Review

Workplace health initiatives: evidence of effectiveness

C3 Collaborating for Health

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Contents

Part I: Introduction

The global NCD crisis

Workplace health initiatives around the world are growing in number and scope, as employers come to realise that addressing employee health and wellness is linked to increased productivity and reduced absenteeism,[1] and that the return on this strategic investment and overall health cost savings are high.[2] The dramatic global increase in chronic, non-communicable diseases (NCDs) in recent years is also playing a part in the spread of these initiatives. Between them, the four major NCDs – cardiovascular disease (heart disease and stroke), cancer, type 2 diabetes and chronic lung disease – account for over 60% of deaths in the world, double the number of deaths from all infectious diseases (including HIV/AIDS, TB and malaria), maternal and perinatal conditions, and nutritional deficiencies combined.[3] The majority – up to 80% – of premature deaths from these diseases could be prevented by tackling just three risk factors: poor diet (including the harmful use of alcohol), tobacco use and lack of physical activity.[4]

Crucially for employers, 9 million of the 36 million deaths from NCDs each year occur in those aged under 60 (in other words, among the working-age population).[5] The cost to the world economy of the diseases over the next 20 years is estimated by the World Health Organization and Harvard University to be approximately $30 trillion.[6]

Introduction to this report

This report is a resource that highlights evidence-based workplace health initiatives from around the world. It does not, however, review the many toolkits that various governmental and non-governmental organisations have created in order to meet these challenges. The references and web resources listed at the end of this report include toolkits and practical tips for those wishing to implement a workplace health programme.

In preparing this report, a review of scientific and grey literature was conducted to identify best practices and highlight the elements of effective workplace health initiatives. Much of this literature comes from the United States and other high-income countries with a long history of industrial development. These countries have the largest number of workplace health initiatives, partly due to the emergence of trade unions over a century ago, and the subsequent expansion of government and private health-insurance regulations, which have made occupational health and safety a priority. Recent evidence of the cost-effectiveness of workplace health initiatives has made them even more important to employers and employees (much of the research is from countries such as the United States, where keeping employees healthy is reflected in lower employee-health costs). In countries that have high levels of NCDs, programmes aiming at disease prevention through lifestyle changes and behaviour modifications are essential – and these are ideally suited to workplace environments.

Despite the extensive number of publications linking workplace health initiatives with improved employee health and productivity (reflected in absenteeism and presenteeism – i.e. employees being present in the workplace, but working at reduced capacity because of sickness), there are relatively few scientific peer-reviewed studies of their effectiveness, particularly around workplace health in small- and medium-sized enterprises (SMEs). The evidence cited in this report derives from a range of sources, from case studies of lower scientific rigour through to randomised control trials. Where appropriate, and mindful of the possibility of bias, it includes self-reported studies from private-sector companies. Toolkits produced by governmental, non-governmental and private organisations, as well as other international bodies, also provide some evidence. The

report focuses particularly on the steps that can be taken even by SMEs in tackling workplace health – keeping employees healthy is essential in SMEs, where the impact of the absence of a single employee can have major repercussions on the workloads of colleagues.

This report highlights examples of workplace health programmes from different regions of the world, reflecting the global nature of the crisis. Two exemplars are presented that were identified as leaders in the field in a recent global competition in workplace health promotion, and there are case studies of best practice from sub-Saharan Africa and India. These combine some elements that are grounded in scientific evidence, and others where evaluation has been less rigorous, but which are nevertheless seen as promising and innovative.

Key learning

Each workplace health initiative exists in a unique organisational and cultural setting, so lessons learned from elsewhere must be reviewed in the light of the specific risk factors and culture of each workplace, and adapted for local implementation. Inevitably, not all programmes result in positive outcomes, but the evidence suggests how to improve the likelihood of success[7]:

- tailor programmes to a corporate setting;

- ensure management commitment and consistent resource support;

- run integrated programmes that represent the diversity of employee needs;

- run programmes where participation is encouraged in a variety of ways; and

- evaluate programmes for return on investment.

International recognition of the need for action

The importance of the workplace as a setting for health promotion and wellness has been recognised by organisations including the World Economic Forum – which has established a Workplace Wellness Alliance to share best practice on the issue[8] – and even the United Nations. In September 2011, the UN held a High-level Meeting on Non-communicable Diseases (only the second meeting at the General Assembly to be held on a disease – the first being HIV/AIDS in 2001). At this meeting, a Political Declaration was unanimously adopted by all the UN member states, calling for multisectoral interventions to include 'the provision of incentives for work-site healthy-lifestyle programmes' and specifically calling on the private sector to 'promote and create an enabling environment for healthy behaviours among workers, including by establishing tobacco-free workplaces and safe and healthy working environments through occupational safety and health measures, including, where appropriate, through good corporate practices, workplace wellness programmes and health insurance plans'.[9]

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A note on terminology

A variety of terms is used in the literature to describe 'workplace health initiatives'. For consistency the generic description 'workplace health initiative' is used throughout this report to mean specific activities and programmes undertaken in the workplace to improve the health of workers through reducing disease-specific risk factors and encouraging behaviour change.

Part II: About workplace health initiatives

Components of workplace health initiatives

Workplace health initiatives are found everywhere, although they vary greatly according to the political, economic and cultural features of each country and workplace. Other variations are attributable to the size of the workplace, and whether health services are provided through government-funded programmes or through employer benefits and insurance packages. Programmes have many different components, including: primary prevention for employees at low risk; secondary prevention for employees considered at risk due to their way of life and/or biometric measures; and tertiary or disease-management programmes for employees suffering from both non-communicable and infectious diseases, and sometimes their families.[10]

Table 1 gives a snapshot of the regional spread and composition of workplace health initiatives. It combines data from a 2009 voluntary global survey of 1,103 international companies, representing over 10 million employees from 45 countries. The respondents were primarily senior management professionals, not necessarily those responsible for running the initiatives. The reported regional percentages of employers that offer health programmes are almost certainly higher than is the reality on the ground, owing both to the voluntary nature of the survey and to the fact that senior managers responded, rather than recipient employees – which could introduce bias through senior managers' desire to promote the best possible image of their company. Regional differences in programme objectives, elements and perceived health risks highlight the importance of decentralised workplace health initiatives that are adapted to local needs. This is especially important for large multinational corporations that may have a centralised strategic function but operate in diverse countries with a range of economic, cultural and political environments.

Table 1: Composition of workplace health initiatives by region[11,12]

Region and percentage of employers offering programmes	Top strategic objectives for programmes	Top health issues driving health strategy	Top programme elements
Africa 32%	Improving productivity/reducing presenteeism Reducing employee absence Maintaining work ability	Stress Infectious diseases (HIV/AIDS) Work/life issues	Biometric health screening Executive screening Health portal/website Employee health fairs Health risk appraisal
Asia 43%	Improving workplace morale/engagement Improving productivity/reducing presenteeism Reducing employee absence	Stress Physical activity/exercise Nutrition/healthy eating	Biometric health screening On-site health classes Company-sponsored sports teams Executive screening Health risk appraisal
Australia 31%	Improving productivity/reducing presenteeism Reducing employee absence Improving workplace morale/engagement	Stress Physical activity/exercise Work/life Issues	[Lack of data]

Europe 42%	Improving productivity/reducing presenteeism Improving workplace morale/engagement Reducing employee absence	Stress Physical activity/exercise Work/life issues	Gym/fitness club membership discounts Biometric health screening Immunisation/flu shots Employee health fairs On-site health classes
Latin America 44%	Improving productivity/reducing presenteeism Maintaining work ability Reducing employee absence	Physical activity/exercise Nutrition/healthy eating Stress	Immunisation/flu shots Biometric health screening On-site health classes Health risk appraisal Gym/fitness club membership discounts
North America 77%	**Canada:** Improving productivity/reducing presenteeism Reducing employee absence Reducing healthcare/insurance costs	Stress Work/life issues Depression	Immunisation/flu shots Gym/fitness club membership discounts Executive screening Health portal/website On-site health classes
	United States: Reducing healthcare/insurance Costs Improving productivity/reducing presenteeism Reducing employee absence	Physical activity/exercise Nutrition/healthy eating Chronic disease (e.g. heart disease, diabetes)	Immunisations/flu shots Health risk appraisal Gym/fitness club membership discounts Employee health fairs Health portal/website

Table 2, below, indicates seven core elements of a model comprehensive workplace health programme, proposed by a leading US stakeholder partnership and based on *Healthy People 2020* national health objectives.[13] The core elements are as follows:

- health education;

- supportive social and physical work environments;

- integration of the programme into the organisation's structure;

- linkage to related programmes;

- screening programmes;

- follow-up interventions; and

- an evaluation and improvement process.

