NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

PUBLIC HEALTH DRAFT GUIDANCE

Front cover

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Workplace health promotion: how to encourage employees to be physically active

NICE public health guidance X

Introduction

The Department of Health (DH) asked the National Institute for Health and Clinical Excellence (NICE or the Institute) to produce public health guidance on how to encourage employees to be physically active.

The guidance is for employers and professionals who have a direct or indirect role in, and responsibility for, improving health in the workplace. This includes those working in the NHS, local authorities and the wider public, voluntary, community and private sectors, especially those working in human resources or occupational health in small, medium and large organisations. It will also be of interest to employees, trades union representatives and members of the public.

The Public Health Interventions Advisory Committee (PHIAC) has considered both a review of the evidence and an economic appraisal.

This document sets out the preliminary recommendations developed by the Committee. It does not include all the sections that will form part of the final guidance. The Institute is now inviting comments from stakeholders (listed on the NICE website at: www.nice.org.uk).

Note that this document does not constitute the Institute's formal guidance on promoting physical activity in the workplace. The recommendations made in section 1 are provisional and may change after consultation with stakeholders and fieldwork.

The process the Institute will follow after the consultation period (which includes fieldwork) is summarised below. For further details, see 'The public health guidance development process: an overview for stakeholders including public health practitioners, policy makers and the public' (this document is available on the Institute's website at: www.nice.org.uk/phprocess).

- The Committee will meet again to consider the consultation comments, the fieldwork reports and the stakeholder evidence.
- After that meeting, the Committee will produce a second draft of the guidance.
- The draft guidance goes to the NICE Guidance Executive for final sign-off.

The key dates are:

Closing date for comments: 16 January 2008.
Second Committee meeting: 15 February 2008.

Details of PHIAC membership are given in appendix A and key supporting documents used in the preparation of this document are listed in appendix E.

This guidance was developed using the NICE public health intervention process.

Contents

1 Recommendations

The Public Health Interventions Advisory Committee (PHIAC) considered the evidence of effectiveness and cost effectiveness in drafting the recommendations. Note: this document does not constitute the Institute's formal guidance on this intervention. The recommendations are preliminary and may change after consultation.

The evidence statements underpinning the recommendations are listed in appendix C.

The evidence review, supporting evidence statements and economic analysis are available on the Institute's website at www.nice.org.uk/page.aspx?o=370700

Recommendation 1

Who should take action?

- Employers, HR directors and senior managers.
- Public and occupational health professionals, and workplace health promoters.
- Trades unions and other employee representatives.
- Employees.

What action should they take?

Develop an organisation-wide policy or plan to encourage employees to be more physically active. This should:

- include measures to minimise any inequity
- be based on a staff consultation
- link to other internal HR policies (for example, on alcohol and smoking or flexible working) and to national health policies
- set organisational targets
- be sustainable.

Recommendation 2

Who should take action?

- Employers, HR directors and senior managers.
- Public and occupational health professionals, and workplace health promoters.
- Trades unions and other employee representatives.
- Employees.

What action should they take?

- Ensure employees are involved in planning and designing activities.
- Introduce and monitor an organisation-wide, multi-component programme to encourage employees to be physically active. This could be part of a broader programme to improve health. It could include:
    - provision of a health check
    - dissemination of information (including written information) on how to be more physically active and the health benefits of such activity. This should be tailored to meet individual needs.
    - advice and support to help people plan how they are going to increase their levels of physical activity
    - flexible working policies and incentive schemes to encourage employees to be physically active
    - policies to encourage employees to walk or cycle to and from work.

Recommendation 3

Who should take action?

- HR and occupational health departments.
- Those responsible for buildings and facilities.

- Employers.

What action should they take?

- Put up signs at strategic points and distribute written information to encourage employees to use the stairs rather than taking a lift where possible. The signs could point out that climbing stairs burns calories, may be quicker than waiting for the lift and is a good form of exercise.

For further recommendations on encouraging people to use the stairs, see 'Promoting and creating built or natural environments that encourage and support physical activity' (NICE public health guidance, publication expected January 2008).

