

COVID-19 and employment changes in Wales

Promising interventions to improve health and health equity

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NARRATIVE SUMMARY

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This work was commissioned by the Wider Determinants of Health Unit, Public Health Wales.
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Overview

Scope and objectives

Alma Economics was commissioned by Public Health Wales to identify and describe promising interventions from published literature that could mitigate the adverse effects of the Covid-19 related employment changes on health and health equity of current and future generations in Wales. For this purpose, we developed a map summarising current evidence on labour market interventions that can be implemented to improve health and health equity outcomes for people in Wales, and protect them from the employment hardship caused by the Covid-19 crisis.

Our evidence map addresses the following research questions:

- (i) What interventions have been proposed, designed and/or implemented to mitigate the negative impacts of employment adversities (mainly occurring in the context of the new pandemic and past economic downturns) on health and health inequities for current and future generations?
- (ii) What is the nature of the evidence relating to each identified intervention?
- (iii) What are the promising interventions that can potentially protect the health of people in Wales from the adversities caused by the pandemic?

This report presents key findings from the evidence available to address the questions above. It is structured in three chapters. The first summarises overarching findings and considers interventions that can be implemented in the Welsh context to address employment changes caused by the pandemic, and thus improve health and health equity outcomes for working populations and children. The second chapter discusses in greater detail the findings of our mapping across all the intervention types identified in the literature. The third and final chapter presents a Theory of Change outlining the mechanisms through which employment interventions can generate health outcomes.

This report is supplemented by (i) a technical report that clearly sets out our approach to carrying out the evidence map, ensuring transparency and replicability of our research; (ii) an Excel workbook (the Research Extraction Sheet, RES) providing further information on the studies included in the map; (iii) an online tool mapping the available evidence. The online map can be found here: <https://evidencemap.herokuapp.com/>

Overarching findings

Applying a systematic approach to searching for relevant evidence,¹ we identified 83 studies looking into the impact of labour market policies on health outcomes for working populations and future generations, as well as on health inequities between different population groups.

The identified studies focus on policies implemented to protect people from employment hardship and their contribution to alleviating the negative health and health equity consequences of this hardship. They also focus on the health effects of policies implemented to address labour market changes generated by the Covid-19 crisis and past economic downturns in Wales and other UK, EU, and OECD countries.

¹ Our methodology for carrying out this evidence mapping is presented in detail in the project technical report.

The policies identified in the literature fall under the following wide categories:

- Active labour market policies aiming to support people to remain active in the labour market mainly through a combination of measures, including training, job creation, and job search assistance.
- Passive labour market policies providing income replacements to unemployed people (mainly unemployment benefits).
- Specific employment interventions designed to protect working populations from labour market adversities caused by the pandemic.
- Family support policies seeking to help working parents manage work and family.
- Income transfers aiming to protect individuals and households at the lower end of the income distribution from losses in earnings and help them maintain a basic standard of living (for example, universal basic income).
- Labour legislation, including laws that facilitate employment relationships and protect the rights of people in employment.

Different types of interventions across these categories are examined with respect to their impact on a wide variety of health-related outcomes at the individual and population level. These outcomes can be summarised into the following topics: (i) general health, (ii) physical health, (iii) mental health, (iv) self-reported psychological wellbeing, and (v) health inequities between different working population groups. We also focus on the health effects of policies for children in working families, who are expected to be vulnerable to the negative influence of the employment changes caused by the pandemic in the long-term.

Promising interventions

The vast majority of the labour market policy measures outlined in our evidence map and discussed in greater detail in this narrative report can contribute to better health outcomes for working populations and narrow health inequities. In this context, the interventions discussed here can be considered promising in the sense that they can potentially diminish the negative health and wellbeing effects of employment adversities in the light of the Covid-19 pandemic in Wales.

Overall, our evidence map suggests that a multidimensional policy framework – comprising different measures across the intervention types discussed in this narrative report – can provide opportunities for accessing good quality jobs (in terms of earnings, stability and security) during and after the pandemic in Wales. Such a framework can potentially contribute to better health and wellbeing outcomes for the current and upcoming generations in Wales; it will protect them from the damaging consequences of job loss, economic/job insecurity and uncertainty, unemployment, and labour market inactivity. This evidence map suggests that employment interventions should be designed to address the specific challenges faced by vulnerable worker groups (e.g., low-income households and individuals with low skills and weak attachment to the labour market). Such measures will also serve to narrow disparities in health outcomes across different population groups in Wales.

Firstly, evidence from a cross-sectional study suggests that the interventions designed and implemented in Wales to protect workers from the Covid-19-related employment adversities could also safeguard their health. In particular, Burchell et al. (2020) find that the **Job Retention Scheme** (already in place in Wales) can alleviate the mental health effects of leaving paid work post-pandemic, with furloughed workers experiencing similar levels of mental health as those who remain in full-time employment. A case study by the Institute for Fiscal Studies (IFS) also suggests

that retention schemes can diminish the impact of job separation and unemployment on morbidity, mortality, and mental health; they do so, by preserving workers' attachment to their current job, and thus protecting human capital (Banks et al., 2020). The authors highlight that these schemes should be centred around the needs of specific groups who are expected to bear the brunt of the pandemic in the long term (e.g., vulnerable women with children and young people).

An evidence review finds that funding provided to employers to protect jobs during times of economic crises can improve population health and reduce inequities (Drakopoulos, 2011). Job creation as a result of active labour market policies offering employment subsidies is also shown to enhance the psychological wellbeing of the long-term unemployed (Ivanov et al., 2020). Based on these findings, the **Kickstart scheme** – intended to create job opportunities for young claimants (16-24 years old) of Universal Credit in Wales and other UK countries – appears to be able to moderate the scarring effects of unemployment for young people with limited employment experience or entering the labour market in times of crisis. In line with this, the Health Foundation recommends that this scheme, coupled with training to help young people secure and maintain high-quality jobs, could be included in a national strategy to mitigate Covid-19 related health inequities (Leavey et al., 2020).