The table suggests three levels or steps – minimum, moderate and comprehensive – that can be followed for each of the core components of the programme. For example, the 'minimum steps' column highlighted in Table 2 suggests basic interventions that could be suitable for small- and medium-sized enterprises, which are often perceived to lack the staff and resources needed to run

major workplace health initiatives.[14] This is something of a misconception, as SMEs in fact have a number of advantages in tackling workplace health – for example, their smaller workforces make change more evident, and many employees interact with each other daily, which can create friendly peer competition to improve personal health,[15] and their family atmosphere facilitates the active involvement of management in all aspects of workplace health.[16] As noted above, however, they are particularly vulnerable to absenteeism owing to the significant individual responsibility and complex job requirements of their employees – and healthy employees are much less likely to be absent, making workplace health initiatives even more essential.

Table 2: Comprehensive workplace health promotion

Programme elements	Minimum steps	Moderate steps	Comprehensive steps
Health education • tobacco use • alcohol/drug misuse • physical inactivity • overweight/obesity	Annual health risk assessments Information and resources for healthy life changes Self-care health resources	Use targeted risk interventions based on 'readiness to change' Provide workshops on medical consumerism	Health coaching (e.g. person-to-person, telephone, online) On-site full-time wellness manager Telephone nurse line
Supportive social and physical environments	Open conference rooms and other work spaces for after-hours physical activity classes Negotiate health-club discounts Create tobacco-free workplace	Provide showers, subsidised gym memberships, walking trails, well-lit stairwells Provide healthy selections in vending machines and cafeterias, and at company functions	In-house health management centre in large locations Allow for volunteer health teams, and budget discretionary programmes in all company locations
Programme integration	Involve a diverse group of employees in a broad planning effort to create ownership of the programme	Match the goals of the programme with the mission statement of your organisation	With senior management support, develop and use a health scorecard integrated with business goals
Linkage to related programmes • work-related injury/death • health insurance • preventive services	Create 'wellness champions' Integrate lifestyle messages (e.g. on obesity or back care) into safety meetings	Provide publications about benefits, job safety and preventive services	Create a cross-functional team (e.g. wellness, benefits, employee assistance programme) for strategic planning of health promotion
Screening programmes	Communicate the importance of preventive screening through flyers and/or company communications	Sponsor or team up with other businesses to offer health fairs with screening	Through benefit plan, reduce cost and access barriers to preventive screening
Follow-up interventions	Locate and promote appropriate resources and support related to at-risk practices (be sensitive to privacy issues)	Create incentive-based programmes to encourage maintenance of positive health changes (e.g. no tobacco use)	Benchmark health data to set short- and long-term objectives for reducing at-risk behaviour
Evaluation and improvement process	Conduct periodic surveys of employee health promotion needs/interests Measure employee participation rates Use post-programme surveys to measure satisfaction	Stratify aggregate health risk assessment data by level of risk (e.g. percentage of population at low, medium and high risk) Measure and track disability, workers' compensation and sick days	Evaluate return on investment on selected interventions Integrate employee data Measure presenteeism for selective health conditions (e.g. arthritis, diabetes)

Adapted from Partnership for Prevention, *Leading by Example: The Value of Worksite Health Promotion to Small and Medium Size Employers* (2011): http://www.prevent.org/data/files/initiatives/lbe_smse_2011_final.pdf.

Risk-factor specific programmes

Tackling the three major risk factors of chronic non-communicable diseases – **poor diet** (including misuse of alcohol), **tobacco use** and **lack of physical activity** – is essential for ensuring long-term health. Eliminating these risk factors could prevent the majority of premature deaths from the four major NCDs – up to 80 per cent of premature deaths from these diseases could be prevented,[17] and addressing these risk factors can also have benefits for other conditions that can affect productivity and absenteeism, notably musculoskeletal conditions and mental ill-health.

The minimum, moderate and optimum steps that can be taken by companies in tackling physical inactivity, obesity and tobacco control are shown in additional tables in Annex B, and are summarised here. Although the various actions to be taken on physical activity, diet and obesity prevention, and tobacco cessation are listed independently below, a successful workplace health promotion programme will need to target a wide array of risk factors if it is to improve employee health and productivity. Therefore, the suggestions below (detailed in Annex B) should be considered as components of a comprehensive programme, and should not be implemented independently.

a) Increasing physical activity

Steps to increase physical activity in the workplace include providing **health-education materials and raising awareness** of the importance of regular physical activity. Tools include pamphlets and posters in busy areas, employee health-education workshops, and individual fitness coaching. Once employees are equipped with information, and if space and budget allow, designated **areas where employees feel comfortable exercising** can be introduced. These can range from a simple indoor/outdoor walking route, providing a workout facility with cardiovascular and weight equipment, and showers within the building, and promoting employee athletic teams and having physical activity-related competitions at the workplace. Whatever the size of the workplace, **active travel** can be encouraged – walking and cycling, rather than driving.

Employee ownership of any physical activity interventions in the workplace must be ensured – for example, employees volunteering to work together to organise workplace-centred physical activities. **Management buy-in and involvement** – practising what they preach – can also be essential, particularly regarding taking time out (at lunchtime, for example) to take physical activity. The creation of a human resources post (or expansion of an existing post) to focus on the promotion of physical activity at the workplace could also be helpful in instilling a culture of physical activity. Physical fitness measurement can then be incorporated in **workplace screening programmes**, to establish baseline levels and set realistic goals for improvement.

b) Reducing the percentage of obese and overweight employees

Incorporating physical activity in the workplace is a key component of any programme aiming to reduce the number of obese and overweight employees. A second key component is ensuring that employees have access to the appropriate **nutrition information**, from handing out copies of a national food guide, labelling in the canteen, or having a dietician give a talk at the workplace. Information alone, however, is often not sufficient to encourage behaviour change. Employers could also consider lunchtime **weight-loss groups or individual diet counselling** for high-risk employees. In addition to providing health education, employers should facilitate supportive

physical and social environments through providing **healthy food options** in company vending machines and cafeterias, and at catered company events.

Just as **employee ownership and management buy-in** are important for workplace physical activity initiatives, they are also crucial for weight-control programmes. Options include employees taking responsibility to create weight-loss support groups and competitions, and management including healthy employee weight as a goal in the company's mission statement. Body measurements such as waist circumference, body fat percentage and body mass index (BMI) should be included as part of comprehensive employee **health screening**, with referrals for medical follow-up outside the workplace where necessary. Ensuring the privacy of individuals and their medical information must be a priority at all times.

c) Smoking cessation

Tobacco use in the workplace affects not only the employees who smoke, but everyone else in the company through the harmful inhalation of second-hand smoke ('passive smoking') in countries in which smoking in the workplace has not already been banned, and reduces productivity in both the long term (through illness) and short term (through employees taking smoking breaks). Creating a smoke-free environment is an essential dimension of a fully healthy workplace. There are many steps that can be taken to achieve this, appropriate to difference sizes of workplace and demographic of the workforce.

Employees may already be aware of the dangers of tobacco use, but may not be aware of all of the resources to help them quit. **Smoking-cessation tools** can be publicised in handouts and promoted though presentations to employees. A total **ban on smoking** not only in the workplace but also within a certain distance of buildings and in outdoor public areas will greatly reduce the physical environment available for smoking (this is already mandated in many countries). Employee **peer-support groups** can be formed, combined with telephone quit lines and/or online or face-to-face **counselling**. Companies can make quitting aids such as **nicotine patches and gum** available free to their employees. People who have recently given up smoking can be publicly recognised and congratulated by management. Managers should be role models and should not smoke in front of other employees. Non-smokers may receive improved health plans and financial incentives compared to co-workers who are smokers. Lastly, **screenings** should incorporate tobacco-use questions, and follow-up referrals as necessary.

Part III: Assessing the evidence

The usual rationale offered for workplace health programmes is that they improve employees' health and increase productivity. Numerous studies and systematic literature reviews have assessed their impact, and a meta-analysis of findings from 56 global peer reviewed studies[18] found evidence of the benefits that workplace-health schemes can have, including:

- 27% reduction in sick-leave absenteeism;

- 26% reduction in health-care costs;

- 32% reduction in workers' compensation and disability-management cost claims; and

- a nearly 6 to 1 return on investment ratio.

