be in weeks, months, years? In some instances impacts may be negative in the short term, but in the longer term may be beneficial
- **The distribution of the effects** - will the proposal affect different groups of people in different ways? A proposal that is likely to benefit one section of the population may not benefit others. In some cases, the assessment will identify ways in which those worst affected, most disadvantaged or particularly vulnerable populations could be helped. This can be an important contribution to reducing the health inequalities that exist between some communities.

There are five main steps to HIA (see Box 1). However, it does not need to be a linear process and HIAs are most useful and effective when the process is iterative. It is systematic yet flexible to particular timescales and circumstances. The five steps are:

Box 1. HIA Process

1. **Screening:** does the proposal or plan have an impact on population health?
2. **Scoping:** what resources, timeframes, policy windows, evidence need to be considered? Does a Steering Group need to be established? Roles and responsibilities of any Steering Group
3. **Appraisal / Assessment of evidence:** triangulation of qualitative and quantitative evidence and health intelligence
4. **Reporting and recommendations:** construction of HIA report and any non-technical summary
5. **Review and reflection:** including monitoring and evaluation – did the HIA and any findings have an impact on health and well-being or decision-making process?

The Home and Agile Working HIA Process

This HIA is a participatory comprehensive HIA and was undertaken between June and August 2020.

This section describes how the HIA was carried out, who was involved, and the methodological approach taken. It followed the 5-step standard process contained in Box 1.

This HIA was iterative and followed the systematic methodology described in the Welsh HIA guidance of 'Health Impact Assessment: A Practical Guide' Wales Health Impact Assessment Support Unit (WHIASU), (2012)[5]. WHIASU checklists[6] were used in the assessment to ascertain the impact on population groups and determinants of health and well-being.

A Public Health Wales (PHW) Working Group was established to oversee and carry out the HIA.

Scoping and screening of the potential public health impacts of home and agile working took place virtually.

A half-day interactive screening session was undertaken via Skype and involved the following from WHIASU and the Policy Teams of the WHO Collaborating Centre (CC) on 'Investment for Health and Well-being' at Public Health Wales:

- Sumina Azam, Consultant in Public Health / Head of Policy
- Laura Evans, Public Health Practitioner
- Liz Green, Programme Director for HIA
- Richard Lewis, Programme Manager, Health and Sustainability Hub
- Laura Morgan, Public Health Practitioner
- Lee Parry-Williams, Senior Public Health Practitioner

The participants considered how a wide range of groups could be affected in Wales by working from home and which determinants may be particularly impacted upon, utilising the WHIASU checklists. The session was informed by a range of evidence that had been reviewed beforehand, and included academic literature, organisational reports and publications, and any published stakeholder perspectives. The Working Group completed a screening paper that preliminarily identified the potential determinants, populations and areas of policy focus that could be affected by the policy. This is contained in Section 5 of this report.

The impacts to be explored further included:

- Population Groups: women, men, older people, young people and young adults; those on low incomes, key workers; lone parents, those with physical and learning disabilities and challenges, black, asian and minority ethnic (BAME) groups and families
- Behaviours affecting health: diet / nutrition, physical activity, use of alcohol, risk taking behaviours
- Social and Community factors: social isolation, community and regional differences, family life
- The impacts on mental well-being
- Economic conditions: types of employment, income, productivity and local economies
- Access to services: health and social care, education, other municipal services
- Environment: housing / homeworking environment, working conditions, transport and travel and office space and infrastructure
- Macro socioeconomic: digital infrastructure and digital skills and literacy, organisational and government policies.

5 Wales Health Impact Assessment Support Unit (WHIASU) (2012). Health Impact Assessment (HIA): A Practical Guide. [Online]. Available at: www.whiasu.wales.nhs.uk (Accessed 19 August 2020)

6 Available at: www.whiasu.wales.nhs.uk

A scoping document was developed and defined the scope of the HIA and how it would be carried out, the timeframes for the work, who would be involved and how, and the evidence needed. It also outlined the governance mechanisms and the types of evidence required to ensure that the HIA and any report based on it was high quality and robust. Quality assurance was carried out by multi-disciplinary internal Public Health Wales Public Health specialists and external interviewees who reviewed the draft Summary Report.

Evidence

As part of the HIA, the following evidence was gathered:

- A literature review. A research protocol was constructed with support from Public Health Wales Evidence Service to rapidly identify relevant published evidence. The findings from the literature review can be found in Section 3 of this report
- Qualitative evidence. The HIA captured knowledge and information held by stakeholder organisations and individuals. In total, 16 stakeholders were interviewed and another two provided written feedback and evidence sources. The notes from these were transcribed and analysed using thematic analysis
- Health Intelligence and data. A community and demographic profile of Wales was developed utilising recognised Welsh and United Kingdom (UK) sources such as the Public Health Wales Observatory and the Office for National Statistics (see Section 2 of this report)
- Grey literature and other documents relevant to the subject were also utilised when appropriate.

All of the above evidence and data was collated, synthesised and analysed. The evidence was weighted so that peer reviewed literature and robust health intelligence evidence provided the central platform for the HIA. The evidence analysis was carried out by the Working Group. A matrix summarising the nature of the impacts was completed based on the collated evidence (see Tables of Impact contained in Section 6).

The following descriptors and definitions were used to categorise the impact:

● **Positive /** ● **Opportunity**	– Impacts that improve or maintain health status or provide an opportunity to do so
● **Negative**	– Impacts that diminish health status
✓✓ **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
✸✸✸ **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

S = Short term 0–1 year M = Medium term 1–5 years L = Long term 5+ years

The Summary Report and this document are the outputs of the HIA. Review and reflection will take place post publication including establishing parameters for monitoring and evaluation.

Section 2 – Community Health Profile

Demographics

The total population of Wales in 2018 was 3,138,600 people, of which 51% were women and 49% men (Office for National Statistics, n.d.). The population estimate for Wales at mid-year 2019 was 3,152,879, with the highest number of individuals (366,903) located in the local authority area of Cardiff and the least in Merthyr Tydfil (60,326) (StatsWales, 2020a).

Deprivation and poverty

High levels of multiple deprivation exist within the cities and valleys of South Wales and coastal and border towns in North Wales (Welsh Government, 2019a).

Findings from the 2018-19 National Survey for Wales shows that 14% of adults are classified as materially deprived (Welsh Government, 2019b).

Of all households in Wales, on average 12% were recorded as experiencing fuel poverty in 2018 (Welsh Government, 2019c). However, rates differ depending on local authority area in Wales, with higher proportions of households in Gwynedd and Ceredigion living in fuel poverty (23% and 21% respectively) than those in the Vale of Glamorgan, Torfaen and Bridgend (all under 9% of households living in fuel poverty) (Welsh Government, 2020a).

Housing

At 31st March 2019, there were 1,431,537 dwellings recorded in Wales of which the majority (70%; 995,314 dwellings) were owner occupied, 15% (207,696) were privately rented and 10% (141,228) were registered social landlord properties (StatsWales, 2019a).

In 2018-19, there were 14,783 known houses in multiple occupation (HMOs) in Wales, with the majority located in the cities of Cardiff (6,344) and Swansea (1,894) (StatsWales, 2020b).

In 2018-19, 58% of individuals aged 25-44 said they had no difficulties keeping up with all bills and commitments compared with 84% of those aged 65 and over (Welsh Government, 2019b).

Results from the National Survey for Wales monthly survey in May 2020, show that 54% of respondents owned their property outright whereas 46% owned it with a mortgage (Welsh Government, 2020b). In May 2020, it was reported that 13% of respondents had a mortgage holiday agreed during the COVID-19 pandemic, 14% reported keeping up with bills and commitments but said this is a struggle from time to time and 3% reported keeping up with all bills and commitments but that this is a constant struggle (Welsh Government, 2020b).

Households

In Wales in 2019, there were 14.5% lone parent families recorded in the population, which was slightly lower than the number recorded for the UK as a whole (14.9%) and a decrease over the past five years from the number reported in 2014 (Office for National Statistics, 2019a).

In 2019, out of the total number of households in Wales, 32.1% were one-person households

which was higher than the UK average recorded at the time (29.5%) and over the last five years the number of one person households has increased by 22.1% (Office for National Statistics, 2019a).

In addition, 40.3% of households in Wales had dependent children in 2019, which was slightly lower than the UK average of 42% (Office for National Statistics, 2019a).

Water use

Of customers surveyed in 2018-19, 12% said they were struggling to pay their water bill (Discover Water, 2020). In 2020, of 240 water bill payers surveyed in England and Wales, 71% were owner-occupiers and 29% renters, and 62% reported having a water meter (CCW, 2020). In 2017-18, water meters were more prevalent in owner-occupied dwellings, with fewer in privately rented dwellings and the least number recorded in social housing (Welsh Government, 2020c).

Employment

Data for February to April 2020 shows that 74% of individuals aged 16-64 in Wales reported being in work, 23% were economically inactive and 3% unemployed (StatsWales, 2020c).

In 2019, there were 9.31 million women in the UK working full-time and 6.30 million (40%) working part-time compared with only 13% of men recorded as working part-time during the same period (UK Parliament, 2020). In 2019, women were more likely than men to be employed in jobs paying the National Minimum Wage (8.1% of women compared with 4.4% of men) and men are more likely than women to be self-employed (19% of men compared with 11% of women) (UK Parliament, 2020).

In Wales, between April and June 2019, 77.2% of women and 89.9% of men with dependent children were employed compared with 70.9% of women and 71.3% of men without dependent children (Office for National Statistics, 2019b). In the UK in 2019, of 1.8 million lone-parent families with dependent children, most (69.9%) were employed, of which half (49.6%) worked full-time (Office for National Statistics, 2019b).

During lockdown, the amount of time spent on providing childcare in the UK increased by 35% compared with five years ago and women reported spending more time caring for a child than men (where the child in the household was aged under 8 years of age) (Office for National Statistics, 2020a).

In 2018, one of the obstacles faced by parents in being able to fulfil childcare responsibilities whilst working was long commuting times, with 4.1% of fathers and 3.5% of mothers citing this as an issue (Office for National Statistics, 2019b). Mothers were more likely than fathers to report making a change to their employment for childcare reasons in 2018 (56.2% of mothers; 22.4% of fathers) (Office for National Statistics, 2019b).

Occupations

In March 2020, the largest proportion of workforce jobs in Wales were in the following three industries: human health and social work activities (15.3%); wholesale and retail trade; repair of motor vehicles and motorcycles (12.4%), and; manufacturing (10.3%) (Office for National Statistics, 2020b). For women in Wales, the majority of jobs were in human health and social work activities (24%; 181,569 jobs), followed by wholesale and retail trade; repair of motor vehicles and motorcycles (12%; 92,149 jobs) and education (11%; 84,584 jobs) (Office for National Statistics, 2020b). For men in Wales, most jobs were in manufacturing (16.3%; 121,016 jobs); then wholesale and retail trade; repair of motor vehicles and motorcycles (12.3%; 91,241 jobs); and construction

(11.8%; 88,048 jobs) (Office for National Statistics, 2020b).

In 2019, of the total number of jobs held by women in the UK, the majority were in health and social work (21%), followed by wholesale and retail trade (14%) and education (12%) (UK Parliament, 2020). For men in the UK, jobs were most likely to be in wholesale and retail trade (14% of all jobs held by men in the UK), manufacturing (11%) or construction (10%) (UK Parliament, 2020).

Occupations that were found to be associated with increased mortality rates due to COVID-19 in men included: taxi and cab drivers and chauffeurs (65.3 deaths per 100,000; 134 deaths); bus and coach drivers (44.2 deaths per 100,000; 53 deaths); chefs (56.8 deaths per 100,000; 49 deaths); and sales and retail assistants (34.2 deaths per 100,000; 43 deaths) (Office for National Statistics, 2020c). For women, higher mortality rates due to COVID-19 were seen in care workers and home care workers (25.9 deaths per 100,000 women, or 134 deaths) and sales and retail assistants (15.7 deaths per 100,000 women, or 64 deaths) (Office for National Statistics, 2020c).

Carers and those with caring responsibilities

According to the 2011 census, there were 688,603 care workers and home carers recorded in England and Wales (Office for National Statistics, 2011a). 2011 census data shows that 370,230 individuals in Wales reported providing unpaid care in Wales, with the majority (212,436 individuals) providing between 1 and 19 hours of unpaid care a week, 103,748 individuals providing 50 or more hours a week and 54,046 providing between 20 and 49 hours a week (Office for National Statistics, 2011b).

It was reported in 2018 that out of all the UK countries, Wales had the highest proportion of carers, with 11.8% (370,000) of the Welsh total population who described themselves as carers (NHS Confederation, 2018). Women are more likely than men to hold caring roles and the majority of carers in the UK are women (58%) (Carers UK, n.d; Carers Wales, n.d).

487,000 adults in Wales reported caring for others prior to the COVID-19 pandemic with an additional 196,000 individuals reporting that they have started to provide care during the pandemic (Carers Wales, 2020).

During lockdown, 48% of people in the UK reported providing help or support to an individual outside of their own household, up from 11% recorded in 2017-18 (Office for National Statistics, 2020d). The majority of those reporting caring for others were aged 45-54, which is slightly younger than those most likely to report caring in 2017-18 (aged 55 to 64) (Office for National Statistics, 2020d). 51% of individuals who reported providing help or support to someone outside of their household in April 2020 were female and 45% male (Office for National Statistics, 2020d). One third of adults reported giving additional support to someone that they had been helping prior to lockdown and one third reported helping someone not previously supported (Office for National Statistics, 2020d).

Numbers working from home

Findings from an Opinion and Lifestyles survey undertaken in Great Britain show between 17th and 27th April 2020, 22.4% of respondents reported that they had been asked to work from home and 22.8% of respondents reported finding working from home difficult (Office for National Statistics, 2020e). Between 24th April and 3rd May 2020, the figures reported were 19.3% and 16.7% respectively (Office for National Statistics, 2020e). Results from this survey also show 44% of adults in employment reported working from home at some point between 24th April to 3rd May 2020 (Office for National Statistics, 2020e). Findings from 7th June showed there had been very little change in the percentage of respondents reporting working from home over the past four weeks (Office for National Statistics, 2020f).

Although the numbers of working adults in Great Britain who reported working exclusively from home increased between the 31st May 2020 and 14th June 2020 (30% to 38%), since then the figure has decreased, with 29% recorded at 28th June 2020 (Office for National Statistics, 2020g).

Data from the National Survey for Wales monthly survey in May 2020 shows that 44% of respondents reported being able to do most or all of their work from home (Welsh Government, 2020b). Data from the Labour Market Survey shows that in April 2020, those aged 16-24 in the UK were the least likely to work from home (30.2%) and those aged 25 to 34 were the most likely (54.3%) (Office for National Statistics, 2020h). In addition, a greater proportion of individuals aged 16-34 (95.2%) gave the pandemic as the main reason for working from home than those aged 50 and over (76.1%) (Office for National Statistics, 2020h).

Data from the Office for National Statistics (ONS) Annual Population Survey shows that between January and December 2019, of respondents living in Wales, 4.4% reported mainly working from home, 9.9% reported working from home in the week prior to the interview and 24.9% reported never working from home (Office for National Statistics, 2020i). Older workers and individuals with higher skilled occupations were more likely to work from home than younger workers and those with lower skilled occupations (Office for National Statistics, 2020i).

Between April and June 2019, 78.7% of employed individuals in Wales working from home in their main job reported using both a telephone and a computer to carry out work at home (Office for National Statistics, 2020j).

In 2019, there were around 1.7 million people in the UK who were mainly working from home (Office for National Statistics, 2020j). Those working in the private sector are more likely to report mainly working from home compared with those employed in public sector jobs (17% compared to 3%) (Office for National Statistics, 2019c).

Opportunities to work from home are dependent on the sector of employment, with a higher proportion of employees in the UK reporting having worked from home in the information and communication industry (53%) than the accommodation and food services industry (10%) in 2019 (Office for National Statistics, 2020j). In 2019, individuals in the UK employed in the information and communications sector were most likely to report mainly working from home (14.8%) or ever working at home (53.1%) (Office for National Statistics, 2020i). Much fewer individuals in the transportation and storage sector and accommodation and food services sector reported mainly working from home or ever being able to work from home (1.8% and 11%, and 2.1% and 10% respectively) (Office for National Statistics, 2020i).

In 2018, flexible working was reported in greater numbers by those working as local and national government administrators and teaching support assistants, and in fewer numbers by those in roles such as police officers, nurses and midwives (Office for National Statistics, 2019c).

Transport and travel

Compared to the baseline, there was a 47% reduction in visits to places of work in the UK, at 3rd July 2020 (Google, 2020).

During lockdown, the average adult in the UK spent 1 hour and 6 minutes less a day commuting or using transport, with those in paid employment experiencing the greatest reduction in travel time (1 hour and 9 minutes) and a smaller reduction experienced by those with lower household incomes (Office for National Statistics, 2020a). There was a greater reduction in work and travel time during lockdown for men (on average 1 hour and 37 minutes less a day) than women (on average 1 hour and 2 minutes less a day), compared with levels reported in 2014-15 (Office for National Statistics, 2020a).

In May 2020, Welsh Government commented that compared to the same period last year, public transport use had fallen by around 95% (Welsh Government, 2020d). Data from the Department for Transport (2020) shows significant reductions in the use of public transport during lockdown. The use of national rail in the UK remained at 6% or less of that reported for the equivalent week in 2019 from 30th March until 19th May when the percentage gradually began to increase and at 27th July activity was only 20% of that reported for the same week in 2019 (Department for Transport, 2020). There were also reductions in motor vehicle use in the UK, with data showing levels falling to below 50% of that reported for the equivalent day in February 2020 for all days during the first six weeks of the lockdown (Department for Transport, 2020).

Business structure in Wales

The provisional number of enterprises (private sector enterprises, public corporations and nationalised bodies) in Wales in 2019 was 267,045 (StatsWales, 2019b). Of these, 95% (253,640) were recorded as micro businesses (between 0 and 9 employees), 3.6% (9,485) small businesses (between 10 and 49 employees) (StatsWales, 2019b). Medium businesses (between 50 and 249 employees) represented 0.8% (2,215) and 0.6% (1,705) were large businesses (250 or more employees) (StatsWales, 2019b). Further, the provisional number of employees across all enterprises in 2019 was 1,182,800, of which the majority were employed in large businesses (37.6%), closely followed by micro businesses (34.9%), then small businesses (15.2%) and medium businesses (12.4%) (StatsWales 2019b).

Of 1,462,000 individuals employed in Wales in the year ending December 2019, the majority were employed in the private sector (73%) (StatsWales, 2020d). Employees in the public sector account for 26% (384,500), with Wales having a greater proportion of public sector workers than the UK as a whole (22%) (StatsWales, 2020d).

