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Copenhagen consensus statements on workplace health enhancing physical activity programmes

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ABSTRACT

Workplace health enhancing physical activity (HEPA) programmes are associated with physical activity promotion and reduction of sedentary time among employees. Whilst the workplace is often considered an appropriate setting for such programmes, however, ethical and implementation challenges remain. Furthermore, debate still exists concerning programme rationale, efficacy, effectiveness, and impact. In 2024, 24 researchers from twelve countries collaborated to establish evidence-based consensus statements concerning such programmes. The consensus was developed through an iterative process involving experts from sociology, psychology, sport policy, physiology and promoting and assessing movement behaviours. In total 36 consensus statements and 23 areas identified for further research were produced. A broad definition of HEPA was adopted that included structured and unstructured activities, whilst HEPA was distinguished from occupational and leisure-time activities.

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Consensus highlighted, for example, the importance of multi-level approaches to programme implementation, the need for managerial support, and the need to tailor programme design. The consensus also demonstrated the need for more research on the long-term impacts of workplace HEPA programmes, to investigate the potential role of technology, and to further understand the influence of socio-cultural and individual factors on participation.

Introduction

Workplace health promotion programmes aim to encourage physical activity (PA) and reduce sedentary time among employees via workplace 'health enhancing physical activity' (HEPA) programmes. The WHO Regional Office for Europe (2002), World Health Organisation (2024), WHO/WEF (2008), and the World Economic Forum (2024) have identified the workplace as an optimal setting for implementing initiatives to reduce overweight/obesity, diabetes, and cardiovascular disease risk factors within the workforce. Indeed, workplaces offer a unique opportunity to engage and maintain a substantial portion of employed adults in HEPA as they spend a significant amount of their time at work. Nevertheless, although the workplace can be a strategic setting for promoting HEPA and facilitating ongoing interventions for adult populations, questions remain concerning the ethics and responsibilities of employers implementing such programmes in workplaces. Uncertainty also exists concerning the most effective mechanisms to both implement and evaluate workplace HEPA programmes.

In 2024, 24 researchers from twelve countries participated in several rounds of discussions to establish evidence-based consensus statements concerning workplace HEPA programmes. Consensus was based upon a range of research approaches, including: sociology, psychology, sport policy and management, work physiology and promoting and assessing movement behaviours. Evidence supporting the statements was drawn from a range of traditions, including social scientific and behaviour change programmes and studies, inclusive of quantitative and qualitative research methods. Consensus was developed through an iterative process involving several online discussion sessions, with experts initially grouped according to subject specialism. Initial discussions were followed by further meetings and consultation across all subject groups, and all experts were invited to comment upon all consensus statements irrespective of subject field. Finally, statements were agreed in plenum by all experts. The process culminated with agreement on 35 consensus statements. An additional 23 statements were constructed concerning areas where more research is needed before more concrete recommendations can be offered. Some of the statements were common to multiple subject areas (for example, the importance of multi-level approaches to in workplace HEPA programmes). They were either attuned to specific fields. In one case, however, the statement is presented in only one subject field and is marked with a footnote.

The consensus addressed the efficacy, effectiveness and impact of implementing workplace HEPA programmes. The term 'workplace' encompassed a broad range of

employer organisations across multiple sectors, from small/medium enterprises to large companies, governmental departments and other organisations. Workplace HEPA programmes were considered if they were directed by companies or workplaces themselves, either in part or in whole. Programmes delivered in partnerships between companies and an external partner were also considered if the company had at least partial ownership or responsibility over programme goals. Programmes delivered entirely outside the workplace were excluded, even if their target population was employees. Hence, only programmes that were directly or indirectly co-ordinated by employers were considered in discussions.