A second meta-review of 18 global studies found that absenteeism dropped in all sites after the introduction of comprehensive workplace health programmes. Health-care costs fell, and there was a return on investment ranging from around $4 to $6 for each dollar invested.[19] The findings indicate that the productivity increase employers gain as a result of these programmes is double their direct healthcare savings (such as employee sick leave) that are more easily measured.[20]

Figure 1 summarises the findings of a 2008 review of 55 UK workplace health case studies and the specific business benefits attributed to them. In seven cases the average return on investment was £3 for every £1 invested in a programme.[21]

Figure 1: Benefits attributed to UK workplace health initiatives
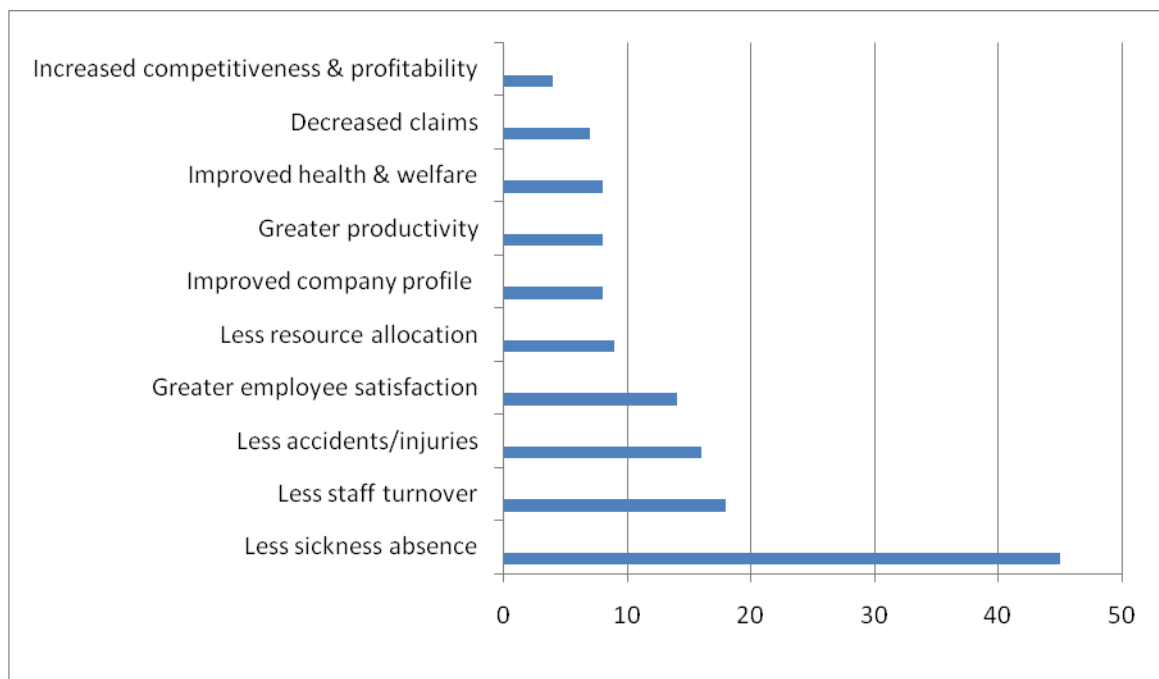
Source: PricewaterhouseCoopers, *Building the Case for Wellness* (2008): http://www.dwp.gov.uk/docs/hwwb-dwp-wellness-report-public.pdf

These beneficial effects on employee productivity are a direct result of improved behaviour around the risk factors that contribute to chronic diseases. Tables 3–8 highlight recent, comprehensive studies that demonstrate the impact of such programmes on reducing obesity, improving diet, increasing physical activity, reducing tobacco use and reducing cholesterol levels.

Impact of workplace health programmes on obesity

Table 3 summarises important studies and literature reviews that provide evidence on the impact of workplace health programmes on reducing obesity. Employees who participate in these programmes in a variety of workplace settings have been shown to lose more weight, achieve lower BMI and reduce their percentage of body fat, when compared to control groups who did not participate in obesity-focused workplace health programmes.

Table 3: Impact of workplace health programmes on obesity

Reference	Methods/description	Results/conclusions	Value added
Terry P et al., 'Effectiveness of a worksite telephone-based weight management program', *American Journal of Health Promotion* 2011 25(3): 186–9: http://www.ajhpcontents.org.pinnacle.allenpress.com/doi/abs/10.4278/ajhp.081112-QUAN-281?journalCode=hepr	Pre/post study of long-term impact of telephone-based weight management programme comparing 1,298 overweight/obese participants and non-participants in 10 large workplace settings Intervention: up to five calls over a median of 250 days. Weight, BMI and lifestyle behaviours assessed via health risk assessment at baseline and one-year follow-up	48% of programme completers and 47% of non-completers lost weight, but **completers averaged 2.6 times more weight loss**. Improvements in physical activity, eating habits and overall health status reported for completers	Evidence of effectiveness of telephone-based workplace interventions
Anderson L et al., 'The effectiveness of worksite nutrition and physical activity interventions for controlling employee overweight and obesity: A systematic review', *American Journal of Preventive Medicine* 2009, 37(4): 340–57: http://www.thecommunityguide.org/obesity/EffectivenessWorksiteNutritionPhysicalActivityInterventionsControllingEmployeeOverweightObesitySystematicReview.pdf	47 studies reviewed including RCT and cohort designs and non-randomised weight-related outcomes. Indicators including weight in pounds or kilograms, BMI and percentage body fat were measured at least six months from start of intervention to assess effectiveness of these programmes.	Workplace nutrition and physical activity programmes achieve modest improvements in employee weight status at 6–12-month follow-up. **A pooled effect estimate of -2.8 pounds was found based on nine RCTs, and a decrease in BMI of -0.5 was found based on six RCTs.** The findings appear to be applicable to both male and female employees across a range of settings	pp. 346–9 has a detailed table of 47 workplace diet and physical activity interventions reporting weight outcomes Analysis of mean changes attributable to the intervention, weighted by sample size Analysis of studies comparing multiple component approaches with fewer programme components and studies with lay versus professional leaders
Archer WR et al., 'Promising practices for the prevention and control of obesity in the worksite', *American Journal of Health Promotion* 2011, 25(3): e12–26: http://www.ncbi.nlm.nih.gov/pubmed/21192740	Analysed 136 studies from 1966 to 2005 to identify workplace practices that may help to promote employee weight loss Evaluation of studies based on quality of study design and execution, as well as sample and effect size Effectiveness assessed by changes in weight-related outcomes	Key practices identified that promote employee weight loss: • enhanced access to opportunities for physical activity combined with health education • exercise prescriptions alone • multi-component educational practices • weight-loss competitions/incentives • behavioural practices with/without incentives.	Analyses and groups existing studies into six quality categories, which allows inclusion of poorly designed studies with unique approaches or demographics

Verweij LM, 'Meta-analyses of workplace physical activity and dietary behavior interventions on weight outcomes', *Obesity Reviews* 2010: http://onlinelibrary.wiley.com/doi/10.1111/j.1467-789X.2010.00765.x/abstract	Data compiled from 22 studies between 1980 and 2009 Quality of evidence assessed using the GRADE approach	Evidence of moderate quality that workplace physical activity and dietary behaviour interventions significantly reduce: • **body weight: 9 studies; mean difference (MD) -1.19 kg;** • **BMI: 11 studies; MD 0.34 kg/m²** • **body fat percentage (calculated from sum of skin-folds): 3 studies; MD -1.12%** Greater reduction in body weight when physical activity and diet interventions contained in an environmental component	pp. 6–13 detailed table and characteristics of trials included
Benedict MA and Arterburn D, 'Worksite-based weight loss programs: A systematic review of recent literature', *American Journal of Health Promotion* 2008, 22(6), 408–16: http://www.cfah.org/hbns/archives/viewSupportDoc.cfm?supportingDocID=612	11 RCTs between 1995 and 2006, which included bodyweight measured pre-/post-intervention and studies lasting eight weeks or more Majority of studies focused on education and counselling to improve diet and physical activity	Intervention groups had mean losses from 0.2kg to 6.4kg lower than controls	pp. 410–11 detailed table of characteristics and evidence of studies reviewed

Impact of workplace health programmes on diet

Table 4 summarises the findings of a systematic literature review that provides evidence of the impact of workplace health programmes on improving diet. This paper found that employee health education and changing the physical workplace environment (through provision of healthier options in cafeterias and vending machines) could lead to moderate improvements in employee diet.

Table 4: Impact of workplace health programmes on diet

Reference	Methods/description	Results/conclusions	Value added
Ni Mhurchu C et al., 'Effects of worksite health promotion interventions on employee diets: a systematic review', *BMC Public Health* 2010 10: 62: http://www.biomedcentral.com/1471-2458/10/62	Online database search between 1995 and 2009 for peer-reviewed articles describing a worksite health intervention of 8+ weeks. Studies must report one or more diet outcome (energy, fat, fruit/vegetable intake)	16 studies reviewed: • 8 employee education focus • 8 focused on workplace environment, either alone or in combination with education overall + changes in diet outcomes	Evidence that workplace interventions can lead to moderate improvements in diet

Impact of workplace health programmes on physical activity

Table 5 summarises studies and literature reviews that provide evidence of the impact of workplace health programmes on increasing physical activity. These papers found that workplace physical-activity interventions could lead to increased overall fitness, improved physical-activity behaviour, reduced body measurements, improved work attendance and reduction in job stress. Workplace counselling, pedometers and initiatives to encourage active travel to work were found to have strong effects on individual physical-activity choices.