Results from the National Survey for Wales monthly survey in May 2020 show that 54% of respondents were employed in the private sector, 42% were employed in the public sector and 3% in a charity / voluntary organisation (Welsh Government, 2020b).

In 2020, there were over 32,000 third sector organisations and over 8,100 registered charities in Wales (WCVA, 2020). In 2017, there were around 100,000 individuals employed in the charity / voluntary sector across Wales, making up just over 8% of employment in Wales (WCVA, 2019).

Job Satisfaction

In 2017-18, 82% of individuals aged 16 and over reported being moderately or very satisfied with their jobs, with the highest percentage (92%) reporting being moderately or very satisfied with their jobs in the 65-74 age group (StatsWales, 2019c).

Physical and mental health and well-being

In 2018-19, 17% of adults aged 16 and over reported musculoskeletal illness (StatsWales, 2019d). During adulthood, musculoskeletal disorders and mental health are the two main causes of years lived with disability (YLD) for individuals in Wales (Public Health Wales Observatory, 2018). For individuals of working age in Wales, mental health and musculoskeletal disorders are the most likely causes of disability-adjusted life years (DALYs) (Public Health Wales Observatory, 2018).

In the United Kingdom, musculoskeletal disorders were the reason for 37% of all work-related ill health and 29% of all working days lost as a result of work-related ill health in 2018-19 (Health and Safety Executive, 2019). In the same year there were 498,000 workers with new or long standing work-related musculoskeletal disorders recorded, with upper limbs or neck, and back the two areas

of the body most affected (41% and 40% respectively) (Health and Safety Executive, 2019). The rates of work related musculoskeletal disorders between 2016-17 and 2018-19 were similar for both men and women, with higher rates recorded for those aged 45-54 and 55+ than those who were younger (Health and Safety Executive, 2019).

According to data from the National Survey for Wales 2018-19, 53% reported undertaking the guideline amount of 150 minutes of physical activity in the previous week, of which the majority were men, and 33% reported being inactive (undertaking less than 30 minutes of activity in the previous week) (Welsh Government, 2019b). Those aged 75 years and over and those who were materially deprived were more likely to be inactive (Welsh Government, 2019b). The survey results also show 24% of adults reported eating five portions of fruit or vegetables the previous day and 18% reported an average weekly consumption of alcohol of above 14 units (Welsh Government, 2019b). Over half of respondents were overweight or obese (59%), of which the majority (66%) were men, and just under a quarter of respondents were obese (23%) (Welsh Government, 2019b).

Around 60% of adults (16 +) are overweight or obese – with a quarter of those classified as obese (Public Health Wales Observatory, n.d.).

Greater numbers of individuals aged 16-44 (12%) reported mental disorders in 2018-19 than those aged 45-64 (10%) or 65 and over (3%) (StatsWales, 2019e). Between 2013 and 2018, the proportion of people reporting high life satisfaction, feeling that life is worthwhile and happiness in Wales increased; however overall, results from the Annual Population Survey suggest that people in Wales have worse mental well-being than those in other UK nations (Public Health Wales, 2020). Those who live in the least deprived areas of Wales reported higher levels of mental well-being than those in the most deprived areas (Public Health Wales, 2020). In 2018, those individuals aged 16 and over in employment were more likely to report positive well-being than those who were unemployed (Public Health Wales, 2020).

Results from the National Survey for Wales monthly survey in May 2020 show that 72% of respondents said they are sometimes lonely and 11% reported being lonely (Welsh Government, 2020b). In addition, 23% reported a high level of anxiousness “yesterday” and 18% reported a medium level of anxiousness “yesterday” (Welsh Government, 2020b).

In 2018-19, 6,484 individuals in Wales were recorded as severely sight impaired and 6,653 were total sight impaired (StatsWales, 2019f). Of 39,158 individuals without visual disability, the majority (28,295) reported a physical disability only, 9,251 were hard of hearing and 1,612 were deaf (StatsWales, 2019f).

Technology

In 2018, 10% of adults in the UK (5.3 million adults) were recorded as internet non-users (defined as those who have never used the internet or not used it within the last three months), of which the majority were women (58%) (Office for National Statistics, 2019d). Since 2011, yearly records show that the majority of internet non-users in the UK have been aged 75 and over and the proportion of those aged 65 and over who are internet non-users has increased (Office for National Statistics, 2019d).

In Wales, 10.9% of the population were recorded as internet non-users in 2018 (Office for National Statistics, 2019d). Zero basic digital skills were noted in 19% of the population in 2018, which was considerably higher than all other regions of the UK (Office for National Statistics, 2019d).

In 2018-19, the National Survey for Wales found 87% of households had home access to the internet (Welsh Government, 2019b). Of the 89% of respondents aged 16 and over who stated that they use the internet, most were aged 16-49 (98%) and this was double the percentage

of individuals 75 and over who reported using the internet (49%) (Welsh Government, 2019b). Although the numbers of adults reporting using the internet in Wales has increased since 2012-13 (Welsh Government, 2019b), the survey data indicates 11% are 'digitally excluded' (Welsh Government, 2019d). Data from the National Survey for Wales 2018-19 showed 92% of households in the least deprived areas had internet access compared with 83% of households in the most deprived areas (Welsh Government, 2019d). Furthermore, employed individuals were more likely to have access to the internet at home than the unemployed or economically inactive, and those in private rented or owner occupied accommodation more likely than those in social housing (Welsh Government, 2019d). Those educated to degree level or above were more likely to have five digital skills compared with those with no qualifications (Welsh Government, 2019d).

Between the week commencing 24th February and 20th April 2020, there was a 19.95% increase in network traffic in Wales reported by Openreach (BT); all UK regions experienced an increase in network traffic with the largest increase seen in London and the smallest in Wales (ISPreview, 2020).

Coverage of superfast broadband to residential homes differs across the UK nations, with slightly lower coverage recorded in Wales compared to England (93% and 95% respectively) (Ofcom, 2020). Of 610,000 premises in the UK unable to receive decent broadband from a fixed line, 3% (50,000) are located in Wales (Ofcom, 2020). Of this 3%, 42,000 business and residential premises are located in rural areas compared with 8,000 in urban areas (Ofcom, 2020). Data shows that there are 18,000 premises in Wales that are unable to access decent broadband from fixed, Wireless Internet Service Provider (WISP) or mobile Fixed Wireless Access (FWA) connection (Ofcom, 2020).

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Grey literature, contextual knowledge and other evidence

Direct quotes from the sources are depicted by " " in the text

Determinant of Health	Source	Date
Access to homeworking		
While telework and ICT-mobile work represent opportunities for greater flexibility and reduced commuting time for workers with family responsibilities, these working arrangements are accessible to very few workers and lack regulation	International Labour Organization - https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_633135.pdf	2018
The workers who are least likely to be able to work at home are the young, the less educated and ethnic minorities (Bell and Blanchflower, 2020).	Karl Taylor and Rachel Griffith - https://www.coronavirusandtheeconomy.com/index.php/question/who-can-work-home-and-how-does-it-affect-their-productivity Primary source: Bell and Blanchflower: https://www.niesr.ac.uk/publications/us-and-uk-labour-markets-and-during-COVID-19-crash	23/05/2020 23/04/2020
Age		
"…with only 22 per cent of 16-24-year-olds likely to be working from home, compared to 39 per cent of 35-44-year-olds. The average age of those in shutdown sectors is 39, compared to an average age of 44 among key workers and those working outside their home, and 43 among those that can work from home." "…23 per cent of working millennials (born 1981-2000) are in shutdown sectors, compared to 16 per cent of workers in generation X (born 1966-1980) and 16 per cent of working baby boomers (born 1946-1965). Members of generation X are the most likely to be in the working from home group (38 per cent are, compared to 34 per cent of millennials and 33 per cent of baby boomers)".	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2019/10/Risky-business.pdf	04/2020
Out of 500 respondents: -71% working at home as a result of COVID-19 -70% female, average age 46 years in professional, managerial and administrative roles in mainly service sector and public sector organisations	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020

Barriers		
While there can be technical or security-related reasons behind remote work resistance, a major barrier is simple resistance to change. Over 50% of companies that didn't have a flexible or remote workplace policy cited "longstanding company policy" as the reason. In other words, that is just the way things have always worked. Managers are worried that productivity and focus will be diminished if people are working in more informal locations, such as home or a cafe. In addition, if people aren't working in the same physical location, managers feel that team cohesiveness and company culture could suffer.	World Economic Forum - https://www.weforum.org/agenda/2020/06/coronavirus-covid19-remote-working-office-employees-employers/ [Note: US survey]. Primary source: International Workplace Group: https://assets.regus.com/pdfs/iwg-workplace-survey/iwg-workplace-survey-2019.pdf	03/06/2020 03/2019
Benefits of homeworking		
"Our survey of the well-being of homeworkers under lockdown shows that, for some people, working from home is having a positive effect on both their work and lifestyle. Over a third of respondents felt that working from home was very motivational; our survey reported that the three best things about working from home were: the end of the daily commute, increased autonomy, and being in an environment which enhances productivity". "Our results showed that 44 per cent of individuals do not have difficulty managing the boundary between work and home and almost half of the respondents (49%) are satisfied with their current work-life balance". The next most valued benefit was the increased flexibility in working hours and greater independence over the ways they worked, with 62 per cent of respondents stating they loved the autonomy of working from home. Just under half of homeworkers felt it gave them the opportunity to develop new and better ways of doing their job (49%).	Institute of Employment Studies - https://www.employment-studies.co.uk/news/remote-working-really-so-bad-benefits-working-home-during-COVID-19 Primary source: Institute for Employment Studies: https://www.employment-studies.co.uk/resource/ies-working-home-wellbeing-survey	20/04/20 04/2020
A flexible schedule, the ability to work from any location, and no more commuting were the top reported benefits.	World Economic Forum - https://www.weforum.org/agenda/2020/06/coronavirus-covid19-remote-working-office-employees-employers/ [Note: US survey].	03/06/2020
Challenges		
The top issue faced by remote workers was "unplugging" from work. Without the clear-cut change of location and defined office hours, many people had a tougher time clearly dividing their personal and professional time. As well, the lack of person-to-person communication can be a challenge for some people. In fact, one-third of people were concerned that the full extent of their professional efforts wouldn't be appreciated because of a lack of in-office contact.	World Economic Forum - https://www.weforum.org/agenda/2020/06/coronavirus-covid19-remote-working-office-employees-employers/ [Note: US survey].	03/06/2020

"It is hard to be creative at a distance, it is hard to be inspired and motivated at home, and employee loyalty is strained without social interaction".	Stanford University - https://siepr.stanford.edu/research/publications/how-working-home-works-out	06/2020
Cost		
There would be implications for commercial property prices as companies shrink their office space, and for residential property too, because statistics suggest that if people work partly at home, some choose to live even further from the office.	BBC news - https://www.bbc.co.uk/news/business-52675099	15/05/2020
"…the cost savings associated with remote work may win over many companies. Research has found that typical employer can save about $11,000 per year for every person who works remotely half of the time. As well, switching to virtual meets in some instances can also be a significant cost saving".	World Economic Forum - https://www.weforum.org/agenda/2020/06/coronavirus-covid19-remote-working-office-employees-employers/ Primary source: Global Workplace Analytics: https://globalworkplaceanalytics.com/work-at-home-after-COVID-19-our-forecast [Note: US survey].	03/06/2020 No date
Desire to work flexibly		
CIPD UK Working Lives research in 2019 shows there is unmet demand by employees to work flexibly to support their work–life balance. Of employees who have no access to flexible working, 78% would like it. Over half of workers (55%) would also like to work flexibly in at least one form that is not currently available to them.	Health and Well-being at work Survey report CIPD - https://www.cipd.co.uk/Images/health-and-well-being-2020-report_tcm18-73967.pdf Primary source: CIPD UK Working Lives research: https://www.cipd.co.uk/knowledge/work/trends/goodwork	03/2020 2019
Whilst everyone felt the positive impact of spending more time with family and with neighbours and felt more engaged with their local community, no one wanted to become a full-time homeworker.	Working@home study – University of Stirling - https://www.workingathome.org.uk/	05/2020
Development		
"…more educated, higher-earning employees are far more likely to work from home. These employees continue to earn, develop skills, and advance careers. Those unable to work from home — either because of the nature of their jobs or because they lack suitable space or internet connections — are being left behind. They face bleak prospects if their skills erode during the shutdown".	Stanford University - https://siepr.stanford.edu/research/publications/how-working-home-works-out	06/2020

Economy		
"Going forward key actions should include a guarantee of essential goods and services for everyone in Wales; major UK and Welsh Government stimulus focussing on the green economy, digital connectivity and social infrastructure; business support to create new enterprises of all kinds; new economic opportunities focussing on health, well-being and the environment".	Bevan Commission – ***Lessons from Lockdown: Challenges facing carers*** https://www.bevanfoundation.org/commentary/lessons-from-lockdown-challenges-facing-carers/	2020
"We must strengthen and invest in planning for the recovery, building the capacity for critical place-based systems thinking. This will enable local and strategic plans to set ambitious visions that direct stimulus measures towards solutions to increase sustainability, resilience and inclusivity across the UK and Ireland."	Royal Town Planning Institute (2020). 'Plan the World we need: The contribution of planning to a sustainable, resilient and inclusive recovery', ***RTPI Research Paper*** - https://www.rtpi.org.uk/media/5688/plantheworldweneed_june2020.pdf	2020
Education		
When it comes to educational attainment, almost half (47 per cent) of those with degrees are able to work from home, while just 6 per cent of those in work with no qualifications are able to do so.	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2019/10/Risky-business.pdf	04/2020
Equipment		
"There has been good support from most organisations in terms of supply of IT equipment and sometimes office furniture, but for those that have only been provided with a laptop and no access to keyboards and screens or appropriate desks and chairs… are seeing reports of physical discomfort. Home office set ups that worked for a few weeks are beginning to show signs of strain".	Working@home study – University of Stirling - https://www.workingathome.org.uk/	05/2020
Family		
A larger proportion of coupled parents are able to work from home, Some of those who are able to work from home and those who work outside the home but not in key sectors might be able to deal with care and home schooling while also keeping their jobs. However, with social restrictions limiting informal childcare help from friends and parents, some may have to reduce hours or give up work altogether to care for their children. This means some parents who would be able to work had they not had to take care of their children will be facing similar economic risks to those in shutdown sectors. This is especially true for single parents, who will have to deal with balancing work and childcare on their own.	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2019/10/Risky-business.pdf	04/2020
Lockdown measures have highlighted the value of workplace flexibility – particularly for people with children. A total of 86% of parents now want to work flexibly, compared to 46% pre-coronavirus.	World Economic Forum - https://www.weforum.org/agenda/2020/06/coronavirus-covid19-remote-working-office-employees-employers/?utm_source=sfmc&utm_medium=email&utm_campaign=2721639_Agenda_weekly-5June2020&utm_term=&emailType=Newsletter [Note: US survey].	03/06/2020

Mothers spend 6 more hours doing housework than fathers, and 9 more hours doing childcare and home schooling per week. Single parents spend more time on housework but not on childcare and home schooling than multiple adult households do. The differences between time spent by mothers and fathers persist regardless of household composition. While mothers spend considerably more time doing housework when they are furloughed, self-employed or non-employed as opposed to being employed, this is not the case for fathers. Fathers do however spend more time on childcare and home schooling when they are furloughed.	Institute for Social and Economic Research (ISER), University of Essex (Understanding Society COVID-19 study) - https://www.understandingsociety.ac.uk/sites/default/files/downloads/general/ukhls_briefingnote_covid_homeschool_final.pdf	04/2020
Frequency of homeworking prior to COVID-19 lockdown		
The second most unused flexible work practice was compressed hours (20%), whereas the most frequently used is working from home (just 8% of workers had the option but did not use it).	CIPD Good Work Index 2020 - https://www.cipd.co.uk/Images/good-work-index-full-report-2020_tcm18-79210.pdf	06/2020
Employees report that the forms of flexible working most commonly provided by their employers are part-time working (62%), flexi-time (34%) and working from home on a regular basis (24%). A fifth of employers nationally think government should campaign to encourage employers to allow people to work from home or more flexibly. The next most commonly used forms of flexible working are flexi-time (19%), working from home on a regular basis (14%) and mobile working (7%).	CIPD - https://www.cipd.co.uk/Images/employee-outlook-focus-on-commuting-and-flexible-working_tcm18-10886.pdf	2016
Employees are healthier, experience less stress, and are more productive and engaged when they effectively make choices about how, where and when they work. However, this can mean different things for different workers. The type of flexibility does not seem to matter as much as the fact that people are given some control over their work lives.	1 Million for Work Flexibility - https://www.workflexibility.org/the-business-case-how-work-flexibility-improves-productivity/	2020
Frequency of homeworking during and after COVID-19 lockdown		
45% of respondents predict a permanent change in their employer's approach to flexible working when the COVID-19 (Coronavirus) lockdown lifts. Nearly half the workforce think flexible working will increase, with a third (33%) of this group expecting to increase the amount they work from home by at least 3 days a week after lockdown – rising to 81% for those expecting to work at least 1 day a week from home.	ISP review -https://www.ispreview.co.uk/index.php/2020/05/o2-uk-survey-forecast-rise-in-home-working-after-COVID-19.html	06/05/2020

Out of 500 respondents: -71% are working at home as a result of COVID-19	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020
"…four-in-ten of full-time employees can work from home, less than a quarter of those on temporary contracts are able to do so".	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2019/10/Risky-business.pdf	04/2020
-COVID-19 has led to more and more employees working from home. -98% of people surveyed said they would like the option to work remotely for the rest of their careers.	World Economic Forum - https://www.weforum.org/agenda/2020/06/coronavirus-covid19-remote-working-office-employees-employers/?utm_source=sfmc&utm_medium=email&utm_campaign=2721639_Agenda_weekly-5June2020&utm_term=&emailType=Newsletter [Note: US survey].	03/06/2020
According to a poll of 1,500 UK business-owners and staff "…82 per cent said they are considering changing future working practices to allow more staff to work from home once the lockdown ends." Statistics released by the UK's Office for National Statistics shows 49.2 per cent of adults in employment are currently working from home because of social distancing measures.	YouGov poll - https://yougov.co.uk/topics/economy/explore/issue/Office_Work_Commuting	04/06/2020
Nearly half of all working adults (49%) in the UK are working from home due to coronavirus, according to the latest figures. Before the pandemic, it was just 5%.	Office for National Statistics: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronavirustheukeconomyandsocietyfasterindicators/18june2020#business-impact-of-the-coronavirus	18/06/2020
Future		
This report indicates that employees will be reluctant to give up their new way of working when the lockdown is lifted. Nearly half (45%) of the workforce believe flexible working will increase permanently, and a third (33%) expect to increase the amount they work from home by at least three days a week.	O2 - https://news.o2.co.uk/2020/05/20/the-flexible-future-of-work/ Primary source: O2 The Flexible Future of Work: https://connect.o2.co.uk/theflexiblefutureofwork	20/05/2020 2020
Nearly half the workforce think flexible working will increase, with a third (33%) of this group expecting to increase the amount they work from home by at least three days a week after lockdown, and 81% expecting to work at least one day a week from home.	02 - https://news.o2.co.uk/press-release/a-flexible-future-brits-expected-to-call-time-on-office-life-after-lockdown/	06/05/2020