Recommendation 4

Who should take action?

- Employers, HR directors and senior managers.
- Public and occupational health professionals, and workplace health promoters.
- Trades unions and other employee representatives.
- Employees.

What action should they take?

Encourage employees to increase the distance they walk during the working day. For example, encourage them to walk part or all of the way to and from work, provide information about walking routes and encourage them to set goals and monitor the distances they walk.

2 Public health need and practice

There is increasing recognition of the need to encourage healthier lifestyles and the government has set specific targets to increase physical activity levels (Department of Culture, Media and Sport 2002; DH 2004; Health Development Agency 2004; House of Commons Health Committee 2004;

United States Department of Health and Human Services 1996; Wanless 2004; World Health Organization 2004).

Physical activity is essential for good health (DH 2004). Increasing activity levels will help prevent and manage over 20 conditions and diseases including cancer, coronary heart disease, diabetes and obesity. It can also help to improve mental wellbeing (DH 2004; Pate et al. 1995). Indeed, physically active employees are less likely to suffer from major health problems, less likely to take sickness leave and less likely to have an accident at work (Dishman et al. 1998).

Around 35% of men and 24% of women aged over 16 are physically active enough to meet the current national recommendations (that is, they spend at least 30 minutes on 5 or more days a week involved in at least moderately intense activities). Physical activity levels vary according to age, gender, socioeconomic class and ethnicity (Joint Health Surveys Unit 2004).

Trends highlighted by health surveys undertaken in England in 1997, 1998, 2003 and 2004 found a small increase in physical activity levels between 1997 and 2004. However, national travel surveys show that the average distance people walk and cycle has declined significantly in the last three decades (National Statistics 2004).

Sickness absence

In 2003–04 there were 609,000 cases of ill health caused by work: 42% were related to stress and 33% were caused by musculoskeletal disorders, both of which are known to be reduced by participation in physical activity. In the same period, 29.8 million working days were lost to ill health (Health and Safety Executive 2004). Sickness absence is a particular concern in the public sector. The Confederation of British Industry (CBI) estimates that if sickness absence rates in the public sector could be reduced to the private sector average, more than 20 million working days would be saved per annum, leading to a cost saving of £1.2 billion per annum (CBI 2005).

The cost of physical inactivity in England, including the direct costs of treatment for major lifestyle-related diseases and the indirect costs caused through sickness absence, has been estimated at £8.2 billion a year (DH 2004).

Government policy

The UK government aims to promote health at work by 'improving working conditions to reduce the causes of ill health related to work, and promoting the work environment as a source of better health' (DH 2004). In addition, by 2010, its 'Government setting an example' programme aims to reduce by 30% the number of working days lost through accidents and cases of ill health in the civil service and the rest of the public sector (Health and Safety Executive 2005).

Increasing physical activity levels among the UK population is also central to achieving the aims and targets set by the government in:

- National service frameworks (NSFs) on coronary heart disease, diabetes, mental health, older people and children.
- DH policy documents on physical activity including 'Choosing activity' (2005) and 'At least five a week' (2004).

The guidance

This guidance considers workplace-based policies and initiatives that aim to increase employees' physical activity levels and are applicable in England. It also considers similar initiatives outside the workplace that are initiated or endorsed by employers. It covers all employed adults including volunteers, subcontractors and temporary staff. It is not aimed at people who are self-employed.

3 Considerations

PHIAC took account of a number of factors and issues in making the recommendations.

3.1 Physical activity is influenced by a range of factors related to individuals, workplaces, and wider environments. PHIAC recognises that this guidance can only be one element of a broader strategy to increase physical activity.

3.2 The research evidence had a number of weaknesses and some was not from the UK. However, PHIAC considered that some of the evidence was sufficiently applicable to the UK to inform recommendations.

3.3 The outcome measures of physical activity used in the studies reviewed are generally poor, are often based on self-reporting and frequently only report outcomes over a short period.