Table 5: Impact of workplace health programmes on physical activity

Reference	Methods/description	Results/conclusions	Value added
Dugdill L et al.,'Workplace physical activity interventions: A systematic review', *International Journal of Workplace Health Management* 2008, 1(1): 20–40 http://eprints.whiterose.ac.uk/3578/	33 studies (38 publications, as certain studies were included in multiple publications) since 1996, categorised in five groups: systematic effectiveness reviews of workplace physical activity interventions; stair-walking interventions; walking interventions; active travel; and other	17 evidence statements including specific quantifiers for each type of physical activity intervention 14 studies were rated high or good quality Limited data on effectiveness of stair-walking interventions Strong evidence that workplace counselling influences physical-activity behaviour In certain settings, pedometers and active travel displayed positive intervention effects	Review of physical activity interventions independently from diet interventions, therefore supporting evidence not biased by the effects of diet interventions pp. 19–26 details characteristics and evidence of studies reviewed
Conn VS et al., 'Meta-analysis of workplace physical activity interventions'. *American Journal of Preventive Medicine* 2009, 37(4): 330–9: http://download.journals.elsevier health.com/pdfs/journals/0749-3797/PIIS0749379709004139.pdf	Review included published and unpublished studies 1969–2007, studying the effect of physical activity interventions across a total of 38,231 combined study subjects	Workplace physical-activity interventions can have a positive effect on physical activity behaviour, overall fitness, body measurements, work attendance and job stress	Explores beyond traditional obesity-related physical activity outcome to include evidence on impact of physical activity interventions on stress, cholesterol, work attendance and diabetes

Impact of workplace health programmes on smoking

Table 6 summarises studies and literature reviews that provide evidence of the impact of workplace health programmes on reducing smoking among employees. The evidence indicates that the most effective smoking-cessation programmes have multiple components, including group counselling, individual therapy, pharmaceutical interventions and incentive schemes tailored to the individual workplace setting. Using a one-size-fits-all approach or focusing on only one smoking-cessation tool will bring fewer benefits than a comprehensive programme incorporating employee ownership.

[See next page]

Table 6: Impact of workplace health programmes on smoking

Reference	Methods/description	Results/conclusions	Value added
Cahill K, 'Workplace interventions for smoking cessation', *Cochrane Database of Systematic Reviews (Online)* 2008, 4(4): CD003440: http://info.onlinelibrary.wiley.com/userfiles/ccoch/file/World%20No%20Tobacco%20Day/CD003440.pdf	Reviews 51 randomised and quasi-randomised control studies, from 1966-2008, covering 53 interventions 37 studies aimed at individual workers (including group therapy, individual counselling, self-help materials, nicotine replacement therapy and social support) 16 studies tested interventions aimed at the workplace as a whole	Group programmes, individual counselling and nicotine replacement therapy increased smoking cessation in comparison to no treatment or minimal intervention controls Self-help materials were less effective Lack of evidence that workplace-wide interventions reduced smoking prevalence Incentive schemes increased attempts to stop smoking, although inconclusive whether they raised cessation rates	Detailed table summarising methods and results of each study reviewed Tabular and graphical comparison of reviewed study intervention methods and results
Leeks KD, 'Worksite-based incentives and competitions to reduce tobacco use. A systematic review', *American Journal of Preventive Medicine* 2010, 38(2 Suppl), S263–74: http://www.thecommunityguide.org/tobacco/worksite/worksite2010incentives_leek.pdf	Review of 14 studies, from 1980 to 2009, that evaluated incentives and competitions, when implemented in conjunction with other interventions such as client education, smoking cessation groups, and telephone cessation support	Median change of **self-reported tobacco-use cessation after a 12-month follow-up period was an increase of 4.4 percentage points** – strong evidence that workplace incentive and competition programmes, in combination with additional interventions, increase the number of people who stop using tobacco Lack of evidence on impact of incentives/competitions when implemented on their own	Provides further evidence of the positive effect of workplace competitions and incentives in contributing to the cessation of tobacco use Fills research gap in other tobacco workplace intervention systematic reviews
Bell K et al., NICE rapid review: *Workplace Interventions to Promote Smoking Cessation*, 2007: http://www.nice.org.uk/nicemedia/live/11381/43914/43914.pdf	Review of 32 studies (including meta-reviews) from 1990–2006 for evidence on smoking cessation Studies were rated for quality of evidence	Smoking cessation facilitated by group therapy, individual counselling and pharmacological treatments Interventions need to be tailored to specific workforce sector, culture of worker and individual smoking patterns	Literature review focuses on eight pre-set questions to analyse effectiveness of interventions pp. 42–67 detailed evidence table summarising 32 studies

Impact of workplace health programmes on cholesterol levels

Table 7 summarises a study of the impact of a workplace wellness programme on employee blood lipid levels. This study is unique as it focused specifically on cholesterol, with a programme in which employees received financial compensation from their employers for participation in workplace health activities. Its findings indicate that long-term workplace health programmes may result in better employee health.

Table 7: Impact of workplace health programmes on cholesterol levels

Reference	Methods/description	Results/conclusions	Value added
Byrd K et al., 'Impact of a three-year worksite wellness program on employee blood lipid levels', *Californian Journal of Health Promotion* 2008, 6(1), 49–56: http://cjhp.org/Volume6-2008/issue1/byrd.pdf	Three-year workplace health programme, California, US: • primarily male, Caucasian, overweight/obese • pre/post blood lipid levels analysed using paired t-tests	Participants' total cholesterol, LDL ('bad')-cholesterol, and triglyceride levels decreased and HDL ('good)-cholesterol levels increased significantly after three-year programme	Cholesterol risk factor study

Impact of workplace health programmes on mixed risk factors and cost-effectiveness

Table 8 summarises comprehensive literature reviews of peer-reviewed, meta-analysis and systematic review literature, examining the effectiveness of a broad spectrum of workplace health programmes. These papers indicate that the most successful workplace health initiatives are comprehensive, targeting multiple risk factors and including behavioural education as well as changes to the workplace physical environment. These comprehensive initiatives can result in less absenteeism, greater productivity and reduced individual and employer health-care costs.

Table 8: Impact of workplace health initiatives on mixed risk factors and cost-effectiveness

Reference	Methods/description	Results/conclusions	Value added
Goldgruber J and Ahrens D, 'Effectiveness of workplace health promotion and primary prevention interventions: a review', *J Public Health* 2010, 18:75–8: http://www.springerlink.com/content/p625tn0612m37n12/fulltext.pdf	Peer-reviewed, meta-analysis and systematic reviews (2004–8)	17 reviews (risk factors: stress, physical activity and nutrition, organisational development, smoking, and ergonomics and back pain) Best results achievable through comprehensive multimodal (or systemic) programmes that include relational and behavioural elements	pp. 78–84 detailed tables with evidence of effectiveness from 17 reviews
Proper K and Mechelen W, *Effectiveness and Economic Impact of Worksite Interventions to Promote Physical Activity and Healthy Diet* (WHO), 2007: http://www.who.int/dietphysicalactivity/Proper_K.pdf	26 studies reviewed (25 RCTs and 11 cohort studies)	Cost savings from absenteeism shown to vary from 2.5 to 4.9 for every dollar spent on the programme Health-care cost savings varied from 2.5 to 4.5 for every dollar spent on the programme. **25–30% reduction in medical and absenteeism costs over an average period of 3–4 years**	Cost-effectiveness analysis Detailed tables and written analysis of each study

Part IV: Best practice in workplace health

Any enterprise, large or small, that is establishing or reviewing its workplace health initiatives will benefit from familiarity with the evidence of the effectiveness of such programmes. They can also pick up good ideas and innovative approaches through looking at evidence-based case studies that demonstrate best practice, a number of which are presented here.

Case studies 1 and 2 are evidence-based examples of comprehensive workplace programmes in large companies that operate in high-income countries. Case studies 3 and 4 provide a middle-income-country perspective. Case studies 5–7 examine best practices in workplace health in sub-Saharan Africa. Sources of additional studies are also listed in each section.

Case studies from high-income countries

Case study 1: IBM

IBM is a US multinational technology and consulting company, one of the largest in the world. Its workplace health programme is based on a global framework that enables a unified strategy to be pursued in combination with local innovation. It is continuously evaluated, allowing it to shift over time from a decentralised programme to a centralised one with local adaptations. The programmes have been implemented in IBM workplace settings around the world, including Australia, China, Europe, Japan, India, South Korea, and North and South America. **IBM invested US$80 million in workplace health over three years, and saved $100 million on health-care costs.**

The programme covers occupational health and health promotion, including screening, physical fitness, smoking cessation, weight management and stress reduction. It also provides health care, and has extensive health benefits – for example, it covers dental, mental, pharmaceutical and other health services. The health-promotion framework described in Table 9 includes[22]:

- monitoring population health status and risk;

- creating healthy workplaces that drive healthy behaviours;

- designing comprehensive health care plans that support primary care;

- implementing strategic behaviour-change programmes.