Best practice examples of other **active labour market interventions** trialled or in effect internationally are especially promising in the context of the pandemic. A range of studies, including quasi-experimental methodologies (for example, difference-in-differences) and literature reviews, suggest that active programmes providing training, creating employment, and helping younger and older workers enhance their job search skills can generate positive health and health equity outcomes (Caliendo, 2019; Caliendo et al., 2020; Drakopoulos, 2011; Puig-Barrachina et al., 2020; Wahlbeck and McDaid, 2012). In this context, the Health Foundation and the Wales Centre for Public Policy recommend investment in interventions to offer employment support and career guidance (Naik et al., 2020), and vocational training and apprenticeships (Bennett et al., 2020) to younger workers and those facing financial and employment insecurity as a result of the Covid-19 crisis.

The **shorter working week** is another measure designed to hinder job loss by introducing a shorter working schedule. Indeed, there is an ongoing discussion in Wales regarding launching a four-day working week, with the Centre for Welsh Studies exploring the positive and negative outcomes potentially flowing from such a policy (Sumner and MacKinnon, 2020). Improved psychological wellbeing and health are mentioned by the authors as key benefits that could flow from launching the four-day week in Wales. This is in line with other evidence in the literature suggesting that implementing a shorter working week policy can help workers retain the mental health benefits from paid employment (Kamerāde et al., 2020, 2019). According to research by Burchell et al. (2020), introducing a shorter working week in combination with job retention measures can alleviate the negative mental health impact of losing a job.

Similarly, launching a **Universal Basic Income (UBI)** scheme remains at the centre of ongoing policy debates in Wales, exploring ways to protect people from the harmful consequences of the current health crisis. Evidence suggesting that universal income can have important implications for people's health and health equity (insofar it reduces poverty) has led many to consider this type of income transfer as a public health policy measure (Johnson and Johnson, 2021). In this context, the literature implies that UBI trials and evaluations of these trials are instrumental in understanding how health outcomes are generated (E. Johnson et al., 2020; Johnson and Johnson, 2019a). Moreover, it is suggested that UBI policies need to be combined with other welfare and economic policies (for example, job training, family support policies, and employment protection legislation) to ensure that mental health benefits are generated in the long-term (Haagh

and Rohregger, 2019; Raphael et al., 2019). Albeit promising, launching the shorter working week and the UBI scheme is likely to require structural policy changes.

In addition to health outcomes, our map includes evidence on the impact of different types of employment interventions on health inequities. The available literature defines “health inequity/ies” as the health disparities among different socio-economic groups (blue-collar and white-collar workers, low-income and high-income households, employed and unemployed or people in temporary employment, people with different educational attainment) and demographic groups (for example, women and men). Most of the studies focusing on the effects of interventions on health equity outcomes are theoretical, without assessing specific health outcomes. Other studies use suicide rates across family types, gender or socio-economic status, or discrepancies in self-rated health among different socio-economic groups, such as employed and unemployed people, or people with different educational attainment. There is evidence suggesting that **passive labour market policies** (unemployment benefits) can positively impact health equity outcomes. A propensity score matching design study suggests that passive labour market policies can help mitigate health inequities by providing income security during economic downturns (Shahidi et al., 2019).

Previous research also suggests that higher unemployment benefits can positively impact on recipients’ mental and psychological wellbeing (Cylus et al., 2014; Malmusi et al., 2018). On the other hand, receiving benefits during long spells of unemployment might not have a substantial impact on individual physical health (Wahrendorf et al., 2020; Walter et al., 2014).

Furthermore, the literature suggests that certain interventions might bring about no or even adverse effects on health outcomes for people in unemployment. **Benefits sanctions** are a good case in point. Sanctions are considered supply-side instruments of active labour market policies, acting as an incentive for jobseekers. Before/after research design studies propose that sanctions do not affect unemployed people’s physical and mental health (Caliendo, 2019; Caliendo et al., 2020). Drawing on fixed-effects analyses of Job Seeker’s Allowance sanctions data from England, Williams (2021) concludes that benefit sanctions are associated with increased anti-depressant prescriptions.

Other types of policies that could be promising in the Welsh context include **employment protection legislation** and **minimum wages**, both of which could improve workers’ health and health equity outcomes during the Covid-19 health crisis (Naik et al., 2020). Employment protection laws regarding severance payments and notice periods are found to be associated with reduced health declines among working populations, an effect appearing to have been diminished but not erased during economic crises (Barlow et al., 2019). There is evidence suggesting that minimum wage laws can protect individual mental and physical health by improving low-income workers’ living (Rigby and Hatch, 2016; Venkataramani et al., 2020). A case study from Scotland suggests that incentivising companies to offer good-quality jobs and pay workers the living wage can contribute to increased financial security and stability, thereby enhancing individual health and wellbeing outcomes (Naik et al, 2020).

Interestingly, labour market policies that appear to be associated with better health for labour market insiders might impact negatively the health of labour market outsiders. According to a study analysing panel data, employment protection legislation might magnify the undesirable health effects of unemployment and inactivity for those who are outside the market (Voßemer et al., 2018). Evidence from a difference-in-difference study suggests that minimum wages might adversely impact unemployed men’s physical health (Strain et al., 2016).

There is also literature investigating the impact of different policies on the health of people in the

gig economy, as well as in unemployment. Regarding people who work in **flexible arrangements**, findings from a systematic review suggest that contractual flexibility (where employees have no control of their schedule) can result in adverse physical and mental health outcomes (Joyce et al., 2010).

The labour market policies mentioned above can also impact on the health outcomes for children by supporting working parents. Nonetheless, effective protection of children from the scarring effects of Covid-19 related parental employment adversities is likely to require the design and implementation of a range of specifically tailored interventions. Early childhood is a very critical period that can shape adult life outcomes in several key areas, including education and labour market performance (Stewart and Waldfogel, 2017).

In this context, **family support policies**, mainly focusing on protecting vulnerable groups such as low-income families and single parents, could complement measures aiming to address the challenges faced by workers during the pandemic. According to UNICEF-funded research, current social protection efforts tend to overlook the negative consequences of the pandemic for children (Richardson et al., 2020). The authors suggest that existing policy measures are targeted to workers and disregard those in unemployment and/or with weaker attachment to the labour market. Subsequently, many children are left exposed to health and other risks due to the pandemic. The authors recommend income and childcare support as key measures protecting children. In line with their findings, research by the Sutton Trust suggests that eligibility for free childcare should be expanded to low-income or unemployed parents post-pandemic (Pascal et al., 2020).