3.4 The range of settings used by researchers is very limited, PHIAC noted a particular lack of evidence about small and medium enterprises (SMEs) and about inequalities.

3.5 The economic modelling used in the evidence is conservative and does not consider long-term benefits such as prevention of some cancers, or the short-term benefits of exercise on improved mental wellbeing. The modelling is made difficult because many studies treat exercise-related outcomes as permanent. However, assuming modest compliance and effectiveness, the interventions could be considered cost-effective from an NHS perspective, and cost saving from an employer perspective because they reduce absenteeism.

3.6 Much of the research assumed that one intervention can be ‘life changing’, which is generally unrealistic, so PHIAC considered the

importance of ongoing support and encouragement for physical activity.

3.7 It is not generally possible to determine which part of a multi-component programme is responsible for a particular change. The effect may be the result of an interaction between different components of the programme.

3.8 PHIAC considered whether some interventions may cause harm for some individuals by reinforcing negative behaviours.

3.9 PHIAC considered the extent to which recommendations could widen health inequalities.

3.10 Increasing physical activity levels in the workplace could have a large impact on equality in the workplace, as not all employees may be able to participate in all the activities on offer. (For example, people with disabilities may be excluded from some activities.) PHIAC emphasised the need for employers to develop their workplace physical activity plans to ensure everyone has an equal chance to improve their physical activity levels at work.

3.11 Increasing levels of physical activity among employees may help reduce some illnesses and conditions that are important causes of sickness absence. This may result in improved productivity and reduced costs for employers.

3.12 PHIAC recognised that the needs of small and medium sized organisations may be different to those of large organisations.

3.13 PHIAC recognised the importance of the ethos of the workplace and the leadership role of employers in promoting and supporting interventions to increase physical activity in the workplace.

3.14 If an intervention is not included in the recommendations it should not necessarily be stopped. These recommendations are based on

the available evidence and not all interventions may have been evaluated.

This section will be completed for the final guidance document.

4 Implementation

NICE guidance can help:

- NHS organisations meet DH standards for public health as set out in the seventh domain of 'Standards for better health' (updated in 2006). Performance against these standards is assessed by the Healthcare Commission and forms part of the annual health check score awarded to local healthcare organisations.
- NHS organisations and local authorities (including social care and children's services) meet the requirements of the government's 'National standards, local action, health and social care standards and planning framework 2005–2008'.
- National and local organisations within the public sector meet government indicators and targets to improve health and reduce health inequalities.
- Local authorities fulfil their remit to promote the economic, social and environmental wellbeing of communities.
- Local NHS organisations, local authorities and other local public sector partners benefit from any identified cost savings, disinvestment opportunities or opportunities for re-directing resources.
- Provide a focus for children's trusts, health and wellbeing partnerships and other multi-sector partnerships working on health within a local strategic partnership.

NICE has developed tools to help organisations implement this guidance. The tools will be available on our website (www.nice.org.uk/PHxxx) For provisional details please see below.

- Costing tools:
  - costing report to estimate the national savings and costs associated with implementation
  - costing template to estimate the local costs and savings involved.

- Other tools:
  - slides highlighting key messages for local discussion
  - practical advice on how to implement the guidance and details of national initiatives that can provide support
  - audit criteria to monitor local practice.

5 Recommendations for research

This section will be completed in the final guidance document.

More detail on the evidence gaps identified during the development of this guidance is provided in appendix D.

6 Updating the recommendations

This section will be completed in the final guidance document.