The consensus also used a broad definition of PA cohering with that suggested by Piggin (2020). As Piggin (2020, p. 5) outlines, PA *'involves people moving, acting and performing within culturally specific spaces and contexts, and influenced by a unique array of interests, emotions, ideas, instructions and relationships'*. Our definition also includes both structured and unstructured activities, such as leisure, sport, incidental activities and exercise. All such activities involve body movement that increases energy expenditure relative to rest. PA is often categorised by intensity according to light, moderate, or vigorous activity, and although higher intensity PA tends to have greater benefits, generally any PA is considered better than none as long as it does not exceed tissue tolerance. Exercise, as a subset of PA, refers to structured activities specifically aimed at improving cardiorespiratory fitness, cognitive function, flexibility, balance, strength, or power. Specifically, HEPA can happen in different domains, including the workplace. Primarily, the consensus focuses upon structured and unstructured health promoting activities delivered in, or by, workplaces or companies. We refer to these activities as workplace HEPA programmes. These activities include active recreation, sport, exercise, active transport such as walking and cycling, incidental movement, and intermittent activity accrued throughout the work day by modifying workplace tasks (for example, walking meetings, taking the stairs, physically active breaks). We therefore differentiate workplace HEPA from i) occupational PA; that is, PA conducted as part of everyday work tasks (e.g. construction work), ii) PA conducted outside and without any link to the workplace, which we refer to as 'leisure-time PA,' and 'transport related PA' such as active transportation, where such programmes or activities are not initiated at or funded by workplaces. Finally, experts contrasted PA with sedentary behaviour, which relates to *'Any waking behaviour characterised by an energy expenditure of 1.5 METs or lower while sitting, reclining or lying. Most desk-based office work, driving a car and watching television are examples of sedentary behaviours; these can also apply to those unable to stand, such as wheelchair users. The guidelines operationalise the definition of sedentary behaviour to include self-reported low movement sitting (leisure-time, occupational and total), TV viewing or screen time and low levels of movement measured by devices that assess movement or posture'* (Tremblay et al., 2017, p. 1452). We also recognise that whilst many programmes seek to reduce or interrupt sedentary behaviours, such actions are not necessarily the same as PA promotion. For example, workplace programmes which promoted only standing, for example, were not considered HEPA promoting activities. Nuances in how PA or sedentary time was accrued was also considered as well as intermittent activity accrued throughout the work day by modifying workplace tasks (for example, walking meetings, taking the stairs, physically active breaks).

The statements are presented below according to the different scales of abstraction of each sub-discipline, moving from the broadest to the most specific field.

Sport policy and management consensus statements

1. Multi-level, multi-actor and potentially multi-sector programmes based on a sound rationale and goals, ideally adapted to the workplace context and needs of employees, are more likely to succeed than programmes lacking clear rationale or goals. Rationale and goals should be linked to the specific needs, occupations and environments, such as sedentary/office work, physically demanding work, or hybrid/remote work.
2. There are many organisational benefits to workplace HEPA programmes. PA can positively impact community building and improve workplace social capital (within, between and linking groups), social cohesion, shared identity and collaboration, social networking within and beyond the company, presenteeism/absenteeism, employee physical and mental health and autonomy. It can also reduce loneliness in the workplace, and increase workers' productivity, loyalty and commitment.
3. The format of workplace HEPA should be adapted to the requirements of specific roles and the needs the employees. For example, programmes for those in physically demanding occupations might include injury prevention, flexibility, or strength training. Programmes for those in mentally demanding roles could include physical and mental relaxation elements or yoga. Finally, programmes for sedentary or desk-based roles might include movement variation, aerobic or fitness training.
4. Organisational workplace characteristics are crucial in facilitating the implementation of inclusive, enjoyable, and sustainable workplace HEPA programmes. Promoting workplace HEPA programmes should align with, for example, supportive company cultures, flexibility and autonomy in working schedules, environmental factors conducive to workplace HEPA, and be meaningful to employees. When the benefits of workplace HEPA to the company are clear (e.g. social, physical, mental health or productivity benefits), the company is more likely to prioritise and sustain PA programmes.
5. The wider context matters when implementing workplace HEPA programmes appropriately. Programme implementation should consider aspects such as the social and environmental context, the type of work, potential partnerships, potential facilities for PA, and the local/national policy environment.
6. Autonomy and flexibility with employees' work tasks, schedules, and locations (e.g. on-site, remote working or hybrid roles) can improve the likelihood of participating in workplace HEPA in or around the workplace or other spaces or times of work.
7. Active participation of managers across all levels of the organisation is beneficial for successful implementation of workplace HEPA programmes. Management support at the level of both participation and resource provision, as well as clear communication, can serve to emphasise the goals and voluntary nature of workplace HEPA

programmes. Such actions should avoid pressuring employees to participate, yet can clearly signal that participation is not only accepted but is encouraged.