Finally, it should be noted that this evidence map did not identify studies that exclusively examine the impact of employment interventions on health outcomes for self-employed individuals. Additionally, evidence on the employment policy impact on the health of minority groups, such as BAME, did not come out strongly in this work. While this work identified evidence on the health benefits of a set of important labour market interventions, it showed that the literature on the contribution of employment policies in improved health and health equity outcomes does not cover all types of interventions. For example, our search strategy did not result in any studies focusing on the potential health effects of the following types of interventions: (i) interventions relating to economic stimulation (e.g., policies intended to generate new employment at a regional level, or city deals and regeneration efforts); (ii) interventions relating to subsidising employment in particular sectors (e.g., green or digital-related sectors); (iii) measures promoting easy access to work (e.g., digital access or transport to work), and (iv) policies aiming to retrain or upskill workers to enable sector shift or higher income attainment.

Detailed findings from the evidence map

Active labour market policies

Active labour market policies are programmes and services provided to people, who are looking for a job, either unemployed or employed who wish to change their current position in the labour market. They aim to help participants improve their personal and job search skills and find suitable job opportunities. Active labour market programmes are usually provided to young labour market entrants, older workers, and low-skilled people.

Studies reviewing existing literature and quantitative research using designs such as fixed effects models suggest that such policies are linked to reduced work-related health inequities, such as decreased unemployment-related suicide rates among and within countries (Benach et al., 2010; WHO, 2010) and improved health outcomes for participants (Leemann et al., 2016; Sage, 2015). An evidence review by the National Institute for Health and Welfare of Finland also explores the mechanisms through which active policies generate health benefits (Leemann et al., 2016). The authors find that participation in such programmes can provide individuals with Jahoda's latent functions of employment, including time structure, social interactions, and feelings of belonging. Health benefits can also be generated by helping participants further develop their skillset, enhance their sense of control, and cope with setbacks.

Findings from the literature suggest that programmes designed for young people, also known as youth programmes, positively impact individual mental health (Wahlbeck and McDaid, 2012). Using data on participants' health outcomes (including depressive, anxiety, and panic-related symptoms) measured at ages 21 and 43, Strandh et al. (2015) conclude that participation in a Swedish youth programme moderates the persisting, long-term mental scars of unemployment.

Education and training programmes

Education and training programmes aiming at skills development are key active labour market policies. The literature which focuses on evaluating the impact of these policies includes mixed evidence on their health outcomes.

Difference-in-difference studies using Swedish data suggest that training can reduce the prevalence of cardiovascular disorders and improve mental health for unemployed workers aged 16-64 years old (Caliendo, 2019; Caliendo et al., 2020). The authors argue that the positive health effects stem from changes in individuals' daily routines as a result of receiving training. They also suggest that training programmes bring about positive effects on individuals' general health as a result of the development of new skills (Venkataramani et al., 2020).

Moreover, a study by Drakopoulos (2011) found that training programmes can help diminish the adverse health effects of unemployment during periods of economic downturns. In particular, education and training programmes can prove useful in boosting human capital and, eventually, productivity. In turn, increased productivity can result in higher income and thus reduced health inequities. In line with these findings, Wahlbeck and McDaid (2012) argue that job training can enhance mental health in periods of economic crises.

In contrast with these findings, Wahrendorf et al. (2020) use individual life-history data from the Survey of Health, Ageing and Retirement in Europe (SHARE) and the English Longitudinal Study of Ageing (ELSA) to explore the contribution of training programmes in moderating the mental health impact of adverse employment experiences. They do not find consistent evidence that receiving job training can alleviate the psychological damage caused by unemployment,

precarious employment, and downward mobility in the labour market.

Moreover, there is evidence suggesting that vocational training does not generate benefits for all workers. For example, a before/after study by Saloniemi et al. (2014) finds that participation in training programmes brings about positive psychological health outcomes for white-collar workers but not for workers in blue-collar jobs. The authors also propose that training can potentially result in negative outcomes for blue-collar workers. Based on this finding, they argue that training might be responsible for maintaining or even creating health inequities between the two groups.

Despite studies suggesting that such interventions can have mixed, or even negative, consequences for people's health, most of existing evidence gestures to the contribution of training in protecting people's health, especially during periods of hardship. The Wales Centre for Public Policy carried out qualitative research to understand the effects of the pandemic on public services in Wales, and the ways in which these might be organised in the face of the pandemic (Bennett et al., 2020). Based on evidence that previous recessions led to increased suicide rates among youth, this work points to the need for supporting young people in Wales through the provision of accessible and inclusive vocational training opportunities.

Job creation programmes

A body of evidence suggests that job creation programmes, including apprenticeships, job placements and employment subsidies, can have positive effects on participants' health. A propensity score matching study, which focuses on a job creation programme in Germany, suggests that job creation can positively influence workers' psychological wellbeing (Ivanov et al., 2020). Based on survey and administrative data, the authors argue that participating in such a programme can enhance life satisfaction and self-reported mental health, especially for the long-term unemployed. Such positive effects decrease over time, possibly because participants leave the programme or because they have reached the same wellbeing levels as the comparison group of individuals who find a job.

An evidence review by Drakopoulos (2011) finds that subsidised employment can play a protective role against unemployment and its detrimental impact on health. Puig-Barrachina et al. (2020) also observe that subsidised employment can enhance mental health in periods of economic crises.

On these grounds, the Health Foundation describes investments in providing employment support and career guidance to young people and workers exposed to professional and economic insecurity as optimal interventions to meet health and economic needs in the Covid-19 crisis (Naik et al., 2020). As a response to the Covid-19 pandemic, the Wales Centre for Public Policy also suggests supporting young people in Wales through the provision of accessible and inclusive apprenticeships. (Bennett et al., 2020).

Job search assistance

Job search assistance is another active labour market policy measure aiming to provide jobseekers with career counselling, and help with locating vacancies, drafting applications and preparing for interviews.