7 Related NICE guidance

Published

MI: secondary prevention. Secondary prevention in primary and secondary care for patients following a myocardial infarction. NICE clinical guideline 48 (2007). Available from: www.nice.org.uk/CG048

Four commonly used methods to increase physical activity: brief interventions in primary care, exercise referral schemes, pedometers and community-based exercise programmes for walking and cycling. NICE public health intervention guidance 2 (2006). Available from: www.nice.org.uk/PHI002

Hypertension. Management of hypertension in adults in primary care. NICE clinical guideline 34 (2006). Available from: www.nice.org.uk/CG034

Obesity: guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children. NICE clinical guideline 43 (2006). Available from: www.nice.org.uk/CG043

Depression: management of depression in primary and secondary care. NICE clinical guideline 23 (2004). Available from: www.nice.org.uk/CG023

Chronic heart failure. Management of chronic heart failure in adults in primary and secondary care. NICE clinical guideline 5 (2003). Available from: www.nice.org.uk/CG005

Management of type 2 diabetes. Management of blood pressure and blood lipids. NICE clinical guideline H (2002). Available from: www.nice.org.uk/page.aspx?o=38564

Under development

Promoting and creating built or natural environments that encourage and support physical activity. NICE public health guidance (due Feb 2008).

Guidance for employers on promoting mental wellbeing through productive and healthy working conditions. NICE public health guidance (due October 2008).

Promoting physical activity, play and sport for pre-school and school-age children in family, pre-school, school and community settings. NICE public health guidance (due January 2009).

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Appendix A: membership of the Public Health Interventions Advisory Committee (PHIAC), the NICE Project Team and external contractors

Public Health Interventions Advisory Committee (PHIAC)

NICE has set up a standing committee, the Public Health Interventions Advisory Committee (PHIAC), which reviews the evidence and develops recommendations on public health interventions. Membership of PHIAC is multidisciplinary, comprising public health practitioners, clinicians (both specialists and generalists), local authority employees, representatives of the public, patients and/or carers, academics and technical experts as follows.

Professor Sue Atkinson CBE Independent Consultant and Visiting Professor in the Department of Epidemiology and Public Health, University College London

Mr John Barker Associate Foundation Stage Regional Adviser for the Parents as Partners in Early Learning Project, DfES National Strategies

Professor Michael Bury Emeritus Professor of Sociology, University of London and Honorary Professor of Sociology, University of Kent

Professor Simon Capewell Chair of Clinical Epidemiology, University of Liverpool

Professor K K Cheng Professor of Epidemiology, University of Birmingham

Ms Joanne Cooke Director, Trent Research and Development Support Unit (RDSU), University of Sheffield

Dr Richard Cookson Senior Lecturer, Department of Social Policy and Social Work, University of York

Mr Philip Cutler Forums Support Manager, Bradford Alliance on Community Care

Professor Brian Ferguson Director of the Yorkshire and Humber Public Health Observatory

Mr Howard Gilfillan Former Head Teacher, Branksome Comprehensive School, Darlington

Professor Ruth Hall Regional Director, Health Protection Agency, South West

Ms Amanda Hoey Director, Consumer Health Consulting Limited

Mr Alasdair Hogarth Head Teacher, Archbishops School, Canterbury

Mr Andrew Hopkin Assistant Director, Local Environment, Derby City Council

Dr Ann Hoskins Deputy Regional Director of Public Health, NHS North West

Ms Muriel James Secretary for the Northampton Healthy Communities Collaborative and the King Edward Road Surgery Patient Participation Group

Professor David R Jones Professor of Medical Statistics, Department of Health Sciences, University of Leicester

Dr Matt Kearney General Practitioner, Castlefields, Runcorn and GP Public Health Practitioner, Knowsley

Ms Valerie King Designated Nurse for Looked After Children for Northampton PCT, Daventry and South Northants PCT and Northampton General Hospital. Public Health Skills Development Nurse, Northampton PCT

CHAIR Professor Catherine Law Professor of Public Health and Epidemiology, UCL Institute of Child Health, London

Ms Sharon McAteer Public Health Development Manager, Halton and St Helens PCT

Mr David McDaid Research Fellow, Health and Social Care and Personal Social Services Research Unit (PSSRU), London School of Economics and Political Science

Professor Klim McPherson Visiting Professor of Public Health Epidemiology, Department of Obstetrics and Gynaecology, University of Oxford

Professor Susan Michie Professor of Health Psychology, BPS Centre for Outcomes Research & Effectiveness, University College London