**Table 9: IBM's global health-promotion framework**

Health status and risk assessment	Healthy workplace
- Understanding of employee health status and health risk profile to inform strategy and investments - Directing employees to targeted wellness programmes - Mechanisms for evaluating programme impact	- Smoke-free policies - Requirements for healthy food options in onsite cafeterias, vending machines and meetings - Access to and promotion of physical activity opportunities (e.g. safe walking paths, stairways - Flex-time policies

[Continued on next page]

Health plan support	Strategic behaviour-change programmes (based on country-specific health priorities)
Comprehensive coverage for: • evidence-based preventative health screening • appropriate immunisations • antenatal care Targeted coverage for: • stress management • nicotine replacement therapies • nutritional counselling • other country-specific priorities	• Stress management • Smoking cessation • Physical activity • Nutrition • Weight management • Evidence-based preventative health screening • Appropriate immunisations • Other country-specific priorities (e.g. HIV/AIDS)

Underlying principles

Population approach	Evidence-based	Engagement	Trust	Measurement
• Reduce high-risk employees and keep low-risk employees low risk • Facilitate small actions over time for lasting behaviour change	• Programmes selected and conducted based on existing evidence • Findings from IBM programme should add to evidence base	• Pervasive messaging • Health benefits integration • Strategic incentives • Management involvement	• Processes to protect personal health information • Compliance with IBM and country data controls and IT security requirements	• Levels of participation • Behaviour change • Health status and risk improvement • Business impact (health-care costs, productivity, satisfaction, and brand)

Figure 2 shows the changes that have occurred to IBM employee health over time (where n is the number of employees each year). It is not possible from this information to separate out the direct impact of the workplace health programme as compared to, for example, recruitment strategies – but there is a clear shift in health status, and the number of people at high risk (four or more risks) fell by more than 50 per cent.

Figure 2: Improvements in IBM employees' risk profile
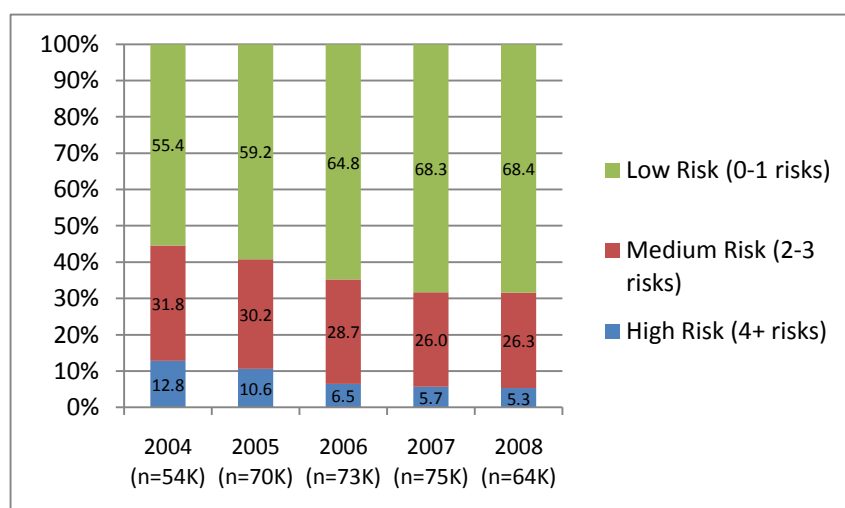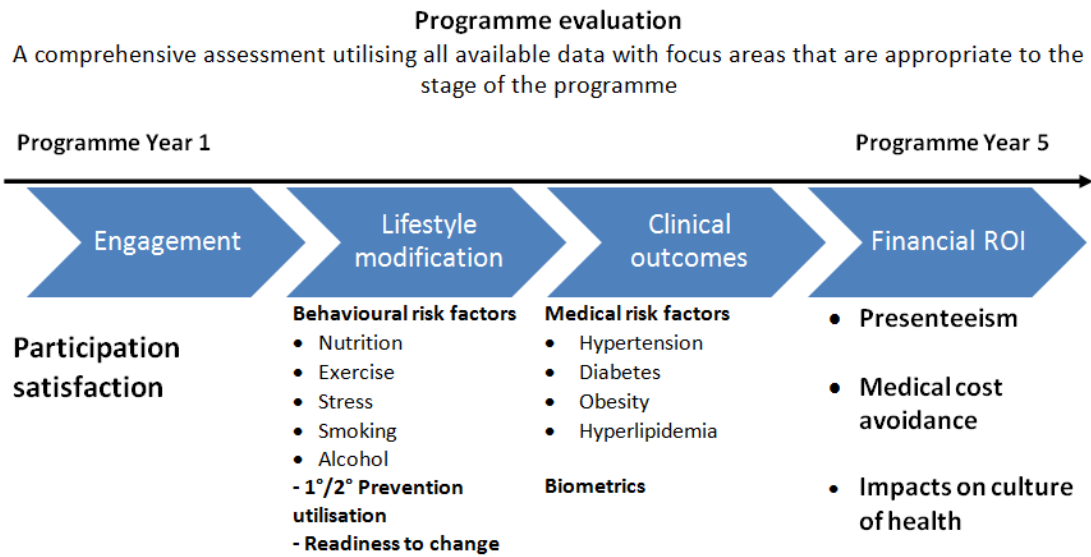
Case study 2: Intel Corporation

Intel Corporation is a giant American global technology company. Its Health for Life programme serves over 70,000 employees at 30 sites in nine countries (China, Costa Rica, India, Israel, Malaysia, Russia, Taiwan, the United Kingdom and the United States), and is designed to motivate employees to take action to achieve optimal health and quality of life. Its guiding principles are convenience, communication and quality. It aims to influence health status by tackling the major behavioural risk factors (nutrition, physical inactivity, smoking, stress and alcohol use) and contribute to reducing health-care costs and improving productivity. It has three major components: on-site health services, comprehensive medical benefits and on-site wellness programmes.[23] Figure 3 shows the programme framework, including the 3-Step Wellness Check that incorporates biometric health measures, a health risk assessment and a wellness coach for each employee.

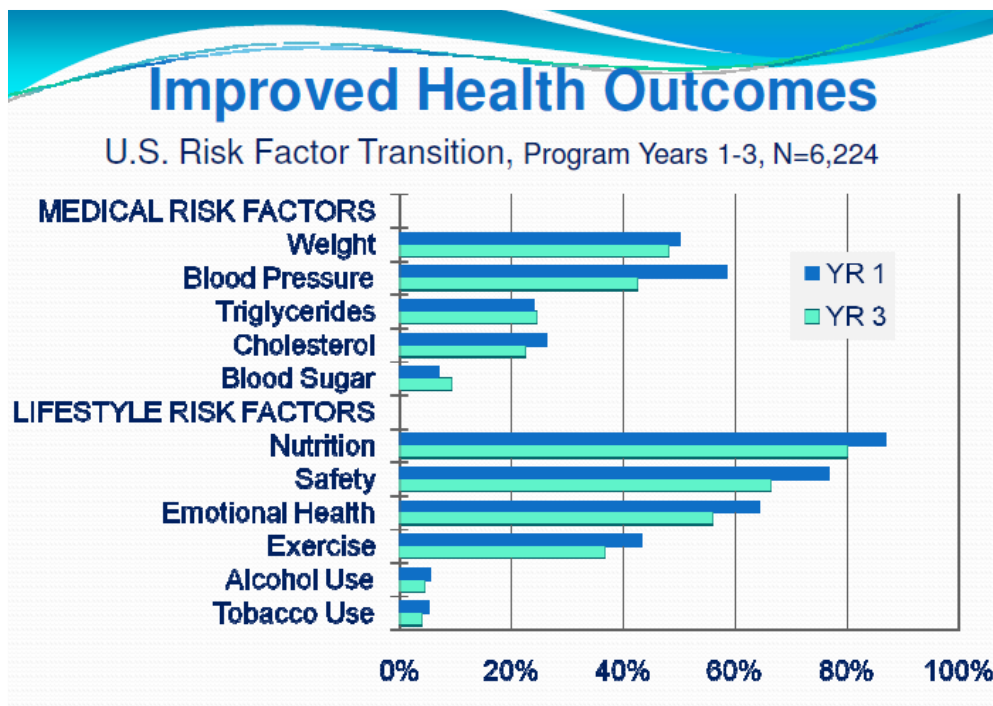| Wellness programmes	Benefits	Health for Life Centers
• 3-step wellness check • Nutrition programs • Smoking cessation • Stress management • Fitness programmes	• Medical plans • Dental plans • Employee Assistant Program (EAP) • Work/life effectiveness	• Primary care • Urgent care • Travel medicine • Physical therapy • Pharmacy services • Occupational health

Figure 3: Health for Life programme framework

The five-year evaluation process is shown in Figure 4, and evidence that it has improved employee health outcomes is given in Figure 5. Over the three-year life of the programme, the total labour cost savings have been nearly US$18 million, and programme costs have been nearly $11 million, making **Intel's return on investment 1:1.64**. This demonstrates the short-term cost-effectiveness of employer investment in comprehensive programmes.