Evidence suggests that job search assistance has positive health effects for people in unemployment. In particular, a systematic review remarks that job club interventions mainly focusing on helping participants develop their job-search skills are shown to reduce depressive symptoms among the unemployed (Moore et al. (2017). These positive effects can be generated mainly through re-employment and increases in income, as well as through boosting participants' self-efficacy and ability to deal with setbacks. A systematic review of the relevant literature by

Puig-Barrachina et al. (2020) indicates that these programmes might also result in positive mental health outcomes during periods of economic crises.

According to research by the Joseph Rowntree Foundation, Work Clubs – launched by the Department for Work and Pensions (DWP) to promote the development of a network of locally-led, community-based support for the unemployed – can encourage people to re-enter the English labour market (Giuntoli et al., 2011). Therefore, it is argued that they can mitigate the adverse effects of unemployment on workers' mental health.

Benefit sanctions

Benefit sanctions are supply-side instruments of active labour market policies, aiming to increase jobseekers' motivation. Studies exploring the health effects of benefit sanctions found no, or even negative, results.

In Sweden, Caliendo (2019) and Caliendo et al. (2020) observe that sanctions do not affect physical and mental health. In England, benefit sanctions seem to be associated with adverse mental health effects, including anxiety and depression. Using data on Job Seeker's Allowance sanctions and anti-depressant prescriptions in England, Williams (2021) notes that increases in benefit sanctions are associated with increased manifestations of depression.

Active labour market programmes

There is also literature investigating the health effects of active labour market programmes combining the different policies described above. Evaluations of active labour market programmes implemented in EU countries provide mixed evidence. For example, a propensity score matching study exploring the wellbeing effects of a Swedish programme observes no association between the programme and the participants' psychological wellbeing (Reine et al., 2011).

On the other hand, Wulfgramm (2011) proposes that participation in a German programme partially moderates the adverse wellbeing effects of unemployment for workers. Participants in the programme reported higher life satisfaction scores than their unemployed counterparts but had lower satisfaction levels than their employed counterparts. The author explains that participants had lower wellbeing scores than people in employment as the labour market programme probably cannot fully substitute the benefits of regular work. The author concludes that active labour market policies should be carefully designed to consider participants' wellbeing.

The evaluations of a Spanish programme that involved job-search assistance, vocational training and coaching, and subsidised employment also provide mixed evidence regarding their impact on participants' health. A cross-sectional study by González-Marín et al. (2018) notes the poor general and mental health of the programme's participants. The explanation offered by the authors is that the programme does not positively impact critical factors affecting participants' mental health, including economic resources, self-esteem, and social support. Using a pre-post intervention research design, González-Marín et al. (2020) suggest that the programme positively impacted participant's mental health, while there is mixed evidence regarding the impact on people's general health.

There is also literature that delves into whether active labour market programmes could diminish the adverse health effects of employment hardship during periods of economic downturns and crises. Studies exploring if such measures could reduce social health inequities and the adverse mental health effects of unemployment recommend active labour market policies (Puig-Barrachina et al., 2020; Quinlan et al., 2010; Wahlbeck and McDaid, 2012). Accordingly, focusing on the impact of the Covid-19 crisis on health, Tirivayi et al. (2020) explore potential economic and labour

market policies that could be implemented during the Covid-19 crisis. Among other policies, the authors suggest active labour market policies and highlight the positive effects on the participants' physical and mental health.

Passive labour market policies

Passive labour market policies involve the provision of income replacements during periods of unemployment in the form of benefits and income transfers. While there is considerable research on the health effects of passive labour market policies both during periods of fiscal stability and economic upheavals, there is no Covid-19 related study exploring these specific policies.

Most studies focus on the impact of unemployment benefits on individual mental health and psychological wellbeing. They provide positive evidence on the effects of unemployment benefits on general and mental health, psychological wellbeing, and health inequities. Limited studies exclusively examine physical health outcomes – they conclude that passive labour market policies do not impact on physical health.

A variety of studies, including systematic reviews, cross-sectional, and quasi-experimental studies, find that higher unemployment benefits can moderate unemployment's adverse effects on general health – the latter being a measure of self-rated health combining elements of physical and mental health and psychological wellbeing (Cylus et al., 2015; Ferrarini et al., 2014a; Spencer and Komro, 2017). The literature also sheds light into the positive association between unemployment benefit policies and psychological wellbeing (Boarini et al., 2013; Ochsen and Welsch, 2012; Voßemer et al., 2018). Research studies exploring the mental health effects of unemployment insurance find positive or no effects. In the US context, Venkataramani et al. (2020) show that higher unemployment benefits are associated with reduced suicide mortality. In EU countries and the UK, Wahrendorf et al. (2020) establish that unemployment insurance does not moderate the negative mental health impact of adverse employment experiences (e.g., job loss, repeated spells of unemployment, precarious employment, and downward mobility in occupational positions).

Other papers explore the effect of passive labour market policies on health inequities. In England and Sweden, a cross-sectional study by Farrants et al. (2016) finds that systems with lower levels of unemployment benefits are associated with greater health inequities among employed and unemployed individuals. Vahid Shahidi et al. (2016) explore health inequities between the unemployed and their employed counterparts across 23 European countries, including the UK. The authors find that higher unemployment benefits are associated with limited employment-related health inequities. Accordingly, an evidence review by the World Health Organization (WHO, 2010) proposes unemployment insurance policies as a means to reduce health inequities. In contrast, Voßemer et al. (2018) do not find significant effects of higher unemployment benefits on health inequities among people with secure and insecure jobs.

There is scant literature on the impact of unemployment benefit schemes on physical health. Using data from the UK, EU or other OECD countries, and based on different physical health outcomes (such as handgrip strength and cardiovascular disorder diagnoses), Wahrendorf et al. (2020) and Walter et al. (2014) do not locate the impact of unemployment insurance on physical health.

Ferrarini et al. (2014b), using a controlled before/after research design, and Tøge (2016), using fixed-effects models, examine the impact of unemployment insurance on the working-age population's general health during economic downturns. Using data on the self-reported health of people from EU countries, including the UK, the authors conclude that benefits can moderate unemployment's adverse effects on people's general health. Accordingly, Cylus et al. (2014) examine the mental health effects of unemployment insurance benefits during economic decline.

Based on US data, the authors remark that higher unemployment benefits mitigate the connection between economic downturns and suicide rates. This link is explained by the higher sense of safety and security generated by income replacement along with the decreased incidences of mental health issues (e.g., the stress of losing one's job).