Dr Mike Owen General Practitioner, William Budd Health Centre, Bristol

Ms Jane Putsey Lay Representative. Chair of Trustees of the Breastfeeding Network

Dr Mike Rayner Director of British Heart Foundation Health Promotion Research Group, Department of Public Health, University of Oxford

Mr Dale Robinson Chief Environmental Health Officer, South Cambridgeshire District Council

Ms Joyce Rothschild School Improvement Adviser, Solihull Local Authority

Dr Tracey Sach Senior Lecturer in Health Economics, University of East Anglia

Professor Mark Sculpher Professor of Health Economics, Centre for Economics (CHE), University of York

Dr David Sloan Retired Director of Public Health

Dr Dagmar Zeuner Joint Director of Public Health, Hammersmith and Fulham PCT

Expert testimony to PHIAC:

Nick Colledge Sport and Health Manager, Wigan Leisure and Culture Trust

Dr Fiona Bull Co-Director, School's British Heart Foundation National Centre for Physical Activity and Health. Reader in Physical Activity and Health, Loughborough University

NICE Project Team

Professor Mike Kelly

CPHE Director

Jane Huntley

Associate Director

Chris Carmona

Technical Lead

Dr Hugo Crombie

Analyst

James Jagroo

Analyst

Dr Bhash Naidoo

Technical Adviser (Health Economics)

External contractors

External reviewers: effectiveness review

'A review of effectiveness of workplace health promotion interventions on physical activity and what works in motivating and changing employees' health behaviour' was carried out by the University of Salford. The principal authors were: Lindsey Dugdill, Alison Brettle, Claire Hulme, Serena McCluskey and Andrew Long (from the University of Leeds).

External reviewers: economic appraisal

'An economic analysis of workplace interventions that promote physical activity' was carried out by the York Health Economics Consortium. The principal authors were: Matthew Bending, Sophie Beale and John Hutton.

Appendix B: summary of the methods used to develop this guidance

Introduction

The reports of the review and economic appraisal include full details of the methods used to select the evidence (including search strategies), assess its quality and summarise it.

The minutes of the PHIAC meetings provide further detail about the Committee's interpretation of the evidence and development of the recommendations.

All supporting documents are listed in appendix E and are available from the NICE website at: www.nice.org.uk/page.aspx?o=370700

The guidance development process

The stages of the guidance development process are outlined in the box below.

1. Draft scope

2. Stakeholder meeting

3. Stakeholder comments

4. Final scope and responses published on website

5. Reviews and cost-effectiveness modelling

6. Synopsis report of the evidence (executive summaries and evidence tables) circulated to stakeholders for comment

7. Comments and additional material submitted by stakeholders

8. Review of additional material submitted by stakeholders (screened against inclusion criteria used in reviews)

9. Synopsis, full reviews, supplementary reviews and economic modelling submitted to PHIAC

10. PHIAC produces draft recommendations

11. Draft recommendations published on website for comment by stakeholders and for field testing

12. PHIAC amends recommendations

13. Responses to comments published on website

14. Final guidance published on website

Key questions

The key questions were established as part of the scope. They formed the starting point for the review of evidence and facilitated the development of recommendations by PHIAC. The overarching question was:

Which workplace-based policies and initiatives that aim to increase employees' physical activity levels are effective and cost effective, and what are the barriers to participation?

Subsidiary questions were:

1. What is the aim/objective of the intervention?
2. How does the way it is delivered influence effectiveness?
3. Does the degree to which employees are involved in the planning, implementation and review of interventions influence their effectiveness?
4. Does the duration, frequency or intensity of the intervention influence its impact?
5. Does the type of workplace influence effectiveness?
6. What are the most effective and appropriate interventions for different sectors of the workforce such as: men and women, younger and older workers, people from different socioeconomic backgrounds or minority ethnic groups and temporary or casual workers?
7. Does the intervention have an impact on health inequalities?
8. Does effectiveness vary according to the type of job people do?
9. What are the key components of the intervention that motivate individuals to become more physically active?
10. What are the barriers and facilitators to implementation – for both employers and employees?
11. Is there any evidence of cost effectiveness?
12. How can employers be encouraged to promote physical activity at work?
13. What are the resource needs of large, medium and small enterprises in promoting physical activity at work?