Figure 4: Health for Life evaluation

Programme evaluation

A comprehensive assessment utilising all available data with focus areas that are appropriate to the stage of the programme

Programme Year 1 → Programme Year 5

Engagement → **Lifestyle modification** → **Clinical outcomes** → **Financial ROI**

Participation satisfaction

Behavioural risk factors
- Nutrition
- Exercise
- Stress
- Smoking
- Alcohol

- 1°/2° Prevention utilisation
- Readiness to change

Medical risk factors
- Hypertension
- Diabetes
- Obesity
- Hyperlipidemia

Biometrics

- Presenteeism
- Medical cost avoidance
- Impacts on culture of health

Figure 5: Health for Life outcomes

Improved Health Outcomes

U.S. Risk Factor Transition, Program Years 1-3, N=6,224

Additional studies from high-income countries

Canada

12 case studies:

- http://www.clbc.ca/files/Reports/summary_of_key_conclusions-final-e.pdf (summary article)

- http://www.clbc.ca/Research_and_Reports/Case_Studies.asp (links to each separate case study)

European Union

European Network for Workplace Health Promotion (ENWHP)

- *Making the Case for Workplace Health Promotion: Analysis of the Effects of WHP*:
  http://www.enwhp.org/fileadmin/downloads/report_business_case.pdf

- Several dozen European Union case studies that provide models of good workplace health promotion practice by country, divided into the categories of larger companies, small- and medium-sized enterprises, and public administration. A few of the case studies focus on occupational health and safety:
  http://www.enwhp.org/good-whp-practice/methods-tools-mogp/model-of-good-practice/models-of-good-practice-by-country.html

United Kingdom

Healthy People = Healthy Profits

- 20 UK case studies compiled by Business in the Community and the government's Health, Work and Wellbeing initiative:
  http://www.marmotreview.org/AssetLibrary/resources/external%20reports/BITC%20-%204647_Healthy_Profits.pdf

PricewaterhouseCoopers: *Building the Case for Wellness* (2008)

- Includes a systematic review of 55 UK case studies, organised anonymously in a table that summarises the industry, size of the enterprise, type of wellness programme, perceived benefits and perceived costs. There is also a summary table of a review of UK and international white and grey literature:
  http://www.dwp.gov.uk/docs/hwwb-dwp-wellness-report-public.pdf

United States

Leading by Example: Leading Practices for Employee Health Management (Partnership for Prevention and US Chamber of Commerce)

- 18 case studies:
  http://www.prevent.org/data/files/initiatives/leadingbyexamplefullbook.pdf

Citibank, Johnson & Johnson, Procter & Gamble (see pp. 47–67)

- Focus on cost-effectiveness and return on investment:
  http://www.wellsteps.com/blog/The%20Evidence%20Base%20for%20Worksite%20Health%20Promotion%20and%20Disease%20Prevention%20Programmes.pdf

Diabetes at Work: Current Success Stories

- Case studies of six large US employers' workplace programmes on diabetes – Lockheed Martin, Dallas Federal Reserve Bank, Land's End, General Motors, Inland Northwest Health Services and General Electric Energy:
  http://www.diabetesatwork.org/SuccessStories/SuccessStories.cfm

Case studies from a middle-income country, India

Case study 3: Smoking cessation in police stations, Rajasthan[24]

In Rajasthan, the State Police Department has worked with the American Cancer Society to make it easier for its workforce to be healthy, most recently focusing on a tobacco-free project.

According to a representative survey of police personnel in Rajasthan, 12.5 per cent use chewing tobacco and 12.7 per cent smoke – with 35 per cent of the smokers smoking between 5 and 15 times a day, and 13.3 per cent smoking more than 15 times daily. Since 31 May 2008, the Rajasthan Police Academy, with a staff of 250, has been tobacco-free[25] – and this was extended to the six police training centres in the region on 1 January 2010. Senior members of staff were made aware of the importance of giving up tobacco; working groups were set up and empowered to communicate to others on the importance of being tobacco-free, along with the benefits of quitting. Programme costs were minimal, as the American Cancer Society provided training and materials adapted from its 'Freshstart' tobacco-control programme, and the Academy has promoted and supported the initiative from its budget for employee welfare. From January 2010 onwards, the programme has been supported by the Rajasthan Cancer Foundation in Jaipur. When the programme was first established, 21 people took part in the programme at the Police Academy, and an estimated 40 per cent of them have stayed tobacco-free.

The health benefits of the initiative have not been fully assessed at the Academy, but in future the Medical Center at the Academy plans to evaluate the benefits through collaboration with the Indian Council for Medical Research, New Delhi, and the Indian Institute of Health Management and Research, Jaipur. The feedback has been good – it is inexpensive and easy to replicate, with a key role played by personal relationships and peer support – and the programme is soon to be rolled out to all 700 police stations in the region.

Health posters in Rajasthan

Case study 4: Multisite workplace cardiovascular programme[26]

Cardiovascular disease (CVD) rates are currently on the rise in India, as the national disease burden makes the transition from primarily infectious disease to one that is primarily NCD-based, driven by lifestyle changes such as urbanisation. A team of researchers from a nationwide partnership of medical colleges and medical science institutes conducted a baseline cardiovascular risk factor survey in 10 industrial sites across different regions of India. The information collected included demographics, hereditary risk factors, medical history and biometric measurements. Six of the sites agreed to participate in a comprehensive four-year workplace health promotion programme in 2003–7. The objectives included:

- improve diet (increase fruit, vegetable and fibre intake, decrease salt);

- incorporate physical activity in daily life;

- avoid tobacco; and

- maintain a healthy body weight.

The interventions, implemented by qualified local health-care staff, focused on behaviour change through individual, interpersonal and environmental interventions. The individual level included personal consultations between employees and health staff, while the population-level emphasis was on dissemination of written and audiovisual materials in seven languages. High-risk employees had additional personal and group counselling as well as medical referrals. Employees and managers were motivated to modify the work environment to include healthier meal choices and banning on-site tobacco use.

Table 10 summarises the changes in risk factors between the intervention and control groups (i.e. the four sites that did not implement programmes). The results indicate significant declines in mean body weight, waist circumference, blood pressure, serum cholesterol and plasma glucose levels in the intervention group, while the control group demonstrated significant risk factor increases. A follow-up of both groups four years later measured similar results, strengthening the evidence that comprehensive worksite health promotion programmes can reduce cardiovascular risk factors in middle-income countries such as India.

Variable	Intervention sites			Control sites		
	Baseline (n=4,885)	Final (n=5,090)	Percent Mean Difference* (95% CI†)	Baseline (n=943)	Final (n=907)	Percent Mean Difference* (95% CI†)
Weight, kg	60.9 (13.3)	59.0 (13.6)	-3.1% (-4.0% to -2.3%)	60.9 (10.2)	65.1 (11.0)	6.9% (6.2% to 7.5%)
WC, cm	83.2 (11.7)	73.3 (11.5)	-4.7% (-5.3% to -4.1%)	85.6 (10.1)	88.7 (10.8)	3.6% (3.1% to 4.1%)
SBP, mm Hg	127.1 (17.7)	123.6 (18.0)	-2.8% (-3.3% to -2.2%	121.6 (16.4)	131.5 (19.3)	8.1% (7/7% to 8.7%)
DBP, mm Hg	79.4 (11.0)	74.7 (10.8)	-5.9% (-6.4% to -5.4%)	77.6 (10.8)	81.6 (11.1)	5.2% (4.6% to 5.7%)
Plasma glucose, mg/dl	91.5 (29.2)	82.9 (30.2)	-9.4% (-10.7% to -8.1%)	91.1 (32.4)	103.1 (33.4)	13.2% (11.8% to 14.6%)
Total cholesterol, mg/dl	175.4 (42.5)	164.7 (43.9)	-6.1% (-7.1% to -5.1%)	175.7 (36.8)	182.2 (35.5)	3.7% (2.9% to 4.5%)
HDL cholesterol, mg/dl	44.4 (11.8)	49.0 (10.3)	10.4% (9.4% to 11.3%)	39.0 (10.6)	40.6 (9.7)	4.1% (3.1% to 5.1%)
Triglycerides, mg/dl	123.5 (70.7)	123.7 (78.4)	0.2% (-2.5% to 2.2%)	112.9 (63.6)	120.4 (45.0)	6.6% (4.7% to 8.6%)

