Purpose

Promoting Understanding & Research into
Productivity, Obesity Stigma & Employment

Living and Working with Obesity
Are Employers Playing their Part?

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1. Executive Summary

The UK government's 2020 Obesity Strategy places considerable emphasis on public health measures to prevent obesity and to support people living with obesity to manage their weight more effectively. Although the strategy makes reference to the role that employers among others might play in the delivery of the strategy goals, there is little substantive discussion about the action which might be taken in modern workplaces to support people living with obesity. There are at least two reasons why this gap needs to be addressed.

The first is that workplaces, especially those already engaged in health promotion, are ideal 'hosts' for measures which support employees living with obesity to find support and to access advice. The second is that too many workplaces, regrettably, play a part in perpetuating obesity stigma and discriminatory practices, which result in many people living with obesity experiencing less hiring success, a persistent wage 'penalty', poor progression and more derogatory comments from managers and co-workers. If workplaces can be encouraged to adopt more enlightened attitudes and management practices which support people living with obesity to thrive at work, then an important dimension of the Obesity Strategy will have a better chance of success.

In this, the second paper from the IES Purpose Programme, we discuss the role of workplace health programmes which focus on supporting those living and working with obesity. It explores the evidence of their effectiveness and their impact on both employee and organisational outcomes.

Based on an extensive desk-based review of the evidence we have looked at previous studies which examine a number of themes:

- Types of workplace health promotion with a focus on obesity and weight management.
- The business, legal and moral cases for action by employers.
- Barriers to implementation of work site health promotion focusing on obesity.
- The effectiveness of these programmes both for individuals and organisations.
- The implications of workplace programme design and implementation on stigma and on post Covid ways of working.

We have found that the workplace can, indeed, be a valuable setting in which workplace health promotion can be offered, and employers are increasingly offering a wider range of workplace health programmes and interventions with the aim of improving employee health and wellbeing. However, there are differing views regarding the implementation of such programmes, often centring around how much it is an individual's responsibility to maintain an acceptable level of personal health, and this has been seen especially in regard to weight management programmes. Weight management programmes can fall into two main categories: those with an 'organisational focus' (for example, on-site exercise programmes; healthy snack provision in on-site catering venues; workplace adaptations for physical spaces) or an 'individual focus' (typically programmes focusing on nutrition, physical activity, behavioural modification and counselling). Some programmes may be more individually tailored to help employees, whereas others have suggested the use of incentives could encourage employees to use the programmes (although there are stigma issues related to this practice).

A number of barriers have been identified when implementing workplace health programmes, including a lack of consultation about what the preferred health programmes are, stigma related to obesity in employment (with the risk of reinforcing erroneous beliefs about the controllability of weight by individuals), and methodological challenges to research in this area. Organisations

may still have to justify why investments should be made in workplace health for people living with obesity. These can include the 'moral case' arguing that employers have a moral duty to ensure that the workplace provides good quality work to ensure that an employee's physical and emotional health and wellbeing is not affected by their work or working conditions. The 'legal case' argues that employers have a legal obligation to ensure that employees living with obesity have fair access to employment and interventions that could help improve health and wellbeing at work. It also argues that employers should implement risk assessments and workplace adjustments to ensure that employees living with obesity are not discriminated against at work. Finally, there is the 'business case' which argues that implementing workplace health initiatives for those living with obesity can help optimise an employee's productive capacity at work to the benefit of the organisation.

There is some evidence to suggest that weight management programmes can have a positive impact on operational and business outcomes for employers; however there are methodological constraints to undertaking evaluative research in workplace settings. Research has tended to use measures such as absenteeism and presenteeism as measures of business outcomes. Some research also reported improvements in job performance (often self-reported). A small amount of research has also looked at the cost-effectiveness of weight management programmes, suggesting modest return-on-investments, although a majority of this research originates from the USA, where employers bear significant healthcare costs if employees are unwell, and so results may not be easily translated to a UK context, and should be treated with caution.

A major area of concern which is receiving greater attention in the literature is the risk that well intentioned workplace health promotion programmes with a nutrition, exercise or weight management element may inadvertently reinforce obesity stigma. We found strong evidence that unless carefully designed and targeted, some programmes can reinforce the belief that overweight and obesity can be resolved by eating less and moving more, and that these are mainly achievable by greater application and willpower on the part of the individual. This can have the effect of causing some people living with obesity to further internalise the stigma they experience in wider society. This can make them reluctant to participate in workplace weight management programmes, or fail to access support such as weight management advice or psychosocial help from which they might otherwise benefit. It is also possible that some health promotion initiatives, especially if they encourage competition or use incentives, can produce negative outcomes for some workers living with obesity.

The discourse surrounding workforce health and productivity continues to be dominated by evidence of the 'harm' which poor wellbeing can do to individuals, businesses and the wider economy. This means that it is easy to find accounts of the costs of ill health or the deleterious impact of 'stress' or chronic illness on labour productivity. This evidence has its place in the debate, of course, but it is overwhelmingly negative in nature and has the effect of putting a spotlight on risk mitigation and harm reduction. Attempts to emphasise that workforce health is an asset to business and to the economy can sound aspirational and even evangelical. This may be because it is easier to conceive of a cost which is reduced than a benefit which is realised. A measure which reduces sickness absence by 10 per cent may have more buy-in from a sceptical manager than another which boosts resilience, creativity or concentration by a similar amount. Partly this is because it is easier to place a financial value on one day of lost productivity resulting from a back injury or a heavy cold.

The evidence about the effectiveness of wellness programmes in reducing overweight and obesity largely falls into this category and it is, perhaps, time to reframe the debate towards an asset-based view of workforce health and wellbeing. In exploring both the business case perspective and the human 'resources' perspective, we have seen both the barriers and opportunities which exist if we are to persuade business leaders and policymakers to think more seriously about health as an asset.

The Covid-19 pandemic, sadly, may have the short-term effect of reinforcing the view that the health of the workforce is primarily about mitigating risk. But as businesses in the knowledge economy become more convinced that human capital and workforce wellbeing are important and value-adding assets that will drive productivity, growth and competitiveness, perhaps more will start making this case to investors. Similarly, if employers recognise that they already have in their existing workforce a fund of goodwill, resilience, energy, engagement and resourcefulness which is ready to be harnessed, then some might start taking a more asset-based view of their people – even those living with chronic illnesses. In practical terms, then, this is the true test of whether they really believe that people are their greatest asset.

For government:

- Including a focus on the 'good work' agenda in the Obesity Strategy, ensuring that employers understand the rights all employees have to stay in, thrive in, and return to sustainable work. It may be time to clarify that obesity is considered as a 'protected characteristic' in its own right under the Equalities Act of 2010. This would make clear that employers have a duty to make reasonable adjustments for people living with obesity and to avoid all forms of direct and indirect discrimination in employment settings.
- Funding more research, especially for those who may be considered in the more 'at risk' groups, especially post Covid, including considering both ethnicity and social inequalities in research samples.
- Including health inequalities as part of the levelling up agenda post Covid-19, understanding that work plays a fundamental role in shaping health. Reducing health inequalities could be an important factor in the UK's economic recovery, and investment in workplace health and wellbeing could be beneficial within this.

For employers:

- Language and framing is an important consideration. Employers should attempt to avoid 'risk management' language, when supporting employees living with obesity, and view all employees as an 'asset' rather than a 'liability' to an organisation. Emphasis should be placed on their workability and the contributions to the productive capacity and social capital of an organisation.
- Any current workplace health and wellbeing practices or health promotion activities should be reviewed to ensure that they are supportive and not stigmatising to employees living with obesity. When designing, implementing and evaluating employer-sponsored weight management programmes or other related initiatives, it is important that this occurs in conjunction with employees, so that they are able to input ideas that may not have been considered important by employers, and thus could also eliminate any risks of the interventions perpetuating any further weight-based stigma.

In addition to the above, any work-based programmes should be offered and advertised in non-stigmatising ways (including avoiding the use of stigmatising imagery and language), focusing on overall benefits to health and wellbeing and not just weight per se. Programmes should not be obligatory for employees to attend, and they should not fear discrimination if they do not join the programme.

For individuals:

- First, it important to recognise that support is available if you are experiencing stigmatising behaviour or discrimination at work. Depending on the source of this stigma or discrimination, your immediate line manager might be the best first option or, alternatively, an HR manager or union representative. Often these concerns can be dealt with informally and amicably, especially if they give you the opportunity to explain how the behaviour of others affects you. However, sometimes you may need support to raise your concerns more formally.
- If you would like to get the support of a range of weight management services but have not found this easy or accessible via your GP, you employer's Occupational Health (OH) service is likely to be in a position to help you. OH doctors and nurses, unlike GPs, are trained to understand how work demands affect people's health and can help you get access to external support and advice. You and your manager can then use this to decide how to make changes to your health and work in ways that help you do your job well so that you can continue to enjoy working. If your employer offers health benefits or health promotion campaigns which you find difficult to access or which do not meet your needs, again an OH professional will be able to give you advice and support if you feel you need it.

2. Introduction

Over the last two decades there has been a proliferation of research into the importance of workplace health and wellbeing. This evidence, together with the recent experience of the Covid-19 pandemic, means that it is now no longer contentious to argue that employee health and wellbeing is an issue that employers should be taking seriously because it has significant business and productivity consequences. In her seminal report *Working for a healthier tomorrow*, Dame Carol Black (2008) identified that employee ill health represented a burden for organisations that could result in reduced productivity, increased healthcare costs and sickness absence. The report had a number of compelling conclusions for organisations and employers, including that if organisations placed an increased focus on improving workforce health, then cost savings could be generated for both the organisation and the government. However, the onus was put on employers to provide and maintain healthy workplaces to both protect and promote employee health and wellbeing.

The emphasis on the 'costs' of ill health to employers or the 'burden' which sickness absence places on organisations can reinforce the view that employees living with a health condition represent a 'risk' to business not least because they threaten to reduce productivity and performance. Importantly, an argument made by Dame Carol's review was that a shift in employer attitudes was needed to recognise the role that the workplace could have in promoting positive health and wellbeing. This included tackling a range of stereotypes and stigmatising attitudes which some employers hold about ill health and disabilities, and the full contribution that employees living with health conditions are still able to make despite any health challenges they face. Additionally, it was noted that although many employers were beginning to invest in workplace initiatives to promote health and wellbeing, there was still an uncertainty about the business case for such investments.

Obesity is a long-term health condition where barriers and stigma in the workplace still exist (Bajorek and Bevan, 2020) which can lead to employees living with obesity not being able to fulfil their full potential and productive capacity. Bullen and Feenie (2015) in an article outlining the human cost of failing to address obesity reinforced the urgency to further understand and reduce the impact that living with obesity can have on physical and mental health, stigma and employment. However, the prevalence of obesity is increasing across the UK population (PHE, 2020), and if current forecast estimates remain unchanged, then more individuals of working age

will be living and working with obesity in the future. This increase in prevalence, it could be argued, should be the catalyst for organisations to provide open, fair and inclusive workplaces for those living with obesity. However, despite the growth in equalities legislation and the developments in workplace health research, discrimination against those living with overweight and obesity occurs at every stage of the employment cycle, and clearly more needs to be done to help encourage employers protect and promote the health and wellbeing of those living with obesity at work.

The recent Covid-19 pandemic has also brought this issue to the fore as employee health and wellbeing has been a critical element of business continuity throughout the respective lockdowns. All employers will now be thinking about how workplaces can be adapted to ensure they are safe, that they can still maximise employee productive capacity and indicate that they are placing employee wellbeing issues at the centre of their HR strategies. Post-lockdown wellbeing practices will be of particular concern for those living and working with obesity given the observed correlations between obesity and the greater risks of severe Covid-19 related outcomes (including a higher risk of hospitalisations, advanced level of treatment and admission to intensive care units) (Docherty, 2020; Frühbeck 2020; PHE, 2020).

As a result of the Covid-19 pandemic, obesity became a priority in the policy agenda. The Department of Health and Social Care (2020) published *Tackling obesity: empowering adults and children to live healthier lives*, announcing a range of policies to help those living with obesity, and shift the healthcare focus more on public health and prevention. Within this there was also a call to converse with employers about how to better understand what can be done to support people to be healthier at work. However, the strategy did also recognise that there were people for whom current weight management initiatives and interventions are insufficient, and consequently there was also a call to expand weight management and clinical support/treatment to be more available.

Alongside this call to action has been the 'levelling up' agenda, where the government has been intending to boost the economic performance of areas outside London and the South East, to revive the fortunes of 'left-behind' towns. However, it has been argued that health inequalities should be included in this levelling up agenda, as health and the economy are intimately linked (IPPR, 2020), and the areas in which we live and work play a fundamental role in shaping our health. Sir Simon Stevens has also recently called for this during oral evidence in a session for the Health and Social Care Select Committee, a move supported by the Royal College of Physicians.[1] If reducing such inequalities and maximising employee productive capacity is important in the economic recovery post Covid-19, it is time to ask whether employers are investing wisely in workplace health and wellbeing to ensure that those living and working with obesity can thrive at work and, indeed, what more might be done.