"An important lesson from the COVID-19 crisis, largely driven by a combination of the "Zoom effect" and "Greta effect", is that teleworking is compatible with productivity and largely contributes to reducing negative environmental externalities. Going forward, it is likely that there will be a "new normal" whereby many employees and companies will leverage the potential of teleworking and adjust their mobility patterns where appropriate and possible. In fact, polls have shown that citizens maintain new work and travel habits after transportation crises."	OECD - http://www.oecd.org/coronavirus/policy-responses/cities-policy-responses-fd1053ff/	13/05/2020
Gender		
Across all modes of flexible working, men (17%) are more likely to work from home than women (10%).	CIPD - https://www.cipd.co.uk/Images/employee-outlook-focus-on-commuting-and-flexible-working_tcm18-10886.pdf	2016
- Women are more likely to be in a job that can be done from home. -Women are more likely to have increased childcare and other homework duties, which reduces their productivity when working from home.	Karl Taylor and Rachel Griffith - https://www.coronavirusandtheeconomy.com/index.php/question/who-can-work-home-and-how-does-it-affect-their-productivity	23/05/2020
"…about 29% of men but only 11% of women are in jobs that cannot be done from home, while not directly subject to the lockdown. In particular, women are more likely than men to raise children as a single parent. In the UK, 20.3% of households with dependent children (aged 15 or below) are headed by single mothers, against 3.3% headed by single fathers. Hence women are more likely than men to be the sole providers of the sharp increase in childcare during the lockdown." In the UK, 48% of women are in jobs that can be done from home, compared to 39% of men.	Claudia Hupkau and Barbara Petrongolo - https://voxeu.org/article/COVID-19-and-gender-gaps-latest-evidence-and-lessons-uk	22/04/2020
"…a study from the *American Journal of Political Science* finds women are disproportionately disadvantaged in terms of the ability to devote time to their work—and to be optimally productive.."	Kathleen Dolan and Jennifer L. Lawless, American Journal of Political Science: https://ajps.org/2020/04/20/it-takes-a-submission-gendered-patterns-in-the-pages-of-ajps/	20/04/2020

Guidance		
Employers and employees should be practical, flexible and sensitive to each other's situation when working from home because of the coronavirus (COVID-19) pandemic. Employers should: • talk to their employees and workers about how they might improve working from home arrangements • continue to consider which roles and tasks can be done from home – this might involve doing things differently and not assuming a role cannot be based at home • support employees to adjust to remote working • consider individual employees' needs, for example anyone with childcare responsibilities, a long-term health condition or a disability • write down the arrangements that have been agreed so everyone's clear Employers should check the details of their insurance to make sure they're covered for an employee working from home if they're using business equipment. It also needs to cover them against a claim by a third party Employees should check there are no issues with them working from home, with their: • home insurer • mortgage provider or landlord	ACAS - https://www.acas.org.uk/working-from-home	No date
Health and Safety		
Out of 500 respondents: -71% working at home as a result of COVID-19 -75% say their employer has not carried out a health and safety risk assessment of their homeworking arrangements -73% have access to Occupational Health support and 64% have access to an EAP -42% share their workspace with other adults working from home	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020

Housing		
Those workers likely to be least affected by the crisis – the people who can work from home – are concentrated in the most secure tenure type. Homeowners with tracker mortgages have benefited straight away from an interest rates cut by the Bank of England, and all mortgagors can apply for a three-month mortgage holiday. In addition, one-quarter of mortgagors have in excess of £10,000 in savings, compared to just seven per cent of all renters (although it is worth noting that another quarter of mortgagors have no savings at all). -34% of those who own a property outright work from home (largest proportion). -39% of those who own a property with a mortgage work from home (largest proportion). -33% of those who have private rent accommodation work from home (largest proportion). -16% of those who have social rent accommodation work from home (smallest proportion). Largest proportion is key workers (35%).	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2019/10/Risky-business.pdf SOURCE: RF analysis of ISER, Understanding Society; ONS, Labour Force Survey; RF analysis of DWP, Family Resources Survey.	04/2020
Some will lack comfortable space for homeworking, or have struggled to separate professional and domestic life. Although property managers are anticipating the return of employees to offices and making the necessary changes to enable social distancing, the experience of lockdown is likely to lead to a permanent increase in flexible working arrangements in sectors where remote working is possible.	Royal Town Planning Institute - https://www.RoyalTown Planning Institute.org.uk/media/5688/plantheworldweneed_june2020.pdf	11/8/2020
Rates of social rented and private rented housing are higher among Black African, Black Caribbean, Pakistani and Chinese households, and BAME households are more likely than white households to live in private rented accommodation. Over two million people aged over-55 are also thought to live in a home that endangers their health or well-being, while households which include someone over 75 are disproportionately likely to be living in a non-decent home.	Royal Town Planning Institute - https://www.RoyalTown Planning Institute.org.uk/media/5688/plantheworldweneed_june2020.pdf	11/8/2020
The housing crisis is increasingly a labour market issue and creative solutions should be sought. We should seek creative solutions such as reducing commuting time through homeworking. This can also increase the geographical reach of an employee's job search and an employer's talent pool. Are we building enough houses near to where the jobs are?	CIPD - https://www.cipd.co.uk/knowledge/work/trends/megatrends/working-home-rise#:~:text=2%20Apr%202020-,Megatrends%3A%20Working%20from%20home%20%E2%80%93%20what's%20driving,the%20rise%20in%20remote%20working%3F&text=As%20a%20key%20component%20of,agile%20response%20to%20unexpected%20challenges	11/8/2020

Impact on healthy behaviours		
Out of 500 respondents: -20% say alcohol consumption has increased -60% worry they are taking less exercise -33% eating less healthily in lockdown -48% working long & irregular hours -26% have continued working despite illness in last 2 weeks	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020
Income		
Higher earners are most likely to be able to work from home. Over four-in-five workers in the top earnings quintile are currently working from home some or all of the time, compared to less than half in the bottom quintile.	Resolution Foundation - https://www.resolutionfoundation.org/publications/the-effects-of-the-coronavirus-crisis-on-workers/	16/05/2020
Being able to work from home is very much a higher-paid phenomenon. Workers in the bottom-five broad occupational groups are extremely unlikely to be able to work from home.	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2020/03/Doing-what-it-takes.pdf	19/03/2020
It is higher earners who are more likely to think the pandemic will change their working life for good, with over half of top earners saying they expect to work from home more after the outbreak.	Resolution Foundation - https://www.resolutionfoundation.org/publications/the-effects-of-the-coronavirus-crisis-on-workers/	16/05/2020
Less than one-in-ten of those in the bottom half of earners say they can work from home, making it much harder for them to protect their incomes in the face of social distancing measures.	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2020/03/Doing-what-it-takes.pdf	19/03/2020
Lower earners, those in the bottom half of the earnings distribution, are two times more likely to be key workers, and 2.4 times more likely to work in shutdown sectors, than they are to work in jobs which are likely to be able to be done from home. The reverse is true for those in the top half of earners, who are two times more likely to be working from home than to be in either of these two groups.	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2019/10/Risky-business.pdf	04/2020
Higher-income workers are more likely to be in jobs that can be done from home.	Karl Taylor and Rachel Griffith - https://www.coronavirusandtheeconomy.com/index.php/question/who-can-work-home-and-how-does-it-affect-their-productivity	23/05/2020
Inequalities		
26% miss informal socialising with colleagues.	ISPreview - https://www.ispreview.co.uk/index.php/2020/05/o2-uk-survey-forecast-rise-in-home-working-after-COVID-19.html	06/05/2020

"…all age groups clearly missed the face to face company of colleagues and friends".	Working@home study – University of Stirling - https://www.workingathome.org.uk/	05/2020
Brits are still adjusting, and the lack of social interaction remains the biggest challenge – with 30% admitting it is lonely working from home and 26% missing socialising informally with colleagues.	02 - https://news.o2.co.uk/press-release/a-flexible-future-brits-expected-to-call-time-on-office-life-after-lockdown/	06/05/2020
"…social interaction is arguably necessary for creativity and innovation. Video conferencing may not be a perfect substitute, for example, due to family interruptions".	Karl Taylor and Rachel Griffith - https://www.coronavirusandtheeconomy.com/index.php/question/who-can-work-home-and-how-does-it-affect-their-productivity	23/05/2020
Job roles		
"However, the ability to work from home is not as widespread as some media coverage would have us believe. The Understanding Society dataset tells us that despite a third of workers being in associate professional occupations or higher (excluding key workers); only a third (34.7%) had the ability to work from home with just 15% using this form of working regularly".	Institute for Employment Studies - https://www.employment-studies.co.uk/news/conference-calls-coughs-and-children-can-parents-really-work-home	25/03/2020
Managerial and professional workers have the greatest access to flexible working arrangements. While 62% of higher managers and professionals said they had worked from home in the last 12 months, the figure is 37% for lower managers and professionals, 23% for intermediate occupations, 8% for lower supervisory and technical workers, 5% for semi-routine occupations, and 4% for routine occupations. In other words, higher managerial and professional workers are 15 times more likely to work from home than routine workers are (although this may include work completed outside one's standard office hours).	CIPD Good Work Index 2020 - https://www.cipd.co.uk/Images/good-work-index-full-report-2020_tcm18-79210.pdf	06/2020
Senior (31%) and middle managers (24%) are most likely to report being able to work from home regularly compared to just 12% of junior managers and 9% of employees with no management responsibility.	CIPD - https://www.cipd.co.uk/Images/employee-outlook-focus-on-commuting-and-flexible-working_tcm18-10886.pdf	2016
Out of 500 respondents: -71% working at home as a result of COVID-19 -70% female, average age 46 years in professional, managerial and administrative roles in mainly service sector and public sector organisations -46% manage people in their jobs and are working up to 5 hours longer than they are contracted each week	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020
"While everyone will be touched by the economic consequences of this crisis, full-time employees can perhaps weather the storm more easily, with two-fifths of these workers likely to be able to work from home".	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2019/10/Risky-business.pdf	04/2020

Managers are also much more likely to be working from home, within the distribution sector 29% of managers say they could work from home, compared to just 11% of non-managerial workers.	YouGov - https://yougov.co.uk/topics/politics/articles-reports/2020/04/07/who-are-britons-working-from-home	07/04/2020
Location		
Currently, some 62% of employees live within 30 minutes of their workplace. However, according to ICM, if working from home was easier and more common this figure would reduce to 36% and two-thirds (63%) of Brits would then be willing to live up to an hour away from their workplace. In theory, this could increase competition for jobs as a wider base may express an interest. 2 in 5 employees currently live in a city, but if they had the ability to work more flexibly then 41% of city dwellers would be willing to move out to locations that are more rural. As a result some places could see a population boom, such as seaside towns (16% expressed an interest vs 7% before COVID-19) and the rural countryside (12% expressed an interest vs 3% before COVID-19). 63% of Brits would be willing to live up to an hour away from the office (double the amount that currently do so) – giving employees greater flexibility about where they live and work.	ISPreview - https://www.ispreview.co.uk/index.php/2020/05/o2-uk-survey-forecast-rise-in-home-working-after-COVID-19.html	06/05/2020
When it comes to regional differences, nearly half (48%) of London's workforce say they can complete their work remotely. Close behind are two areas bordering the capital, with 44% of workers in both the East and South East of England saying they are capable of getting the day's work done away from the office. Around a third of workers in Wales (32%) and the North East (32%) say they can work from home, making them the regions least likely to say they could.	YouGov - https://yougov.co.uk/topics/politics/articles-reports/2020/04/07/who-are-britons-working-from-home	07/04/2020
Workers in London are more likely to be in jobs that can be done from home. Just over 40% of workers located in Wales are in occupations that could be done at home. The proportion of workers in London and the South East able to work from home is over 50%.	Karl Taylor and Rachel Griffith - https://www.coronavirusandtheeconomy.com/index.php/question/who-can-work-home-and-how-does-it-affect-their-productivity	23/05/2020
Mental well-being		
"Prioritising mental health has never been more critical than it is now. New mental health problems have developed as a result of the pandemic, and existing mental health problems have worsened."	Mind - https://www.mind.org.uk/media-a/5929/the-mental-health-emergency_a4_final.pdf	06/2020
30% of those surveyed by ICM admitted that working from home could be lonely.	ISPreview - https://www.ispreview.co.uk/index.php/2020/05/o2-uk-survey-forecast-rise-in-home-working-after-COVID-19.html	06/05/2020

Homeworking can cause work-related stress and affect people's mental health. Being away from managers and colleagues could make it difficult to get proper support.	Health and Safety Executive - https://www.hse.gov.uk/toolbox/workers/home.htm#	No date
Using the WHO-5 Mental Health Measure: Mental health is poorer for: -Younger workers (MH much better for over 60s) -Those looking after elderly relatives (but parents are no different to non-parents) -Those living with parents or renting -Those new to homeworking (compared with those with longer experience) -Those working more than 10 hours longer than contracted hours per week -Those in less frequent contact with their boss. Out of 500 respondents: -36% feel under too much work pressure -43% don't have enough time to get their work done -50% not happy with current work-life balance	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020
Organisations that attempt to identify and reduce stress do so using a range of methods. Flexible working options/improved work–life balance and employee assistance programmes remain the two most common methods used.	Health and Well-being at Work Survey Report - https://www.cipd.co.uk/Images/health-and-well-being-2020-report_tcm18-73967.pdf	03/2020
Out of 500 respondents: -71% working at home as a result of COVID-19 "*How often have you had this condition in the last 2 weeks compared to normal*"? -64% lost sleep from worry - 60% fatigue "% saying they have felt this for less than half the time (last 2 weeks) or not at all": -20% lonely and isolated	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020

"A further 53 per cent (of a poll of 1,500 UK business-owners and staff) said their mental well-being had improved because of homeworking. A poll by YouGov of more than 2,000 UK office staff found that more than 57 per cent said they miss having in-person conversations with their colleagues, while 49 per cent miss the relationships forged in the office. The potential mental health risks attached to the isolation of homeworking are significant. A further study, which polled more than 1,000 UK home workers who have never worked from home before, found that one in 10 staff said they had not had any contact with their manager since they began working remotely".	inews - https://inews.co.uk/inews-lifestyle/working-from-home-coroanvirus-pandemic-uk-remote-work-jobs-432251	04/06/2020
"…according to additional research, people working from home are reporting mental health challenges. In addition, the longer people work from home, the more likely they are to report issues with sadness and fatigue".	Forbes: https://www.forbes.com/sites/tracybrower/2020/06/07/why-the-office-simply-cannot-go-away-the-compelling-case-for-the-workplace/#3a8dfa5f5baf Primary source: Society for Human Resource Management (SHRM): https://shrm.org/hr-today/trends-and-forecasting/research-and-surveys/Documents/SHRM%20CV19%20Research%20Presentation%20Release%202.pdf Primary source: Qualtrics.XM: https://www.qualtrics.com/blog/confronting-mental-health/	07/06/2020 No date 14/04/2020
Physical health		
Out of 500 respondents: -71% working at home as a result of COVID-19 "*How often have you had this condition in the last 2 weeks compared to normal*"? - 60% fatigue -58% aches/pains in neck	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020
Relationships		
Out of 500 respondents: -77% feel trusted by their employer -65% feel valued by their employer -71% say their boss is good at staying in touch	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020

Risk		
The risks associated with teleworking have been extensively highlighted by the unions in the ICT and financial services sectors, for example, encompassing a "heightened sense of isolation and other psychosocial issues; lack of labour inspection and thus of labour protections; and, in the case of women working from home, the risk of a double charge of work in combination with care responsibilities."	International Labour Organization - https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_633135.pdf	2018
Rural communities		
Rural Wales and parts of the south Wales valleys have experienced the highest levels of business closure. These areas already have relatively weak economies.	Bevan Commission (2020) Lessons from Lockdown: Challenges facing carers - https://www.bevanfoundation.org/commentary/lessons-from-lockdown-challenges-facing-carers/	11/8/2020
While two in five employees currently live in a city, research from YouGov shows that if they had the ability to work more flexibly nearly half of city dwellers (41%) would move out to locations that are more rural. Redistribution could allow skilled people from more disadvantaged areas to access job opportunities that weren't previously available to them…If we completely opened this up with consistent flexible working, and we had the right digital infrastructure in place, that time could be significantly increased.	YouGov - https://yougov.co.uk/topics/economy/articles-reports/2020/06/26/how-businesses-uk-expect-change-after-covid	11/8/2020
There is evidence that households that are more affluent may relocate to rural locations, seeking larger houses with private gardens. While these trends are uncertain, the dispersal of households from denser locations could undermine efforts for sustainable transport and urban regeneration, while increasing the costs of providing social and utility infrastructure.	Royal Town Planning Institute - https://www.RoyalTown Planning Institute.org.uk/media/5688/plantheworldweneed_june2020.pdf	11/8/2020

Sectors		
"In the UK, workers in wholesale and retail (1.3 million workers) and hotels and restaurants (1.8 million workers) dominate the "shutdown sectors" group. "…there are four million workers in energy, agriculture, construction and manufacturing who aren't in shutdown sectors and aren't able to work from home. 11.1 million workers (35 per cent) are able to work from home, primarily those in high-skilled occupations and knowledge-intensive industries. "…workers that can work from home are more highly qualified and work in occupations that are more senior; they make up 56 per cent of managers and 47 per cent of working degree holders. In contrast, 39 per cent of those in elementary occupations and 37 per cent of those in sales and customer service roles are in shutdown sectors. It follows that with construction and manufacturing workers unlikely to work from home, 60 per cent (1.8 million) of those in skilled trades roles are in our 'working outside the home' group".	Resolution Foundation - https://www.resolutionfoundation.org/app/uploads/2019/10/Risky-business.pdf SOURCE: RF analysis of ISER, Understanding Society; ONS, Labour Force Survey.	04/2020
Evidence shows that female-dominated sectors are most at risk of earnings losses and not being able to work from home.	C Hupkau & B Petrongolo, COVID-19 and gender gaps: Latest evidence and lessons from the UK, VOX CEPR Policy Portal, April 2020 - https://voxeu.org/article/COVID-19-and-gender-gaps-latest-evidence-and-lessons-uk	22/04/2020
"This need for less space is matched by a large expectation that more staff will be working from home; 60% say there will be an increase in working from home compared to before lockdown, while only 7% say there will be less. It is these same industries expecting less need for physical space who also lead the way on expecting more working from home, with media/marketing/advertising/sales/PR (93%), financial services (73%), and IT/Telecoms (71%) leading the way".	YouGov - https://yougov.co.uk/topics/economy/articles-reports/2020/06/26/how-businesses-uk-expect-change-after-covid	26/06/2020
"…many employees in retail, health care, transportation, and business services cannot do their jobs anywhere other than a traditional workplace. They need to see customers or work with products or equipment".	Stanford University - https://siepr.stanford.edu/research/publications/how-working-home-works-out	06/2020
Working from home has been more prevalent in sectors such as finance, insurance, professional and scientific, and information and communications.	Karl Taylor and Rachel Griffith - https://www.coronavirusandtheeconomy.com/index.php/question/who-can-work-home-and-how-does-it-affect-their-productivity	23/05/2020