There is also evidence that higher unemployment benefits can alleviate financial difficulties and improve the psychological wellbeing of unemployed workers in times of economic crises (Malmusi et al., 2018). Drawing on existing literature and interviews with sector experts, O'Campo et al. (2015) find that this positive wellbeing impact cannot fully counterbalance the adverse health effects of unemployment. The authors also observe that similar positive results are detected among employed people, who get a sense of security that they will maintain their quality of life in the event of redundancy.

Using fixed-effects models, Tefft (2011) examines the effects of initial and continued unemployment insurance claims on psychological wellbeing separately. Using US data on Google searches of "depression" and "anxiety", the author finds that initial unemployment insurance claims appear to reduce the number of Google searches of "depression" and "anxiety". In contrast, continued unemployment insurance claims are positively associated with Google searches of the term "depression".

Moreover, a propensity score matching study by Shahidi et al. (2019) examines the association between unemployment benefits and health inequities during economic recessions. Based on Canadian survey data, the authors argue that unemployment benefits are associated with positive health outcomes. This result is more prominent among participants from lower socio-economic classes than among the educated, high-income survey participants. Earlier studies also explore potential policies that can help minimise work-related health inequities, among which higher unemployment benefits feature prominently (Benach et al., 2010; Quinlan et al., 2010).

Covid-19 related labour market interventions

This mapping exercise identifies three Covid-19 related labour market interventions: (i) the Job Retention Scheme (JRS), already implemented in the UK and intended to protect employment and secure income, (ii) the Kickstart scheme, a job creation scheme for young people introduced in July 2020 in the UK, and (iii) the shorter working week policy recommended as a response to Covid-19.

The current evidence on the Job Retention Scheme suggests a positive association between furlough schemes and workers' mental and physical health. Drawing on existing literature, a research study by the Institute for Fiscal Studies highlights the indirect positive health impacts of the Job Retention Scheme (Banks et al., 2020). The authors explain that, in the absence of this kind of measures, there would be indirect negative unemployment consequences. These would include detrimental effects on mental health, morbidity, and mortality.

A cross-sectional study by Burchell et al. (2020) draws from the COVID-19 wave of the UK Household Longitudinal Study (UKHLS); it finds that workers under the Job Retention Scheme (continuing to work part time), and full-time workers who started working part-time since the pandemic shared the same levels of mental health with full-time workers not experiencing a change in their working hours after the virus' outbreak. People who became or continued to be unemployed during the pandemic had lower levels of mental health compared to full-time workers.

Evidence suggests that the Kickstart scheme, intended to create job opportunities for young people during the pandemic, can protect upcoming generations' health (Leavey et al., 2020). According to the authors, this scheme will mediate the adverse effects of unemployment on young

people's future professional opportunities and psychological wellbeing. They caution, however, that, to create long-term benefits and avoid broadening health inequities, this scheme should be accompanied by additional measures such as youth training and monitoring job quality.

Additionally, according to a case study by the Centre for Welsh Studies, the introduction of a shorter working week policy is becoming more appealing since the outbreak of the Covid-19 pandemic (Sumner and MacKinnon, 2020). A cross-sectional study by Burchell et al. (2020) suggests that a shorter working week policy could follow the Job Retention Scheme and respond effectively to the Covid-19 crisis, as furloughed people would start working again. This intervention would, therefore, contribute to the protection of peoples' mental health and wellbeing; should they find job, they will be able to enjoy regular activity, social contact, collective purpose, status, identity, boosted self-esteem, and life satisfaction. Other research centring on the UK setting concludes that shorter working week policies would not deteriorate people's mental health (Kamerāde et al., 2020, 2019). Both papers converge on the conclusion that this policy should be universal to avoid income reduction for specific groups.

Family support policies

The health effects of family support policies, which include the provision of public or affordable childcare, family allowances, parental leave, and Welfare-to-Work interventions, are widely discussed in academic and other research literature. The health effects under consideration include mainly child outcomes, as well as parents' physical health, psychological wellbeing, and mental health. For example, Wahlbeck and McDaid (2012) review existing literature and argue that family support policies can reduce work-related suicide.

Childcare services

The provision of high-quality childcare services is considered a potential measure in response to the Covid-19 crisis (Thévenon and Luci, 2012). For example, a research study by UNICEF reviews the deteriorated children's outcomes during the Covid-19 pandemic and suggests the provision of child services (Richardson et al., 2020). A research study by the Sutton Trust charity proposes expanding the eligibility for 30 hours of free childcare to unemployed and low-income parents (Pascal et al., 2020). The authors argue that such an expansion will potentially enable parents to re-enter the labour market, while also protecting children from poorer backgrounds from the negative, indirect effects of the pandemic. An earlier study by the Sutton Trust suggests that providing 30 hours of free childcare to working families should be further investigated, for it might widen inequities in early child development (Stewart and Waldfogel, 2017). In particular, the authors argue that extending this policy to children from working families, who are considered advantaged, will widen gaps in children's development at early education ages. Other evidence reviews suggest that providing high-quality, affordable early-childhood care education can enhance child health and development (Heymann et al., 2013; Malmusi et al., 2018; Thévenon and Luci, 2012).

Family allowances

There is extensive literature suggesting that the provision of family allowances, such as childcare benefits, might be positively associated with children's health outcomes. Evidence reviews and case studies show that providing family benefits can help decrease poverty and thus enhance child health and development (Heinrich, 2014; Malmusi et al., 2018; Richardson et al., 2020; Stewart and Waldfogel, 2017).

In contrast, a before/after study, using a regression discontinuity design framework, argues that

childcare benefits do not have any impact on child outcomes (Asakawa and Sasaki, 2020). Furthermore, a systematic review by Spencer and Komro (2017), investigating the financial assistance provided to low-income families for a short period (known as Temporary Assistance for Needy Families, TANF), finds mixed evidence on the relationship between TANF and child health outcomes. In terms of mothers' health outcomes, the authors note that TANF might even be harmful.

Parental leave

The literature examines the health effects of different types of parental leave, including prenatal, postpartum parental leave, breastfeeding breaks, and short-parental leave. The evidence is focused on parental leave and breastfeeding breaks, seeking to identify if these policies positively affect child outcomes.