On World Obesity Day in March 2021, a further government announcement was made regarding new specialised support systems to help those living with obesity, with £70 million being invested into weight management services, that will enable up to 700,000 adults to access digital apps, weight management groups or individual coaches. This £70 million is to be split between local authorities and NHS services which include provision for clinical support. Although this is welcomed, the schemes seem to still be based around the 'eat less, do more' rhetoric and do not include any initiatives that could be implemented in the workplace.

The Purpose Programme launched by the Institute for Employment Studies (IES) in November 2020 focuses on the ways in which the employment and labour market for people living with obesity can be improved. It calls for a more concerted and joined-up approach and action by policymakers, employers, healthcare professionals, people living with obesity and wider stakeholders to consider what more can be done to remove the current systemic disadvantage and stigma faced by those living and working with obesity to unlock their potential and productive capacity.

[1] Royal College of Physicians responds to evidence given by Sir Simon Stevens to the joint inquiry into Coronavirus | RCP London

This, the second paper in the Purpose Programme, discusses the role of workplace health programmes for employee health and wellbeing (focusing on programmes to help those living and working with obesity), and the evidence of their effectiveness for both employee and organisational outcomes. It will also highlight areas where a range of stakeholders should focus, if improvements in the labour market, employment and productivity outcomes are to be seen. It is based on a rapid evidence review examining recent literature on workplace health promotion programmes, including those with a focus on weight management and related interventions.

Workplace Health Programmes and Obesity

2. Workplace Health Programmes and Obesity

Research suggests that long-term and chronic conditions in the workforce can have negative consequences for business outcomes, including reduced labour productivity and increases in employee absence and presenteeism. It has been argued that to reduce the costs associated with ill health at work, organisations should consider investing in employee health, and push workplace health programmes higher up the wellbeing agenda (Fitzgerald et al., 2016). Goetzel et al., (2014) defined workplace health programmes as: 'employer initiatives directed at improving the health and wellbeing of workers, and in some cases dependents. They include initiatives designed to avert the occurrence of disease or the progression of disease from its early unrecognised stage to a severe one' (page 927). Although the nature and design of workplace health programmes may vary, the desire to create sustainable work environments has meant that more employers are considering their introduction.
The prevalence of the number of people living and working with obesity has also increased significantly over the last decade (Christensen et al., 2019; PHE, 2020). Although obesity can be considered as a long-term health condition in its own right, it is also recognised as being as a contributing factor to the development of a range of comorbid health conditions, including Type 2 diabetes, heart diseases, a range of cancers, osteoarthritis, respiratory conditions and mental health (Agha et al, 2016; Apovian et al., 2017; Christensen et al, 2019). Consequently, weight loss programmes and preventative measures to reduce weight gain are becoming more prevalent at an individual, societal and organisational level.

2.1 Workplace health programmes and the policy agenda

Workplace health programmes to promote diet and physical activity have also been discussed by policymakers and international health bodies over the last 20 years, all providing support for the view that the workplace should be considered as an appropriate setting for health promotion (Quintalini et al., 2007). For example, in the World Health Organisation's (WHO) Global Strategy on Diet, Physical Activity and Health (2004), it was reported that, 'Workplaces are important settings for health promotion and disease prevention. People need to be given the opportunity to make healthy choices in the workplace in order to reduce their exposure to risk. Further the cost to employers of morbidity attributed to noncommunicable diseases is increasing rapidly. Workplaces should make possible healthy food choices and support to encourage physical activity'. More recently, in 2013, the WHO described the workplace as a priority setting for health promotion because: 'The workplace directly influences the physical, mental, economic and social well-being of workers and in turn the health of their families, communities and societies.' The WHO argued that, 'A health promoting workplace can ensure a flexible and dynamic balance between customer expectations and organisational targets on the one hand and employee's skills and health needs on the other, which can assist companies and work organisations to compete in the marketplace. For the nations, the development of health promoting workplaces will be a pre-requisite for sustainable and social economic development'.

In the UK, the National Institute for Health and Care Excellence (NICE) reported that because the effects of obesity extend to the workplace, in relation to issues concerning productivity and employee absence, and because of the level of stigma and discrimination that people living with obesity experience, the workplace is an important arena for workplace health programmes. The most recent NICE Pathways (2020), discussing obesity prevention and focusing on workplace interventions, noted that: 'All workplaces, particularly large organisations and local authorities should address the prevention and management of obesity, because of the considerable impact on the health of the workforce and associated costs to industry' (page 3). The NICE Pathways suggested that workplaces could provide opportunities for staff to eat a healthy diet and be more physically active through:

- active and continuous promotion of healthy food choices throughout the workplace (eg vending machines, food outlets etc.);
- developing working practices and policies that promote 'active travel';
- providing a supportive physical environment (eg stairwell improvement, secure bicycle parking and showers); and
- implementing recreational opportunities (eg use of local leisure facilities, lunchtime walking practices and out-of-hours social activities).

The implementation of workplace health programmes to improve both general health, and more recently obesity, is clearly on the policy agenda. However, what is important to determine is what needs to be done to persuade employers that there is a business case for action that they should be interested in, without simultaneously increasing the level of stigma that those living and working with obesity experience (Bajorek and Bevan, 2020).

2.2 Why the workplace?

A number of researchers (eg Christensen, 2019; Grimani, 2019; Fitzgerald et al., 2016; Pescud, 2015; Heinen and Darling, 2009, and the Guidelines for the Prevention of Obesity at the Workplace, 2009) have provided a range of reasons why employers should invest in the health of their employees, and why the workplace is a valuable setting to do so.

These include:

- The workplace is a logical and natural setting for health programmes given the amount of time that people spend in work. Research has suggested that most adults spend approximately one-third of their lives, or 90,000 hours, at work, or undertaking work activities (Milken Institute, 2020).
- Many long-term conditions that employees may experience at work are 'modifiable' or preventable, and some workplace health programmes may enable more preventative rather than reactive action.
- Many long-term conditions that are commonly found in the workplace are precursors to a range of other comorbid conditions that can also have an impact on employee health, and potentially their productive capacity. For these, early intervention initiated in workplaces can be critical.
- If workplace health programmes are well designed and well implemented and promoted among employees then they could be cost-efficient for organisations. If organisations can show that health programmes save more money than they cost (usually calculated through absence data, or in the USA money spent on health insurance claims), then this could produce a positive return on investment.
- Employers have the opportunity to reach out to a large number of employees, with the potential (if implemented and promoted successfully) to reach a large segment of the workforce who may not have had the opportunity to be exposed to or engage with alternative health programmes.
- Workplaces have the opportunity to tailor health programmes and health messages to meet the specific needs of their employees, the sector and demographic groups (although this can only occur if there is already a good understanding of employee wellbeing needs and if employees are included in programme development and promotion). These may include employees exposed to known health risks such as musculoskeletal strain, stressful work, shift work or working with hazardous substances.
- Employees wishing to adapt their health behaviours may be able to provide social support to each other, especially if a wellbeing programme is incorporated into a positive and supportive organisational culture, and employees routinely see and meet each other.

- Having a health programme in the workplace may also be helpful for evaluative processes, as there is an opportunity for data collection and analysis, which could be used for long-term analyses as well as a more in-depth process evaluation with the key organisational groups involved. The data collected by workplace health programmes can be analysed to assess which interventions have the most impact on health and productivity and whether different groups benefit more from specific elements of these programmes.
- Introducing workplace health programmes may also be beneficial for the recruitment and retention of employees, as it provides an indication that the organisation considers the health and wellbeing of their staff as an important part of the organisational culture, and may be welcomed by current and prospective employees. Many employers believe that this can help employees feel that they are valued and considered important by organisations, and could also lead to greater loyalty and higher levels of engagement (Goetzel et al., 2014).
- Having workplace health programmes can help employees become more aware of their overall health and wellbeing, and how being in 'good health' can improve their overall quality of life. Employers add that it may help individuals take 'ownership' of their health choices and behaviours (Goetzel et al., 2014) and help individuals be accountable for their health.

2.3 Workplace health programmes with a focus on obesity

As a result of the potential benefits of the workplace being a suitable setting for health promotion interventions, more employers are now introducing and implementing a variety of workplace health programmes and interventions with the aim of improving employee health and wellbeing (Heinen and Darling, 2009). Davis et al., (2014) reported employer survey results (from three US energy organisations) indicating that 92 per cent of employees had access to weight management programmes (although this does not mean that they used them), and employers thought that having access to such services was an integral part of employee benefit packages.

Although the evidence suggests that workplace health programmes are becoming more popular, there has been limited research on both employer and employee viewpoints regarding their responsibility to address long-term health conditions. Gabel et al., (2009) conducted a study focusing on current workplace programmes to address obesity, and the attitudes of both employers and employees towards them. The results of the study indicated that:

- Both employers and employees viewed weight management programmes at the workplace as appropriate and effective. 92 per cent of employers in large firms and 71 per cent of employees in medium firms agreed with the statement that, '*it is an appropriate role for an employer to include a range of obesity-related services and benefits for employees*'.
- Employers indicated that weight management programmes could help with concerns over sickness and disability expenses, productivity and claims for medical expenses.
- 88 per cent of employees concurred with the idea that '*programmes related to weight management or healthy lifestyles belong in the workplace*'.
- Only 10 per cent of employees strongly agreed that '*workplace programmes related to health and lifestyle issues interfere with privacy*.' It was however reported that low-income workers were more likely than high-income employees to agree that weight management programmes interfere with an individual's privacy.
- Even though employers did report that weight management programmes were appropriate in the workplace, they also identified a range of other stakeholders that should also have a major role in addressing obesity. These included: employees themselves, healthcare professionals, health insurers, the food and drink industry and the government/policymakers.
- When asked about the efficacy of workplace weight management programmes for addressing overweight and obesity, 73 per cent of employers (and 86 per cent of large employers) reported them to be effective, though no 'hard' measures were reported.

It is common to find a variety of views about the respective roles of employers and employees in workforce health. Pescud et al., (2015) interviewed a range of employers to understand their views towards implementing workplace health programmes and what aspects of employee health they felt they had responsibility for. Their research found that workplace health was perceived to encapsulate a range of areas including occupational health and safety, mental health, nutrition, physical activity and 'general health issues'. Employers' conceptualisations and understandings of workplace health and workplace wellbeing had an influence over their workplace beliefs. For example, occupational health and safety was unanimously perceived to be essential in the workplace (with the legal requirement to keep employees safe from accidents at work), but there were mixed views about how responsible employers felt they were for the lifestyle, health and wellbeing of employees.

There was a general view that it was the employee's individual responsibility to maintain 'an acceptable level of personal health', while the workplace was thought to have a minor role in 'supporting' employee health. There appeared to be a hierarchy of 'wellbeing issues' that employers thought they had responsibility for. Health and safety was of most importance, followed by mental health, and 'lifestyle factors' such as physical health and nutrition were of least importance. Additionally, workplace health programmes were rarely reported in small organisations. Some employers believed that the workplace did not have any role or responsibility in influencing worker health, beyond their legal duty of care. They held the view that workplaces should not attempt to control people's lifestyles, and the main aim of organisations was to make a profit and deliver returns to shareholders. However, these employers added that interventions would be implemented, or adjustments would be made, if funding was provided to do so.

2.4 Types of weight management programmes

Reviews of the literature have identified a range of weight management programmes, and various implementation methods that could be beneficial for employees living and working with overweight and obesity. Nobrega et al., (2016) noted that most interventions for people living with obesity focus primarily on encouraging healthy behaviours (eg eating and active living), but these could have an 'organisational' or 'individual' focus.

For example, Heinen and Darling (2009) defined organisation-focused interventions or programmes as those designed to ensure that healthy behaviours become the 'norm'. Examples of organisational interventions include: on-site exercise programmes; healthy snack provision in vending machines or canteen facilities, changing prices and improving the labelling on 'healthy' snacks and displaying them in more prominent areas; gym membership, sponsorship or access to more 'active travel' schemes; on-site health facilities; open and attractive spaces to encourage lunchtime breaks; and adaptations to stairwells to make them more accessible. It has been argued by behavioural scientists that such 'nudges' can be effective in leading to behaviour change (Thaler et al., 2008).

It has been argued that for organisation-focused interventions to be effective, a number of other factors need to be present. Quintiliani et al., (2008) suggested that best practice workforce health programmes necessitate substantial managerial support and effective organisational communication to educate employees about what is available to them (including a range of communication methods to ensure the target audiences are effectively reached). The social organisational environment was also discussed, including having an overall culture which valued employee wellness, and social norms around healthy eating and physical activity (Tabak et al., 2015).

Yarborough et al., (2018) identified a range of individual weight management programmes that could support those living and working with obesity. Programmes including nutrition and caloric restriction, physical activity, behavioural modifications and counselling have been viewed as the cornerstone of treatment for those living with obesity. Some of these programmes could involve the use of commercial providers who are brought into the workplace, while others use self-help or peer-support

models. People living with overweight or obesity may opt for a multi-component programme in which both lifestyle and behavioural modifications are implemented.

To help encourage individuals to engage with and maintain participation in workplace weight management programmes, some organisations may use incentives (Quintiliani et al., 2008). A number of different types of incentives are available: intrinsic incentives can include weekly or monthly charts of progress in increasing numbers of steps, or setting targets to reach, or extrinsic incentives (eg financial incentives, reduced health insurance premiums, free health screenings, or additional available programme settings). Weight management programmes could also be tailored to individuals (most commonly seen through print communication, or counselling programmes).