Space		
"People are sitting in bedrooms or corners of living rooms and competing for broadband with children and partners. Others have returned to their family home and are living and working in their childhood bedroom, renegotiating relationships with parents".	Working@home study – University of Stirling - https://www.workingathome.org.uk/	05/2020
Not everyone has an office at home where they can go to work; many people may be working in a shared common space.	Karl Taylor and Rachel Griffith - https://www.coronavirusandtheeconomy.com/index.php/question/who-can-work-home-and-how-does-it-affect-their-productivity	23/05/2020
Technology		
Technology most commonly benefits well-being through the facilitation of flexible working and enabling communication that is more effective. Without doubt, technology is a big facilitator of homeworking. Two trends are converging here. The importance of computers in work, and the ubiquity of computers at home. In a short space of time, computers have ingratiated themselves into our working lives. Now not only do most jobs involve a computer, but for most jobs the use of a computer is essential.	CIPD Health and Well-being at Work Survey report -https://www.cipd.co.uk/Images/health-and-well-being-2020-report_tcm18-73967.pdf	03/2020
Out of 500 respondents: -71% working at home as a result of COVID-19 -81% have company-provided computer and 52% have Smartphone provided by company	Institute for Employment Studies survey https://www.employment-studies.co.uk/sites/default/files/resources/summarypdfs/IES%20Homeworker%20Wellbeing%20Survey%20Headlines%20-%20Interim%20Findings.pdf	07/04/2020
Zoom fatigue is definitely setting-in with participants mentioning that "meetings" have to be arranged when previously they would have popped round to someone's desk. "…the excess use of conferencing platforms during the day can lead to a reluctance to socialise using them in the evening and weekend".	Working@home study – University of Stirling - https://www.workingathome.org.uk/	05/2020
Travel		
"[With more homeworking] There would be much more room on buses and trains, and traffic would be eased - meaning fewer emissions and cleaner air, and less spending on new roads".	BBC news -https://www.bbc.co.uk/news/business-52675099	15/05/2020
Several participants mentioned that they are missing their commute as an opportunity to take their time to transition into work and to relax, read and prepare. Whilst some missed the journey to work, there was an appreciation of the lack of commute in terms of both time and money saved.	Working@home study – University of Stirling - https://www.workingathome.org.uk/	05/2020

Well-being		
"There is significant and possibly unprecedented seepage between work and non-work time and space. Meetings are taking up so much time that actual work is seen to be something that has to be pushed back, often undertaken in evenings and weekends. Not only is there no physical boundary between work and domestic space but there is no virtual boundary either with conferencing software being used for both work and socialising". Participants have been really positive about physical health, many taking up running and engaging in online classes. No one felt physical health was worse although a couple felt they were drinking more from being based at home the whole time". "...organisational support was again reliant and embedded in conferencing software and as a consequence, a reluctance to engage in mental health sessions and exercise sessions is starting to emerge. Many report that they are struggling to engage with leisure activities such as reading and falling into "bad habits", for example, watching too much TV". Younger participants felt frustrated at missing out on socialising and optimising their "youth".	Working@home study – University of Stirling - https://www.workingathome.org.uk/	05/2020
Home-based work – which concerns a majority of women – can have negative effects on their occupational health and well-being.	International Labour Organization -https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_633135.pdf	2018
Work-life balance		
Increasing ICT access means that work may be performed away from employers' premises. Telework and ICT-mobile work may represent further possibilities for an improved harmonization of work and family responsibilities. Research suggests that telework, especially regular home-based telework, has overall positive effects on work–life balance. It enables workers to reduce their commuting time and increase their autonomy in organizing their working time, based on their needs and preferences. However, risks of overlapping work and family time and of unpaid overtime also exist, especially among workers doing highly mobile or highly intensive telework and ICT-mobile work.	International Labour Organization -https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_633135.pdf	2018

Section 3 – Literature Review

The Public Health Impacts of Working from Home in Wales during the Coronavirus Pandemic

Evidence from the literature review is summarised in the table below. Table 1 consists of evidence relating to key population groups and Table 2 to evidence relating to key determinants of health. Much of the evidence contained in both tables is crosscutting. For example, evidence relating to women may also apply to families or lone parents, and evidence relating to mental health may apply to one or more population groups. Consequently, readers should crosscheck more than one table where necessary.

An initial search was carried out using the HMIC, EMBASE and Medline databases. This search was supplemented by a further search carried out by Public Health Wales' Evidence Service using CINAHL; references and bibliographies contained in the literature revealed by the initial search; and further supplemented by a search using Google. With two exceptions Montreuila and Lippel (2003) 'Telework and occupational health: a Quebec empirical study and regulatory implications' and Sonnentag, S. (2012) 'Psychological Detachment From Work During Leisure Time: The Benefits of Mentally Disengaging From Work', Association for Psychological Science) evidence has been restricted to within the last five years. These earlier references were used in the absence of more recent research on working from home.

The search terms used for the review were: pandemic, epidemic, coronavirus, Covid-19, SARS, homeworking, telecommuting, remote working, agile working, virtual work and working from home, adult, worker, employee, employer, men, male, women, female, child/ren, family, health and well-being, physical health, mental health, diet, nutrition, food, psychosocial, network, housing, economy.

Table 1

Population groups	Evidence
Women (see also Young People, Men, Carers, Working Parents and Key Workers)	Key workers accounted for 41% of total female employment, making them twice as likely to be designated as key workers than men (Rodriguez, 2020). Mothers in Wales are more likely to spend more time on home schooling and housework than fathers, reporting that they spent 39 hours a week on these. However, fathers in Wales spent more time on home schooling and housework than men in other parts of the UK (Understanding Society survey cited by Thomas, 2020). Women were about one third more likely to work in a sector that is now shut down than men: one in six (17% of) female employees were in such sectors (Joyce and Xu, 2020). When schools and day-care centres shut down to stem the spread of the virus, women across all industries and occupations saw the support most critical to their employment disappear (Scott, 2020). Those with high childcare duties have shown noticeable deteriorations in well-being, with women more affected than men (Etheridge and Spantig, 2020). Women's caring for sick family members reduces their capacity to be in paid employment, and places them at increased risk of infection; confinement at home due to work at home requirements and school closures may compound the unequal division of domestic tasks, additionally, responsibility for schooling children at home may be disproportionately borne by women (King et al, 2020). In two-parent households where only one parent works in the formal labour market, the stay-at-home parent, usually the mother is likely to assume primary childcare duties during coronavirus-related school closures. However, in 44% of married couples with children with both spouses working full time, mothers already perform about 60% of childcare (Alon et al, 2020). Different sectors are being affected in the coronavirus lockdown than in a typical recession. A US study found that in past recessions men faced greater risk of unemployment than women, partly because of the gender composition of different sectors of the economy. Currently, 40% of all working women are employed in the government or health and education sectors compared to just 20% of working men. (Alon et al, 2020). As businesses adopt working from home options on a wide scale this may benefit working women who can combine careers and childcare (Alon et al, 2020). Lockdown measures are expected to reduce disproportionately women's labour productivity as they are spending more time on childcare and home schooling than men (Amano-Patiño et al, 2020).

Men (see also Women, Young People, Carers, Working Parents and Key Workers)	As businesses adopt working from home options this may give rise to a cultural shift, as fathers may become primary childcare providers (Alon et al, 2020).
Older people	Older workers have accrued skills, networks, and trust from which to facilitate homeworking. Additionally, older households are much more likely to be under-occupying and have a spare bedroom to use as an office than younger households (CIPD, 2020). Currently, less than 50% of UK adults aged 75 years or older have access to the Internet (ONS, 2018 cited by Marston et al, 2020). Allowing employees to work from anywhere could yield some career-extending benefits to both employees and the organisation, by encouraging older employees to remain in the productive workforce longer (Choudhury et al, 2019). In the US the onset of the COVID-19 crisis led to a wave of earlier-than-planned retirements which may reflect in part a decision to either leave employment earlier than planned due to higher risks of working or a choice to not look for new employment and retire after losing their work in the crisis (Coibion et al, 2020).
Young people (see also Key Workers)	Shutdown measures have hit youngest workers the hardest, with employees under the age of 25 almost three times as likely to be working in shutdown sectors. The impact also varied by gender, with 18% of female employees working in shutdown sectors compared to 14% of male employees (Rodriguez, 2020). Employees aged under 25 were about two and a half times as likely to work in a sector that is now shut down as other employees. On the eve of the crisis, sectors that are shut down as a result of social distancing measures employed nearly a third (30%) of all employees under the age of 25 (25% of young men and 36% of young women). This compares to just one in eight (13%) of workers aged 25 and over (Joyce and Xu, 2020). Young people already working are often first to lose their jobs, and others suffer long term scarring effects from entering a weak labour market after education (Gustafsson and McCurdy, 2020). We can hypothesise that younger workers need to be present [in the workplace] to learn and build networks…Research shows that younger workers also enjoy the social aspects of being in the office (CIPD, 2020). A quarter of adults and young people who tried to access support were unable to do so. Not feeling comfortable using phone/video call technology has been one of the main barriers to accessing support (Mind, 2020). The pandemic also intersects with rising mental health issues in childhood and adolescence. People on low incomes face job and financial insecurity, cramped housing, and poor access to the internet and technology." (Holmes et al, 2020). One mitigating factor is that the majority of the affected younger workers and lower earners live with parents or others whose earnings are likely to be less affected, so many may suffer smaller hits to their living standards than otherwise (Joyce and Xu, 2020).

BAME (see also Racism and Communities)	Race inequalities exist in Wales. A number of key socio-economic and environmental factors are implicated in the disproportionate COVID-19 outcomes for members of Welsh BAME communities. Welsh specific data is a necessity and should be a priority in addressing health and wider inequalities in the future. In light of COVID-19, the lack of, or poor quality of ethnicity data has resulted in poor health decisions, and BAME communities face a higher risk of catching and dying from the disease (Ogbonna, 2020). Workers of Bangladeshi, Black Caribbean and Pakistani ethnicity were significantly more likely to be working in shutdown sectors in Wales (Rodriguez, 2020).
People with disabilities	Pre-existing inequalities have been worsened by the pandemic. People with disabilities are more likely to report that their mental health has declined (Mind, 2020).
Rural communities	Office for National Statistics figures for the end of May showed that 20% of Welsh businesses had temporarily closed or paused for trading, the highest percentage of any of the UK nations. According to The Bevan Foundation, these closures are most likely to be in rural areas and the Valleys (Thomas, 2020). The Welsh Government wants to empower urban, rural and coastal communities to identify and develop solutions to the social and economic barriers they face to prosperity, shaping their local places to drive new economic opportunity and foster the development of mental and physical health (Welsh Government, 2020). Depending on the share of time a person telecommutes, the distance-to-work constraint is gradually weakened, and eliminated for full-time telecommuters. Consequently, telecommuters are more likely to move to suburban and rural areas, everything else being equal (Moeckel, 2016). Remote consultations and the use of technology offer some great opportunities to make significant improvements to general practice, hospital outpatient and mental health appointments in rural areas (Healthwatch et al, 2020).
Lone parent families (see also Women, Men and Working Parents and Key Workers)	There are some differences between coupled parents and single parents. A larger proportion of coupled parents are able to work from home, whereas single parents are concentrated in the two most severely affected groups (Gustafsson and McCurdy, 2020).
Carers (see also Women, Men, Young People, BAME and Working Parents)	Immediate action is needed to guarantee continuity of care for those who need it and to recognize unpaid family and community caregivers as essential workers in this crisis (United Nations, 2020a). Home lives vary considerably with some people having caring responsibilities and others being overworked or under employed and resulting mental health consequences (Jacobs, 2020).

People who live on their own	A snap survey of 500 home workers by the Institute for Employment Studies found one-third feel lonely (Jacobs, 2020). Tracking loneliness and intervening early are important priorities. Crucially, reducing sustained feelings of loneliness and promoting belongingness are candidate mechanisms to protect against suicide, self-harm, and emotional problems. Social isolation and loneliness are distinct and might represent different risk pathways (Holmes et al, 2020).
Working parents (See also Women, Men, Young People and Key Workers)	Many parents will be having to reduce hours or stop work altogether to care for children who are now at home full time. Millennials born in the 1980s are some of the most likely to have been affected by this sudden shake-up to work and family life – over half of those born in the early 1980s are parents of children under nine. This is the same cohort of adults who experienced the sharpest deterioration in cohort on-cohort pay progress in the aftermath of the financial crisis (Gustafsson and McCurdy, 2020). Care and schooling requirements are higher for parents whose children are younger. A 15-year-old will be more self-sufficient than a young child requiring near-constant attention. First-time mothers in the UK are typically 29 years old, which means that working parents in their early- to mid-30s will, on average, be facing the biggest changes in their childcare responsibilities (Gustafsson and McCurdy, 2020). Declines in well-being during the pandemic are strongly associated with family responsibilities, financial circumstance, and with age: the young have been much more strongly affected than the old. (Etheridge and Spantig, 2020). As an example of how shared parental leave could work, in Norway, of the 49 weeks of fully compensated parental leave that parents are entitled to, a proportion of non-transferable leave is specifically assigned to each parent. This use-it or lose-it approach has led to a substantial upswing in the number of fathers taking parental leave (King et al, 2020). American parents are, on average, feeling significantly higher levels of stress than adults without children. The disruptions of the lives of children and teens under the age of 18 caused by COVID-19 may be having a profound effect on the stress level of American parents. More than 7 in 10 say managing distance/online learning for their children is a significant source of stress (71%) (Mental Health Weekly, 2020).
Key workers	Wales had a higher share of key workers (31%) compared to the other nations and regions of the UK. 14% of Welsh workers were employed in health and care compared to 7% in London. Among key workers, women were again significantly over-represented. Key workers accounted for 41% of total female employment, making them twice as likely to be designated as key workers than men (Rodriguez, 2020). Those of Black, Indian, and Bangladeshi ethnicity in Wales are significantly more likely to be key workers in Wales, with a much higher share employed in the health and social care sectors. This potentially greater exposure to the virus is particularly concerning in the context of the emerging evidence that minority ethnic groups are experiencing greater health harms from the virus (Rodriguez, 2020). Key workers are more evenly distributed across different types of work contracts, but are over-represented in temporary and part-time work, where in both instances almost two fifths of workers in this position are key workers (Gustafsson and McCurdy, 2020).

Table 2

Determinant of Health	Evidence
Behaviours affecting health	
Diet/Nutrition (see also Physical activity)	In a survey of 500 home workers by the Institute for Employment Studies a third of people said they were eating less healthily (Jacobs, 2020). Although current evidence does not suggest that having excess weight increases people's chances of contracting COVID-19, data shows that obese people are significantly more likely to become seriously ill and be admitted to intensive care when compared to those with a healthy BMI (Public Health England, 2020). For people with a BMI of 35 to 40, one study has shown that risk of death from COVID-19 increases by 40% and with a BMI over 40 by 90%, compared to those not living with obesity. Other data found that in intensive care units, 7.9% of critically ill patients with COVID-19 had a BMI over 40 compared with 2.9% of the general population (Public Health England, 2020).
Physical activity	Likely, our daily life with physical activity (PA) will be impaired for months, affecting the health of a significant portion of society. A significant decline in steps taken assessed by activity tracker users has already been shown (Fitbit cited by Jakobsson et al, 2020). Encouraging or mandating that people should remain within their homes with discontinued daily life activities may unintentionally increase sedentary behaviour, decrease general physical activity, and inflict negative health consequences. Decreased physical activity will lower mechanical load, metabolic rate, and energy expenditure, which may result in a decline in physical fitness and an energy surplus. All are well-known risk factors for future disease manifestations, imposing further economic burden on tomorrow's society (Owen et al, Malm et al cited by Jakobsson et al, 2020). As a result of the current situation in which many people are confined to their homes, physical activity and exercise levels drastically decline while dietary habits remain unchanged or fail to offset this inactivity producing a positive energy balance (Martinez-Ferran et al, 2020). There is strong epidemiological evidence that a chronic sedentary lifestyle is detrimental for health. Furthermore, there is evidence that such negative effects persist even when performing physical exercise programs, demonstrating that it is as important to reduce sitting times as it is to lengthen exercising periods (Martinez-Ferran et al, 2020). A sedentary behaviour with high levels of sitting time and low levels of physical activity are associated with increased risks of depression (Huang et al cited by Jakobsson et al, 2020), type 2 diabetes, cancer (Patterson et al cited by Jakobsson et al, 2020), coronary vascular disease (CVD), and mortality (Stamatakis et al cited by Jakobsson et al, 2020). Regular PA is important in the prevention of severe complications in any future pandemic viruses similar to COVID-19 (Jakobsson et al, 2020). Maintaining an active lifestyle during home quarantine is essential to avoid physical consequences and may help mitigate the psychological impacts of confinement (Martinez-Ferran et al, 2020).

Risk-taking activity i.e. addictive behaviour, gambling **Social media use** (see Digital services and Digital literacy)	During COVID-19, sitting time increased from 5 to 8 hours per day and food consumption and meal patterns were unhealthier during confinement with only alcohol binge drinking decreasing significantly (Achraf et al, 2020). The current uptake of telework has occurred in an anxiety-provoking context linked to the pandemic... and is likely to worsen telework-associated psychosocial and behavioural risks, especially those associated with addictions (Bouziri et al, 2020). In a survey of 500 home workers by the Institute for Employment Studies, 20% admitted to increased alcohol consumption during lockdown (Jacobs, 2020).
Social and community influences on health	
Community resilience/ Divisions in community (See also Racism) **Family relationships, organisation and roles**	Although the restrictive measures in China showed success in containing COVID-19 after a month, there is little research on how the disruptions affected people in the community. The identification of who might be more affected by COVID-19, not epidemiologically but simply by working and living in affected regions carries important implications. Such identification can help to prioritise those who might need more help (Zhang et al, 2020). Post-Covid, can we create a system that fits real workers, addressing work-life balance and rethinking the ideal worker? (Thomason and Williams, 2020). The way couples divide paid work and household responsibilities during the pandemic could have an effect that lasts long after lockdown. The work culture that relies on the ability of men to do paid work being unaffected by fatherhood may change quickly over this period as employers and co-workers adapt to male workers requiring more flexibility to balance paid work with childcare (Andrew et al, 2020). Many parents will be having to reduce hours or stop work altogether to care for children who are now at home full time (Gustafsson and McCurdy, 2020). For some, working from home is a chance to spend time with family or pause to reflect…The pandemic has exposed the fact that the best paid are not essential, triggering soul-searching among financiers and lawyers…Now public service and social connections are prioritised. (Jacobs, 2020). A significant number of stakeholders shared concerns relating to the impact of the pandemic on family and relationships, which were felt to have implications for mental health and well-being. Some people described being consumed by fears about family members contracting COVID-19, while others were anxious about the implications for dependent family members should they themselves become unwell (Cowan, 2020).