Reviewing the evidence of effectiveness

A review of effectiveness was conducted.

Identifying the evidence

The following databases were searched for relevant systematic reviews, experimental studies and qualitative studies (from 1996–2006):

- ABI Inform
- Applied Social Science Index and Abstracts (ASSIA)
- Cochrane Database of Systematic Reviews (CDSR)
- CENTRAL
- Cinahl
- Database of abstracts of reviews of effects (DARE)
- Embase
- PsycINFO
- Social Policy and Practice
- Social Science Citation Index
- SportDiscus
- Transport.

Searches of a range of websites were performed to identify any further projects. The electronic searches were supplemented by hand-checking the references of all papers included at the ‘screening full papers’ stage.

Selection criteria

Studies were included in the effectiveness review if:

- the intervention aimed to increase physical activity levels
- the intervention was aimed at employed adults
- the intervention was initiated or endorsed by the employer
- physical activity was an outcome measure
- there was evidence of a change in physical activity levels – or a change of behaviour relating to physical activity
- the paper was published in English in1996 or later
- the review included papers published in 1996 or later.

Studies were excluded if:

- the intervention was aimed at self-employed or unemployed adults
- the intervention involved a modification to the built or natural environment
- there was no evidence or measure of a change in physical activity
- the document was a dissertation
- the papers focused on costs or cost effectiveness only.

Quality appraisal

Included papers were assessed for methodological rigour and quality using the NICE methodology checklist, as set out in the NICE technical manual 'Methods for development of NICE public health guidance' (see appendix E). Each study was described by study type and graded (++, +, -) to reflect the risk of potential bias arising from its design and execution.

Study type

- Meta-analyses, systematic reviews of randomised controlled trials (RCTs) or RCTs (including cluster RCTs).
- Systematic reviews of, or individual, non-randomised controlled trials, case-control studies, cohort studies, controlled before-and-after (CBA) studies, interrupted time series (ITS) studies, correlation studies.
- Non-analytical studies (for example, case reports, case series).
- Expert opinion, formal consensus.

Study quality

++ All or most criteria have been fulfilled. Where they have not been fulfilled the conclusions are thought very unlikely to alter.

+ Some criteria fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.

- Few or no criteria fulfilled. The conclusions of the study are thought likely or very likely to alter.

The interventions were also assessed for their applicability to the UK and the evidence statements were graded as follows:

A likely to be applicable across a broad range of settings and populations

B likely to be applicable across a broad range of settings and populations, assuming they are appropriately adapted

C applicable only to settings or populations included in the studies – broader applicability is uncertain

D applicable only to settings or populations included in the studies.

Summarising the evidence and making evidence statements

The review data was summarised in evidence tables (see full review).

The findings from the review were synthesised and used as the basis for a number of evidence statements relating to each key question. The evidence statements reflect the strength (quantity, type and quality) of evidence and its applicability to the populations and settings in the scope.

Economic analysis

The economic appraisal consisted of a review of economic evaluations and a cost-effectiveness analysis.

Review of economic evaluations

In addition to scanning the effectiveness evidence the following databases were searched:

- Econlit
- Health Economics Evaluation Database (HEED)
- NHS Economics Evaluation Database (NHS EED).

Literature published in English was considered from 1990 onwards. No geographical restrictions were placed on the search strategy.

A search of grey literature was also undertaken. The IDEAS economic database was searched specifically for cost-effectiveness information and the cost-effectiveness studies resulting from the grey literature search were highlighted by the effectiveness review team.

Studies that met the inclusion criteria were rated to determine the strength of the evidence using the Drummond checklist (Drummond MF, Jefferson TO [1996] Guidelines for authors and peer reviewers of economic submissions to the BMJ. The BMJ Economic Evaluation Working Party. British Medical Journal 313: 275–83).