Archer et al., (2011) undertook a review of the evidence to identify worksite practices that showed promise for promoting employee weight loss. The results uncovered six main themes of practice for which there seemed to be the most convincing evidence (including both educational/ informational and behavioural strategies).

These included:

- Enhanced access to opportunities for physical activity combined with health education: this enables access to physical activity programmes, workshops and classes and the provision of education (general health information, information about weight loss and nutrition, chronic disease prevention) in a worksite setting.
- Exercise prescriptions alone: involving planned or structured physical activity regimes, that can be provided to an individual or groups, including specific information and recommendations about the frequency, type and intensity of exercise.
- Multicomponent educational practices: these aim to provide information about addressing health promotion programmes (eg healthy lifestyles, physical activity and nutrition) and risk reduction programmes (for example: weight management programmes, diabetes risks, cardiovascular risks). In addition, exercise, healthy eating or reading materials that conveyed health education information were also offered.
- Weight loss competitions and incentives: such programmes consist of rewards for weight loss or behavioural change to increase physical activity or improve nutrition. Rewards could vary in type and size, and could be used in the screening, enrolment, compliance and completion of the programme. Some may also reward for maintenance of any changes after the programme has ended.
- Behavioural practices with incentives: these teach behavioural management skills, participatory skill development and individual benchmarking (goal setting and achievements), and also include the provision of feedback and social support for behavioural patterns. These practices could also be combined with incentives that are given through either participating in or completing programmes.
- Behavioural practices without incentives: these include the teaching of specific behavioural skills as described above, but do not provide incentives. Typical behavioural practices included either individual or group consultations with personalised plans of action to improve nutrition and/or physical activity to help with weight loss.

The authors additionally noted that the best workplace weight management programmes and practices were those that were designed to meet the needs and preferences of employees.

2.5 Barriers to implementing workplace health programmes

Despite the evidence to suggest that the workplace is a good arena for weight management programmes, there are a number of barriers to their successful implementation. The Milken Institute (2020) reported that employers view a lack of employee engagement to workplace wellness programmes that they provide as a persistent concern. This could be related to a misalignment of the perception of wellness offerings. For example, the report cited evidence from the *Awareness, Care and Treatment In Obesity MaNagement* (ACTION) study which reported that 72 per cent of employers viewed their wellness programmes as helpful, in comparison to only 17 per cent of employees living and working with obesity. This leads to questions regarding whether employers are consulting with their employees about which interventions would be most suitable for employees living and working with obesity, and what further actions employers could do to implement and promote workplace weight management interventions which actively engage the employees at whom they are targeted.

Alongside the increase in the prevalence of overweight and obesity in the UK has been the rise in workplace stigma that can be found at all stages of the employment cycle (Bajorek and Bevan, 2020). It has been suggested that although there may be benefits to workplace weight management health programmes for some, the emphasis on weight loss and the focus on a simplistic 'eat less, do more' message can inadvertently reinforce rather than diminish weight-based stigma (Täuber et al., 2018). These messages can be based on erroneous but common beliefs about how controllable weight loss is, or that 'willpower' and motivation are all that are needed to control weight. The shift from the idea of assessing and mitigating health and safety 'risks' to a greater focus on wellbeing and health promotion is associated with a shift in a change of responsibility from employers to employees (Macdonald and Sanati, 2010). This may have wider implications for the type of workplace health programmes that are introduced by employers, and how they are perceived and utilised.

Other stakeholders have argued that workplace health programmes that focus on weight management can be seen as isolating employees living with obesity (Milken Institute, 2020). Employer financial incentives, for example, could be perceived as dehumanising or shaming employees living with obesity due to the idea that they may not or cannot reach their weight loss goals without any additional support. An employer's lack of awareness about the causes and consequences of obesity may lead to a lack of engagement by employers in weight management workplace programmes, or a lack of buy-in from senior management or decision makers. The continued debate in the UK over whether obesity should be defined as a disease also reinforces a lack of urgency in addressing overweight and obesity through prevention and treatment. Even with a greater awareness of overweight and obesity, employers may not understand how to best implement workplace health or weight management programmes in a way that is non-stigmatising to those living and working with obesity. This obviously also requires changes to the organisational culture, to one where employee inclusion and staff wellbeing is at the fore, and where employees living and working with overweight and obesity are more likely to receive fair and compassionate treatment from managers and colleagues alike.

Morgan et al., (2012) recognised that even though the workplace is a setting that has the unique potential to target both health promotion and weight management, the lack of information and evaluation exploring a variety of outcomes (both health and workplace), has meant that organisations may not have a convincing argument for their 'business case'. Even employers with the best interests of their staff at heart do not always know the best way to support employees living with overweight and obesity, or how to effectively adapt innovative programmes to the workplace (Milken Institute, 2020). It may be that there is not one intervention alone that will prove to be effective, and so awareness of the latest initiatives is important. The notions of 'quick wins'

used by some to advertise interventions may also minimise the complexity of overweight and obesity, and suggest that only short-term measures are necessary, rather than long-term strategies embedded into health and wellbeing processes.

These included:

- Poor research design (ie usually short time frames, imprecise 'success' criteria and a failure to include a control group to understand the implications of the programme or intervention).
- Using 'take-up' as a measure of success (participating in a programme does not always equate to behaviour change).
- Studies have rarely conducted analysis on how long any changes in behaviour reported are sustained.
- Few studies account for non-workplace initiatives or sources of support that could also have an impact on health behaviours and workplace outcomes.
- Other factors in the workplace that may also contribute to changes in behaviour and outcomes, including organisational policies, job design, referral pathways to Occupational Health or the accessibility of vocational rehabilitation support.

As a result of the current and ongoing Covid-19 pandemic, the ways that workplace weight management programmes are implemented may have to be reconsidered as a result of the current government requirements to work from home or work remotely where possible (Milken Institute, 2020). There is still little understanding or certainty about what the pandemic means for the future of the workplace, whether employers will expect employees to return to the office, or whether hybrid or more flexible work patterns will become the norm (Parry et al., 2021). However, the choices made by employers will have implications for workplace health and health promotion, and what employers have a duty to undertake to mitigate any risks of further ill health. As the increased risks of Covid-19 complications for those living with obesity have become well documented (PHE, 2020), employers who do wish to address obesity through workplace interventions face unprecedented challenges in both how to continue to engage with those living and working with obesity and in assessing the impact of any interventions (Milken Institute, 2020). Current approaches to workplace weight management programmes were disrupted by the pandemic. For example, gyms and fitness centres were closed, wellness check-ups may have been cancelled, or participants may not have attended as a result of transmission fears, and any workplace initiatives for healthy food promotion at work has been lost in this time of remote working. Additionally, the stigma for those living and working with obesity may have been exacerbated as a result of the pandemic and media coverage of Covid-19 and the risks to those living with obesity, thus further barriers may be perceived when discussing return to work and what workplace interventions may have most impact in this current uncertain environment.

2.6 Making the business case for workplace health programmes

As can be seen, there are strong arguments for why a workplace is a useful setting for the implementation of health programmes, although there are still questions regarding which weight management interventions may be most effective, and a range of both methodological, cultural and stigmatising barriers to contend with. Consequently, when considering the 'business case' for why employers should invest in workplace health outcomes for individuals living and working with obesity, a number of other important factors should be raised.

Moral case:
Over the last few decades, there has been an increased focus and interest in the 'good work' agenda. Arguments have been made that work is generally good for an employee's health and wellbeing, but for this to be the case the nature, quality and social context of work needs to be

taken into account in addition to the requirement that an individual's job should be safe and accommodating (Waddell and Burton, 2006). Good quality work can also have implications for both health and productivity outcomes, which is why it is important to take into account factors such as: job design; autonomy and ownership of tasks; fair workplaces; varied and interesting work and line management support (Bevan, 2018).

However, there is evidence to suggest that some aspects of the workplace may have an impact on obesity, and that employees living with overweight and obesity may not always experience good work.

For example:

- Employee weight gain has been associated to working long hours (Au et al., 2013). How many hours an employee works also has an impact on overweight and obesity if they are additionally exposed to a hostile work environment (Yarborough et al., 2018).
- There is evidence that employees who are expected to work unconventional hours or in shift patterns may have an increased propensity for developing overweight and obesity (Eberly and Feldman, 2012; Nigatu et al., 2016). There could be a number of explanations for this including the availability of food available in the workplace for those working night shifts or sugary foods and caffeinated drinks to help employees combat tiredness (Nobrega et al., 2016), changes in biological rhythms, sleep patterns and social isolation (Oksanen et al., 2013), and reduced opportunities for physical activity as a result of feeling too exhausted, disturbed sleep, fatigue and exhaustion after night shifts (Peerson et al., 2006).
- Some researchers have argued that as a result of how technology has evolved and developed in the workplace, the associated sedentary behaviour may have resulted in employee weight gain. Results from a survey of white-collar workers in the UK who began working from home during the March 2020 'lockdown' found that 60 per cent reported that they were taking less exercise. In addition, 30 per cent reported that they were concerned that they were eating less healthily (Bajorek, Mason & Bevan, 2020). Church et al., (2011) researched physical activity and energy expenditure at work and their relationship with obesity and found that over the last five decades energy expenditure has reduced by more than 100 calories, which accounted for a significant level of weight gain among employees.
- The psychosocial environment may also have a role in contributing to overweight and obesity in employees. Research has indicated that employees who have low control and autonomy in their work often reported anxiety and high levels of job pressures which had implications for 'comfort food' eating and increased quantities of food eaten to alleviate feelings of stress and anxiety (Nobrega et al., 2016). Experiencing harassment at work was an important characteristic of work associated to obesity (Nelson et al., 2014). Management and leadership of employees at work has also been found to be associated with overweight and obesity at work (Quist et al., 2013), and poor interpersonal treatment and conflict at work has been associated with stress, depressions and/or anxiety that resulted in altered eating patterns (Nobrega et al., 2016).
- Nobrega et al., (2016) also noted a general mismatch between the more commercially available weight management workplace health programmes and the specific needs of low-wage workers who may work in environments not conducive to accessing support or achieving or maintaining a healthy weight.
- Those living and working with overweight and obesity are also discriminated against at every stage of the employment cycle (Bajorek and Bevan, 2020), with evidence that experiencing stigma may result in behaviours that are linked to obesity (Sutin et al., 2016).
- It could therefore be argued that employers have a moral duty to ensure that the workplace provides 'good quality work' and implement workplace health programmes to ensure that an employee's physical and emotional health and wellbeing is not affected by their work or working conditions.

Legal case:
Over recent years legislation has been enacted in the UK to cover a range of protected characteristics, to ensure discrimination under these conditions does not occur at any stage in the labour market or the workplace. The Disability Discrimination Act (1995), and more recently the Equality Act (2010) have explicitly protected the rights to equal treatment of employees on the grounds of age, gender, sexual orientation, race/ethnicity, disability and other health conditions such as cancer and multiple sclerosis. Central to this legislation is the requirement for organisations to implement workplace adjustments to provide suitable support for individuals with these protected characteristics in the workplace (Fenton et al., 2014). However, for people living and working with obesity, weight-based discrimination from co-workers, supervisors, managers and colleagues remains common. This has led some to question whether obesity remains the last acceptable form of discrimination, or whether more should be done by employers to help employees living with obesity (Bajorek and Bevan, 2019).

Comparisons could be made between the progress of other characteristics that have also been subject to employment discrimination and obesity. For example, Bento et al., (2012) used the term 'weightism is the new racism', arguing that 'anti-fat' attitudes with regards to employment appeared to be at the same stage that racism was over half a century ago. As with race, obesity is a highly visible characteristic that can lead to employers forming discriminatory and stigmatising views which may lead to decisions which result in adverse outcomes. But with obesity, there is the added and aggravating misconception that obesity is a controllable condition which adds to further stigma and discrimination. Fenton at al., (2014) and Hanisch et al., (2016) have looked at the progress made regarding mental health at work and a reduction in the stigma and discrimination that employees with mental ill health experience, and what workplaces have done to help create supportive environments. For example, in 2017 NICE developed Healthy Workplaces: improving employee mental health and physical health and wellbeing highlighting that mental health and wellbeing should be made an organisational priority and that organisations need to make a commitment to developing a healthy work environment. Within the guidelines was a core priority for organisations to have a health and wellbeing strategy or plan, which should be included in all relevant policies, and that organisations should develop, promote and coordinate health and wellbeing activities.

Hanisch et al., (2016) commented that given the high prevalence of mental ill health in the general working population, employers recognised the importance of targeting mental health promotion, prevention and interventions, but recognised that stigma needed to be reduced and supportive cultures need to be developed. It was reported that interventions introduced to target the stigma towards mental ill health at work have been effective in changing employees' knowledge, attitudes and behaviours towards employees living with mental health conditions.

It could therefore be argued that employers have a legal obligation to ensure that employees living with obesity have fair access to employment, and to interventions that could help improve their health and wellbeing at work. Research by Puhl and Heuer (2009) found that people living with obesity struggle to have their weight seen as a disability. In some US states there has been some legal precedent for employees living with severe obesity to use the Americans with Disabilities Act to achieve fair employment outcomes, but on the basis that their obesity substantially limited at least one of their major life activities.