8. Programme implementers need to be aware that being physically active with co-workers and managers can be challenging for some employees, particularly in contexts where cultural norms and values suggest professional and private lives remain separate. For some, changing and wearing sports clothing, sweating, being out of breath, or being physically active in front of colleagues can be considered incompatible with workplace conduct and culture.

Areas for future research: sport policy and management

1. There is a lack of evidence about the benefits or pitfalls of workplace HEPA programmes due to insufficient monitoring and evaluation. Such monitoring and evaluation needs to have a clear link to goals or underpinning theory, and avoids over-quantification to enact positive change.
2. More focus is needed upon determinants and strategies of programme implementation (and their outcomes) in the future.
3. Future research should explore how changing workplace culture (hybrid, on-site, remote workers) influences the implementation of workplace HEPA and HEPA in other spaces of work (e.g. the home for remote workers).
4. More research is needed to establish the potential for co-operation, interaction and partnerships between workplaces/companies and other organisations, such as governmental agencies or organisations in civil society. The extent to which these organisations could support or compete with workplace HEPA programmes could be investigated.
5. Further research into the potential for digital tools to motivate and engage employees in PA would be beneficial.
6. The field of 'precision prevention in occupational health' is currently emerging, although at present this field seeks to offer individually tailored measures based on a wide range of employee data. Therefore, more research upon the impact of such approaches on the occupational environment is needed.

Sociological consensus statements

1. The rationale for promoting workplace HEPA programmes should be highlighted and shared; employers need to be aware of the (predominantly capitalist) context under which such programmes are created/implemented, and how they are likely to be perceived by, or benefit, employees. This is likely to affect employee buy-in and mutual long-term benefits.
2. Not all employees or workplaces are the same. Social and structural inequalities across different sectors, and the intersection between different social categories such as job type, employee gender, ethnicity, socio-economic status, age and (dis)ability, can influence participation. Such factors can affect the extent to which PA is considered meaningful.
3. By promoting workplace HEPA programmes as a pathway to good health, individuals in workplaces who cannot or choose not to participate may be marginalised or feel excluded. PA programmes and initiatives can be particularly

problematic if participation is obligatory. Conversely, participatory approaches can increase inclusion in programmes.

4. Organisational structural inequalities can influence which groups or types of employees are likely to be offered workplace HEPA programmes. When looking at (non)participation rates, it is important to consider personal, group, hierarchical, temporal and socio-cultural differences and preferences. Moreover, often the most marginalised can benefit the most from participation.
5. Job characteristics and workplace culture can influence which types of employees companies invest money in and target with workplace HEPA programmes (e.g. highly skilled over unskilled workers). These characteristics might include working conditions, the demands of specific roles, and employees' personal life circumstances/biographical experiences of PA.
6. Although participation or direct supervision by managers in workplace HEPA programmes is highly likely to be considered supportive, caution must be taken in maintaining boundaries about how much control and access employers have to employees' private lives, health data and leisure choices.
7. Integrating workplace HEPA programmes via digital platforms and wearable technology may raise privacy concerns and contribute to employees feeling monitored or surveilled, affecting their comfort and willingness to engage. Use of such devices can also emphasise economic inequality.

Areas for future research: sociology

1. More research is needed on the lived experiences of social and individual differences (gender, race/ethnicity, (dis)ability and age etc.) in relation to PA, management of high-risk strenuous activities, and/or reduction of sedentary activity in workplaces.
2. Research is needed that investigates the impact of PA on specific types of job, such as manual, precarious, hybrid or low skilled roles. This would increase the understanding of the potentially hidden or implicit exclusionary mechanisms that can influence such groups' participation in PA programmes.
3. Scholars could examine the unintended and potentially exclusionary social consequences of workplace HEPA programmes. For example, we need to know more about the impact upon employees who are not fond of PA, or who cannot participate in the same ways due to other considerations such as ill health, disability or caring commitments.
4. Focus is needed that examines the impact workplace HEPA programmes can have upon wider processes of individualisation and commercialisation, common in societies in the Global North. Moreover, there is a need for more general research into workplace HEPA programmes in the Global South.
5. More research is needed that investigates the potential overlap and interdependence between workplace HEPA programmes during working hours, and labour or company sport delivered outside working hours in external associations.
6. Investigation of the link between PA, work, self-regulation and embodiment would be helpful, particularly in relation to specific health concerns and moral panics, such as obesity and other risk factors relating to inactivity.