Cost-effectiveness analysis

Economic models were constructed to incorporate data from the reviews of effectiveness and cost effectiveness.

The results are reported in: 'An economic analysis of workplace interventions that promote physical activity'. It is available on the NICE website at: www.nice.org.uk/page.aspx?o=370700

Fieldwork

This section will be completed in the final document.

How PHIAC formulated the recommendations

At its meeting in October 2007 PHIAC considered the evidence of effectiveness and cost effectiveness to determine:

- whether there was sufficient evidence (in terms of quantity, quality and applicability) to form a judgement
- whether, on balance, the evidence demonstrates that the intervention is effective or ineffective, or whether it is equivocal
- where there is an effect, the typical size of effect.

PHIAC developed draft recommendations through informal consensus, based on the following criteria.

- Strength (quality and quantity) of evidence of effectiveness and its applicability to the populations/settings referred to in the scope.

- Effect size and potential impact on population health and/or reducing inequalities in health.

- Cost effectiveness (for the NHS and other public sector organisations).
- Balance of risks and benefits.
- Ease of implementation and the anticipated extent of change in practice that would be required.

Where possible, recommendations were linked to an evidence statement(s) (see appendix C for details). Where a recommendation was inferred from the evidence, this was indicated by the reference ‘IDE’ (inference derived from the evidence).

Appendix C: the evidence

This appendix sets out the evidence statements taken from the review and links them to the relevant recommendations (see appendix B for the key to study types and quality assessments). The evidence statements are presented here without references – these can be found in the full review (see appendix E for details). It also sets out a brief summary of findings from the economic appraisal.

The review considered the evidence from the UK, Europe, Australia, New Zealand and Canada; however PHIAC wanted to know whether evidence from the US was consistent with this. The US evidence was surveyed and presented to PHIAC as an additional paper, available on the NICE website at www.nice.org.uk/xxxxx .

Evidence statement 1 indicates that the linked statement is numbered 1 in 'A review of effectiveness of workplace health promotion interventions on physical activity and what works in motivating and changing employees' health behaviour'.

Where a recommendation is not directly taken from the evidence statements, but is inferred from the evidence, this is indicated by IDE (inference derived from the evidence) below.

The review and economic appraisal are available on the NICE website (http://guidance.nice.org.uk/page.aspx?o=370700).

Recommendation 1: evidence statements 4c, 13, IDE

Recommendation 2: evidence statements 4a, 4b, 4c, 13, IDE

Recommendation 3: evidence statements 1, 15, IDE

Recommendation 4: evidence statements 2, 3, 11, IDE

Evidence statements

Evidence statement 1

There is evidence from four studies (one [++ B] interrupted time series [ITS]; one [+ A] before and after (BA); one [– A] BA; one [– B] BA) that the use of posters and signs can increase stair (instead of lift) use. However, in two of these studies stair usage declined back to baseline levels at follow-up or by the end of the study period, suggesting that the effectiveness of these posters is short term. In addition, two studies (one [+ A] and one [– B] controlled before and after [CBA]) reported a decline in stair use/step count. Further study is required.

Evidence statement 2

There is evidence from studies in the public sector that workplace walking interventions using pedometers that focus on: facilitated goal setting, diaries and self-monitoring and walking routes can produce positive results, increasing step count. (One [+ B] and one [– B] BA; one [+ A] and one [– A] individual RCT.)

Evidence statement 3

There is evidence (one [+ A] individual RCT) from one UK public sector workplace that a walking and cycling to work campaign, through use of written health materials distributed to employees, can increase walking to work (but not cycling to work) in economically advantaged women.

Evidence statement 4a

There is evidence from six studies (one [+ B] and one [– B] CBA; one [– A] and one [– B] BA; two [– A] cross-sectional surveys [CSS]) to suggest that workplace health screening can have a positive impact on physical activity. However, while all six studies included a health check or assessment, other components of the intervention differed; these included, for example, counselling, which makes it difficult to attribute effects to a single factor. Two studies (one [+ B] and one [– B] CBA) although reporting positive behaviour change only approached [statistical] significance.