Although obesity is not yet a protected characteristic under the Equality Act, the Kaltoft[2] case in the European Court of Justice may set a precedent under which obesity could be regarded as a protected characteristic. In this case, it was argued that the individual's obesity could be considered as a disability, because under particular conditions the individual's obesity hindered their full participation in employment on an equal basis with other employees. The case did not

2 https://europeanlawblog.eu/2015/04/09/case-c-35413-kaltoft-v-municipality-of-billund-can-obesity-be-a-disability-under-eu-equality-law/

go as far as saying that obesity is a disability, but it does suggest that a health impairment (for example osteoarthritis or hypertension) that is caused by obesity requires employers to undertake workplace adjustments – especially if it restricts their ability to perform their work duties to their full capacity.

Consequently, there could be a legal duty to implement risk assessments and workplace adjustments to ensure that employees living with obesity are not discriminated against and can still thrive at work.

Business case:
Workplace health initiatives are developing in number and scope, and there is some research to suggest that the return on investment and overall health cost savings are high (C3 Collaborating for Health, 2011). There is also evidence to suggest that workplace ill health can be costly for organisations. For example, the Thriving at Work report (Farmer and Stevenson, 2017) calculated that the annual costs of poor mental health at work for employers was between £33-£42 billion (with over the half of these costs resulting from presenteeism – when individuals are less productive due to poor mental health at work), and other costs related to increased sickness absence and turnover. This led to arguments that it was in the interests of employers to prioritise investment into improving the mental health at work agenda, and workplace interventions such as workplace counselling programmes have been implemented (Bajorek and Bevan, 2020), and there is evidence that if used and promoted effectively there can even be a return on investment of Employee Assistance Programmes (EAPs) (Bevan and Bajorek, 2019).

There is also evidence that there could be costs associated with employees living with obesity, as a result of sickness absence (Goettler et al., 2016), presenteeism (Public Health England, 2014), and potentially as a result of being unable to complete physical tasks in the workplace, having an impact on the types of roles they may be able to undertake (Nigatu et al., 2015). However, as discussed above, employees living with obesity may not be working in an environment that allows them to thrive at work, and there may be job design, stigma and discrimination barriers preventing them from reaching their full productive capacity. Thus, as with mental health, and other long-term chronic health conditions, implementing workplace health initiatives that can help people living with obesity to optimise their productive capacity at work could be of benefit to organisations.

In summary, the workplace can be a valuable setting in which workplace health promotion can be offered, and employers are increasingly offering a wider range of workplace health programmes and interventions with the aim of improving employee health and wellbeing. However, there are differing views regarding the implementation of such programmes, often centring around how much of an individual's responsibility it is to maintain an acceptable level of personal health, and this has been seen especially in regards to weight management programmes. Weight management programmes can be defined as two main categories: 'organisational focus' (for example, on-site exercise programmes; healthy snack provision in workplace food-providing venues; workplace adaptations for physical spaces) or an 'individual focus' (typically programmes focusing on nutrition, physical activity, behavioural modification and counselling). Some programmes may be more individually tailored to help employees, whereas others have suggested the use of incentives could be used to encourage employees to use the programmes (although there are stigma issues related to this practice).

A number of barriers have been identified when implementing workplace health barriers including a lack of consultation about what health programmes are preferred, stigma related to obesity in employment (with the erroneous belief about the controllability of weight), and methodological challenges to research in this area. Organisations still may have to consider the 'business

case' for why investments should be made in workplace health for people living with obesity. These can include the 'moral case' arguing that employers have a moral duty to ensure that the workplace provided good quality work to ensure that an employee's physical and emotional health and wellbeing is not affected by their work or working conditions. The 'legal case' argues that employers have a legal obligation to ensure that employees living with obesity have fair access to employment and interventions that could help improve health and wellbeing at work. It also argues that employers should implement risk assessments and workplace adjustments to ensure that employees living with obesity are not discriminated against at work. Finally, there is the 'business case' which argues that implementing workplace health initiatives for those living with obesity can help optimise an employee's productive capacity at work to the benefit of the organisation.

Evidence of the Effectiveness of Workplace Health Programmes for Obesity

3. Evidence of the Effectiveness of Workplace Health Programmes for Obesity

As a result of the increase in prevalence of obesity, and the implications that this can have for the working age population, organisations are increasingly considering the use of workplace health programmes to provide support for those living and working with obesity. To help develop the business case for their use, it is important to also consider the evidence of their effectiveness. It is clear, however, that effectiveness can be measured in a number of different ways, including the impact of the workplace health intervention on health and wellbeing, business outcomes (including absenteeism, presenteeism, productive capacity and cost-effectiveness). It is also important, in addition, to consider whether employer efforts to support weight loss in workplace health promotion initiatives might also, unwittingly, add to the burden of stigma already being borne by some employees living with obesity. The results of a rapid review of the literature conducted by IES are discussed below.

3.1 Health and wellbeing

Weight-related outcomes

There was evidence to suggest that certain workplace health programmes could have positive benefits for weight-related outcomes.

Haslam et al., (2019) evaluated an individually tailored intervention with the aim to increase the level of physical exercise that employees undertook. Employees were provided with educational leaflets and were provided with encouragement to increase their levels of physical activity over 12 months through a series of interventions, including: step counting competitions, stair climbing, active commuting and walking lunches. The activities were tailored based on how ready an individual was to change their active behaviour. Outcomes were reported for the year the intervention was implemented, and then for a further year to measure any sustained behaviour change. Results of the research reported that those who received the tailored intervention showed significantly greater reductions in their Body Mass Index (BMI) and waist circumference measurements, than those who were just provided with standard leaflets offering generic physical activity advice and those who did not receive any intervention.

Lahiri and Faghri (2012) found that the use of incentives could help to improve weight loss outcomes. Employees who were in the incentivised group could earn $10 for every pound of weight lost, but they had to lose a minimum of 11lbs to be eligible for the first pay out. If the weight loss was maintained over three months, the participants could have also been eligible for another 'win' of up to $100. Finally, there was a third incentive of a 'win big' option, where participants could deposit up to $80 of their own money and this was matched by their employer if their weight loss goals were met.

All participants were asked to complete a pre-programme questionnaire, and as a result were given personalised action plans, or had tailored consultations with a weight loss consultant. For 16 weeks, employees living with overweight or obesity in four US care homes had a weekly weight loss goal of between 1-1.5lbs dependent on their original BMI. For the following 12 weeks, the employees were then encouraged to maintain their weight loss if they had achieved their weight loss goal, or to continue to lose weight if their goal had not been reached in the first 16 weeks. Results of the intervention found that following the 28-week intervention, those who received the incentives demonstrated an average weight loss of 7.3lbs, in comparison to 2.1lbs in the group who did not receive any incentives, suggesting that an incentive did provide an added motivation to encourage participants to adhere to a diet and exercise regime.

Carpenter et al., (2014) evaluated weight loss outcomes, treatment utilisation and health behaviour change in a low intensity, phone- and web-based, employer sponsored weight loss programme. The intervention included three proactive weight loss counselling phone calls with a registered dietician and a behavioural health coach, as well as having access to a comprehensive website (providing e-learning modules for core skills and health behaviours such as stress reduction, time management, coping with 'difficult' eating situations, and body image). The telephone coaching included a number of practices including a health assessment, tailoring dietary and physical activity recommendations and motivational and behavioural interventions and nutritional advice. Other benefits of the programme included the support of an online community, tracking tools, and a welcome package that included a guidebook, a food journal, a pedometer and a tape measure to monitor waist circumference. The results indicated that participation in this low-intensity weight loss programme did lead to clinically significant weight loss for a third of the participants who responded to follow-up surveys at six and twelve months. The use of the weight tracker was reported as being the most significant predictor of weight loss. Changes to nutrition-related health behaviour (eg increasing individual consumption of fruit and vegetables) also predicted weight loss.

Similarly, Ross and Wing (2016) also presented positive findings for weight loss as a result of an internet behavioural weight loss programme implemented in a worksite setting. The programme included a twelve-week multi-component internet-based lifestyle weight management programme, that combined an in-person group visit with an internet-based intervention incorporating food journals, activity tracking, weekly weight loss strategy videos (adapted from a diabetes prevention programme) and interactive sessions, self-report of weekly data, optional counselling sessions, and the use of financial incentives. After the twelve weeks of the programme, participants lost, on average, 4.68kg, with 60 per cent of the sample reporting a weight loss of 5 per cent. Further, following a three-month maintenance period, where the participants received no further contact or interventions, 53.3 per cent of the participants maintained the 5 per cent weight loss. Website utilisation in the current study was high, with both the number of video lessons viewed, and the adherence to self-monitoring seen as significantly associated with weight loss at the end of the intervention.

Davis et al., (2014) commented that, as a result of the increase in prevalence of overweight and obesity, employers were becoming more interested in evaluating and refining any wellness programmes offered to employees. Their research investigated the effects of a workplace programme to provide participants with the necessary knowledge and skills to maintain and improve their health and to lose weight. This was undertaken through individual counselling and personal training sessions alongside an educational component. The researchers reported that for the participants who completed the programme, an average weight loss of 5.6 per cent was seen, which also resulted in reductions in BMI measures and for a majority of participants, a reduction in at least one BMI category. Respondents also reported reductions in cholesterol and blood pressure.

Some research has specifically targeted certain groups which could be seen as more likely to be prone to overweight and obesity. For example, Morgan et al., (2012) evaluated the feasibility and efficacy of a workplace weight loss programme that was targeted at male shift workers. The workplace POWER programme had a number of components including: one face-to-face information/education session; a study website where participants were asked to submit exercise and eating journals, from which they received personalised feedback; resources such as weight loss handbooks, a pedometer and a website user guide; and a group-based financial incentive which was a gift voucher for sporting equipment. The study highlighted that there was a significant treatment effect in weight change after a fourteen-week follow-up, and 33 per cent of those who took part in the intervention lost more than 5 per cent of their original weight, having an impact on their waist circumference and other health outcomes such as blood pressure and resting heart rates.

Barber et al., (2015) assessed the feasibility and benefits of providing a more commercialised (in this study, Slimming World) weight management support via the workplace. The study used the regular 12-week programme and offered employees the choice of attendance at an in-house workplace-based Slimming World group, or one that was a traditional and established community-based setting. The programme included an eating plan and group-based support with the aim to facilitate behaviour change in diet and activity to either reduce weight or prevent future weight gain. The results found a general decrease in weight and BMI (mean weight change of 4.9kg), although there was not a significant effect between workplace and community groups. The study found that there was both enthusiasm for a weight management service to be delivered by the workplace, and that even when delivered in the workplace, participants achieved significant weight loss during the twelve-week period.

Giese and Cook (2014) focused on the Diabetes Prevention Programme Lifestyle Core Curriculum, a publicly available course which is built around group-focused evidence-based interventions - 16 weekly sessions addressing the root causes of obesity. Translating this programme into the workplace consisted of a company dietitian focusing on fat and calorie reduction sessions, on-site fitness staff facilitating physical activity, and a professional counsellor offering behavioural and mental health sessions. The results indicated that statistically significant differences in weight and BMI were reported.

A review of a range of both individual (eg behaviour modification, health education, health risk appraisals and physical exercise prescriptions) and environmental (eg initiatives for organisational leadership, availability and labelling of food, increasing the opportunities to exercise in the workplace, improving interpersonal relationships) workplace health programmes was undertaken by Thorndike (2011). It was found that individual interventions that targeted both nutrition and physical activity demonstrated significant improvements in weight and BMI over a twelve-month period. The results also suggested that more structured interventions and those with multiple components were more effective than more ad-hoc or single component interventions. Environmental interventions often varied dependent on the size of the workplace, the type of work or sector and the availability of food and physical outlets that could be targeted. The evidence for environmental interventions for weight loss in this review were mixed. Interventions that provided desk-based treadmills provided evidence of a reduction in weight and BMI and reduced hip circumference. A reduction in waist circumference was also reported when a range of interventions including: pedometers, a treadmill workstation; a sit-stand treadmill desk, standing desks and logging the time spent standing; competitive teamwork and motivation resources and educational presentations, were implemented.

Further support for environmental workplace interventions to help employees make healthier choices was found by McCurley et al., (2019), Thorndike et al., (2014) and Levy (2019). Across these articles the researchers reported the findings of traffic light food labelling (red, amber, green labelling according to nutritional values) and modifications to canteen spaces ('healthier' options being at eye-level and in more convenient spaces). Findings have indicated that employees who purchased the highest proportion of 'healthier' foods showed a lower prevalence of living with overweight or obesity. Additionally, the average percentage of calories purchased was reduced significantly over a two-year period following the interventions, which was estimated could result in gradual weight loss.

Other health outcomes

As has been previously reported, people living with overweight and obesity may also have associated health conditions, that can not only have a negative impact on their quality of life, but can also affect their productive capacity in the workplace (Bajorek and Bevan, 2020). It is for this reason that it is important to recognise any other health outcomes reported as a result of workplace

health programmes, that could have knock-on implications for overweight and obesity, or any comorbid conditions.