Values are mean (SD) unless otherwise indicated. *Unadjusted difference †Confidence interval (CI) of mean difference of the 2 independent populations was calculated and converted into percentage change from the baseline value

DBP = diastolic blood pressure; HDL = high density lipoprotein; SBP = systolic blood pressure; WC = waist circumference

Table 10: Comparison of baseline and final surveys in intervention and control groups

Case studies from low-income countries

This section provides case studies from sub-Saharan Africa, where infectious diseases have until recently accounted for the highest mortality and greatest loss of economic productivity.[27] Infectious diseases, particularly HIV/AIDS, remain the focus of most of the programmes in this region, but the epidemiological patterns are changing. Over the next few decades, the region will be overwhelmed by a double burden of disease: the WHO predicts that between 2005 and 2015,

deaths from NCDs in Africa will rise by 27 per cent,[28] and NCD mortality in South Africa for adults between 35 and 64 is predicted to increase by 41% between 2000 and 2030. Crucially, this burden often affects those of working age: nearly half of all NCD-related deaths in South Africa already occur in adults under 65, four times the rate in the United States.[29] As elsewhere, many of these people at risk spend much of their time at the workplace, so workplace health programmes are an essential tool in the fight against the emerging NCD epidemic. The processes of peer education and multi-stakeholder partnerships described in case studies 5–7 are best practices that can be extended and used as cornerstones for future workplace NCD programmes.

Case study 5: Serena Hotels, Kenya[30]

In 2002 the largest hotel chain in East Africa, Serena Hotels, having lost members of staff to AIDS and its insurance provision cancelled as a result, developed a workplace health programme for over 1,000 of its employees in Kenya, working with Family Health International, the Federation of Kenya Employers and IFC Against AIDS. In 2006, the company transformed its programme – initially covering HIV/AIDS – into a comprehensive workplace health, with four main pillars: active lifestyle, good nutrition, healthy life choices and health promotion. A dedicated post was created for an employee wellness coordinator, and each hotel established a wellness committee. Programme activities include: a survey of knowledge, attitudes, behaviour and practices; wellness policy and procedure manual; development of information and education materials; management

A nurse at Samburu Serena Safari Lodge examines a hotel employee

and wellness educator training workshops (peer educators each completed a three-day training programme); community engagement; and a wellness outreach programme for hotel guests.

The programme has contributed to a fall in HIV/AIDS mortality, with only five deaths in 2002–7 compared to 35 during the previous five years before the programme – and the company's life insurance premiums decreased by $90,000 due to a reduction in death claims. HIV-positive employees taking antiretrovirals are more productive at work, and the programme also reduced absenteeism.

Case study 6: Sher Karuturi Flower Farm, Kenya[31]

Sher Karuturi is a farm in Navisha, Kenya, which plants and exports roses, employing 3,500 people. Its workplace health programme started in 2004 with a focus on HIV/AIDS, and expanded in 2006 to include tuberculosis (TB) and malaria. Its strategy includes educating employees, providing access to screening and testing, and providing treatment. In addition to HIV testing, employees with a cough lasting more than two weeks are tested for TB, and those with a fever are tested for malaria. The programme has provided antiretroviral therapy for 120 HIV-positive workers, and 'free TB treatment has resulted in a drop in the TB death rate among employees, from 25% in 2005 to 13% in 2008'.

Two factors in Sher Karuturi's programme have been particularly important in its success.

- **Active employee participation**: All workers are fully engaged in the health promotion programme. Employees volunteer to serve on wellness committees, openly divulge their HIV

status to be anti-stigma role models, and act as volunteer peer health educators, health promoters in the community and care-givers to local orphaned and vulnerable children.

- **Strategic focus on women**: Most of Sher Karuturi's employees are women, so the programme focuses on women's needs, such as preventing mother-to-child HIV transmission and education on women's rights and gender dynamics.

Case study 7: Chevron Corporation, Nigeria[32,33,34]

In 2008 the US multinational energy giant Chevron gave US$30 million to the Global Fund to Fight AIDS, Tuberculosis and Malaria. Of this, $5 million was invested in a workplace wellness programme led by Chevron in partnership with Nigeria's National Agency for the Control of AIDS. Ten micro-, small- and medium-size enterprises committed to it after a visit from an advocacy team representing the partners. The programme focuses on peer health education as a tool for the prevention of HIV/AIDS, TB and malaria in the workplace. Chevron also facilitates technical support, raises awareness and advocacy, and creates workplace treatment and management plans. At the outset, the Nigerian Institute of Medical Research collected baseline data including a survey of knowledge, attitudes, practices and behaviour. Two employees from each participating enterprise attended a three-day workshop in 2009 to help them develop customised workplace programmes. An evaluation was planned six months after the start of the programme.

Chevron's programme also targets its own contract workforce (truck drivers, warehouse staff, catering staff and security guards) while expanding to include employees' dependents. Chevron has also partnered with the Ministry of Health and the National Agency for the Control of AIDS to provide training and build capacity for healthcare personnel and services in the workplace. The ability to develop strong and lasting partnerships with ministries of health, community organisations and the private sector has been key to its success in implementing micro, small and medium workplace health initiatives in sub-Saharan Africa.

Additional case studies from low-income countries

World Economic Forum Case Study Library

- The World Economic Forum Global Health Initiative contains several dozen workplace wellness case studies and supporting documents that can be searched by industry, country and keyword. They focus mainly on HIV/AIDS, although there are also studies of private-sector initiatives that have succeeded with community-wide (rather than workplace-focused) health-promotion initiatives on malaria, TB and health system strengthening:
  http://members.weforum.org/en/initiatives/globalhealth/Library/Case%20Study%20Library/index.htm

Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria

- This is a global coalition of governments, non-profit organisations and over 200 companies that work together to combat these three diseases. The comprehensive site includes workplace health case studies, expert interviews, reports, links to national and regional coalitions, teleconferences, e-learning modules, expert advice from senior managers, and Business Excellence Awards.
  http://gbcimpact.org/workplace

Part V: Discussion and conclusion

Many adults spend much of their day in their place of work, which makes it an important arena for health promotion. Yet many employers, especially in economies hit by global recession, are reluctant to invest in programmes that may be perceived as having a three- to five-year window for return on investment even when the potential for return is around 5:1. They need to be persuaded that investment in human capital is just as important as in physical capital, and this report has highlighted hard evidence of how effective this investment can be on improving both employee health and company balance sheets.

Stakeholders from non-governmental organisations (NGOs), government and the private sector need to work together to ensure that policies, guidelines and tools are readily available to inform and assist businesses. Organisations that invest in workplace wellness programmes require easy, innovative evaluation strategies, since randomised controlled trials and cohort studies are not feasible economically and are often impractical in workplace settings. Accreditation organisations have sprung up to try to facilitate this, each with their own criteria for awards and standards for excellence. Companies must do more than pay lip-service: for example, where companies run screening programmes to identify those with, or at high risk of, NCDs, there must then be processes in place to help these individuals to take control of their lifestyles and conditions.

Governments can play their part by providing incentives through tax breaks, matched health benefit contributions and stricter legislation on workplace health and safety. A further suggestion is an international workplace health body, which could provide guidelines for programmes that address regional strategies with specific priorities for small, medium and large companies, and programmes tailored to local needs and circumstances.

Finally, companies based in developing countries have the potential to be proactive in targeting NCDs before they become an epidemic, as they have in industrialised nations. Organisations that currently run successful HIV/AIDS programmes need to take advantage of existing resources, and can work with coalitions of government, NGOs and businesses to develop tools that transform these disease-specific programmes into more comprehensive workplace health programmes that address both infectious and non-communicable diseases and facilitate better lifestyle choices around the risk factors.

Lessons learned

- Effective workplace health (WPH) initiatives need to target multiple risk factors, specifically those that represent the highest disease burden in the region where the workplace is located.

- Successful WPH initiatives combine health education with changes in the physical and social workplace environment.

- WPH initiatives need to be underpinned by management buy-in and employee ownership.

- WPH initiatives need to be targeted to each unique workplace and cultural setting.

- WPH initiatives should involve baseline testing and follow-up in order constantly to evaluate and monitor the programmes, and allow for employee feedback to facilitate programme improvement.

- Effective WPH initiatives will result in reduced employee absenteeism, increased employee productivity, reduced employer health costs, and increased employee job satisfaction.