Psychology consensus statements

1. Any health enhancing PA is better than none in terms of positive mental and physical health outcomes.
2. Support from managers can also have a positive psychological impact, and is crucial for programme success. Organisational leaders can actively participate in and endorse workplace HEPA programmes, which can significantly influence employee engagement, group identity and a sense of belonging. Conversely, obligatory or forced participation can lead to apathy, lower job satisfaction, decreases in motivation and decreases in overall happiness.
3. Social interactions, encouraging group activities, peer support and team challenges can enhance motivation and adherence to workplace HEPA programmes through creating a supportive environment. PA ambassadors or multipliers can be valuable supporting actors to these processes.
4. Workplace HEPA can have individual benefits. These can include increased motivation, enhanced group belongingness/group identity, and enhanced self-efficacy. Self-efficacy is a predictor of PA participation. Promoting the determinants of self-efficacy for PA (mastery experiences, vicarious experiences, verbal persuasion, and affective states) can enhance programme efficacy.
5. Programmes should utilise behaviour change techniques such as goal setting, education, self-monitoring, action planning and feedback to encourage sustained PA and reduce sedentary behaviour. Changing the working environment is also important in both cases. Together, these methods have been shown to effectively promote healthy behaviours in employees.
6. The implementation of planned active breaks in the workplace can improve the mental well-being of many employees, although not for all equally. What's more, although mixed results are sometimes reported, workplace HEPA programmes can help to prevent or reduce stress and increase employee concentration, collaboration and productivity in many cases.
7. Sedentary behaviour reduction programmes can also have positive impacts, including participants having more energy, lower levels of fatigue, increased focus, alertness, productivity and concentration.
8. Incentivising workplace HEPA programmes can help to initiate behaviour change, although it is not a long-term driver of behaviour change. Incentives might include financial deposits, distribution of prizes or use of lotteries, which can be successful in the short-term.

Areas for future research: psychology

1. There is a need for more research on employees' baseline level of self-efficacy in order to better understand the influence of self-efficacy upon the success of workplace HEPA programmes.
2. More research is needed to assess the need to design programmes that accommodate various fitness levels and preferences. Although personal choices have been shown to increase participation, autonomy and help maintain long-term engagement in other fields, more research is needed within the workplace domain.

3. There is a lack of evidence that investigates the relationship (and feedback mechanisms) between PA behaviours and fluctuations in mood, the emotions, mental health and productivity in the workplace.
4. More research is needed to establish which behaviour change techniques are most effective at supporting integration of HEPA in the workplace, and the reduction of sedentary behaviour.
5. Future research should focus on the influence of technology to increase PA and the effects on the mental wellbeing of employees.

Promoting and assessing movement behaviours in the workplace consensus statements

1. On the whole, the impact of workplace HEPA programmes are beneficial. However, excessive and prolonged occupational PA (e.g. heavy manual labour) can be harmful if implemented at inappropriate intensity and with insufficient resting time or postural breaks. Similarly, prolonged, uninterrupted time in either a sedentary or standing posture can also be harmful.
2. There are multiple influences across multiple levels that impact workplace HEPA programmes and sedentary behaviour reduction programmes in the workplace. These levels include policy, organisational, environmental (physical and cultural), interpersonal and individual. Programmes that consider, measure and address influences across several levels are more likely to generate the most effective, acceptable and sustainable programmes.
3. The exposure to, and nature of the impact of PA upon health varies across different domains or contexts. These domains include household PA, workplace HEPA, occupational PA, leisure-time PA outside the workplace, and transport-related PA (e.g. active transport).
4. Measuring PA and/or sedentary behaviour should consider the variety and composition of activities and behaviours over extended periods (e.g. 24h or more), across both work and leisure-time. Behaviours should not be measured or considered in isolation given time spent in one behaviour necessarily displaces time spent in others.
5. Prolonged exposure to sedentary time, standing or moderate-to-heavy labour in the workplace can be detrimental to workers' health and wellbeing. For example, increased standing does not provide the equivalent benefits of workplace HEPA and can even be harmful if done excessively. Variation between PA, sitting and standing during the work day should be recommended.
6. Programmes should be tailored to the needs of the organisation and its employees. This can be achieved by leveraging expertise, co-design (when feasible) and/or partnership working in health enhancing PA programme design. Employee needs often relate to company size and structure, job autonomy, job demands and characteristics, and job design factors, including how strenuous or sedentary specific job demands are.
7. Needs assessment and audit of barriers and facilitators are recommended to guide programme design and implementation. Subsequently, programme goals