Mills et al., (2007) studied the effects of a multi-component health promotion programme introduced across three different worksites of a large organisation. The programme included employees completing a health risk assessment, and then accessing a tailored health improvement portal, and access to wellness literature. The health risk assessment assessed a range of health issues (as well as weight), including sleep, physical activity, nutrition and the presence of other health conditions. After twelve months employees who had participated in the programme reported significantly fewer health risk behaviours, with specific decreases in stress behaviours, 'unhealthy' eating behaviours, alcohol consumption, with increases in sleep, and physical activity. Results presented by Thorndike (2011) also indicated that when the health risk assessment was used in combination with wider environmental workplace interventions, there were positive changes in healthier eating practices (reduced fat intake) and a reduction in blood pressure and cholesterol.

Carpenter et al., (2014) found that as a result of a low-intensity web-based workplace health programme, not only did participants lose weight, but they also reported positive health behaviour changes including dietary choices and physical activity. The research also indicated that participants who reported a reduction in stress throughout the programme were more likely to have lost at least 5 per cent of their body weight. It was not established how or why participants showed a decrease in stress, or whether this was directly related to the weight loss. However, what is known is that stress can trigger appetite changes and eating behaviours that could be associated with weight gain, and so it could be argued that stress management should be a component of workplace health programmes in the future. The findings also pointed towards a decrease in blood pressure in a small subset of participants which, of course, is also very important when considering other comorbid long-term conditions (especially cardiovascular disease). While weight loss is a component of reductions in blood pressure, changes in diet as advocated in the programme were also shown to reduce blood pressure independent of weight changes.

Schliemann and Woodside (2019) conducted a systematic review looking into the effectiveness of dietary workplace interventions for diet and other health-related outcomes and economic outcomes in workplace settings. Not only was there some evidence to suggest that such interventions (predominantly based on increased fruit and vegetable intake, overall diet and fibre intake) could have a positive effect on weight loss, the report suggested that there was also a significant decrease in cholesterol reported, and reduced blood pressure (although it was unknown whether this was directly related to dietary behaviour). As discussed by Carpenter et al., (2014) these additional health benefits could also have positive implications for any associated comorbid conditions that an employee living with overweight or obesity may have.

In their study based on delivering a common weight management programme via the workplace, Barber et al., (2015) provided evidence of questionnaire data completed by programme participants indicating many other positive outcomes of the intervention other than purely weight loss. For example, there were reports of increased self-worth, improved healthy dietary habits (and associated decreases in unhealthy dietary habits), and an increase in physical activity. Fewer participants reported that their health was affecting their work, their social lives and other daily activities. The authors argued that changes in such behaviours could reduce the risk of developing type 2 diabetes, and certain cancers, indicating that such weight loss interventions have the potential to benefit wider health behaviours. The elevated measures of self-worth reported during and after the programme provide further evidence of the close link between overweight and obesity and mental health, which indicates the importance of including mental health components in weight management interventions.

In the research by Brierley at al., (2019) about workplace interventions to reduce sedentary behaviour, results also indicated positive effects for cardiometabolic risk factors. For example, treadmill desks and pedometers, seat-cycles in the workplace, competitive team targets, pedometer challenges, motivational and educational sessions and behavioural prompts and nudges to engage in physical activity all showed evidence of reduced blood pressure in employees who participated in such interventions. Participating in a number of these interventions also indicated improvement in blood glucose levels and improved cholesterol levels.

Finally, a note on employee motivation to participate in workplace interventions. Some management practices deliver good physical and mental health outcomes because they affect the climate of support, the thoughtful design of jobs, the involvement of employees or the ways that ill health is prevented or accommodated. Of course, 'health promotion' initiatives require employees to participate voluntarily and to take advantage of measures offered by their employer. For some employers participation rates are the only 'outcomes' which get measured – partly because this helps justify the expenditure (especially if the programme is being offered mainly as a staff 'benefit') and partly because this is easier than measuring health outcomes. So, what do we know about the factors which incentivise or impede participation in such initiatives? Several studies have shed light on this issue.

They found that:

- Overall, these employers experienced low participation rates of around 15 per cent (though some studies suggest eg a 20-30 per cent average participation rate eg Robroek et al., 2009).
- Higher participation in SMEs.
- Higher if employees received financial incentives to participate (ranging from direct payments to subsidised provision of, for example, gym facilities).
- Higher with line manager support – employees whose participation in workplace health initiatives was sanctioned or endorsed by their line manager were more likely to take part and sustain their participation.

Jorgensen et al., (2016) found that lower participation in workplace health promotion activities was associated with programmes offered during employees' leisure time or breaks (employees preferred to participate on company time), with employees with low social support at work (from managers or colleagues), with those engaged in very fatiguing work and with those doing jobs with high physical or emotional demands with low job control.

Tsai et al., (2019) found that employees who worked 20 hours or less a week, who worked regular night shifts, who were hourly waged, or who worked for temporary agencies were less likely to participate in workplace health promotion activity. They also found that supervisors were also more likely to participate than non-supervisors.

Toker et al., (2014) found that men, employees in lower occupational positions, and employees with impaired health tended not to participate or to withdraw early from workplace health programmes.

There has long been a concern that those individuals who choose to engage and participate in health promotion activity may not necessarily be those who need to participate. These may be the so-called 'worried well', those who are fundamentally healthy but who have an elevated concern about their health and who may already have a positive disposition towards exercise and a healthy diet, for example. This is a variant of what is known as the Inverse Care Law (Tudor-Hart, 1971), which states that those most in need of healthcare or support for their wellbeing may be the least able or willing to access it.

This principle is supported by evidence from several academic studies which have shown that:

- Smokers, those employees with hypertension, those with high cholesterol and those who take little or no exercise are the least likely to participate in workplace health promotion activities;
- those most likely to participate include young, well-educated, females, and non-smokers in white-collar jobs;
- those who are often missed completely by such initiatives include low earners and those on temporary contracts or who are self-employed; and
- in addition, studies have shown that the physically fit are more likely to join fitness classes, and those already eating healthily will opt for 'better' food choices (some studies show that women will join weight loss programmes whether they need to lose weight or not).

The practical implications of the 'Inverse Care' law are first, that using crude measures of take-up of health promotion initiatives can be misleading and second, that evaluation of health outcomes from such initiatives needs careful planning and interpretation. The key problems may be that, in many cases, those employees who stand to benefit most participate least.

In summary, several studies show that weight loss can be achieved or supported through carefully targeted interventions. Few focus on weight alone, and many include elements (such as coaching) aimed at sustaining lifestyle change and improving mental wellbeing. Some, though not all, provide evidence of long-term weight loss and others that other positive physical and mental health benefits can result. However, there is also evidence that participation in wellbeing programmes can be patchy at best, with evidence that many groups of employees remain reluctant to take part or feel excluded from them. As we will explore, among some employees living with obesity, this reluctance may stem from a concern that health promotion programmes which include a weight management or nutrition element can reinforce both negative stereotypes and stigma.

3.2 Business outcomes

Another group of studies has examined the impact of workplace health promotion programmes on operational and business outcomes for employers. Goetzel et al., (2014) discussed a number of ways through which workplace health programmes could be evaluated for success. However for organisations, individual and business performance measures such as absenteeism, presenteeism, productive capacity and performance outcomes are important metrics. It was also reported that conducting rigorous and credible analyses of such outcomes can be difficult, time consuming and complex in workplace settings. The authors noted that, 'well-designed ROI studies of workplace health promotion programmes are rare, and even the best of these studies contain methodological flaws simply because they are conducted in real-world settings with limited ability to control for confounding factors….' (page 929). With concerns regarding both the absence rates and productive capacity of employees living with overweight or obesity, it is important to understand the current available evidence regarding workplace health programmes for people living with obesity and the implications for business outcomes, even within these methodological constraints.

Absenteeism and presenteeism

In a report focusing on the effectiveness and economic impact of worksite interventions to promote physical activity and healthy diet, Proper and van Mechelen (2008) commented on a number of studies that examined the association between physical activity and absenteeism. In one study it was reported that participating in sporting activities in the workplace had a favourable effect on absenteeism, with those participating in sports reporting less sick leave (a mean duration of about 20 days over a period of four years was observed among those not participating, which was a significantly higher level of absence in comparison to colleagues who were more physically active). In a further study it was found that when the levels of self-reported physical activity increased, reported absenteeism decreased, and non-exercisers were more likely to be absent from work for more than seven days, in comparison to those who exercised at least once a week. There was also some evidence to suggest an association between diet and work-related outcomes, in that individuals who improved their diet reduced the levels of presenteeism they displayed, and it was concluded that this could have associated positive changes in workplace productive capacity.

Morgan et al., (2012) undertook a piece of research to evaluate the impact of a workplace-based weight loss programme that was developed specifically for male shift workers. The three-month workplace POWER programme is a multi-component programme based on basic education regarding nutrition and physical exercise and required participants to self-report on a number of metrics. The primary objective of the study was to measure any change in health-related outcomes; however, work-related outcomes were also measured as part of the investigation, including: level of sleepiness, quality of life, presenteeism (as a measure of workplace productivity), workplace injuries and absenteeism. Measures were recorded at the start of the intervention and after the fourteen-week programme had ended. The results indicated that there were significant treatment effects for improving mental wellbeing and quality of life, improvements in productivity of the physical demands that were required in the workplace, an increase in overall productivity (as reported through a reduction in presenteeism), a reduction in workplace absenteeism, and a reduction in the number of injuries reported in the workplace. There were, however, no effects found for levels of sleepiness. The authors did note that the study could not discern whether the improved work-related outcomes were as a direct result of weight loss, or as a result of the increase in physical activity, fitness and wellbeing of individuals independent of (or even in the absence of) weight loss. The reduction in worksite injuries observed in the study was also considered to be important and may have been due to the improvements in both mental health and physical functioning as a result of weight loss and improved physical activity. This may also have positive knock-on effects on further workplace absence reductions.

Shrestha et al., (2016) undertook a review summarising the findings from a range of previous reviews investigating the impact of obesity in the workplace, reviewing contributing factors, the consequences, and also what potential solutions could be. The authors noted that a number of studies have been conducted to test and evaluate a variety of workplace interventions with the aim to reduce overweight and obesity, but very few have concentrated on business outcomes and productivity, measuring these as secondary outcomes to overall weight loss or behaviour change. However, the review included a number of research studies where absenteeism and presenteeism were included. For example, in one study participants who lost five per cent of their body weight also reported a significant reduction in absenteeism (although there was no difference in presenteeism recorded). Further studies have also indicated that including a multi-component intervention including changes to work schedules and the organisational environment, access to wellness coaches, educational materials and incentives, a significant decrease in the prevalence of obesity over time was also associated with an increase in self-reported job performance and decreased absenteeism.

The effectiveness of workplace nutrition and physical activity interventions in improving productivity, work performance and work ability was studied in a systematic review by Grimani et al., (2019). It was argued that healthy lifestyles are important in the prevention of both long-term chronic illnesses, such as overweight and obesity (and associated comorbid conditions), yet workplace interventions to address both health and productivity can be both hard to implement and to measure appropriately. The results indicated that there was evidence to suggest that certain workplace nutrition and physical activity interventions yielded significant changes in absenteeism, work performance and work ability. Interventions included changes to the physical environment (the provision of treadmills, sit-stand desks and multi-component interventions). The authors commented that in many of the studies used in the review, absenteeism was measured as a proxy for productivity, as this is more commonly reported and easier to collect, and 'productivity' was viewed as a more complex construct to measure. In general, it was acknowledged that the number of studies reporting workplace outcomes was low, in comparison to health and wellbeing outcomes.

Cost-effectiveness

As well as providing health benefits to employees, an outcome that may help make the business case to encourage employers to consider workplace health programmes is any evidence of their cost-effectiveness. Proper and van Mechelen (2008) noted that economic evaluations aim to provide information about whether an intervention is worth adopting compared to other strategies that could be undertaken within a given budget when both costs and intervention effects are taken into consideration. There is increasing evidence, as cited above, suggesting that workplace health programmes for those living and working with obesity can have positive health and wellbeing outcomes, but employers investing in such programmes may still ask whether it is worth the investment for the organisation as a whole. There are few studies of good quality investigating the cost-effectiveness of workplace health programmes, however Proper and van Mechelen (2008) provided some indications as to why it may be plausible that workplace health programmes focusing on physical activity and dietary behaviours may be cost-effective or have some financial benefit for organisations.

This was based on a number of assumptions:

- Workplace health interventions can lead to improved behaviour (for example, increased exercise, improved nutritional choices, a healthier diet).
- These behavioural modifications are positively related to health outcomes (this can then lead to reduced healthcare costs).
- The changes in physical activity and dietary behaviour are directly or indirectly (through improved health outcomes) associated to work-related outcomes (for example, work absenteeism, presenteeism, work ability) and consequently leading to cost savings for the employer.

Using return on investment (ROI) calculations Baker et al., (2008) evaluated the 'Healthyroads' intervention aimed at helping employees living and working with obesity manage their condition. The intervention supported weight loss efforts by encouraging those living with overweight or obesity to improve their physical activity and dietary habits, as well as providing telephone counselling, educational materials, access to a health coach and a personal health improvement plan. Data was collected pre- and post-intervention, suggesting improvements in diet, exercise and in BMI. Projected cost reductions were also calculated in the ROI model, finding that cost-benefits could result from a reduction in healthcare costs and an increase in productivity (based on changes in absenteeism and presenteeism). It was calculated that the intervention could lead to a modest ROI of $1.17 for every $1 spent.