Annex A: Additional web resources

Organisation	Country focus	Resources	Link
Bupa	UK	*Healthy Work: Evidence into Action* Recommendations for government, employers and providers of workplace health interventions	http://www.bupa.com/jahia/webdav/site/bupacom/shared/Documents/PDFs/our-commitment/publication/healthy-work-evidence-into-action-report.pdf
		Workplace Health: A Worthwhile Investment (2010) Rationale for workplace health programmes in the UK	http://www.bupa.co.uk/jahia/webdav/site/bupacouk/shared/Documents/PDFs/Business/workplace%20health/workplace-health-worthwhile-investment.pdf
Business in the Community	UK	Toolkits, case studies, healthy workplace model	http://www.bitc.org.uk/workplace/health_and_wellbeing/index.html
Canadian Center for Occupational Health and Safety	Canada	Case studies and toolkits for employers, employees and practitioners	http://www.ccohs.ca/healthyworkplaces/keylinks.html
Centers for Disease Control and Prevention	US	Workforce health promotion toolkits	http://www.cdc.gov/nccdphp/dnpao/hwi/toolkits/general.htm
Centre for Workplace Health, St Mary's University College, London	UK	Workplace health training, consultancy, project delivery, physical activity publications	http://www.smuc.ac.uk/workplace-health/index.htm
European Network on Workplace Health Promotion	EU	Publications, toolkits, self-evaluation tools, best practice models by country	http://www.enwhp.org/the-enwhp.html
Heart and Stroke Foundation	Canada	Workplace wellness toolkit	http://www.heartandstroke.nb.ca/site/c.kpIPKZOyFkG/b.4835889/k.7DF2/Wellness_at_Heart_Toolkit.htm
International Journal for Workplace Health Management	Global	Peer-reviewed articles on all aspects of workplace health	http://www.emeraldinsight.com/products/journals/journals.htm?id=ijwhm
National Institute for Health and Clinical Excellence	UK	Workplace risk-factor specific guidance, quick reference guides and evidence review	http://www.nice.org.uk/search/guidancesearchresults.jsp?keywords=workplace&searchSite=on&searchType=All&newSearch=1
Partnership for Prevention	US	Case studies, toolkits, guidelines	http://www.prevent.org/Topics/Worksite-Health.aspx
URAC	US, EU, UK	Workplace wellness awards and accreditation	http://www.urac.org/employers/resources/
Wellness Africa	South Africa	Private consultants who create customised workplace wellness programmes	http://wellnessafrica.com/
Wellness Council of America	US	Reports, case studies, interviews	http://www.welcoa.org/freeresources/

Annex B: Elements of workplace health programmes

Tables B1, B2 and B3 are drawn from the US Partnership for Prevention's *Healthy Workforce and Beyond Report* (pp. 43, 45 and 46): www.prevent.org/downloadStart.aspx?id=18.

Table B1: Elements of a physical activity programme

Programme elements	Minimum steps	Moderate steps	Comprehensive steps
Health education	Provide HRAs [health risk assessments] every 12 months, information and resources for healthy behavioural change, and medical self-care resources Locate and promote appropriate resources and support for physical activity	Provide targeted risk interventions Provide workshops on the benefits of activity and exercise	Provide health coaching (e.g. person-to-person, telephonic, online)
Supportive social and physical environments	Open a conference room for after-hours exercise classes; negotiate health-club discounts, promote walking trails, stairwell programmes	Provide showers and flexible work hours to allow for exercise, subsidised gym memberships, healthy selections in vending machines and company functions	Create and sponsor employee athletic teams and activities; provide monetary incentives for achieving fitness goals (e.g. HSA contribution)
Integration of the worksite programme	Involve a diverse group of employees in a broad planning effort to create ownership of the programme (e.g. a Human Capital Team (HCT), wellness ambassadors).	Match the goals of the worksite program with the mission statement of your organisation	Using senior management support, develop and use a health scorecard that is integrated and aligned with business goals
Linkage to related programmes • work-related injury/death • health insurance • preventive services	Provide easy-to-access information about local programmes and opportunities for physical fitness; integrate physical activity messages into safety meetings	Provide custom publications pertaining to benefits of physical activity and maintaining a healthy weight and diet, job safety, and preventive services	Establish a Human Capital Team (e.g. wellness, benefits, EAP) for strategic health-promotion planning.
Screening programmes	Include physical activity level questions within HRA questionnaires	Provide fitness self-test guidelines (e.g. flexibility, strength, aerobic capacity) within company communications.	Provide physical-fitness assessments such as body-fat percentage, flexibility, muscle strength and aerobic fitness through certified personnel

Table B2: Elements of a weight-control programme

Programme elements	Minimum steps	Moderate steps	Comprehensive steps
Health education	Provide HRAs every 12 months, information and resources for healthy behavioural change, and medical self-care resources Provide information and resources on healthy eating, regular physical activity, and weight control Locate and promote appropriate resources and support related to being overweight/obese	Provide a targeted weight control programme (e.g. printed, online) Subsidise membership fees for approved programmes such as Weight Watchers® Provide periodic communications on the association between excess body weight and common health risks such as diabetes, heart disease, and hypertension	Based on HRA results, triage individuals to one-on-one health coaching (e.g. person-to-person, telephonic, online) Provide periodic workshops on preparing healthy meals, brown bags, and eating on the road
Supportive social and physical environments	Provide healthy food options in vending machines Provide healthy food options during company meetings and outside functions Encourage daily physical activity through pedometer programs, walking trails, and encouraging stairwell programmes	Encourage regular physical activity, by providing showers and/or subsidised gym memberships Promote company-wide weight reduction contests with appropriate health education on safe weight-reduction practices Highlight success stories of employees within company communications	Provide nutritional information on all menu selections within company cafeterias Price less healthy food options higher in company cafeterias than healthier food selections Provide an in-house company fitness facility
Integration of the worksite program	Involve a diverse group of employees in a broad planning effort to create ownership of the programme	Match the goals of the weight-management/obesity programme with the mission statement of your organisation	With senior management support, develop and use a health scorecard that is integrated and aligned with business goals
Linkage to related programs • occupational health and safety • disease management • health benefits • Employee Assistance Program (EAP)	Cross-market related programmes and opportunities, and integrate messages (e.g. risks of obesity, back care) into safety meetings	Through EAP, promote stress management programmes that include self-screening and referral for depressive symptoms	Develop health benefit policies for medical interventions for the morbidly obese (e.g. gastric bypass, banding) Provide weight control options within disease management programmes (e.g. diabetes) Establish a Human Capital Team (e.g. wellness, benefits, EAP) for strategic health promotion planning
Screening programmes	Conduct periodic weigh-ins and BMI calculations with appropriate educational materials.	Provide the opportunity for employees to have body fat percentage measured by certified personnel. Provide interpretation session	Based on waist circumference (>40 inches for men and >35 inches for women), refer participants for further screening for metabolic syndrome

Table B3: Elements of a tobacco-control programme

Programme elements	Minimum steps	Moderate steps	Comprehensive steps
Health education	Provide HRAs every 12 months, information and resources for healthy behavioural change, and medical self-care resources Locate and promote tobacco-cessation resources and community support groups	Targeted risk interventions – printed, online and/or telephone-cessation aides Subsidise approved cessation programme(s). Provide tiered financial incentives for using cessation resources	Provide health/behaviour coaching (e.g. person-to-person, telephonic, online) Provide full pharmaceutical options
Supportive social and physical environments	Establish and communicate tobacco-free policies	Provide healthy snacking options to satisfy quitters' urges to eat; encourage employee-support groups for tobacco cessation Through company communications, highlight success stories of employees who have successfully quit	Provide space for/foster creation of after-hours employee support groups aimed at quitting tobacco use; create incentive programme for those interested in quitting (e.g. HSA contribution)
Integration of the worksite programme	Educate workforce on the impact of tobacco use on excess health-care costs and its impact on business goals.	Provide a periodic 'health scorecard' that tracks tobacco prevalence within your population.	Integrate tobacco cessation program with disease management interventions (e.g. asthma, chronic obstructive pulmonary disease and heart disease)
Linkage to related programmes • occupational health and safety • health benefits • employee assistance	Through safety or departmental meetings, promote tobacco cessation programmes. Provide easy-to-access information about tobacco use and increased risks with occupational hazards such as coal and textile dust. Use in safety meetings to provide concise awareness campaigns	Provide custom messages pertaining to the benefits of tobacco and drug/alcohol cessation Prohibit tobacco use within company vehicles	Through health benefit plan, waive or lower co-pays/co-insurance for approved pharmaceutical interventions and behavioural counselling Consider HSA contributions for non-smokers
Screening programmes	Incorporate screening question(s) pertaining to tobacco use in company communications	Encourage health plans to screen patients for tobacco use. Integrate 'chart reminders' within provider network to screen patients for tobacco use	Through benefit plan, reduce costs and access barriers to preventive screenings

Endnotes

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