must be clearly defined across different levels (e.g. individual, interpersonal, organisational, environmental etc.). Well-formulated goals and a clearly articulated purpose can ensure relevant outcome measures are selected, and impacts assessed effectively, including data to inform potential returns on investment.

8. Where possible, good design principles should be integrated into programmes across the hierarchy of control. Selected principles may include generation of long-term action plans, investment planning, increasing productivity or enacting culture change. Impacts take time to be realised, requiring adoption of a sustainable, feasible, long-term approach across multiple levels.
9. It can be challenging to change the structure of the entire workday to promote workplace HEPA programmes or reduce sedentary behaviour in the workplace. For moderate or vigorous intensity activities, it can be feasible to set aside shorter, dedicated periods of workplace HEPA, and supplement these periods by integrating PA into the work day and working environment. This integration can encourage intermittent activities throughout the workday (e.g. taking the stairs or walking meetings), especially if the goal is to improve mental or physical health.
10. Evaluation should align with HEPA programme or intervention objectives and structure to effectively capture intended effects. Measures should gather data on desired outcomes, which can be primary (e.g. increased PA behaviour) or secondary (e.g. changes in well-being or productivity). Results should be framed and communicated in accessible terms to all concerned stakeholders.
11. Accurately measuring workplace HEPA and sedentary behaviour can be beneficial in evaluation programmes, and for providing participants with feedback on their behaviour. Workplace HEPA and sedentary behaviour can be captured both through self-reported methods and device-based measures, each with its own limitations and advantages. Use of high quality devices, such as accelerometers and other high quality wearables or devices, are more reliable and detailed than self-report measures. Use of such devices may not be feasible in all workplaces, however, due to device cost, and the relatively intensive data collection and processing methods.
12. Wearables are less relevant where subjective, qualitative experiences are of interest. Such data are better captured with qualitative measures such as interviews. Hence, relying exclusively on data from wearable devices to evaluate programme efficacy or effectiveness can raise ethical and validity concerns, potentially disregarding the nuanced aspects of context and individual experience.

Areas for future research: promoting and assessing movement behaviours in the workplace

1. More research is needed to understand the most effective ways to promote PA and reduce sedentary behaviour for employees in temporary, unstructured, precarious areas of employment. At present, most research focuses upon highly organised workplaces.

2. More research and programme evaluation is needed to investigate the long-term impacts of workplace HEPA programmes and sedentary behaviour reduction programmes, including long-term adaptations, sustainability, and the best mechanisms to translate evidence into practice. We also need to know more about how long term impact varies across organisations and workplace type.
3. More knowledge is needed concerning the most beneficial programmes for specific occupations, including physically strenuous jobs (aerobic capacity) to understand the health paradox of occupational and leisure-time PA, hybrid roles and for teleworkers. Such evidence would supplement the evidence we possess concerning sedentary or desk-based jobs.
4. Research could focus upon establishing the most cost-effective intervention mechanisms, or harmonising data on outcomes at multiple levels and across multiple interventions/programmes over time. This is of particular importance where interventions incur substantial costs. Such research could investigate ways to better harmonise and share data from across different aspects or structures within and between companies, possibly resulting in more impactful outcomes.
5. More research is needed to investigate the impact on movement behaviours of new technology, including AI, and professional interactions, including the impacts of these advances upon employee privacy and rights. For example, the potential of technology to eliminate peak loads and replace sustained static work with health enhancing activities could be investigated.
6. More transparency in the reporting of programme implementation, process and outcomes is needed in order to maximise transferral of shared learning outcomes between programmes.

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