The cost-effectiveness of a workplace-based incentivised weight loss programme was reported by Lahiri and Faghri (2012). The aim of the research was to examine the effect of a workplace-based motivationally enhanced behavioural education programme, with and without incentives for weight loss, for employees living with overweight and obesity and at a high risk of developing Type 2 diabetes, and to evaluate the cost-effectiveness from the employer's perspective. The results indicated that there was a significant impact of the use of incentives (employees who were incentivised demonstrated an average weight loss of 7.3lbs in comparison to 2.1lbs in the non-incentivised group). In terms of the implications for the business case, the results found that favourable economic outcomes were not just restricted to reduced levels of absenteeism reported, but that improved productivity was also seen (measured through presenteeism). The researchers commented that there was a 'favourable benefit:cost ratio' as the workplace programme was relatively modest but the implications for productivity were substantial. This was also matched by self-reported productivity improvements as well as increases in work quality.

Christensen et al., (2019) wanted to explore reasons why employers and employees engaged in workplace weight loss programmes, to see if this could encourage more employers to consider using weight loss interventions. In a case study of a care home, employees and managers were interviewed at the end of a year-long weight loss intervention. Managers at the care home were motivated to implement the programme as a result of potential economic gains of the project, but also because they wanted to improve the performance of staff so they could provide the best quality of care to the care home residents. It was thought that the programme would help reduce levels of sickness absence and increase the amount of time that employees will remain in employment, 'they possibly could have fewer sick days and remain longer on the job market than they otherwise would have' (page 5). The project manager's main concern was helping staff living with overweight and obesity optimise their health, but when asked what they hoped the project would achieve there was a concern regarding sickness absence, wanting to reduce the amount of musculoskeletal pain experienced by staff, and a desire to improve health to ensure a reduction in long-term sickness (which would result in long-term sickness absence, if not an exit from employment).

Finally, it is important to note that there is a body of literature which is critical of the 'return on investment' argument. The majority of the research studies which have examined the return on investment (ROI) of workplace health promotion initiatives originate in the USA. Here employers bear a significant financial burden through healthcare costs if employees (and retirees) are unwell. These studies do not often translate well to the European context and the rates of return often quoted should be treated with some caution. Even in the US examples, there is reason to be sceptical about the methods used to calculate a payback not least because a proportion of the studies are funded by healthcare providers with a commercial interest in generating eye catching results. In general, many return on investment studies do not bear the scrutiny of peer review very well (Baxter et al., 2014; Juniper, 2016).

For example, a systematic review of the methodological quality of 34 economic evaluations of occupational health interventions reported that fewer than half of the studies satisfied more than 50 per cent of the methodological quality criteria, and only three studies met more than 75 per cent of the criteria (Uegaki, 2011).

A review of the ROI literature by Dr Paul Nicholson, former Chief Medical Officer at Proctor and Gamble (2017) was critical of both the motivation for such studies and the poor quality evidence which such studies produced. Among the flaws in the studies he examined were the following concerns:

Duration of follow-up: many studies test the outcomes of interventions over too short a time frame (Cooper and Bevan, 2014). It is important to avoid assuming that health promotion interventions lead to long-term behaviour change as employees may only temporarily adopt them (Cancelliere, 2011). For some interventions (including those with a focus on weight loss), costs are incurred immediately, but the benefit may arrive much later (Burton, 2010).

Generalisability: economic analyses performed in one country may not be generalisable to others. Much of the economic evidence that supports workplace wellbeing programmes comes from the US, where employers are responsible for the healthcare costs of employees and retirees. A recent systematic review of 11 European randomised-controlled trials identified that the economic impact of workplace health promotion programmes was mostly negative (Martinez-Lemos, 2015). This conflicts with prior meta-analyses of mostly US studies.

Attribution of effect: it is impossible to attribute cost savings to specific measures within a broad programme, or when there are confounding factors – for example, a change of managers, organisational change, or changes in the state of the global economy that can have an impact on the health of the workplace, regardless of the intervention. These confounding factors make it difficult to draw any kind of reliable conclusion about the outcome, especially when there is no control group (Burton, 2010). Additionally, it might be that employers who are already profitable are more likely to afford such programmes.

Nicholson (2017) concludes his review of the ROI studies with a plea to put economic evaluations of workplace health interventions in context:

'We need to get back to basics and justify expenditure in terms of protecting and promoting the wellbeing of that asset. It would be misguided to allow ROI to become the driving force behind employee wellbeing, as this risks shifting a healthy workforce from being the desired goal to a being a means to an end (profit).'

In summary, there is some evidence to suggest that weight management programmes could have a positive impact on operational and business outcomes for employers; however there are methodological constraints to undertaking evaluative research in workplace settings. Research has tended to use measures such as absenteeism and presenteeism as measures of business outcomes, with studies indicating that worksite weight management programmes could lead to improved outcomes (both reducing the levels of absenteeism and presenteeism measured by organisations) both through employee weight loss, or through improvements in comorbid health conditions. Some research also reported improvements in job performance (often self-reported). A small amount of research has also looked at the cost-effectiveness of weight management programmes, suggesting modest return on investment (although a majority of this research originates from the USA, where employers bear a significant burden of healthcare costs if employees are unwell, and so results may not be easily translated to a UK context, so should be treated with caution).

Further Considerations

4. Further Considerations

Although the previous chapter highlights a range of positive outcomes which can arise from the use of workplace health programmes for employees living and working with obesity, there are a number of other considerations that need to be taken into account when implementing interventions in the workplace.

4.1 Stigma

Experts interviewed for research undertaken by The Milken Institute (2020) highlighted that stigma can inform many decisions regarding employees with obesity and also the focus of some health promotion initiatives on weight and nutrition. Täuber et al., (2018) argued that ethical considerations need to be taken into account – in particular, the need to avoid the risk of 'blaming the target' or of over-emphasising personal responsibility in the case of 'lifestyle' oriented interventions where there is a distinct focus on the role of the individual employee to change their behaviour, over and above changes to the organisational physical and cultural environment or the nature and design of the work. The researchers also discussed that communication of workplace programmes could also be stigmatising. For example, if an organisation begins to provide healthier food in the canteen, it could be advertised that this has been done to help encourage employees to make healthier choices whilst at work (highlighting that it is the individual's responsibility). Alternatively, it could be communicated that healthy food is offered in the canteen to prevent unhealthy eating, which highlights the organisational role and responsibility to create a healthier environment.

Täuber et al., (2018) aimed to investigate the possibility of workplace health programmes inadvertently reinforcing the stigmatisation of employees living with obesity in the workplace as a result of the focus on the individual's responsibility for their health and wellbeing. Results indicated that a weight control element of a workplace health programme strengthened the perception that overweight and obesity is 'controllable', an association that was not evident for other conditions found in the workplace such as burnout and cancer. Consequently, an employee's weight was considered to be more controllable when a workplace health programme was present compared to when they were absent. The research also found that participants in the study reported more weight-based stigma when there were workplace health programmes that emphasised the importance of individual responsibility. Additionally, participants living with higher BMIs reported more weight-based stigma (in comparison to those living with a lower BMI) when workplace health programmes were both present and emphasised greater individual responsibility than organisational responsibility. Workplace health programmes which highlighted a greater individual responsibility also elicited greater work-related biases towards people living with overweight (for example, with regard to their capability in a role). Finally, the authors noted that weight-based discrimination was evident only when the organisation had workplace heath programmes that emphasised individual responsibility, but not when they emphasised organisational responsibility. The former highlights the idea that obesity is controllable, and respondents with higher BMIs reported feeling more weight bias internalisation, which could have further implications for potential weight gain and reduced mental health. It was argued that in this era where there has been a rapid rise in workplace programmes to support employee health and wellbeing, organisations need to ensure that they avoid any counter-productive effects, especially weight stigma and discrimination among those living with overweight and obesity. The authors concluded that if workplace wellbeing programmes were not implemented carefully then they could have negative rather than positive effects.

Stigma can also be seen with regard to what activities the interventions include – predominantly emphasising nutrition and physical exercise: suggesting an 'eat less do more' rhetoric. However,

it is now well argued that the causes of obesity are complex and multi-factorial (Bajorek and Bevan, 2020), and they can even include the way that jobs are designed. In the study by Barber et al., (2015), participation in a weight management programme at work was inhibited by time, and already being very busy. Quintiliani et al., (2010) also noted that organisational factors such as work schedules could have an impact on dietary habits, and that the social context is also important when designing, implementing and assessing workplace health promotion interventions, but currently little research has been undertaken on such factors.

Many of the activities also contained an educational element – usually educating participants about nutrition, dietary patterns or physical exercise. However, there was little evidence regarding education for employers about weight-based stigma and the impact this can have on employee and organisational outcomes. In a qualitative study regarding the implementation of workplace health programmes (Pescud at al., 2015), there was evidence of stigma in how employees define workforce health. For example, 'healthy' employees were described using language emphasising positive attributes – cheerful, confident, having a healthy appearance, productive and health conscious. Those seen by employers as 'unhealthy' were viewed as lacking vital fitness, regularly making poor food choices, less productive, lacking self-respect and holding negative attitudes. The authors found that how employers conceptualise workplace health influenced their workplace beliefs, and the prioritisation of workplace health and wellbeing initiatives. Safety and mental health were considered to be most important, with 'lifestyle' factors seen as least important in the hierarchy. This provides further evidence of how weight-based stigma could have an impact on those living with obesity in the workplace.

4.2 Covid-19

The Milken Institute (2020) discussed with experts interviewed what impact Covid-19 could have on workplace interventions for those living with overweight and obesity. It was argued that maintaining workplace health and wellbeing at this time is more important than ever, but it could also be more challenging as a result of more hybrid ways of working or working from home completely. As a result of those living with obesity showing greater vulnerability to having more complications if they contract Covid-19, it was argued that even though the workplace has changed, there is still an urgency to address obesity in the workplace, wherever that may be in the future. As a result of the enforced lockdown and the guidance to work from home where possible, generic workplace interventions were perceived to be unfeasible, or difficult to adapt to virtual options, and engagement with and impact of the interventions may have altered as a result of other concerns, and work taking priority. Employers reported not knowing the best way to support employees living with obesity during the pandemic, and have tried to promote virtual workout offerings, but the impact of these has not yet been assessed. It was argued that employers will need to monitor outcomes of any weight management interventions as a result of Covid-19. There is a concern that current interventions are not currently meeting employee needs, however, and the more impersonal delivery may not be as beneficial as tailored support.

With Covid-19 having an impact on organisational touch-points for interventions such as on-site gyms, group walking lunches, and subsidising healthy food options, employers may now have to consider new ways to promote any healthy eating and physical activity provisions. It is as yet unclear how effective this will be in the remote working world, but experts believed it essential to try and find new methods through which they can provide employees with the necessary support.

4.3 Methodologies

As highlighted previously, methodological concerns have been offered as a barrier to the implementation of workplace health programmes. This was seen in the research that was covered

in this review. **Examples of methodological caveats to take into consideration when reporting findings included:**

- Attrition of programme participants over the course of the intervention period.
- The use of self-reported measures, which in some cases could have led to more socially desirable responses being recorded.
- The lack of a 'control group', making it difficult to assess the full implications of any intervention.
- Programme participant populations were also discussed, sometimes for self-selecting to a programme, for being gendered (many studies had predominantly female programme participants) or for only including small sample, which makes generalisability of findings difficult.
- Some review articles may have also had a publication bias (only reporting on studies where positive effects for employees and organisations were found).
- Little longitudinal research to provide evidence of sustained behaviour change.
- Very little qualitative research providing a process evaluation of 'how' interventions were implemented, with the sole focus being on 'what happened'.
- Very little focus on cost-benefit outcomes for organisations, with a greater focus on weight loss or health outcomes.

In summary, the discourse surrounding workforce health and productivity continues to be dominated by evidence of the harm which poor wellbeing can do to individuals, businesses and the wider economy. This means that it is easy to find accounts of the costs of ill health or the deleterious impact of 'stress' or chronic illness on labour productivity. This evidence has its place in the debate, of course, but it is overwhelmingly negative in nature and has the effect of putting a spotlight on risk mitigation and harm reduction. Attempts to emphasise that workforce health is an asset to business and to the economy can sound aspirational and even evangelical. This may be because it is easier to conceive of a cost which is reduced then a benefit which is realised. A measure which reduces sickness absence by 10 per cent may have more buy-in from a sceptical manager than another which boosts resilience, creativity or concentration by a similar amount. Partly this is because it is easier to place a financial value on one day of lost production resulting from a back injury or a heavy cold.

The evidence about the effectiveness of wellness programmes in reducing overweight and obesity largely falls into this category and it is, perhaps, time to re-frame the debate towards an asset-based view of workforce health and wellbeing. In exploring both the business case perspective and the human 'resources' perspective, we have seen both the barriers and opportunities which exist if we are to persuade business leaders and policymakers to think more seriously about health as an asset.

The Covid-19 pandemic, sadly, may have the short-term effect of reinforcing the view that the health of the workforce is primarily about mitigating risk. But as businesses in the knowledge economy become more convinced that human capital and workforce wellbeing are important and value-adding assets that will drive productivity growth and competitiveness, perhaps more will start making this case to investors. Similarly, if employers recognise that they already have in their existing workforce a fund of goodwill, resilience, energy, engagement and resourcefulness which is ready to be harnessed, then some might start taking a more asset-based view of their people – even those living with chronic illnesses. In practical terms, then, this is the true test of whether they really believe that people **are** their greatest asset.