Reviewing evidence on the association between labour policies and young children's health, Heymann et al. (2013) describe the beneficial impact of paid parental leave and breastfeeding breaks on children's health. Heinrich (2014) argues that the time parents invest in their children during early childhood is linked with brain development and gains in physical and mental health. Based on this, he proposes that paid parental leave of six weeks to six months is bound to encourage mothers to stay outside the labour market and act as primary caregivers.

There is also literature highlighting the positive impact of parental leave and breastfeeding breaks on both mothers' and children's health. An evidence review by the non-profit RAND corporation remarks that that maternity leaves support breastfeeding. Breastfeeding for at least six months, the authors explain, can have positive health effects on both children and mothers (Strang and Broeks, 2017). The benefits include: (i) reduced probability of infections, diseases, and other conditions among children, (ii) reduced likelihood of being overweight or developing cardiovascular disorders during adulthood, and (iii) reduced probability of breast cancer, ovarian cancer, and Type-2 diabetes among mothers.

Naik et al. (2020) focus on policies that could be implemented in the UK context as a response to the Covid-19 pandemic. The authors suggest paid parental leave for both parents (currently implemented in Sweden) and review previous evidence that fathers' job flexibility might positively affect maternal postpartum health. The authors propose that such reforms benefit especially women who have limited access to anti-anxiety or antibiotic prescriptions and doctor appointments for childbirth-related problems. A study by the Sutton Trust charity also advocates for increasing parental leave provision to fathers so they can be more actively involved in children's development (Stewart and Waldfogel, 2017).

Chuard (2018), based on a regression discontinuity design, examines the impact of maternal employment on new-borns' health in Austria. The author observes that being employed until the 32nd week of pregnancy does not significantly affect birth weight, gestational length, and the measure of a baby's condition after birth (known as Apgar scores). Based on this and the positive health effects of the time parents invest in early childhood, the author suggests that parental leave policies should not focus on the prenatal but the postpartum period.

Other evidence suggests that parental employment might play a more critical role in children's development than parental leave. In particular, Thévenon and Luci (2012) remark that policies fostering parents' labour market participation can positively affect children outcomes. These policies comprise short parental leaves that encourage parents to re-enter the labour market relatively soon after childbirth. The authors recognise that there might be a trade-off between maternal employment and child outcomes. More specifically, parental employment can help moderate the adverse effects of low income and poverty on children; yet, given the reduced time

parents spend with their kids, it can also negatively impact children's development. The authors observe a negative association between employment within six months after birth and children's development in the UK. They note, however, that other literature implies that this negative association is not detected among low-income families. Furthermore, the authors argue that the modest negative association between maternal employment and child outcomes can be counterbalanced by the benefits of increased income on child development. The paper, thus, concludes that parental leave could play a crucial role in child outcomes, provided that it does not encourage parents to stay out of the labour market for too long.

Welfare-to-Work interventions

Welfare-to-Work interventions provide financial support and incentives to families to search for employment and (re)enter the labour market. The evidence on the health impact of these interventions is mixed. Gibson et al. (2018) carried out a systematic literature review and observed that "Welfare-To-Work" interventions bring about positive, albeit small in magnitude, mental and physical health effects for parents and children.

The provision of in-work tax credits and in-work benefits to families are apt examples of Welfare-to-Work interventions. A systematic review by Pega et al. (2013) does not find an impact of in-work tax credits on individual health outcomes or health equity. Surveying the in-work tax credits in the US (also known as Earned Income Tax Credit), Spencer and Komro (2017) find mixed evidence regarding their impact on child and family health outcomes. On the other hand, Venkataramani et al. (2020) observe that the Earned Income Tax Credits are bound to decrease suicide rates among people of low educational backgrounds.

Exploring the policies aiming to promote employment among young children's parents, Thévenon and Luci (2012) observe that these reduce poverty risk and income inequities. Drawing on existing literature, the authors explain that in fostering parents' employment, these interventions can further safeguard families from poverty, and child poverty in particular. The authors conclude that in-work benefits and related gains from employment can outweigh the out-of-work benefits.

Income transfers

Tax credit and cash transfers

Tax credits and cash transfers aim to support low-income individuals and households by providing reductions to income taxes or directly increasing income. A considerable number of studies chart the potential health effects of these policies. Rigby and Hatch (2016), using a fixed-effects approach, argue that more extensive tax credits for poor families are associated with better health outcomes (e.g., adult obesity rate, infant mortality rate, cardiovascular death rate, years of potential life lost, and low-birthweight rate).

Income transfers can serve as an income safety net in case that income loss influences individuals' health status (Drakopoulos, 2011). A systematic review by Sircar and Friedman (2018) focuses on conditional cash transfers programmes provided to people who meet specific criteria (for example, low income from employment). The authors conclude that such transfers can bring substantial health benefits. They underline, nonetheless, that this policy is prone to excluding vulnerable groups who cannot meet the selected criteria. Therefore, conditional cash transfers should be combined with unconditional cash transfers to enhance more vulnerable individuals' health outcomes.

Universal income

The Universal Basic Income (UBI, but also known as basic income or guaranteed income) has been heavily debated in the last years, with debates intensifying since Covid-19 pandemic started. Johnson and Johnson (2021) argue that, as a cash transfer to people seeking to increase their income, UBI can effectively respond to the Covid-19 crisis. M. Johnson et al. (2020) review existing literature on the impact of previous cash transfers on physical health and wellbeing. For example, they refer to the Finnish trial of UBI, where participants reported reduced anxiety, depression, and better overall wellbeing. They also point to the US Gary Indiana and the Alaska UBI trials, which both positively impacted birthweight. The authors further explore the mechanisms through which UBI affects health. The UBI can affect the social determinants of health, such as poverty reduction and income security. These can further impact the individual determinants of health, including covering material needs, reducing stress and leading to acceptable living standards. Individual determinants of health will directly impact recipients' health, including psychological wellbeing, physical health, and child outcomes.

UK evidence suggests that UBI can help reduce stress by providing income security (Johnson and Johnson, 2019b). E. Johnson et al. (2020) and Johnson and Johnson (2019b) highlight the need for governments to conduct UBI policy trials and carry out cost-benefit analyses that will take into account reduced anxiety.