Domestic violence	There are early reports of rising domestic violence as couples and families are forced to hunker down together which puts many women at great risk (Taub 2020 cited in Alon et al, 2020). Isolation has prompted a rise in domestic violence cases. Refuge, a UK charity helping those affected, has reported a 700 per cent rise in calls to its helpline in one day (Jacobs, 2020).
Neighbourliness	Planning can boost the UK and Ireland's competitive advantage by creating places that meet the needs of those businesses and industries driving the shift to a zero-carbon and circular economy. These plans must operate effectively at a range of scales, depending on the issues at hand. Some are best addressed at the neighbourhood scale, while others require cooperation across city regions, counties, natural landscapes and regions (Royal Town Planning Institute, 2020). Social media platforms such as Facebook can offer support for communities in times of crisis, such as COVID-19 (Marston et al, 2020)
Racism	See also BAME, Community resilience / Divisions in community
Social isolation/ loneliness and social capital, support and networks (see also Community resilience/Divisions in community, Domestic Violence and Social Media use)	Lloyds Banking Group employees can access new COVID-19 related content in the form of articles, animations, podcasts and webinars. Linklater's has virtualised some of its existing mental health resources such as on-site psychologists in Hong Kong, Singapore and the UK. Other online resources include webinars on the psychological impact of working in isolation (Jacobs, 2020). Social interaction is arguably necessary for creativity and innovation (Taylor and Griffith, 2020). Internet users of any age are susceptible to the risk of loneliness and social isolation. While those who do not use the Internet may have access to a telephone and/or mobile phone that in turn will offer an alternative means of communication. However, using a telephone or a mobile phone does not facilitate nor replace the fact that seeing a loved one's face is important (Marston et al, 2020). Physical proximity enables face-to-face interaction, enabling direct client contact to build networks and trust. However, work can be modular, and the back-office functions can take place at home (CIPD, 2020). Instant messaging services allow homeworkers an informal online space. Gifs and emojis can help replace some of the nuance lost by in-person interaction (CIPD, 2020). Staying connected, keeping busy, physical activity, staying calm, information intake, maintaining routine is helping people's mental health and well-being (Cowan, 2020). 52 percent of respondents in the study who worked remotely felt their colleagues did not treat them equally. Maxfield and Grenny suggest that the success of any team is determined by the quality of communication between colleagues and that teams that communicate effectively without emotions or politics are more successful. They add that managers play a particularly important role when it comes to communication (Farooq et al, 2020).

Mental health and well-being	Mental health in the UK worsened substantially as a result of the COVID-19 pandemic – by 8.1% on average and by much more for young adults and for women which are groups that already had lower levels of mental health before COVID-19 (Banks and Xu, 2020). New mental health problems have developed because of the pandemic, and existing mental health problems have worsened. Women, people with disabilities, those living in social housing, people with eating disorders, obsessive-compulsive disorder or personality disorders and frontline workers are more likely to report that their mental health has declined (Mind, 2020). More than half of adults and over two thirds of young people said that their mental health had worsened during the period of lockdown restrictions, from early April to mid-May. Many people said they do not feel entitled to seek help, and had difficulty accessing it when they do (Mind, 2020). A snap survey of 500 home workers by the Institute for Employment Studies found that 64 per cent report problems sleeping due to anxiety and 48 per cent are working irregular work patterns and long days (Jacobs, 2020). Prolonged teleworking may lead to mental health problems due to long-term social isolation and lack of workplace interaction (Sim, 2020). Gender-differentiated exposure to work and household stressors as they strive to fulfil paid and unpaid responsibilities contributes to poor mental health in women, including depression (King et al, 2020). Employees who experience more detachment from work during off-hours are more satisfied with their lives and experience fewer symptoms of psychological strain, without being less engaged while at work. Fluctuations in individuals' psychological detachment from work can explain fluctuations in their affective states such as positive relations between detachment from work during off-hours and job performance. Conversely, high involvement in one's job, job stressors, and poor environmental conditions are negatively related to psychological detachment from work during off-job time (Sonnentag, 2012). Respondents' priority concerns in two surveys included anxiety, isolation, becoming mentally unwell, access to mental health support and services, family and relationships. Respondents' strategies to overcome these issues included staying connected, keeping busy, physical activity, staying calm, information intake and maintaining routine (Cowan, 2020).
Living and environmental conditions affecting health	
Urban/rural built and natural environment and neighbourhood design (see also Physical activity)	Any positive environmental impact must come from changing production and consumption habits towards cleaner and greener. Because only long-term systemic shifts will change the trajectory of CO2 levels in the atmosphere. There is a real opportunity to meet that demand with green packages of renewable energy investments, smart buildings; green and public transport (United Nations, 2020b). The ability to work from home at least some days a week expands the geographic reach of an individual's job search. From the employer's point of view, it expands their talent pool. We do not know if longer commutes are prompting homeworking, or the ability to work from home is prompting longer commutes…Cost pressures may be a driver of homeworking. Combined with strategies like hot-desking, this can reduce floor space as well as other costs of employment (CIPD, 2020).

	Online meetings and conferences are likely to be maintained leading to positive environmental effects including less traffic congestion and lower carbon emissions (Sim, 2020). Working from home gives people from all backgrounds more control over their lives. It reduces commuting, and therefore carbon emissions and intensifies the use of the overall building stock. If fewer people go out to work, we need fewer workplaces. Redundant industrial and commercial buildings can be converted into much needed housing (Holliss, 2017). While two in five employees currently live in a city, research from YouGov shows that if they had the ability to work more flexibly nearly half of city dwellers (41%) would move out to locations that are more rural. Redistribution could allow skilled people from more disadvantaged areas to access job opportunities that were not previously available to them…If we completely opened this up with consistent flexible working, and we had the right digital infrastructure in place, that time could be significantly increased. (O2, 2020). In the longer term, the option to do telework enables workers to live further away from the workplace. Ultimately, this may induce urban sprawl. Vice versa, long commute times from home to work may trigger employees to request the option to telework (Moeckel, 2016). Uncertainty for self-employed people, homeworking and the importance of agglomeration – the impact of Coronavirus on employment will be felt differently across the UK (Magrini, 2020). Increased commuting time is another driver. People who occasionally work from home have a nine-minute longer journey time than those who do not. It is not clear whether longer commutes are leading people to work from home, or the ability to work from home is facilitating longer commutes (CIPD, 2020). People living in cities are the most resilient through this crisis. However, if they are house-sharing with other adults due to failures in housing and planning policy, it may be more uncomfortable to work from home in cities like London and Oxford than in cities with less acute housing shortages, even if it is more common (Breach, 2020).
Housing quality and tenure	Workers or employers could not have anticipated the sudden shift to teleworking, so the safety of the homeworking environment has not necessarily been ensured. For many the uptake of telework will be temporary, so a limited duration of exposure may mitigate the risks of injury or pain associated with the home environment, or risks of musculoskeletal disorders associated with unergonomic workstations (Bouziri et al, 2020).
Office/indoor environment and health and safety	Workers generally see home-based telework as having a positive effect on their health, although potential problems may arise from work station design, long hours and isolation (Montreuila and Lippel, 2003). Remote employees are currently facing various obstacles to work, and many require or expect additional support from their employers. Many challenges have been enhanced by the current lockdown, with employees having to “make do” with their makeshift home office. Many businesses have adopted a “ride it out” mentality and are waiting for regular office life to resume (Moran, 2020). For many owner-occupiers, work is accommodated through under-occupation - in a little-used dining room, a spare bedroom, a disused garage or a shed at the bottom of the garden. However, this option is often not available for renters and apartment-dwellers, especially those with children (Holliss, 2016).

Local foundational economy	Throughout its recent regional investment consultation document the Welsh Government emphasises the importance of local economies (Welsh Government, 2020). The Welsh Government's Foundational Economy Challenge Fund aims to increase the number of "community rooted" medium sized Welsh firms that are capable of selling outside Wales and support Public Service Boards to use and strengthen local supply chains utilising principles of The Well-being of Future Generations (Wales) Act (Welsh Government, 2019). 39.9% of Welsh workers could plausibly perform their jobs at home and access local services for work from it. However, the feasibility to work from home is not uniform across sectors and occupations (Rodriguez and Ifan, 2020).
Economic conditions affecting health	
Unemployment / incomes **Type of employment i.e. permanent / temporary, full / part time**	At the end of May 20% of Welsh businesses had temporarily closed or paused for trading, the highest percentage of any of the UK nations. According to The Bevan Foundation, these closures are most likely to be in rural areas and the Valleys (Office for National Statistics cited by Thomas, 2020). In May, 316,500 employees in Wales had been furloughed through the Coronavirus Job Retention Scheme, while 102,000 self-employed individuals had applied for support through the Self-Employment Income Support scheme. Despite unprecedented levels of state support for the economy, early data suggests there has been a large increase in unemployment in Wales (Rodriguez, 2020). Workers in Wales have been able to work at home less than in other parts of the UK. Just over 40% of workers in Wales are employed in occupations that can be done at home (Thomas, 2020). An economic downturn has a number of effects on people's lives through increased unemployment, decreased employment, reductions in income and wealth, and increased uncertainty about future jobs and income. The health effects caused by these adverse macroeconomic conditions will be complex, and will differ across generations, regions and socio-economic groups (Banks et al, 2020). Those in precarious employment or in low paid jobs are more likely to be disproportionately affected by social distancing and isolation measures (Williams et al, 2020). 16% of respondents in the UK with incomes below £10K have lost their job due to COVID-19 compared to 5% of workers at the higher end of the income distribution and 75% of self-employed report having earned less. In the UK, more than half of workers in personal care and services have no paid sick leave. 43% of workers in the UK who do not have paid sick leave say they usually go to work with a cold or light fever and are 39% more likely to do so than workers with paid sick leave (Adams-Prassl et al, 2020). Low earners are seven times as likely as high earners to have worked in a sector that was shut down fully. One third of employees in the bottom tenth of the earnings distribution work in shut down sectors versus just 5% of those in the top 10% (Joyce and Xu, 2020).

Organisational policies	Existing literature on the health impacts of business-cycle fluctuations and recessions shows that the resulting economic downturn will have significant consequences on people's health outcomes in the short and longer term (Banks et al, 2020). Preliminary indicators point toward catastrophic declines in US employment and a wave of early retirements which suggests that more permanent changes may be taking place (Coibion et al, 2020). Companies are, and will be, an important piece of global management of any outbreaks including COVID-19 through the crucial involvement of their occupational, health and safety practitioners. It suggests that home and agile working should be encouraged and developed. It notes that companies should implement medical screening, surveillance and care including psychological support and that they should regularly follow up by using telemedicine to reduce in person contact. It states that training and information should be provided to employees including basic hygiene rules and masks and post lockdowns, specific support for returning to work should be implemented including assessment for eligibility for employment injury benefit (Fadel et al, 2020). Workers generally see home based telework as having a positive effect on their health. However, there are potential problems arising from workstation design, long hours and isolation. Analysis of the legal framework relating to teleworkers in Quebec showed that most legislation theoretically applied to teleworkers, but there was some concern as to whether protective provisions governing prevention and compensation for injury were effectively applied to home based telework (Montreuila and Lippel, 2003). A study suggests that granting employees the ability to work from anywhere could yield some career-extending benefits to both employees and the organisation, by encouraging valued senior employees to remain in the productive workforce longer (Choudhury et al, 2019). Technology alone will not ensure homeworking. Employers should establish new norms, particularly around communication and collaboration. Technology can help, but culture change needs to embed it. Homeworking is a major component among arrangements for flexible working - something that can help organisations attract talent, increase diversity and respond agilely to situations like the coronavirus outbreak, where business continuity could hinge on the ability of workers to work from home (CIPD, 2020). Employers should be mindful of the formal and informal aspects of working from home and seek to encourage norms that can enhance the effectiveness of this mode of working. This means not just technology, but management practices that encourage collaborative working, trust and autonomy (CIPD, 2020). Most roles consist of modular tasks. When this is the case, the back-office functions can be done from home. Evidence suggests it may even be done more efficiently. Employers should evaluate whether the work done in their organisation fits this pattern and be open to trialling increased homeworking (CIPD, 2020).

	Many employers have rapidly overcome practical challenges to homeworking, and changed their perception around the productivity of homeworking. In a survey of 6,000 office workers across the UK, Germany, France and the Netherlands, only 24% of UK respondents said they wanted to return to the office fulltime. Major tech companies, such as Twitter, Google and Facebook, are among those offering greater long-term flexibility to their employees. Demand for office space may be propped up in the short-term as social distancing reduces capacity. However, wider impacts could emerge as office leases come up for renewal, and companies seek to make operational savings during the recession" (Royal Town Planning Institute, 2020). Promoting flexible work arrangements and putting the childcare obligations of both genders into plain sight, the crisis may reduce labour-market barriers in the end (Alon et al, 2020). Once perceived as a bonus, flexible working (after salary) is now considered the most important workplace benefit employees consider when taking a new role…Set against this context, digital infrastructure and connectivity have surpassed physical infrastructure in terms of their importance to the business (O2, 2020). Workers with a broad permit to work remotely are significantly more likely to demonstrate positive attitudes toward their company and its strategy. As a result, 72% of remote workers believe their company is prepared to adapt quickly to industry changes (Moran, 2020). This nimble mind-set also works on an individual level and fosters creativity among employees. For example, 7 in 10 remote workers feel empowered to make strategic decisions or pursue new business opportunities, compared to 47% of those based in an office full-time (Moran, 2020). However, one drawback of remote working were feelings of detachment from the shared understanding of what their organisation stood for: 63% of remote workers would like to feel more aligned with their company's vision, values, and operating principles (Moran, 2020). Employers who allow employees to work remotely should grant these employees true autonomy and flexibility, rather than trying to micromanage their remote work. Studies have shown that granting workers additional autonomy can actually enhance employee productivity (Choudhury et al, 2019). Employers should leverage any geographic clusters of remote employees, especially those doing similar types of work including informal meetings and rotating off-site meetings (Choudhury et al, 2019). It seems best to keep newly hired employees co-located in the office with experienced peers long enough to benefit from the informal learning that happens organically in a face-to-face environment. Additional research is needed to determine whether or not newly hired employees could experience the same productivity benefits in working from home as the experienced employees we studied (Choudhury et al, 2019). A 2015 study based in a Chinese travel agency found that when call-centre employees were shifted to working from home, their productivity increased by an average of 13%, apparently due to a reduction in break time and sick days combined with a more comfortable work environment (Choudhury et al, 2019). Done right, remote working can boost productivity and morale; done badly, it can breed inefficiency, damage work relationships, and demotivate employees (Bick et al, 2020).

Access and quality of services	
Digital services and digital literacy (see also Social media use)	Digital technology is an enabler during the COVID-19 pandemic, supporting people to connect and maintain their mental well-being. In 2018, the majority (89%) of UK adults used the internet every week, although less than half of over 75 year olds had access to the internet. This could have implications for the elderly in feeling connected to others (United Nations cited by Marston et al, 2020). A combination of digital innovation, automation, decarbonisation, an increasingly ageing population, and the UK's exit from the EU will change the availability and nature of jobs in Wales (Welsh Government, 2020). With regard to the longer-term priorities, health services research must reliably, and iteratively, inform remotely delivered mental health resources, such as digital clinics, to manage efficiently mental health issues in an adaptive and flexible manner (Holmes et al, 2020). Planning for mixed use communities with accessible local services, digital connectivity and networks of green and active transport infrastructure required. This investment will capture the benefits of more flexible and remote working patterns, reduce pressure on both local and strategic transport networks, freeing up capacity that avoids the need for costly upgrades (Royal Town Planning Institute, 2020). The transition to digital has had a profound effect on the way we work. Surveys show that not only do most jobs involve a computer, but also for most jobs, the use of a computer is essential. This has combined with a huge increase in household internet access over the last two decades to mean that many more people are able to work from home if their jobs allow (Healthwatch et al, 2020). Remote consultations and the use of technology offer some great opportunities to make significant improvements to general practice, hospital outpatient and mental health appointments, but making the most of this opportunity means understanding the patient experience (Healthwatch et al, 2020). Use of a common set of technology tools in one study has been shown to lead to an additional 3% increase in productivity (Choudhury et al, 2019). There are no one size that fits all solutions. Key to a successful shift to remote consultations will be understanding which approach is the right one based on individual need and circumstance. A blended offer, including text, phone, video, email and in-person would provide the best solution…Through this sea change there is an opportunity to improve the quality of care. By focusing on the needs of people receiving care and using a combination of communication tools we can create a more equal space for healthcare providers and patients to interact…Health and care providers will need to adapt to a more blended approach to communication with patients in order to meet the needs of patients. To do this they need to build on existing good practice, and look beyond healthcare to other industries that are successfully engaging people remotely. This work needs to be done by the health service, and not become the responsibility of the patient (Healthwatch et al, 2020).