Recommendations

5. Recommendations

Workplace health and wellbeing research over the last two decades has shown that employers should be taking employee health and wellbeing seriously because of the significant positive business and productive capacity outcomes it can bring. Overweight and obesity are conditions where barriers and stigma in the workplace still exist, and research often has an emphasis on the 'costs' and or 'burdens' that those living with obesity could place on organisations, instead of tackling these stereotypes and stigmatising attitudes, and understanding the full contribution that employees living with obesity can make if relevant support is given and workplace adjustments are made.

The evidence that has been presented in this report illustrates that the workplace could be a valuable arena for health promotion and management given the amount of time that employees spend working, and the ability to promote the message to potentially large populations. However, a number of barriers to implementing weight management programmes have also been identified, including limited 'good evidence' of cost-effectiveness and business outcomes, the prevalence of obesity stigma and the common perception that weight is controllable and that 'willpower' and/or motivation is all that is needed to control weight, and limited stakeholder awareness about the causes and consequences of obesity.

The research presented here provides evidence to suggest that some workplace weight management programmes can have positive implications for both employee health outcomes, an employee's productive capacity and some business outcomes. Despite this, the prevalence of weight-based stigma in employment can still create a barrier for individuals living with obesity. This can have implications for the moral, legal and financial business cases that can be made to help with the implementation of health programmes that could help ensure that those living with obesity can thrive at work.

The Purpose Programme has a number of recommendations for a range of stakeholders in this area. Whilst it is acknowledged that for some long-term health conditions there have been improvements in this area, much more needs to be done for employees living with obesity to promote what can be done to improve the implementation and messaging about weight management programmes at work, and to promote more inclusive and less discriminatory practices in the UK. Below are some steps which some of the key stakeholders in this field must take to recognise that more can be done to help develop fair participation in the labour market.

5.1 Recommendations for Government

Clearer guidance is needed for employers regarding the legal status of obesity discrimination in employment. Obesity should be included as a 'protected characteristic' under the definitions contained in the Equalities Act, so that recommended workplace adjustments and policies can be put in place to help remove obesity discrimination. If obesity is not to be included as a protected characteristic, then clearer guidance needs to be developed to clarify for employers what their legal duties are to support those living with obesity and their related health conditions to remain in and experience fulfilling work.

Obesity should be recognised and classified as a disease, so that changes in how obesity is treated, funded and prioritised occurs. Designation as a disease would, for example, make it much easier for the NHS to develop a National Service Framework, clinical guidelines, care pathways, clinical audits, data registries and commissioning protocols which attract resources, have clinical priority and reduce the risk of a 'postcode lottery' in provision. For an employment perspective, this step might also make it easier to get 'work as a clinical outcome' embedded into the way healthcare

professionals think about the importance of employment to patients living with obesity. This will then have implications for how employers manage obesity in the workplace, in line with other long-term chronic health conditions.

The government should gather clearer data on the implications of living with obesity for employment outcomes to allow for a better understanding of the links between living with obesity and unemployment, employment opportunities and productivity.

We welcome the government's current Obesity Strategy but feel that it can go further than its current call to converse with employers about how to better understand what can be done to support people to be healthier at work.

This could be reflected in a number of different ways:

- Including a focus on the 'good work' agenda, ensuring that employers understand the rights all employees have to stay in, thrive and return to sustainable work. It may be time for obesity to be considered a 'protected characteristic' in its own right under the Equalities Act of 2010. This would make clear that employers have a duty to make reasonable adjustments for people living with obesity and to avoid all forms of direct and indirect discrimination in employment settings.
- Better coordination between policymakers in Whitehall to ensure that good practice, innovation and data to improve labour market outcomes for people living with obesity are being formulated, and that the Obesity Strategy is updated as a result of new evidence.
- Funding more evaluative research into the development, implementation and outcomes of workplace health programmes, including weight management programmes. Outcomes measured should not only focus on any weight loss, but also employee uptake and effectiveness in relation to a variety of work outcomes.
- Funding more research especially for those who may be considered in the more 'at risk' groups, especially post Covid, including considering both ethnicity and social inequalities in research samples.
- Including health inequalities as part of the levelling up agenda post Covid-19, understanding that work plays a fundamental role in shaping health. Reducing health inequalities could be an important factor in the UK's economic recovery, and investment in workplace health and wellbeing could be beneficial within this.
- Recognising that the current strategy only focuses on England and looking at how the strategy could link in with developments in the devolved nations and their actions for improving employment outcomes and employment interventions for people living with obesity. For example, Scotland and Wales have recognised the importance of expanding accessibility to weight management services in their respective strategies.
- Linking the strategy with other policy developments including the levelling up agenda, the industrial strategy, the healthy ageing agenda, and the workplace health Green Paper.

More needs to be done in the devolved administrations to include the impact that employment can have on obesity, and the role of employers and organisations to support employees living with obesity. This could include a better coordination between policymakers in Whitehall and the devolved nations to ensure that good employer and organisational strategies and data are being shared, especially where there are interventions that could improve labour market outcomes and experiences for people living with obesity.

5.2 Recommendations for Employers

Employer stigma and discrimination about overweight and obesity can still be a barrier for the implementation of weight management or wellbeing programmes in the workplace. More education and an improved understanding of the nature, causes and consequences of overweight and obesity is required, so employers recognise the complexity of the disease and challenge any conscious or unconscious stigma they have regarding employee willpower or motivation to lose weight.

Language and framing is an important consideration. Employers should attempt to avoid 'risk management' language, when supporting employees living with obesity, and view all employees as an 'asset' rather than a 'liability' to an organisation. Emphasis should be placed on their work ability and their contributions to the productive capacity and social capital of an organisation.

Health and wellbeing programmes in organisations, including any weight management programmes, should be offered to all employees, instead of solely focusing on those living and working with obesity. Every employee (with or without obesity) will benefit from improved wellbeing and the opportunity to make healthier choices at work. These programmes should be holistic in their approach, with mental health also being a core element. However, further consideration may also be needed to think about what could best help those working with severe and complex obesity.

Any current workplace health and wellbeing practices or health promotion activities should be reviewed to ensure that they are supportive, and not stigmatising to employees living with obesity. When designing, implementing and evaluating employer-sponsored weight management programmes or other related initiatives, it is important that this occurs in conjunction with employees, so that they are able to input ideas that may not have been considered important by employers, and thus could also eliminate any risks of the interventions perpetuating any further weight-based stigma. This co-designing of interventions should also include the use of any organisational health risk assessments which are used to collect any data on an employee's BMI, cholesterol and other health outcomes. Whether an intervention has been co-designed should also be included in the 'success criteria' for wellness programmes.

In addition to the above, any work-based programmes should be offered and advertised in non-stigmatising ways (including avoiding the use of stigmatising imagery and language), focusing on overall benefits to health and wellbeing and not just weight per se. Programmes should not be obligatory for employees to attend, and they should not fear discrimination if they do not join the programme.

Many current workplace weight management programmes focus on 'eat less, do more' interventions, based upon nutrition, diet and physical exercise. However, little consideration is placed on the impact of job design and the psychosocial context of the workplace. Employers should recognise that sometimes small adaptations to the way that roles are designed and organised (including changes to the work environment and working time arrangements) can help to prevent poor health getting worse and will help employees living with obesity feel valued in the workplace. Any adaptations to job design need to be done in a way that preserves job quality, ensures employee engagement, does not negatively impede progression and promotion opportunities and avoids excessive job demands.

Employers should learn from other interventions and policies that have been developed and implemented to help other stigmatised groups (for example mental health, race and gender), and apply similar methods and approaches to obesity.

The workplace could be developed to have a more 'welcoming' infrastructure for those with long-term health conditions, including obesity. For example, the option to choose chairs and desks that would be ergonomically suited for employees.

Early intervention is important, and employers should develop a wellbeing culture where safe and supported environments are established to allow for the disclosure of work-limiting health conditions. With regard to people living with obesity, managers need to be aware of self-stigma which can have an impact on an employee's inhibition to discuss their needs and participate in workplace health programmes. Employers should show compassion when discussing potential adjustment and programmes that may be suitable, and if possible, refer to occupational health (OH) expertise.

As a result of the Covid-19 pandemic employers should be proactively considering how workplace health and wellbeing programmes could be adapted to help employees who work in hybrid ways, or those who choose to continue to work from home. Employers still have a role to play to ensure an employee's health and wellbeing is maintained

5.2 Recommendations for Employees

Many employees living with obesity work in supportive environments, experience little or no discrimination and are able to experience full and fulfilling working lives. Sadly, for too many, this is not the case and for those having difficult experiences at work it is important to ensure that support and guidance is available. For these employees we have a number of recommendations.

First, it is important to recognise that support is available if you are experiencing stigmatising behaviour or discrimination at work. Depending on the source of this stigma or discrimination, your immediate line manager might be the best first option or, alternatively an HR manager or union representative. Often these concerns can be dealt with informally and amicably, especially if they give you the opportunity to explain how the behaviour of others affects you. However, sometimes you may need support to raise your concerns more formally.

In these instances, especially if you feel that you have been discriminated against on the basis of your weight, you may wish to take advantage of your employer's complaints or grievance procedures. These are sometimes used to ensure that your employer investigates any cases where you feel differences in pay, performance assessments, promotion opportunities or access to training or development opportunities may be attributable to weight-based discrimination. Taking out a grievance escalates an informal conversation to something more formal and it is a step which is often best taken with support from either an experienced colleague or a union representative.

Second, if there are steps which your employer can take to help you to overcome any health-related barriers you are facing which may be linked to overweight or obesity, then, in many cases, the law requires them to make 'reasonable adjustments' to help you. For example, there are times when osteoarthritis of the knees or hips make mobility challenging, or where hypertension or heart problems can mean that more rest is needed. These may be areas where often minor adjustments to either your physical work environment or to your working time might help you to continue working effectively. A UK government scheme called Access to Work is specifically targeted at employees who need some support and guidance – paid for by the scheme – to continue working. Details of the scheme can be found via this link - https://www.gov.uk/access-to-work

Third, if you would like to get the support of a range of weight management services but have not found this easy or accessible via your GP, you employer's Occupational Health (OH) service is likely to be in a position to help you. OH doctors and nurses, unlike GPs, are trained to understand how

work demands affect people's health and can help you get access to external support and advise you and your manager on how to make changes to your health and work in ways that help you do your job well and enjoy working. If your employer offers health benefits or health promotion campaigns which you find difficult to access or which do not meet your needs, again an OH professional will be able to give you advice and support if you feel you need it.

Weight-based stigma and discrimination at work can often be subtle and hidden to most people, but all too real to people living with obesity. It is important not to bear upset and distress of stigma or discrimination alone and without support – especially if living with it is affecting your emotional wellbeing. In these circumstances you may be able to access support through an Employee Assistance Programme (EAP) – a free and confidential helpline paid for by your employer or through many charities with great experience of helping people with emotional challenges. These include Mind, the Mental Health Foundation or Citizens Advice. The important thing is to seek help and not to keep things 'bottled up' – a simple conversation can open up access to both a sympathetic ear and reassurance that things can get better.

References

References

Agha M, Agha, R (2017), The rising prevalence of obesity: part A: impact on public health, International Journal of Surgery Oncology, 2(7)

Apovian CM (2016), Obesity: definition, cormorbidities, causes and burden, *American Journal of Managed Care*, 22, 176-185

Archer WR, Batan MC, Buchanan LR (2011), Promising practices for the prevention and control of obesity in the workplace, *American Journal of Health Promotion*, 25, 12-26

Au N, Hauck K, Hollingsworth B (2013), Employment, work hours and weight gain among middle aged women, *International Journal of Obesity*, 37, 18-24

Bajorek Z, Bevan S (2020), *Obesity Stigma at Work: Improving Inclusion and Productivity*, Institute for Employment Studies, Brighton

Bajorek Z, Bevan S (2019), *Obesity and Work. Challenging stigma and discrimination*, Institute for Employment Studies, Brighton

Baker KM, Goetzel RZ, Pei X, Weiss AJ, Bowen J, Tabrizi MJ et al (2008), Using a return-on-investment estimation model to evaluate outcomes from an obesity management worksite health promotion program, *Journal of Occupational and Environmental Medicine*, 50, 981-990

Barber J, Hillier ES, Middleton G, Keegan R, Henderson H, Lavin J (2015), Providing weight management via the workplace, *International Journal of Workplace Health Management*, 8, 230-243

Baxter S, Sanderson K, Venn AJ, Blizzard CL, Palmer AJ (2014), The relationship between return on investment and quality of study methodology in workplace health promotion programs, *American Journal of Health Promotion*, 28, 347-363

Bento RF, White LF, Zacur S R (2012), The stigma of obesity and discrimination in performance appraisal: a theoretical model. *The International Journal of Human Resource Management*, 23, 3196-3224

Bevan S (2018), Unlocking employee productivity: The role of health and wellbeing in manufacturing, London: Engineering Employers Federation.