Evidence statement 4b

There is evidence from four studies (one [– B] CBA; one [– B] BA; one [++ B] cluster RCT; one [+ B] individual RCT) that suggests workplace counselling has positive effects on physical activity. Of the two studies (one [++ B] cluster RCT; one [+ B] individual RCT) that focus solely on counselling, the first shows positive effects on increasing physical activity compared to the control. The other, while showing positive improvements, shows no difference between groups receiving counselling, counselling and fitness testing or the control group. Two other studies (one [– B] CBA; one [– B] BA) are multi-component interventions that included counselling, motivational interviewing and health screening, which makes it difficult to attribute effects to a single factor.

Evidence statement 4c

Evidence from one study ([+ B] CBA) suggests that employee-designed interventions that include written health and physical activity information, active commuting, stair climbing, led walks, fitness testing and counselling (all as required) can have a positive improvement on physical activity.

Evidence statement 11

Evidence from two walking interventions studies (one [– B] BA; one [+ A] individual RCT) and one active travel intervention ([+ A] individual RCT) suggests self-directed interventions are effective.

Evidence statement 13

There is no evidence that involvement of employees in the implementation and review of the physical activity intervention influences the effectiveness of those interventions. There is evidence, however, from one study ([+ B] CBA) that involving employees in the planning stage of intervention design can have a positive effect on physical activity.

Evidence statement 15

Nine studies (three [– A] BA; one [– B] BA; one [+ A] CBA; one [+ A] individual RCT; one [+ B] and one [– A] qualitative; one [– B] individual RCT) gave

details of employees' cited facilitators to the implementation of interventions that focus on physical environment (improvements in facilities and convenience of location); incentive schemes; and flexible work practices. In three stair-walking studies, employees found the poster interventions encouraged stair walking, were a good idea and thought-provoking. No factors were cited by the employers as facilitators to the implementation of physical activity interventions.

Cost-effectiveness evidence

Overall, workplace physical activity counselling and fitness programmes were found to be cost effective. In addition, the introduction of a workplace physical fitness programme may be broadly beneficial to employers in that it can help reduce absenteeism.

Appendix D: gaps in the evidence

PHIAC identified a number of gaps in the evidence relating to the interventions under examination, based on an assessment of the evidence. These gaps are set out below.

1. Few studies use robust data collection methods to measure the impact of workplace interventions on employees' physical activity levels (most use self-reporting).

2. Few studies aim to determine whether signs and posters encourage people to continue using the stairs in the longer term.
   (**Source**: evidence statement 1.)

3. There is a lack of studies on how the effectiveness of workplace physical activity interventions are influenced by:

   a. The type of workplace.

   b. The characteristics of employees (for example, their gender, socioeconomic status, ethnicity and employment status).

   (**Source**: evidence statements 8 and 9.)

4. Few studies assess the impact of employer schemes to encourage employees to walk or cycle to work.

5. There is a lack of studies on the cost effectiveness (for employers and for NHS services) of introducing workplace physical activity schemes.

6. There is a lack of studies on the potentially negative effects of physical activity interventions in the workplace.

7. There is a lack of research to show whether employers can benefit from increased productivity and reduced sickness absence if their employees become more physically active. (Data may already exist as 'grey' literature within companies.)

8. There is a lack of research from the perspective of employers.

Appendix E: supporting documents

Supporting documents are available from the NICE website (www.nice.org.uk/page.aspx?o=370700). These include the following.

- Review of effectiveness: 'A review of effectiveness of workplace health promotion interventions on physical activity and what works in motivating and changing employees' health behaviour'.
- Economic analysis: 'An economic analysis of workplace interventions that promote physical activity'.

For information on how NICE public health guidance is developed, see:

- 'Methods for development of NICE public health guidance' available from: www.nice.org.uk/phmethods
- 'The public health guidance development process: an overview for stakeholders including public health practitioners, policy makers and the public' available from: www.nice.org.uk/phprocess