Existing evidence also suggests that UBI is associated with positive child outcomes (Venkataramani et al., 2020) and reduced health inequities. In particular, UBI can increase the earnings of low-income families proportionately more than the higher-income families, thus mitigating health inequities (Ruckert et al., 2018). However, if the guaranteed basic income becomes a substitute for critical welfare programmes providing vulnerable groups with vital economic resources and healthcare services, then the UBI might end up jeopardising these groups' wellbeing (Sircar and Friedman, 2018). Another study by WHO suggests that UBI should not replace welfare policies. Rather, it should be combined with other income security measures, including better control of working life or stable contracts (Haagh and Rohregger, 2019), labour institutions such as minimum wage, and schemes protecting job security and quality (Ruckert et al., 2018), job training programmes, and family support policies (Witte, 2019).

Many studies are also addressing the implementation of a guaranteed basic income in EU and other OECD countries. In particular, a study by the University of Helsinki explores preliminary findings from Finland's basic income experiment carried out in 2017-18 (Blomberg-Kroll et al., 2019). The authors argue that recipients reported higher levels of life satisfaction and experienced less mental strain.

There is also much ongoing discussion about the implementation of guaranteed basic income in Canada. A cross-sectional study by Emery et al. (2013) remarks that this policy could decrease poverty in Canada, and ultimately improve people's health. Based on evidence that the guaranteed basic income can reduce poverty by providing standard payment and security to people aged 65+, the authors suggest expanding it to younger people. However, Raphael et al. (2019) illustrate that guaranteed basic income, if not implemented in combination with other institutions or welfare policies, could have limited positive health effects on individuals below the poverty line; providing UBI could push them near the line but not above it. The authors explain that, for this population group to obtain optimal health outcomes, it should move well above the poverty line. This could be accomplished with UBI provision and a supplementary expansion of the welfare state.

Labour legislation

Employment protection legislation

Employment protection legislation aims to protect employees from unfair treatment in the labour market. Several studies provide crucial insights into the health effects of employment protection and related regulations protecting job quality, severance payment, notice periods, and ensuring trade unions' bargaining power.

Cross-sectional and longitudinal studies suggest that employment protection positively affects life satisfaction by providing greater job security (Boarini et al., 2013; Ochsens and Welsch, 2012). Other evidence highlights the crucial role of employment protection in: (i) increasing job security and quality, (ii) enhancing workers' physical and mental health, and (iii) and reducing gender and socio-economic health inequities (Malmusi et al., 2018). Other studies point out that policies providing secure working conditions and employment insurance can help decrease health inequities (Siqueira et al., 2014; WHO, 2010). On the other hand, there is evidence suggesting that employment protection legislation can worsen the adverse health and psychological wellbeing effects of unemployment for labour market outsiders (Voßemer et al., 2018).

More recent literature focusing on the Covid-19 pandemic and previous economic upheavals also identifies the positive health effects of employment protection legislation. Research by the Health Foundation addresses the economic development interventions that can help promote health and health equity in the UK during the Covid-19 crisis (Naik et al., 2020). Among others, the authors discuss employment protection legislation and incentives for labour market participation as measures to deal with the adverse health effects of low-quality work, unemployment, and the risk thereof. The authors use the case of Sweden, where organisations cooperate with companies and provide support, training, and coaching to people dismissed by collaborating businesses. Barlow et al. (2019) find that regulations setting minimum compensation for dismissal (severance payments) and entitlement to a notice period before dismissal (notice periods) decrease the probability of health declines in the labour force, especially for the unemployed. Although this association might be attenuated during economic recessions, it is not eliminated.

Furthermore, unionisation and collective bargaining can have mixed health and health equity outcomes (Quinlan et al., 2010). Using fixed-effects models, Rigby and Hatch (2016) argue that laws increasing union power can be positively associated with health outcomes, including lower rates of poor health and measures of premature mortality, obesity, low-birthweight, and smoking. Additionally, decreased union participation is associated with suicide rates and overdose deaths (Venkataramani et al., 2020). On the other hand, Chung et al. (2010) observe that union density, which represents unions' bargaining power, is associated with low-birth-weight. This leads the authors to suggest that liberal labour markets—such as the UK labour market that exhibits low union density and particularly low employment protection legislation—present better health scores (healthy life expectancy at births, low mortality rate, and less communicable diseases) than other labour market types.

Flexible arrangements

There is scant literature on the related health effects of flexible arrangements. A systematic review by Joyce et al. (2010) finds that contractual flexibility (wherein employees have no control) has no or negative impact on people's health outcomes. Conversely, flexible arrangements (putting employees in control of scheduling and partial/gradient retirement) are likely to affect workers' physical health positively. This positive impact is mainly reflected in reduced work-related anxiety and cardiovascular diseases.

Minimum and living wages

The minimum wage is the lowest pay per hour that employees can be entitled to, while the living

wage is the lowest income necessary for employees to cover living costs. There is literature arguing that living wage policies are linked to positive health impact. In the US, there is substantial evidence suggesting that minimum wage increases are associated with enhanced physical and mental health outcomes. Rigby and Hatch (2016), for instance, remark that the minimum wage laws appear to be associated with lower rates of adult smoking and obesity. Evidence from various sources (including a literature review and a difference-in-difference study) suggests that minimum wage increases lead to reduced suicide rates among working-age, low educated people (Kaufman et al., 2020; Venkataramani et al., 2020).

There is also research contextualising the living wage as an employment intervention that can positively impact health and health equity outcomes. Siqueira et al. (2014) recommend that a living wage policy should be introduced to narrow health disparities at work. Discussing employment interventions in the UK in the face of Covid-19, Naik et al. (2020) use a Scottish paradigm, wherein businesses that take loans are obliged to pay the living wage and other forms of exploitation are discouraged. This policy promotes standards of good work and economic security, boosting workers' wellbeing.

However, existing evidence on the health effect of minimum wages is mixed. In the UK, Kronenberg et al. (2017), using a difference-in-difference approach, detect no significant impact of wage increases on low-wage earners' mental health. International evidence suggests that minimum wage increases can positively influence specific demographic groups (such as white people) but can have mixed effects for Latino men (Narain and Zimmerman, 2019).