Bevan S, Bajorek Z (2019), *Designing and testing a return on investment tool for EAPs*, Institute for Employment Studies, Brighton

Black C (2008), Working for a healthier tomorrow. R*eview of the health of Britain's working age population*, Department for Work and Pensions, London

Brierley ML, Chater AM, Smith LR, Bailey DP (2019), The effectiveness of sedentary behaviour reduction workplace interventions on cardiometabolic risk makers: A systematic review, *Sports Medicine*, 49, 1739-1767

Bullen V, Feenie, V (2015), The human cost of failing to address obesity, *British Journal of Obesity*,1, 19-23

Burton J (2010), *WHO healthy workplace framework and model: background and supporting literature and practices*, Available at: https://apps.who.int/iris/handle/10665/113144 (accessed March 2021)

C3 Collaborating for Health (2011), *Workplace health initiatives: evidence of effectiveness*, C3 Collaborating for Health, London

Cancelliere C, Cassidy JD, Ammendolia C, Pierre C (2011), Are workplace health promotion programs effective at improving presenteeism in workers? As systematic review and best evidence synthesis of the literature, *BMC Public Health*, 11, 395

Carpenter KM, Lovejoy JC, Lange JM, Hapgood JE, Zbikowski SM (2014), Outcomes and utilization of a low intensity workplace weight loss program, *Journal of Obesity*, https://doi.org/10.1155/2014/414987

Christensen JR, Pajevic M, Ilvig PM et al (2019), Why people engage in a weight loss intervention at their workplace – a stratified case study, *BMC Public Health*, https://doi.org/10.1186/s12889-018-6346-0

Church TS, Thomas DM, Tudor-Locke et al (2011), Trends over 5 decades in U.S. occupation-related physical activity and their associations with obesity, *PLoS One*, 6 (5)

Cooper C, Bevan S (2014), 'Business benefits of a healthy workplace', in Day A, Kelloway EK, Hurrell JJ (Eds), *Workplace well-being: How to build psychologically healthy workplaces*, Wiley: London

Davis J, Clark B, Lewis G, Duncan I (2014), *The Impact of a Worksite Weight Management Program on Obesity: A Retrospective Analysis*. *Population Health Management*, *17*, 265-271

Department of Health and Social Care (2020), Tackling obesity: empowering adults and children to live healthier lives. Available at: https://www.gov.uk/government/publications/tackling-obesity-government-strategy/tackling-obesity-empowering-adults-and-children-to-live-healthier-lives (accessed March 2021)

Docherty AB, Harrison EM, Green CA, Hardwick HE (2020), Features of 133 UK patients in hospital with Covid-19 using the ISARIC WHO Clinical Characterisation Protocol: prospective observational cohort study. *British Medical Journal*, doi: 10.1136/bmj.m1985

Eberly F, Feldman H (2010), Obesity and shift work in the general population, *The Internet Journal of Allied Health Sciences and Practices*, 8, 1-9

Farmer P, Stevenson D (2017), Thriving at work. *The Independent Review of Metal Health and Employers*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/658145/ thriving-at-work-stevenson-farmer-review.pdf (accessed March 2021)

Fenton SJ, Pinilla RM, Sing M, Sadhra S, Carmichael F (2014), *Workplace wellbeing programmes and their impact on employees and their employing organisations: A scoping review of the evidence base. A collaboration between the Health Exchange and University of Birmingham*, University of Birmingham

Fitzgerald S, Kirby A, Murphy A, Geaney F (2016), Obesity, diet quality and absenteeism in a working population, *Public Health Nutrition*, 19, 3287-3295

Frühbeck G, Baker JL, Busetto L, Dicker D et al (2020), European Association for the Study of Obesity Position Statement on the Global Covid-19 Pandemic, *Obesity Facts*, 13, 292-296

Gabel JR, Whitmore H, Pickreign J (2009), Obesity and the workplace: Current programs and attitudes among employers and employees, *Health Affairs*, 28, 46-46

Giese KK, Cook PF (2014), Reducing obesity among employees of a manufacturing plant. Translating the diabetes prevention program to the workplace, *Workplace Health and Safety*, 62, 136-141

Goettler A, Grosse A, Sonntag D (2017), Productivity loss due to overweight and obesity: a systematic review of indirect costs, *BMJ Open*, 7

Goetzel R, Henker RM, Tabrizi M, Pellertier KR et al (2014), Do workplace health promotion (wellness) programs work? *Journal of Occupational and Environmental Medicine*, 56, 927-934

Grimani A, Aboagye E, Kwak L (2019), The effectiveness of workplace nutrition and physical activity interventions in improving productivity, work performance and workability: a systematic review, *BMC Public Health*, https://doi.org/10.1186/s12889-019-8033-1

Hanisch SE, Twomey CD, Szeto ACH, Birner UW, Nowak D, Sabariego C (2016), The effectiveness of interventions targeting the stigma of mental illness at the workplace: as systematic review, *BMC Psychiatry*, 16, DOI 10.1186/s12888-015-0706-4

Haslam C, Kazi A, Duncan M, Clemes S, Twumasi R (2019), Walking works wonders: A tailored workplace intervention evaluated over 24 months, *Ergonomics*, 62, 31-41

Heinen L, Darling H (2009), Addressing obesity in the workplace: The role of Employers, T*he Milbank Quarterly*, 87, 101-122

Institute of Preventative Medicine Environmental and Occupational Health (2009), *Guideline for the prevention of obesity at the workplace*, Institute of Preventative Medicine Environmental and Occupational Health, Greece.

IPPR (2020), *Levelling up health for prosperity*, IPPR, Scotland

Jørgensen MB, Villadsen E, Burr H, et al (2016), Does employee participation in workplace health promotion depend on the working environment? A cross-sectional study of Danish workers, *BMJ Open*, doi: 10.1136/bmjopen-2015-010516

Juniper B (2016), E*mployee health and wellbeing programmes: time to look beyond cash returns?* Available at: https://www.personneltoday.com/hr/employee-health-wellbeing-programmes-time-look-beyond-cash-returns/ (accessed March 2021)

Lahiri S, Faghri PD (2012), Cost-effectiveness of a workplace-based incentivized weight loss program, *Journal of occupational and environmental medicine*, 54, 371-377

Levy DE, Thorndike AN (2019), Workplace wellness program and short-term changes in health care expenditures, *Preventive Medicine Reports*, 13, 175-178

Lier L-M, Breuer C, Dallmeyer S (2019), Organizational-level determinants of participation in workplace health promotion programs: a cross-company study, *BMC Public Health*, 19, 268

Macdonald EB, Sanati KA (2010), Occupational health services now and in the future: the need for a paradigm shift, *The Journal of Occupational and Environmental Medicine*, 52, 1273-1277

Martinez-Lemos RI (2015), Economic impact of corporate wellness programs in Europe: A literature review, *Journal of Occupational Health*, 57, 201-211

McCurley JL, Levy DE, Rimm EB, Gelsomin ED et al (2019), Association of worksite food purchases and employees' overall dietary quality and health, *American Journal of Preventive Medicine*, 57, 87-94

Milken Institute (2020), *Obesity in the Workplace: What Employers can do Differently.* Available at: https://milkeninstitute.org/reports/obesity-workplace-what-employers-can-do-differently (accessed March 2021)

Mills PR, Kessler RC, Cooper J (2007), Impact of a health promotion program on employee health risks and work productivity, *American Journal of Health Promotion*, 22, 45-53

Morgan PJ, Collins CE, Plotnikoff RC, Cook AT et al (2012), The impact of a workplace-based weight loss program on work-related outcomes in overweight male shift workers, *Journal of Occupational and Environmental Medicine*, 54, 122-127

Nelson CC, Wagner GR, Caban-Martinez AJ et al (2014), Physical activity and Body Mass Index: The contribution of age and workplace characteristics, *American Journal of Preventive Medicine*, 46, S42-S51

NICE (2020), *Obesity prevention: workplace interventions*. Available at: https://pathways.nice.org.uk/pathways/obesity/obesity-prevention-workplace-interventions.pdf (accessed March 2021)

Nicholson PJ (2017), *Occupational Health: The value proposition*, Available at: https://www.som.org.uk/sites/som.org.uk/files/Occupational_health_the_value_proposition_0.pdf (accessed March 2021)

Nigatu YT, van de Ven HA, van der Klink JJL, Brouwer S et al (2015), Overweight, obesity and work functioning: The role of working-time arrangements, *Applied Ergonomics*, 52, 128-134

Nobrega S, Champagne N, Abreu N et al (2016), Obesity/Overweight and the role of working conditions: A qualitative, participatory investigation, *Health Promotion Practice*, 17, 127-136

Parry J, Young Z, Bevan S Veliziotis M et al (2021), *Working from home under COVID-19 lockdown: Transitions and tensions*, Work after Lockdown

Peerson M, Martensson J (2006), Situations influencing habits in diet and exercise among nurses working night shifts, *Journal of Nursing Management*, 14, 414-423

Pescud M, Teal R, Shilton T, Slevin T et al (2015), Employers' views on the promotion of workplace health and wellbeing: a qualitative study, *BMC Public Health*, DOI 10.1186/s12889-015-2029-2

Proper K, van Mechelen W (2008), *Effectiveness and economic impact of worksite interventions to promote physical activity and healthy diet. Background paper prepared for the WHO/WEF joint event on preventing noncommunicable diseases in the workplace*, Department of Public and Occupational Health, Amsterdam

Public Health England (2014), *Adult obesity and socioeconomic status data factsheet*. Public Health England: London

Public Health England (2020), *Excess Weight and Covid-19. Insights from new evidence*, Public Health England: London

Puhl RM, Heuer CA (2009), The stigma of obesity: A review and update, *Obesity*, 17, 941- 964

Quintiliani L, Sattelmair, Sorensen G (2008), *The workplace as a setting for interventions to improve diet and promote physical activity*, World Health Organization

Quintiliani L, Poulsen S, Sorensen G (2010), Healthy eating strategies in the workplace, *International Journal of Workplace Health Management,* 3, 182-196

Quist HG, Christensen U, Christensen KB et al (2013), Psychosocial work environment factors and weight change: a prospective study among Danish health care workers. *BMC Public Health*, 13: 43

Robroek SJ, Van Lenthe FJ, Van Empelen P, Burdorf A (2009), Determinants of participation in worksite health promotion programmes: a systematic review. *International Journal of Behaviour Nutrition and Physical Activity*, 6: https://doi.org/10.1186/1479-5868-6-26

Ross KM, Wing RR (2016), Implementation of an internet weight loss program in a worksite setting, *Journal of Obesity*, https://doi.org/10.1155/2016/9372515

Schliemann D, Woodside J (2019), The effectiveness of dietary workplace interventions: a systematic review of systematic reviews, *Public Health Nutrition*, 22, 942-955

Shrestha N, Kukkonen-Harjula KT, Verbeek, JH et al (2016), Workplace interventions for reducing sitting at work (Review), *Cochrane Database of Systematic Reviews*, Issue 3

Sutin AR, Stephan Y, Grzywacz JG, Robinson E et al (2016), Perceived weight discrimination, changes in health and daily stressors, *Obesity (Silver Spring)*, 24, 2202-2209

Tabak RG, Hipp JA, Marx CM, Brownson RC (2015), Workplace social and organizational environments and health-weight behaviors, *PLoS One*, https://doi: 10.1371/journal.pone.0125424

Täuber S, Mulder LB, Flint SW (2018), The impact of workplace health promotion programs emphasizing individual responsibility on weight stigma and discrimination, *Frontiers in Psychology*,9, https://doi.org/10.3389/fpsyg.2018.02206

Thaler RH, Sunstein CR (2008), *Nudge: Improving decisions about health, wealth and happiness*, New Haven: Yale University Press

Thorndike AN (2011), Workplace interventions to reduce obesity and cardiometabolic risk, Current *Cardiovascular Risk Reports*, 5, 79-85

Thorndike AN, Riis J, Sonnenberg LM, Levy DE (2014), Traffic-light labels and choice architecture: Promoting healthy food choices, *Journal of Preventive Medicine*, 46, 143-149

Toker S, Heaney, Ein-Gar D (2014), Why won't they participate? Barriers to participation in worksite health promotion programmes, *European Journal of Work and Organizational Psychology*, https://doi: 10.1080/1359432X.2014.968131

Tsai R, Alterman T, Grosch J, Luckhaupt S (2019), Availability of and participation in workplace health promotion programs by sociodemographic, occupation, and work organization characteristics in US workers. American Journal of Health Promotion. https://doi: 10.1177/0890117119844478

Tudor-Hart J (1971), The inverse care law, *The Lancet*, 27 February.

Uegaki K, de Bruijne MC, van der Beek AJ et al (2011), Interventions from a company's perspective: A systematic review of methods to estimate the cost of health-related productivity loss, *Journal of Occupational Rehabilitation*, 21, 90-99

Waddell G, Burton AK (2006), Is work good for your health and wellbeing? London: TSO

WHO (2004), *Global Strategy on Diet, Physical Activity and Health*. Available at: https://apps.who.int/iris/bitstream/handle/10665/43035/9241592222_eng.pdf (accessed March 2021)

WHO (2013), *WHO Global Plan of Action on Workers' Health (2008-2017): Baseline for Implementation*. Available at: https://www.who.int/occupational_health/who_workers_health_web.pdf (accessed March 2021)

Yarborough CM, Brethauer S, Burton WN et al (2018), Obesity in the workplace: Impact, outcomes and recommendations, *Journal of Occupational and Environmental Medicine*, 60, 97-107