Transport including parking, public transport, active travel	"In 2017, we have an environmental crisis of catastrophic proportions, a vast and rapidly growing population, and a chronic shortage of housing and unsustainable pressure on our transport infrastructure. Unfortunately, the garden city idea is not going to solve this. We need to stop commuting, and become far more rooted in our neighbourhoods – and we could" (Holliss, 2017). Working from home will become even more relevant in the future. Assessing its impact on transportation and land use will become even more important (Moeckel, 2016). Increased confidence in homeworking, coupled with the need for social distancing, are likely see a continued reduction in public transport use, especially at peak times. Access to public transport will however remain crucial to those who cannot work from home, such as key workers, and those in jobs that place a premium on face-to-face interaction (Royal Town and Planning Institute, 2020). There is evidence emerging that the lockdown has had a positive impact on the environment and potentially climate change via economic shut downs and the reduction in transport and movement of people (Green et al, 2020).
Macroeconomic **Gross Domestic Product**	Polls suggest that only 9% of Britons want life to return to 'normal' after the pandemic is over, with more than half of respondents hoping to make changes in their own lives and for the country as a whole to learn from the crisis. 60% would like the government to pursue health and well-being over economic growth after the pandemic has subsided (Royal Town Planning Institute, 2020). Wales is the UK country with the lowest potential share of jobs that can be done from home - 5.3 percentage points below the UK average (45.2%), and significantly below London (58.7%) and the South East (53.6%) (Rodriguez and Ifan, 2020). Before the pandemic, there were approximately 228,000 workers in Wales employed in sectors shutdown by social distancing measures, amounting to 16% of the working age population (Rodriguez, 2020). Almost half of the lowest-earning decile of Welsh workers worked in shutdown 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). There is evidence of a positive correlation between the economic development of a country (measured in GDP per capita) and the share of jobs that can be done from home. Wealthier countries with advanced economies, knowledge-intensive industries, labour markets that are more efficient and larger share of 'high-skilled' workers may be better equipped to cope with the economic consequences of COVID-19 than developing countries (Rodriguez and Ifan, 2020). 65% of Welsh businesses had experienced a decrease in turnover from what they would normally expect at this time of year, similar to the picture across the UK. 23% of businesses reported that their turnover has decreased by more than half. 46% of Welsh businesses had six months or less cash reserves, the highest percentage of the UK nations (Thomas, 2020). As the recovery gains pace, planning will be critical for directing investment to solutions that balance economic, social and environmental objectives (Royal Town Planning Institute, 2020). Even if economic activity recovers throughout 2020, the wider impacts will be severe. Initial scenario modelling from the Office for Budget Responsibility suggested that a three-month lockdown would result in a 13% fall in GDP. The Bank of England have forecast that the pandemic will push the UK into its deepest recession in 300 years, decreasing output by 30% in the first half of 2020, more than doubling unemployment, and creating a £337 billion deficit over the financial year (Royal Town Planning Institute, 2020).

Government policies	Globally, women do more unpaid work than men do. Much of this is unpaid care work, of which more than 75% is done by women. Unpaid care work contributes substantially to global economies, and is estimated to be equivalent to 9% of the global gross domestic product (King et al, 2020). In Europe and North America, working women contribute between 35% and 45% of their country's GDP. Countries that plan economic recovery without truly taking the realities of women's economic position into account are setting themselves up for failure. The World Economic Forum, the EU and the OECD have published estimates of the gender pay gap in the UK that range from 18% to 45%. It depends on what source they use and how they calculate the gap, but the unavoidable fact is that they all show a big difference (Scott, 2020). A permanent shift to greater levels of homeworking will have significant implications for the Welsh economy, from influencing regional productivity levels across the UK, to reducing demand for cleaning and catering services that currently service office workers in Welsh towns and cities. Though new jobs will also emerge, a role of government will be to manage such a transition, primarily by offering a more comprehensive safety net and support for those affected (Rodriguez and Ifan, 2020). It is crucial to have a better understanding of how the response to COVID-19 will impact sectors and individuals differently, to ensure public policy responses target those individuals who have been most affected by the crisis (Rodriguez, 2020). From a policy perspective, understanding the health and well-being of people under the varying degrees of lockdown in China has implications for countries that are just starting to fight coronavirus (Moodie Davitt Report cited by Zhang et al, 2020). The most vulnerable have been disproportionately affected by the pandemic because they tend to be clustered in low-work-from-home and high-physical-proximity jobs. This is a challenge for policymakers, since these jobs are likely to be the last ones that come back in the economic recovery (Mongey et al, 2020). Major crises that cause societal shocks can ultimately provoke positive ways of reconsidering the common good and fundamental rights. The participation of women in the war effort between 1914 and 1918, for example, led to the extension of the right to vote to women in many countries. The end of World War 2 provided an opportunity for European countries to rethink the social contract around inclusive health protection systems (Nay, 2020). National legislatures should adopt adequate rules to ensure that health surveillance and monitoring policies will be strictly prescribed by law, proportionate to public health necessities, done in a transparent manner, controlled by independent regulation authorities, subject to constant ethical reflection, non-discriminatory, and respectful of fundamental rights (Nay, 2020). Social welfare policies should be evaluated from a public health perspective to avoid prolonging or worsening inequalities. Social welfare systems provide a safety net and how they are implemented or reformed could influence population health and health inequalities (The Lancet, 2020). The Welsh Government regional investment consultation proposals align with other policies for capitalising on growth and tackling poverty (Welsh Government, 2020). A particular focus of the recovery effort should be to prevent the economic shock from having long-term effects on the incomes and employment opportunities of women, the least well-off, those from Black, Asian and minority ethnic (BAME) backgrounds, and younger workers (Rodriguez, 2020).

	The interaction of children's age and their family's vulnerability will be a key point when thinking about policies to mitigate the health and economic effects of the crisis in the long-run (Banks et al, 2020). There is a strong case for bold policy interventions to prevent youth unemployment. The creation of guarantees for young people [in England] would ensure that every young person is in either education or work. The relevant proportion of total funding for such a scheme should be devolved to Scotland, Wales and Northern Ireland, to set up their own interventions (Quilter-Pinner et al, 2020). Policy options should be considered including government subsidies to replace 80% of pay for workers who need to provide childcare during the crisis; work requirement for government assistance programmes should be removed until school and day care centres reopen; unemployment benefits should be extended to workers voluntarily separating from employment to provide childcare (Alon et al, 2020). Pro rata train ticketing for workers who work from home occasionally would also benefit part-time workers who are proportionately more likely to be women (CIPD, 2020). Gender norms and beliefs that help shape our gender systems can be transformed through proactive policies related to exit from the COVID-19 pandemic. Policies that only target women may reinforce gender inequalities. Workplace practices, policies, and culture regarding leave and flexible work arrangements are an important influence on fathers' abilities to combine work and caring responsibilities. Policies such as redistribution of a proportion of women's unpaid caring responsibilities to support female labour force participation by increasing opportunities for both women and men to combine paid employment and unpaid caring; and workplaces that enable women and men to work from home and share caring responsibilities can help to address this imbalance (King et al, 2020). The impact of COVID-19 could recalibrate gender roles, with beneficial effects on population health. The economic arrangements, policy frameworks, and market forces that determine the distribution of paid and unpaid labour across society are powerful structural determinants of health. The way that paid and unpaid labour is inequitably divided between men and women is central to the perpetuation of gender inequalities across the globe, and the ways that such divisions can be shifted or disrupted offer critical opportunities to modify the gender-differentiated effects of COVID-19 on health (King et al, 2020). Normalising men's sharing of caring and household responsibilities is also essential for the redistribution of unpaid care. Initiatives should include non-transferable parental leave entitlements. Policies that target normative and structural drivers of gender inequality could parlay the upheaval caused by COVID-19 into enduring changes to gender systems that will ultimately benefit the health and well-being of all (King et al, 2020). Women's unpaid care work has long been recognized as a driver of inequality. It has a direct link to wage inequality, lower income, poorer education outcomes, and physical and mental health stressors (United Nations, 2020a).
Ethical and human rights considerations	Nay (2020) considers that where a health threat constitutes a danger for the whole population, then the suspension of ordinary law is legitimate to increase the government's capacity to protect society. A state of necessity justifies the state of emergency. This state provides a legal framework for the limitation of individual freedom during a short period, such as the freedom of movement, freedom of assembly, and entrepreneurial freedom. This state enables governments to requisition goods and services, to shut down public or private facilities, and to take binding measures that would normally be seen as infringements of basic rights. Health security becomes a matter of public security (Nay, 2020).

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Section 4 - Summary of Qualitative Interviews With Stakeholder Organisations

Introduction

Policy / Legislation

Homeworking during COVID-19 is covered in the Welsh Government's guidance 'Staying at home and away from others', which advises as part of the key message to '***Stay local and keep Wales safe***' and to **'work from home if you can'**.

Prior to the pandemic, many employers will have been operating with policies which provided for at least an element of homeworking, including 'remote-working', 'flexible-working', 'agile-working', or a specific 'homeworking' policy, but these policies were likely to have been used by only a small proportion of the workforce. Further, these policies are now being fully tested by businesses, organisations, and their staff in light of COVID-19 and the staying at home policy, including considering the immediacy in how it was brought about on the evening of Monday 23rd March 2020. Welsh Government policy has since been consistent in advocating for homeworking.

When asking interviewees about workplace policies, and in particular whether there were specific strategies or programmes for ***homeworking,*** a number of factors were identified which had implications for the immediate response but also consideration for future workplace policies and practices:

- Across organisations there were no specific policies that covered the situation fully; it was more the case of utilising and in some cases reviewing existing ones, i.e. 'flexible-working', 'remote-working' and additional policies such as 'carers leave' to guide and support employees (INTs 8,5,12,16). An example of reacting to the situation is shown with one organisation recognising there would be challenges for employees in balancing their work and home responsibilities, therefore they extended their 'carers leave' from 5 days to 15 days and enabled the time to be taken in hours rather than full days (INT 5). In other instances, organisations provided advice to expand the interpretation of 'flexible' working and understand if staff worked into the evening or split their hours across the day to enable them to balance other responsibilities, but if that meant sending emails out of hours other staff were not obliged to respond immediately.
- All interviewees stressed the uniqueness of the situation and, whilst in the immediate response the focus was homeworking, they placed it in a wider context of flexible / remote-working (INTs 5,8,12,16). This highlighted the inconsistency in the use of terms including 'agile-working', 'remote-working' and 'flexible-working' (INTs 5,8,12,16). Some interviewees made a distinction between flexible and agile; 'flexible' being focused on the hours that you work to balance work / life responsibilities, and 'agile' focused on where and how you work with homeworking an option within that (INTs 5,14,12).
- Interviewees also made the distinction that this situation was enforced, there was no choice, and that where challenges had been identified these would potentially be different if it was not in a lockdown situation (INTs 5,8,7,12,14,16).
- Interviewees all acknowledged that the enforced homeworking will probably have an impact on ways of working in the future leading to an expansion of remote / flexible working, and which will require the review and introduction of related policies and practices.

- Along with highlighting inconsistencies in terminology, the situation has also highlighted how the application, interpretation and implementation of existing workplace policies has led to inequities in opportunities to work flexibly/remotely. Whether this is through bias of individual managers, lack of trust or organisational culture, there is evidence of certain lower pay scales or roles being denied these opportunities even though there were existing policies in place that appear to guide, support and enable remote-working (INTs 5,8,7,17). The hope is the experiences through lockdown and explicit need for all staff to work from home has demonstrated that a greater range of staff can meet their work commitments within a remote-working context, and for this to lead to a more equal application of the opportunities and choices.

Many individuals are now over 8 months (at time of publication) into homeworking during COVID-19, and consideration is being given to the future of homeworking in the short, medium and long term. Welsh Government, in recognition of this accelerated and expanded move to homeworking and the potential opportunities this offers to contribute across policy areas, has implemented a 'Remote Working for Wales' project, which will result in a position statement that will inform and influence across policy areas within Welsh Government and across Wales.

It is also acknowledged that homeworking is not an option for many employees, including 'key workers' during the pandemic, for example sectors such as health and social care, manufacturing, public transport, home delivery, and education.

In the UK Parliament, there is legislation for homeworking including The Flexible Working Regulations 2014, which enable employees with 26 weeks of service to apply (for homeworking). Homeworkers are protected from legislation including The Working Time Regulations 1998, which state that workers do not have to work more than 48 hours a week, and The Management of Health and Safety at Work Regulations 1999, which require risk assessments for homeworkers.

The UK Government's Secretary of State for Health and Social Care has commented recently that (in light of COVID-19) employers should now always offer working from home as an option.

Guidance

Given the wide-ranging impacts of homeworking, as highlighted in this HIA, there are a large volume of published resources to support both employers and employees with the multiple aspects of homeworking, in the form of advice, guidance, tools, action plans, tips and frameworks etc. These are published by organisations including the UK Government, Wales Trades Union Congress (TUC), Health and Safety Executive (HSE), Chartered Institute of Personnel and Development (CIPD), Advisory, Conciliation and Arbitration Service (ACAS), Mind and the Mental Health Foundation, and many have been up-dated in light of COVID-19. The guidance includes official government guidance, interpretation of that guidance by sectors and individual organisations, and then bespoke guidance on certain topics / issues generated by specific sectors and organisations as the need has been identified (INTs 5,7,12). One example of an organisation's guidance recognises the need to adapt / review previous guidance or workplace policies to accommodate and support staff in their enforced homeworking. There are also examples where the challenges of balancing work responsibilities with home responsibilities have been recognised, i.e. relaxing the flexible working hours times to enable staff to complete their hours out of 'normal' 9am-5pm working hours, but not placing an expectation on other staff to respond to emails if sent outside of these hours (INT 5).

One interviewee highlighted the good work of their organisation in terms of changes to policy and guidance to support homeworking, but also recognised that it could be long-term and therefore there will need to be good levels of staff engagement to inform future planning (INT 12).

Another participant spoke about different support and leadership groups that were set up to support staff working at home (INT 5). In addition, this organisation set up a 'start, stop, continue' project looking at what worked well or not. The biggest finding was staff were in favour of continuing to work

remotely but recognised the additional support required to do so. The same organisation has launched new online management training recognising the different skills required to manage staff remotely.

Another interviewee highlighted a staff survey to understand how staff were coping, and felt this did highlight positives but also some concerns (INT 8). The concerns raised included feeling isolated, staying connected, work-life balance, managing caring responsibilities, setting expectations, trust and empowerment, and equipment and IT.

Population Groups Checklist

The section below captures and summarises the population groups that were identified by the interviewees as being potentially or actually affected by home and agile working and why.

- *People in jobs for whom homeworking is not an option* – It was identified that there will be an impact on key workers and vulnerable workers for whom homeworking is not an option. This includes delivery and taxi drivers and many health and social care staff (INT 11).
- *Young people, women, BAME* – It was highlighted that the people who are going to be affected the most will originate from the groups that may be more economically and socially vulnerable. Many of these groups are employed in low-paid jobs and who are at most risk of unemployment and redundancy (INTs 1,5). For ***women***, it was noted that there is evidence and data which shows a disproportionate impact on certain groups including women in lower paid sectors for example, hospitality, which have shut down under lockdown. They are unable to work from home. In addition, a high proportion of women in keyworker sectors such as health and social care and essential retail (INT 14). For y***oung people***, it was noted that this group could be affected via various pathways. These include: a lack of access to adequate and suitable workspace; lack of control in home environment; the risk of social isolation; the potential impact at the start of their career / new job; and the potential inability to build social and work networks (INT 14).
- *People living in rural communities* – It was highlighted that these communities could face particular challenges in relation to digital access including having no or poor broadband, particularly for rural areas including Powys / mid Wales (INTs 2,7).
- *Working parents and people with caring responsibilities* – This is in relation to the impact on mental health and well-being and how are people coping or not. This includes for those who have childcare or caring duties (INTs 3,5,7,8,9,14).
- *Lone / single parents* – It was stated by many interviewees that even if this group are able to work from home there are many challenges from using the home as a working environment whilst also caring and home schooling, for example (INTs 7,8,9,14).
- *Those at risk of Violence Against Women, Domestic Abuse and Sexual Violence (VAWDASV).* – They are at risk of abuse in the home environment and cannot leave to go to work and it may be more difficult for those at risk to disclose (INT 7).
- *People living alone* – It was noted by many interviewees that some people only have their working environment and colleagues within their lives. Home and agile working could leave them increasingly isolated and lonely (INTs 3,7,9,17).
- *People with existing mental health conditions* - It was flagged that homeworking could lead to worsening mental health and well-being for this group. (INTs 5,7,9).
- *People without access to adequate workspace / IT equipment or those in shared housing* – It was believed that there could be a lot of reflection by employees when they consider the permanency of the shift to homeworking and that they cannot continue longer term with their temporary arrangements for example, working on a dining table. It was noted that not all employees have a spare room at home to work from. It was felt that equitable access is needed to IT services across organisations, irrespective of personal circumstances and that

this should not be career defining / restricting in any way (INTs 3,5,7).

- *People with disabilities* – It was believed that home and agile working could have a positive impact for those with a range of disabilities and challenges, as people can demonstrate they can work effectively from home (INTs 7,11)
- *Those with sensory disabilities* – It was noted that this group could be directly or indirectly affected in relation to this group now having to access their healthcare services digitally due to GPs consulting remotely (INTs 7,9).
- *People less familiar with IT including those of an older working-age group* – It was stated by the interviewees that the move to home and agile working and differential digital platforms to work had been a sharp learning curve for many in this group. One stated that they were '*facing technological demons*' (INTs 7,8,11).
- *People on low incomes* – This could be through lack of digital access due to costs of broadband / data packages or lack of equipment, lack of work space if based in a small home and there were concerns about the increased household costs (energy and food) related to spending more time in the home (INTs 7,9).
- *Call centre / advice / help line employees (sector specific but still quite broad)* – It was highlighted that any increase in contact centre calls could create increased pressure on employees who are taking these calls remotely with no close support from colleagues or line managers (INT 12).

Health and Well-being Determinants Checklist

The section below captures and summarises the determinants of health and well-being that were identified by the interviewees as being potentially or actually affected by home and agile working and why.

Behaviours affecting health

- *Physical activity* – This will depend on individual circumstances (INT 15). A number of interviewees stated that the removal of the commute and the guidance enabling people to leave their homes for one hour of exercise a day enabled increased physical activity for a number of households. However, for others increased responsibilities, pressures from work, or lack of access to green environments (within the 5 miles travel limit) decreased their physical activity; highlighting how individual circumstances impact on different aspects of people's lived experiences (INTs 5,7,8,9,10,12,14).
- *Coping mechanisms* – Home and agile working could lead to an increase in smoking and alcohol consumption (INTs 5,7,8,9,10).

Social and community influences on health

- *Domestic violence* – There could an even bigger impact on this factor as people come out of lockdown and make personal decisions about their future. One interviewee highlighted safeguarding as a particular issue with the inability to pick up the signs and signals whilst conducting consultations remotely or whilst employees are working from home (INTs 5, 7, 8, 9,11).
- *Elder abuse* - One interviewee was concerned about reports of increased elder abuse (INT 2).
- *Family relationships* – There could be additional stresses and strains due to lockdown and the competing pressures of homeworking (INT 5).
- *Neighbourliness* – The population are more familiar with, and are valuing more, local neighbourhoods due to lockdown (and homeworking) (INTs 10,15).

- *Social connections* – There are online innovations for socialising which have been introduced or increased for staff and these became a coping mechanism for some (INT 5).
- *Social cohesion / capital / networks* – These have been strengthened in many cases via digital and in person support groups which have started up within communities (geographic and interest groups), aside from the third sector mobilising. There is the potential for those who are working from home to feel less isolated because of the local community reaching out, but this could also be the converse for others who need to stay at home and work. This is because their workplace may also be an important part of their social network (INTs 10,12,14).
- *Caring responsibilities* – Homeworking is / could be placing additional pressures on those caring for others (caring for individuals, childcare, home schooling etc.) whilst working from home and can or is affecting their ability to balance work commitments and responsibilities. This can lead to increased anxiety, pressure and stress (INTs 5,9,10,17).
- *Isolation / loneliness* – The interviewees talked about increased feelings of isolation from colleagues and their workplace (INTs 5,9,10,17).
- *Volunteering* – A positive impact is the increased (formal and informal) volunteering which has taken place during the pandemic and working from home can continue to enable those who wish to volunteer to do so more flexibly (INT 12).
- *Communication / collaboration* - A number of interviewees commented on improved communications and working relationships / collaboration with other sectors, colleagues, and partners, with mutual respect and understanding also improved (INTs 9,10).