Importantly, the evidence also differs per health outcomes. For example, Spencer and Komro (2017) note that minimum wage increases can reduce mortality and enhance birth outcomes, yet they are also linked to increased alcohol consumption by young people. Strain et al. (2016) find a small positive effect on people's general health, but they also show that minimum wage increases can have a substantial negative impact on the physical health of unemployed men.

Flexicurity

The so-called "flexicurity" labour market policies have provoked much discussion about how they could impact employment and health outcomes. Flexicurity refers to a strategy aiming to combine labour market flexibility with social security and active labour market policies. Existing research on the bidirectional relationship between health and employment, suggests flexicurity is a means to relax job loss protection and provide active labour market activities (Barnay, 2016; Green, 2011). This intervention is expected to positively impact worker's physical and mental health.

A systematic review by Afzal et al. (2013) maintains that flexicurity can positively affect population health when employed in countries with a strong welfare system, such as Denmark. However, in places like Ontario, social protection needs to be re-enforced before implementing flexicurity policies. Alternatively, these policies might introduce significant risks in people's lives. The authors argue that they can be especially harmful to low-income parents, who run the risk of losing affordable childcare and other family health-related benefits. Accordingly, Shahidi et al. (2016), using survey data from 23 European countries, observe that flexicurity policies do not diminish the adverse health effects of temporary employment.

Mechanisms of change in health outcomes

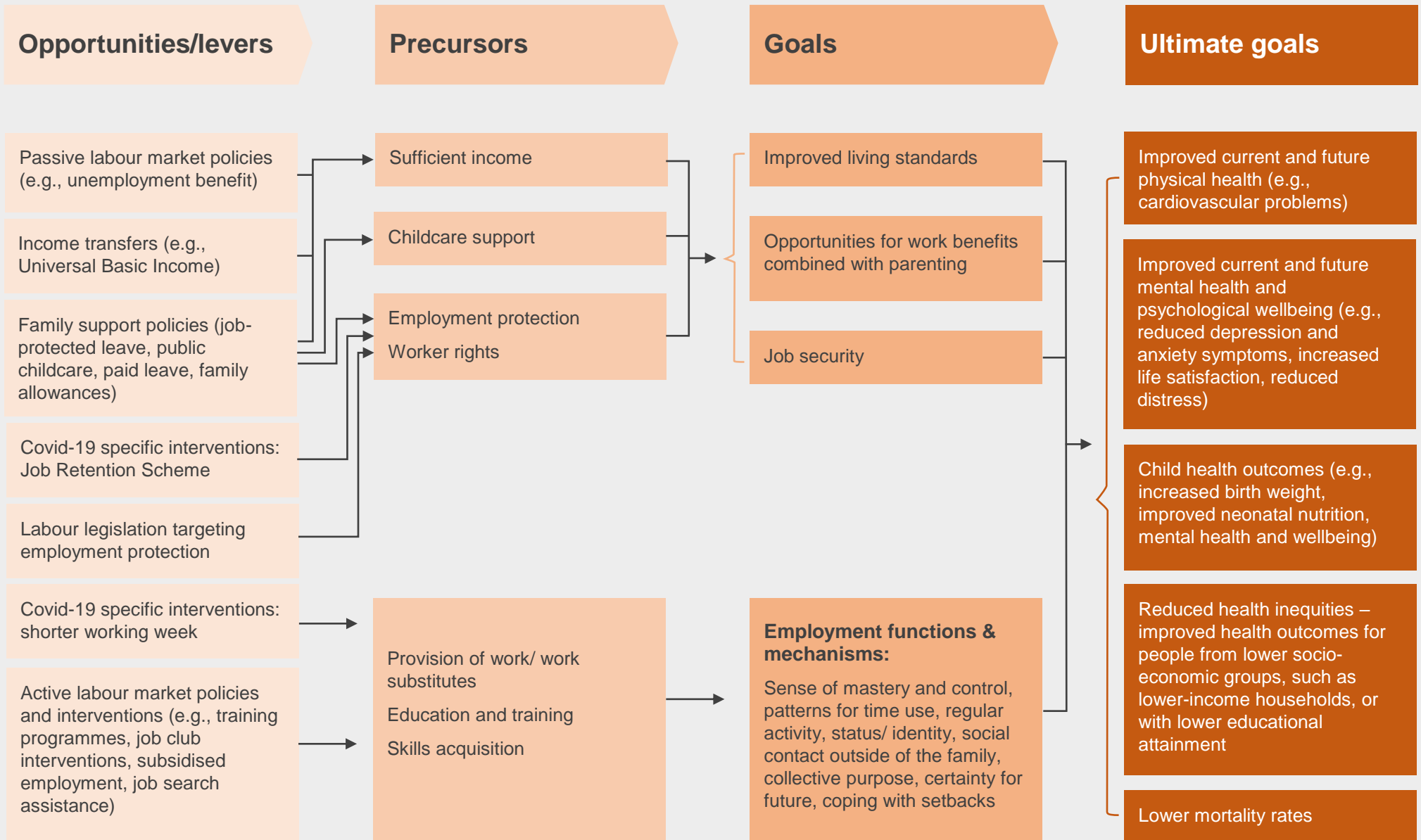
Theory of Change

Our research findings informed the development of a Theory of Change (ToC) framework that pinpoints the links between employment interventions and improved physical and mental health outcomes for workers. The ToC illustrates the interventions identified during the evidence review and the mechanisms through which they improve health outcomes.

The ToC framework sets out the chains linking policy interventions with positive change and benefits in key areas. The specific events in this framework are defined as follows:

- **Opportunities/levels:** including the activities undertaken as part of promising employment-related interventions;
- **Precursors:** representing the immediate products of project activities;
- **Goals:** demonstrating the intermediate targets of promising interventions;
- **Ultimate goals:** indicating the benefits in critical areas flowing from intervention outcomes.

The diagram below illustrates the ToC framework developed to assess the impact of employment-related interventions on health outcomes. It identifies overarching impact areas flowing from the employment-related interventions, including health benefits. Additionally, it visualises the mechanisms linking promising interventions to positive change and benefits.



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