Mental health and well-being

It was highlighted by all interviewees that the mental health and well-being impacts of home and agile working depend on an individual's circumstances.

- Home and agile working could be a positive experience for some, in promoting better work-life balance, lead to no commuting, provide a supportive home environment with good digital connections and autonomy and feelings of being trusted (INTs 7,8).
- In terms of domestic violence (INT 11), mental well-being could be affected particularly if coming to work was an escape from this (INT 1).
- It was suggested that people are more acutely aware (of mental health) and it has become a major agenda issue (INT 1). Home and agile working can affect mental well-being.
- How people are coping, including with childcare/caring duties was reflected upon. It was noted that some people only have their working environment in their lives (INT 3).
- Mental well-being could be improved from less sitting in traffic congestion leading to reduced stress (INT 15).
- Many suggested that [in the future] there needs to be flexible working with a mix of homeworking and office working (mainly because of the mental health impacts). It was noted that there has to be choice but also an equity focus to home and agile working in order to enable all those with roles that can be undertaken remotely to be supported to do so (INTs 6,8,17,14).
- Many interviewees raised the negative impact on mental health and well-being as being of a big concern both in the immediate and longer term due to the challenges of competing responsibilities, isolation from colleagues, and a poor quality home environment. One interviewee quoted a CIPD survey (CIPD, 2020) which showed a deterioration in the mental health of 42% of those surveyed with previously good mental health and in 52% for those with a pre-existing condition. Another participant stated homeworking can cause stress and lead to mental health issues, and a lack of face to face support from managers and colleagues could be harmful for certain staff (INTs 7,8,9,10,12,17).

Workplace example:

One organisation has emphasised the importance of mental health and well-being. A 'digital cwtch' (delivered using Microsoft Teams) is held every Friday where the chief executive, human resources and other colleagues answer questions from staff. Staff can submit questions in advance and the sessions are recorded (INT 2).

Living and environmental conditions affecting health

- *Air quality* – One Interviewee stated that 'people are talking about…improved air quality' (INT 2); and others said that in the wider context home and agile working can lead to '… improving air quality' (INTs 7,9,10,15).
- *Health and safety* - As well as Display Screen Equipment (DSE) assessments, individual risk assessments, breaks, exercise, stretching and ergonomics are all important (INT 11); It was noted that there will be a lot of reflection when people consider the permanency (of homeworking) and cannot continue longer term with their temporary arrangements (INTs 3,5,9,10).
- *Noise* – It can be difficult for someone to work at home, for example, if there is loud music emanating from neighbours (INT 3).
- *Working environment, equipment and IT* – A number of interviewees raised the issue of the homeworking environment (INTs 5,7,8,9,10,12,14,16,17). This included:
    - If employees have access to appropriate desks, chairs etc. Some organisations had been pro-active in enabling staff to have office furniture delivered to their homes or purchase equipment. However, for others it was known staff were 'making do' with inappropriate equipment leading to concerns for an increase in musculoskeletal disorders.
    - If employees have appropriate workspace - one interviewee referenced a member of staff working in the cupboard under the stairs. Others were concerned about inadequate space, shared housing, and pressures from multiple householders working from home.
    - If employees have inequality of access to laptops and remote server access, for example, having a VPN token. A number of respondents to one organisational staff survey (quoted by an interviewee) highlighted that certain pay scales / junior levels were denied access to laptops and VPN. It was seen as being a contributing factor to feelings of stress and low self-esteem and frustration that they could not contribute fully to organisational work streams.

Economic conditions affecting health

- *Income* – There could be an equity issue with regards to staff and their access to suitable personal devices and / or data / broadband which could affect their career or work efficiency for example (INT 3). It was noted that employees and employers may need to address the issue of the costs from homeworking in the autumn / winter when energy bills will increase through working from home (INT 11).
- *Working conditions* – It was noted that homeworkers need protecting and regulating – discussions will need to have trade unions involved in them or be consulted (INT 11).
- Localism – There could be an increased reliance on local shops / suppliers from homeworking with associated shifts in the balance between local and city centre economies (INT 7).
- Third sector – There were some concerns that homeworking could be seen to have worked well in terms of remote contact with service users and that commissioners could see this as a permanent option rather than ensuring a balance between remote and face-to-face services and support which are necessary for some vulnerable clients or those who are digitally excluded. This decision could also be influenced by costs (INT 12).

Access and quality of services

- *Information technology, internet access, digital services* – Key questions were raised around 'How stable is people's broadband?' and also 'What is the organisation's tolerance to someone's broadband going down for a day / two days etc.?' (INT 3).
- *Employment services* – It was noted that city centres could become very different places if large employers and businesses move out due to the need for smaller offices or more locally based offices / flexible meeting spaces that home and agile working would promote (INT 2). In the future, businesses may not occupy specific buildings and could move to a more 'Hub' focussed environment for logging in and ad-hoc meetings (INT 15). It was felt that shared working spaces in communities are also another option as they may be cheaper, more local and better-equipped working spaces (than an office) (INT 1).
- *Transport including parking, public transport, active travel* – In the wider context of home and agile working it was believed that home and agile working could lead to a reduction in travel; an improvement in air quality; an improvement in mental health (from less sitting in traffic congestion thus reducing stress levels). It was noted that there could be wider societal benefits from more sustainable development (INT 15) as homeworking throughout the pandemic has demonstrated how much cleaner the environment can be. It has also demonstrated that there is less need to use a car and this has to be the focus of any move to homeworking. It was suggested that the population and employees should aim for 2-3 days when they do not travel into the workplace and this could enable society to maintain the environmental gains that have been seen as a result of lockdown. It was noted that the onus should also be on employers to encourage their staff to walk their children to and from school when they are homeworking, or use some other form of active travel. One participant stated "*This is the greatest opportunity we have ever had to shift the way we travel*" (INT 6).
- There were differences noted across sectors in terms of the ability to adjust quickly to expanded homeworking and the logistics and available equipment required to do so (INTs 12,14). One example involved small third sector organisations who did not have access to funds to supply IT equipment so funding was made available through the voluntary sector fund.
- There was a specific mention of poor access to mental health services during lockdown (INT 5).

Macro-economic, environmental and sustainability factors

- *Climate change* – Interest was forthcoming about the environmental benefits obtained from the COVID-19 pandemic (and not just from the homeworking aspect) and the overall landscape in terms of carbon footprints and emissions (rather than only focusing on an individual's impacts) (INT 2). (See 'Access and quality of services' above for more on this topic).
- *Cost of living* – see 'Economic conditions affecting health' above.
- *Government policies* – It was stated by one participant that the Welsh Government needs to decide now if they want to support home and agile working and a move to localism with a policy pathway, or remain focussed on cities as the centre of growth (INT 1). It was noted that there is potential to expand remote-working but that it has to be a choice, implementation has to be equitable and there needs to be a common understanding and definition of the concept(s) involved (INT 8).
- The Welsh Government 'Remote Working in Wales' project has been established in recognition of the impact that the pandemic period will have on ways of working. It aims to identify how some of these changes will contribute to wider policy areas including transport, environment, climate change and strategic commitments such as the Well-being of Future Generations (Wales) Act 2015. The aim for the future is to have 20-25% of the

workforce in Wales remote-working post COVID-19. Welsh Government also recognises the potential consequences of increased working from home, and that these need to be considered and mitigated for. These include:

- Reduced footfall in the high street (including town and city centres)
- Less requirements for office space
- The implications for taxation revenues, i.e. domestic rates / commercial rates
- A reduced night-time economy
- The effect on the childcare sector
- The impact on employment opportunities and occupational diversity.

Research gaps

Interviewees identified the following areas as ones in which further research is needed:

- There are insufficient studies on the impacts of 'Stay at Home' and homeworking policies on health and well-being (INT 7)
- There should be more work carried out to provide future clarity about the terminology, interpretation and understanding of the many related terms used to describe home and agile / remote / tele working etc. rather than simply homeworking (INT 8)
- There is a need for research with employers and employees across businesses and organisations to understand the short / medium / long-term effects (INT 7)
- There needs to be a better understanding of the impact of existing policies and their adaptation to support home and agile working and what this may mean for future health and well-being policies. This can then inform the shift to increased homeworking (INT 7)
- A study could be undertaken to review levels of sickness absence and the differences in conditions being reported, including comparisons before, during and after the pandemic (INT 7)
- There is a need to explore the specific impacts on call / contact centre employees working remotely, and without physical support from colleagues and supervisors and the impact of this on mental well being (INT 12).

Section 5 – Screening Paper

The table below provides the transcribed record of the discussions that took place as part of the screening stage workshop held at the start of the HIA process.

Table 3 highlights the population groups identified and is followed by the impacts highlighted across the wider determinants of health and well-being.

Table 3
Health Impact Assessment workshop template / record sheet

Population groups identified:

Sex / gender related groups

Impact on both men and women but those impacts are potentially different. Differences in terms of occupations / work roles and differences in home responsibilities.

Power balances between high / low earners in home setting – who takes precedence resulting in conflicting pressures to undertake work.

Tensions between work role and other informal / unpaid economic activity for example, caring responsibilities.

Need to clarify / acknowledge that homeworking is not new but has been accelerated and increased across organisations in response to the COVID-19 pandemic, regulations and guidance, and therefore involved a wider range of businesses / organisations and therefore roles / purposes.

Age related groups

Young people – starting roles / careers and what is the impact from no formal induction / mentoring / support / interaction with colleagues / teams?

Children and Young people – indirect impacts from parents / caregivers balancing work and caring responsibilities.

Older workforce – adjusting to new ways / change and digital literacy?

All age groups – lack of relevant skill sets to support working at home – **positive**, opportunities to up skill and for training.

All home workers – what is known / not known in terms of potential gaps in national / organisational policies, procedures, legislation, equalities, Health and Safety regulations and guidance, rights etc. to cover both formal, informal , ad hoc working from home?

All home workers- physical and mental health - musculoskeletal injuries, (physical, sensory / mental health needs)

Income related groups

Requires a definition of Homeworking – potential to use Labour Market Statistics categorisation for economic activity, which includes such things as informal / unpaid caring.

Low-income – potential lack of resources to access IT and appropriate equipment to work safely, potential increased household costs such as fuel poverty. Will this create a barrier in terms of homeworking equipment (IT, desks, chairs, phone / safe working areas)?

Higher / lower earners in balance in ability to work from home but also more likely higher earners can work from home due to their role while lower earners in roles that are not feasible to work from home.

Unemployed – **positive**, opening up more opportunities with flexibility and reduction in need for commuting, better work-life balance. **Negative**, disadvantages certain groups with limited transferable skills for a homeworking environment i.e. digital / IT literacy.

Geographical groups or settings

Housing / homeless – consider different forms of housing along with homelessness such as temporary accommodation / rental properties and security of tenure / shared housing / Houses in multiple occupation (HMOs) - these will have different implications in terms of homeworking such as quality / space / access to on-line or communications.

Rural / urban – broadband access.

Rural – decentralised work places (distributed / remote working) benefits, opportunities, risks.

Other groups of note:

Different occupations / functions - are there roles that theoretically can be done from home but by doing so expose workers to potential unintended consequences i.e. clinical roles – confidentiality and roles dealing with difficult situations with isolation from support?

Disabilities – potential to increase work opportunities if working from home as the home will already be adapted and a reduced need to commute / access / negotiate public transport.

Equalities – opportunities to increase diversity and equality.

Religious – opportunity to practice / observe beliefs / practices in a more flexible working routine and supportive environment.

Language / culture – potential detrimental effect.

Notes:

Potential Evidence sources highlighted in discussions:

Public Health Wales Flexible working survey

Public Health Wales Time to Move report

NHS Staff Survey

Public Health Wales Staff Tell Us How You are Doing! - An Internal Communications and Well-being Survey. Carried out at the end of April 2020

NHS Wales Informatics Service (NWIS) – internal Public Health Wales IT growth of agile working / VPN

HM Revenue and Customs (HMRC)

Health and Safety Executive (HSE) - Stress management Guidance and other related guidance i.e. Role Conflict / Role Clarity / Relationships (how applicable for homeworking). Work absence data-what are the key reasons and relationship with homeworking?

Work related policies – agile working / flexible working / time management / IT / Health and Safety / Risk Assessment

Defining skill set required for working at home including self-management alongside practical / work related skills

Change management

Reports / Evidence relating to work is good for health and well-being – evidence in relation to mental health and Work – work versus good quality work

National Survey for Wales – (includes insight into isolation): Young people more isolated than other population groups and job satisfaction (Well-being of Future Generations (WBFG) indicator)

Report –Imperial College London – renewable energy / air quality etc.

Organisational Psychology

Wider determinants of health and well-being impacts identified:

Behaviours affecting health	
Positive impacts / opportunities	**Negative / unintended impacts**
Diet / nutrition More time for home cooking / planning / preparing More family oriented meals Breastfeeding - more opportunity / less stressful / time management Physical activity No need to commute, more free time Easier for building this into routines / flexibility within working hours Opportunities to incentivise employees to be active Time management – screen breaks Public Health Wales Time to Move scheme – incentives and support	Diet Snacking more Social norms within the workplace may be a protective factor – when removed, may place risks in terms of addictive behaviours
Social and community influences on health	
Positive impacts / opportunities	**Negative / unintended impacts**
Culture - related to catch ups Opportunities to enhance work / life balance and strengthen relationships between household members Going out to work may provide respite / support re: domestic violence Impact on family relationships could be positive - greater opportunities to share parental / carers responsibilities Neighbourliness – could be more supportive, become more 'in tune' with local environment, understand local networks Networks – maximising IT to build and create networks in new forms Discipline to ensure work does not 'creep' into other parts of your life Explore what the purpose is of bringing workers together, the purpose of meetings, and do they reinforce a sense of purpose. Is this sector specific or generic, what would be lost if face-to-face was reduced? Organisational Psychology – culture, satellite offices 'Competitive coping' – (Red Cross Webinar used the term)	Distraction / difficulties balancing home and work responsibilities Blurred boundaries between home / work responsibilities Dynamics between other household members- conflict in terms of equitable division of labour Family relationships could be negatively affected - stressful situations roles / balancing responsibilities Adverse Childhood Experiences (ACEs) – potential additional pressures / increase Domestic Violence – risks, no escape Single – if no wider network could become more isolated Work related social network – Young people may not build these networks if newly in post Social isolation greater in young people (National Survey for Wales?) Networks – career, social, work 'Competitive coping' – sense of competition could increase tensions / affect well-being

Mental well-being	
Positive impacts / opportunities	**Negative / unintended impacts**
Control – discretional activity, more control over work and working patterns Build additional trust into working relationships Culture – encourage / support protected time Behaviour, routine / control Sense of control – potential for this to increase, more autonomy (dependent potentially on how policies are designed to support this) Self-purpose Public Health Wales – Well-being Wednesday – kindness Job satisfaction (National Survey for Wales / WBFG indicator job satisfaction) Work – sense of purpose, contribution, worth while	Line manager support- welfare of employee, anxieties potentially more difficult to identify / address / support with remote working Difficulty for organisations / managers to fulfil policies and support in relation to welfare / well-being and to recognise signs and symptoms, and could limit the opportunities for employees to raise concerns and seek support 'Big brother'- hidden surveillance / pressures, lack of trust Dissatisfaction with ability to fulfil role fully i.e. social workers can work from home but cannot have full contact with clients therefore increased concerns and risk to clients – sense of responsibility and concern and inability to fully address and assess risks to clients Sense of belonging / purpose – how do you create a sense of belonging / purpose within the context of remote working – 'a common cause'? Individual's identities are in part related to their work - would remote working have an impact on this?
Living and environmental conditions affecting health	
Positive impacts / opportunities	**Negative / unintended impacts**
Energy usage can lead to reduced demand at population level - positive – renewable energy Improved air quality outside, unknown for internal environment Housing design and quality - positive impact for some groups Home insurance question - does it cover homeworking? Opportunities for future planning and design to enhance homeworking Some evidence to show productivity increases Opportunities to redesign / reconfigure town centres Potential for real changes (positive and negative?) in terms of organisations buildings – redesign, different functions, centralised or dispersed smaller for local hubs Opportunity to decentralise – engage with service users / more diversity in workforce Advantage with larger business is that bases are more adaptable for social distancing e.g. new HMRC base Cardiff	Indoor environment? Increased risk of transmission of COVID-19 Housing design and quality of home environment and surrounding area – access to open space - overcrowding – lack of private space to work within, negative impact for other groups Security of housing / home, uncertainty increases risk of negativity Fear of returning to workplace -health and safety: how safe from not being infected by COVID-19? Flexibility to create your own supportive environment – could increase productivity Negative if move to more dispersed - no need for large premises but tied into contracts versus viability of existing business premises

Economic conditions affecting health	
Positive impacts / opportunities	**Negative / unintended impacts**
Increased opportunities for flexible working practices Some evidence to show productivity increases when working from home (is this a short-term / long-term effect and is this with a balance between face-to-face and homeworking?) Homeworking and productivity of an organisation Reduction in commuter towns, house prices / demand in specific areas Support localism Resurgence in localism	Low earners – more expenses i.e. higher utility bills etc. Fuel poverty, increased household expenditure Decrease in town centres
Access and quality of services	
Positive impacts / opportunities	**Negative / unintended impacts**
IT policy supportive of homeworking Artificial Intelligence (AI) and the implications of this for the future Digital / technology access, services, capability growth Health and Safety – desk set up, equipment, assessments etc. policies supportive Skills and training – potential new skills required: self-management / time management etc. digital literacy Clinical roles – acceleration of changes to new ways of working, remote consultations and system change in primary care / GP's Reduction in transport, increase in sustainable forms of transport, local hubs	Organisations IT system / support limited, both hardware / software / policies Health and Safety – desk set up, equipment, assessments, meeting specific needs, and specialist equipment - are there gaps in policies to support increased home working? Organisation level - Limitations with digital access / technology / quick acceleration of capacity required / confusion with software and platforms
Macro-economic, environmental and sustainability factors	
Positive impacts / opportunities	**Negative / unintended impacts**
Environmental gain from reduced travel and car use and economic output Sustainability can be promoted including active travel and transport to protect future generations Home and agile working could provide scope for the regeneration of some communities and neighbourhoods in Wales and promote local foundational economies Opportunities to promote better spatial planning policies which will consider land and transport allocation through the COVID-19 lens Workplace policies can be reviewed to protect health and well-being of employees who need to work from home.	None identified

Section 6 – Tables of Impact

The table below depict the key impacts that have been identified from home and agile working and the population groups affected. **Please note that only those described as Major or Major-Moderate have been included in the Summary Report,** which does not include any analysis of those groups or determinants where more research has been identified as a requirement.

Table 4

Population group	Intensity i.e. minimal; moderate; major	Likelihood i.e. probable; possible; confirmed	Duration i.e. short / medium / long term	Intensity i.e. minimal; moderate; major	Likelihood i.e. probable; possible; confirmed	Duration i.e. short / medium / long term
	Positive / opportunities			**Negative / unintended negative impacts**		
Women				**Major**	**Probable**	**Short – long term**
Rationale i.e. positive / opportunity or negative / unintended consequence **Negative:** Homeworking can lead to women spending more time on unpaid work in the home (e.g. home schooling and caring for / providing support to other family members). Challenges with balancing work and home responsibilities. Home and agile working is also not possible for many women in the workforce in Wales. A large proportion of women (47%) who work in the UK do so in public and patient facing roles. Increase in risk of VAWDASV as individuals remain at home with the perpetrator and cannot escape their environment. **More research needed.** Large proportion of women are employed in sectors that cannot work from home / where working from home is limited (47% work in health and social care, education or retail). See Summary Report, Section 3.1.1 for analysis.						

Men	Major	Probable	Short – long term	Major	Probable	Short – long term
Rationale i.e. positive / opportunity or negative / unintended consequence **Positive:** Men more likely to work in professions and employment sectors that can work from home, such as finance and insurance and tend to be at more senior levels giving them the ability to work from home. **Negative:** Some men cannot work from home due to the nature of their employment, such as many of the key workers during lockdown (greater number of men employed as bus / train drivers than women). **More research needed.**						

Older people	Major - Moderate	Possible	Long term	Major- Moderate	Probable	Short term

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive: Homeworking can extend older people's time in employment or enable access to different types of employment.

Older people are more likely to be able to work from home and tend to hold senior roles where there is the opportunity to work from home / for agile working.

Negative: Older people may be less familiar with the technology required for homeworking.

Impact of adapting to homeworking, such as learning to use IT, on older people's well-being, causing stress / anxiety.

See Summary Report, Section 3.1.3 for analysis.

Young people and young adults	Major	Probable	Short - long term	Major	Probable	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive: Opportunities to advance their carers remaining in or returning to the area where they were raised.

Negative: Many work in sectors where working from home is not feasible, such as hospitality and retail.

Impact of reduced interaction with others and socialisation on individual's futures, affecting the development of key skills, the building of networks and accessibility of mentoring opportunities.

Impact of environment on ease of working from home. Some young people / young adults may have limited space to work in / not have access to sufficient space to work in, such as those living with their parents and those in Homes of Multiple Occupation (HMOs).

See Summary Report, Section 3.1.4 for analysis.

People with disabilities	Minimal	Possible	Short - long term	Minimal	Possible	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive: Facilitation of employment opportunities and development of skills through homeworking.

Ability to work in home environment, which is suited to the needs of individuals and likely to contain any required adaptions.

Negative: Likely that assessments will be needed for individuals to work from home and special equipment required to facilitate homeworking.

More research needed.

See Summary Report, Section 3.2.4 for analysis.

Rural communities	Major - Moderate	Possible	Long term	Major - Moderate	Possible	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Possible **Positive** or **Negative** short to long term impact dependent on access and quality of digital infrastructure and technology.

Positive / Opportunity: Access to employment opportunities and more diverse work for those in rural communities, without the need for commuting or relocating.

Impact on Welsh language, through enabling individuals to remain located in communities where they can communicate using their first language.

Benefits of skilled workers moving from urban to rural areas as a result of reduced / no need to commute to work.

Opportunity for local community diversification, regeneration or economic, social and sustainable renewal.

Negative: Lack of equity of access to technology and issues regarding broadband and digital speeds in some communities in Wales, which requires improvement.

See Summary Report, Section 3.1.5 for analysis.

BAME and cultural aspects	Minimal	Possible	Short - long term	Minimal to Moderate	Probable	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive or **Negative** impact dependent on intergenerational nature of households. Ability to work from home may be dependent on whether there is space / support available.

Negative: Many BAME individuals are employed in lower paid jobs and are at most risk of redundancy, or are key workers for example, retailers or drivers who are less likely to be able to work from home.

In addressing inequalities, there is a need for Wales-specific data on impacts on BAME groups.

Lone parent families	Major	Probable	Short - long term	Major (in lockdown)	Probable	Short term

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive or **Negative** impact dependent on whether individuals have additional responsibilities such as home schooling or caring for other family members.

Positive: Agile / homeworking presents an opportunity for more flexible working for lone parents, taking into account the needs of their family and promoting work-life balance.

Negative: Challenges of balancing work and childcare responsibilities. Impact of this on mental health and well-being, such as worries about work and stress and anxiety.

See Summary Report, Section 3.1.6 for analysis..

People with caring responsibilities including formal carers	More research needed

Rationale i.e. positive / opportunity or negative / unintended consequence

Lack of research / evidence on the mental health and well-being impacts of home / agile working.

People who live on their own	More research needed

Rationale i.e. positive / opportunity or negative / unintended consequence

Lack of research / evidence on the mental health and well-being impacts, such as loneliness and social isolation, of home / agile working.

Working parents	Minimal	Possible	Short - long term	Minimal	Possible	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Possible **Positive** or **Negative** impact on mental health and well-being of home / agile working for working parents.

More research needed.

Critical workers – healthcare workers i.e. GPs	Minimal	Possible	Short - long term	Minimal	Possible	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Possible **Positive** or **Negative** short to long-term impact on healthcare workers. For example, improved collaboration. However, more concentration is required, due to the different working environment.

More research needed.

See Summary Report, Section 3.2.5 for analysis.

Carers	Minimal - moderate	Possible	Short - long term	Minimal - Moderate	Possible	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Possible **Positive** or **Negative** short to long-term impact for carers, dependent on individual's role and circumstances, and whether or not they can work from home.

See Summary Report, Sections 3.1.1 and 3.1.6 for analysis.

Potential Determinants of Health and Well-being affected

The table below depict the key impacts that have been identified from home and agile working and the determinants of health affected. Please note that only those described as Major or Major-Moderate have been included in the Summary Report, which does not include any analysis of those groups or determinants where more research has been identified as a requirement.

Table 5

Determinant of Health	Intensity i.e. minimal; moderate; major	Likelihood i.e. probable; possible; confirmed	Duration i.e. short / medium / long term	Intensity i.e. minimal; moderate; major	Likelihood i.e. probable; possible; confirmed	Duration i.e. short / medium / long term
	Positive / opportunities			Negative / unintended negative impacts		
Behaviours affecting health						
Physical activity	**Major - Moderate**	**Possible / Probable**	**Short - long term**	**Major - Moderate**	**Possible / Probable**	**Short - long term**
Rationale i.e. positive / opportunity or negative / unintended consequence **Positive** or **Negative** short to long-term impact dependent on individual circumstances, responsibilities and any pressures. **Positive:** Reduced commuting provides more time for other activities, such as physical activity. Home / agile working provides an opportunity for individuals to take exercise at a time that is suitable for them, based upon their working pattern / responsibilities. **Negative:** Reduced levels of active travel due to reduced commuting (and home schooling during lockdown). Homeworking may promote a more sedentary lifestyle, with some individuals working longer hours and getting less exercise. Not all can work from home; therefore, there is a need for policies and infrastructure that encourage more active forms of travel for these individuals. See Summary Report, Section 3.2.1 for analysis.						
Diet / nutrition	**Major - Moderate**	**Possible**	**Short - long term**	**Major - Moderate**	**Possible**	**Short - long term**
Rationale i.e. positive / opportunity or negative / unintended consequence **Positive** or **Negative** short to long-term impact dependent on individual circumstances, responsibilities and any pressures. **Positive:** Homeworking provides additional time for planning cooking meals from scratch rather than eating out or 'on the go'. **Negative:** Increased snacking and food / calorie intake from working at home or at remote sites such as coffee shops. Public Health Wales' Public Engagement Survey found 38% of respondents were snacking more (crisps / biscuits / cake) whilst at home. **More research needed.** See Summary Report, Section 3.2.1 for analysis..						

Risk taking behaviour		**Minimal**	**Possible**	**Short term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Negative: Increase in substance misuse as a coping mechanism.

Levels, frequency and intensity of addictions dependent on personal circumstances and could be exacerbated by stress.

Impact on those with mental health conditions.

See Summary Report, Section 3.2.1 for analysis..

Social and community factors				
Social networking		**Major**	**Probable**	**Short - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Negative: Loss of personal contact, face-to-face connectedness and social networks, which can cause social isolation, especially for those living on their own for whom the workplace offers their only social interaction. Impact of reduced interaction on well-being and productivity.

See Summary Report, Section 3.2.2 for analysis..

Social isolation at work		**Major**	**Probable**	**Medium - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Negative: Reduced opportunities for interaction with colleagues and lack of 'water cooler' and 'kitchen conversations' that usually take place in office environments. Impact on individuals' sense of belonging to an organisation and teams.

See Summary Report, Section 3.2.2 for analysis..

Impact on families	**Major**	**Probable**	**Short - long term**	**Major**	**Possible**	**Short - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive: Working from home enables individuals to spend more time with their families, for example lack of commuting provides additional time that can be spent with family members.

Negative: It may be much harder to balance the demands of working and family life and caring responsibilities whilst working from home, in particular for working women.

See Summary Report, Section 3.2.2 for analysis.

Impact in relation to caring responsibilities	Major	Possible	Short - long term	Major	Probable (Confirmed in relation to child care under lockdown)	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive or **Negative** impact dependent on employer and organisational policies and culture.

Positive: No commute, as the result of working from home, increases the time available for caring for family members or others. Additional time to look after children or elderly parents may ease the stress of doing this and therefore impact mental health and well-being.

Negative: Challenges associated with balancing work demands and caring responsibilities whilst working from home, in particular for working women. Impact on productivity and well-being.

See Summary Report, Section 3.2.2 for analysis.

Local communities; neighbourhoods	Minimal	Possible	Short term			

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive: Increased value placed on our neighbourhoods as the result of spending more time at home and in our local area, shopping more locally and using local coffee shops to work. Increase in neighbourliness.

See Summary Report, Section 3.2.5 for analysis.

Mental well-being including mental health						
Mental well-being	**Major**	**Confirmed**	**Short - long term**	**Major**	**Confirmed**	**Short - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive or **Negative** short to long impact dependent on individual circumstances, levels of organisational support and the nature of their adopted positions and policies.

Positive: Opportunity to enhance mental well-being through increased time for physical activity, engaging in hobbies and socialising with friends and family, created by reduced commuting.

Home / agile working can promote increased control over work and work-life balance and greater flexibility in working patterns to take into account individual circumstances.

Negative: Increased isolation as the result of reduced contact with others and disconnection from work colleagues.

Those working from home may experience 'burnout' because of the blurring of boundaries between the work and home environment and / or stress / anxiety due to increased pressures or expectations.

Individuals living on their own, women, lone parents, healthcare workers (such as GPs), and those experiencing VAWDASV particularly affected.

See Summary Report, Section 3.2.3 for analysis.

Social isolation, anxiety and burnout		**Major**	**Probable**	**Medium - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Negative: Reduced opportunities for interaction with colleagues. Inability to separate work from home and increased pressure to work more than contracted hours and at different times of the day when colleagues are working / available.

See Summary Report, Section 3.2.3 for analysis.

Environmental and living conditions				
Housing / Homeworking environment Health and Safety / Working conditions		**Major**	**Confirmed**	**Short - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Negative: For many their home / housing environment can be inappropriate or unsuitable for work due to lack of space, light or access to digital services.

Increased risk of injury or musculoskeletal problems when working from home.

Challenges for those in Homes of Multiple Occupation (HMOs) or in homes where more than one adult or child is homeworking / studying.

See Summary Report, Section 3.2.4 for analysis.

Office Infrastructure		**Major**	**Possible**	**Long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive or **Negative** impact.

Positive: Provides an opportunity to rethink / redesign office spaces and the way they are used.

Negative: Impact of companies closing offices / moving from city and town centres and the associated economic and social impact as more employees work from home.

See Summary Report, Section 3.2.4 for analysis.

Office workplaces and spaces	**Major**	**Possible**	**Long term**			

Rationale i.e. positive / opportunity or negative / unintended consequence

Opportunity: To rethink workforce spaces and places and to promote the development of more localised 'hubs' for employers with an increase in local procurement, to accompany head offices located in major cities from which employees can work agilely.

Can facilitate health behaviours and messages.

See Summary Report, Section 3.2.4 for analysis.

Transport and active travel	**Major - Moderate**	**Probable** **Confirmed**	**Long term** **Short term (under Stay at Home policy)**	**Minimal**	**Possible**	**Short - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive or **Negative** impact.

Positive: Reduced car journeys, improved air quality and better mental health and well-being because of no / infrequent commuting for work.

Negative: Reduced public transport use with implication for the frequency and long-term sustainability of public transport services.

See Summary Report, Section 3.2.4 for analysis.

Outdoor environment	**Moderate**	**Possible**	**Short term**	**Moderate**	**Possible**	**Short - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive: Opportunity to retain skills in rural areas for example through graduates working from home rather than migrating to cities.

Potential improvement in air quality due to reduced commuting and reduction in traffic noise.

Negative: Those working from home may experience noisy neighbours, which can provide disruptions to working environment.

Reluctance / fear of using public transport during lockdown, which may have an impact on future public transport use.

See Summary Report, Section 3.2.4 for analysis.

Economic factors						
Types of employment and sectors including health and social care, hospitality, retail, transport and business and administrative sectors	**Major**	**Confirmed**	**Short-long term**	**Major**	**Confirmed**	**Short - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive and **Negative** short to long-term impact.

Positive: For those working in sectors where homeworking is feasible, it provides an opportunity for a change in patterns of working / more flexible models of working.

In the UK in 2019 a higher proportion of those employed in the information and communications industry report working from home than in the accommodation and food services industry (53% and 10% respectively).

Negative: Not all are able to work from home or work agilely due to the nature of their employment, the sectors they work in or equity of access to equipment and digital infrastructure. As a result, homeworking could increase inequalities.

See Summary Report, Section 3.2.5 for analysis.

Local foundational economies	Major - Moderate	Possible	Long term			

Rationale i.e. positive / opportunity or negative / unintended consequence

Opportunity: For increased use of local businesses and services because of home / agile working, and the creation of thriving and sustainable centres and communities.

See Summary Report, Section 3.2.5 for analysis.

Income including income related groups	Major - Moderate	Possible	Short - long term	Major - Moderate	Possible	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive or **Negative** impact dependent on individual circumstances.

Positive: Reduction in costs associated with work for example, commuting, car parking, use of phones etc. because of working from home. Those on higher incomes are more likely to be able to work from home / given the opportunity to work from home due to the nature of their employment than those on lower incomes.

Negative: Impact of increased expenditure due to homeworking. Increased costs for some such as increased food / utility bills from spending more time at home or working from coffee shops.

Impact on those on lower incomes who are not able to / do not have the opportunity to work from home due to their type of employment or lack of sufficient space / equipment. Lack of flexibility in ability to work from home can lead to commuting and other associated costs.

Impact on career progression and increased salaries, particularly for younger people, if individuals are unable to work from home or do not have access to networking, training or mentoring whilst working from home / working agilely.

See Summary Report, Section 3.2.5 for analysis.

Productivity	Major - Moderate	Possible	Short-long term	Major - Moderate	Possible	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive: Increase in productivity for some, with some tasks able to be completed more efficiently at home. Research evidence demonstrates increased efficiency in the short-term.

Negative: Decrease in productivity for some due to juggling other commitments such as family responsibilities, home schooling or caring responsibilities in addition to work demands.

More research needed, particularly in relation to the long-term impact of home / agile working on productivity.

See Summary Report, Section 3.2.5 for analysis.

Organisational and national policies and infrastructure						
Organisational policies	**Major**	**Confirmed**	**Short-long term**	**Major**	**Confirmed**	**Short - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Positive and **Negative** short to long-term impact, dependent on interpretation / application of policies by organisations and line managers.

Positive: Impact in relation to recognising the need for change to more flexible working practices and facilitating positive implementation of home / agile working.

Impact on physical health and mental well-being.

Negative: Challenges for some line managers in managing their teams and for some workers to feel motivated, involved and connected through home / agile working.

Difficulties presented by the use of inconsistent terminology in policies and inconsistent application of policies across organisations. Increase in inequalities for those in the workforce as policies are not uniformly interpreted and / or applied.

See Summary Report, Section 3.2.6 for analysis.

Digital services				Major	Probable	Short - long term

Rationale i.e. positive / opportunity or negative / unintended consequence

Negative: Not all have access to digital infrastructure or stable network / broadband access, which makes working from home not possible / challenging. Mental well-being impacts, such as stress and frustration caused by experiencing technical difficulties.

Impact of digital infrastructure on inequalities, through increasing inequity of access to digital services and access to employment opportunities.

Those who are in more senior positions tend to be more likely to have the opportunity for agile / homeworking than those in less senior roles.

See Summary Report, Section 3.2.6 for analysis.

Digital skills / Digital literacy				**Major - Moderate**	**Probable**	**Short - long term**

Rationale i.e. positive / opportunity or negative / unintended consequence

Negative: Impact on those who are digitally excluded and lack digital knowledge, skills and literacy.

Impact on older people in the workforce who may be less familiar with IT and platforms used by organisations for home / agile working.

Mental well-being impacts, such as stress from a lack of training / support to equip individuals with the knowledge and skills needed for agile / homeworking.

See Summary Report Section 3.2.6 for analysis.

Government policies and legislation	**Major**	**Possible**	**Short - long term**		

Rationale i.e. positive / opportunity or negative / unintended consequence

Opportunity: To promote Welsh Government policies aimed at fostering thriving, sustainable, healthy communities in Wales, with a focus on local economic development.

See Summary Report, Section 3.2.6 for analysis.

Our Priorities 2018-2030

Building and mobilising knowledge and skills to improve health and well-being across Wales

Influencing the wider determinants of health

Improving mental well-being and resilience

Working to Achieve a Healthier Future for Wales

Supporting the development of a sustainable **health and care system focused on prevention** and early intervention

Promoting healthy behaviours

Protecting the public from infection and environmental threats to health

Securing a **healthy future** for the next generation

Our Values:

Working together with trust and respect to make a difference

GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales

WHIASU
Wales Health Impact Assessment Support Unit
Uned Gymorth Asesu Effaith ar Iechyd Cymru

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