



**An Roinn Sláinte**  
**Department of Health**

**FACTORS ORGANISATIONS SHOULD CONSIDER WHEN DEVELOPING  
HEALTHY WORKPLACES AND WORKPLACE WELLBEING  
PROGRAMMES**

A Department of Health Research Paper, 2018

Robert Murphy, Emma O'Donoghue and Claire Doyle, Research Services Unit, R&D  
and Health Analytics Division, Department of Health

The views in this report are those of the authors and not necessarily those of the  
Minister for Health, nor the Department of Health.

## TABLE OF CONTENTS

### ACKNOWLEDGEMENTS

### GLOSSARY

EXECUTIVE SUMMARY .....	i
1. INTRODUCTION .....	1
2. DEVELOPING HEALTHY WORKPLACES AND WORKPLACE HEALTH PROGRAMMES .....	6
3. INCREASING THE LIKELIHOOD OF SUCCESSFUL WORKPLACE HEALTH PROGRAMMES.....	17
4. BARRIERS TO AND FACILITATORS FOR WORKPLACE WELLBEING PROGRAMMES .....	21
5. DESIGN FEATURES TO INCREASE THE EFFECTIVENESS OF WELLBEING PROGRAMMES.....	22
REFERENCES.....	24
APPENDIX A: STEPS IN THE PROCESS – DETAILS OF INTERNATIONAL MODELS.....	26
APPENDIX B: EVIDENCE ON INTERVENTION FEATURES ASSOCIATED WITH INCREASED EFFECTIVENESS .....	40

### CITATION

Please cite this report as:

Murphy, R., O’Donoghue, E., & Doyle, C. (2018). *Factors organisations should consider when developing healthy workplaces and workplace wellbeing programmes*, Research Services Unit, Department of Health.

## ACKNOWLEDGEMENTS

The authors would like to thank the following for reviewing and commenting on the content of this report.

Mr Enda Campbell, Workplace Health Promotion, Irish Heart Foundation

Prof Anne Drummond, School of Public Health, University College Dublin (UCD)

Dr Birgit Greiner, School of Public Health, University College Cork (UCC)

Ms Adrienne Lynam, Staff Health & Wellbeing, Health Service Executive (HSE)

Dr Helen McAvoy and David Bergin, Institute of Public Health (IPH)

Ms Bidy O'Neill and Mr Conaire Fitzpatrick, Health and Wellbeing Programme, Department of Health

Dr Leonie Sherlock, Health Promotion Research Centre, NUI Galway (NUIG)

Ms Michelle Staunton, Chartered Institute of Personnel and Development (CIPD)

The authors bear sole responsibility for interpretations, analysis and for this publication.

## GLOSSARY

**Healthy workplace:** “A healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of the workplace by considering the following, based on identified needs: health and safety concerns in the physical work environment; health, safety and well-being concerns in the psychosocial work environment, including organization of work and workplace culture; personal health resources in the workplace; and ways of participating in the community to improve the health of workers, their families and other members of the community” (WHO, 2010).

**Workplace health programmes:** “Workplace health programmes are a coordinated and comprehensive set of health promotion and protection strategies implemented at the worksite which include programs, policies, benefits, environmental supports, and links to the surrounding community designed to encourage the health and safety of all employees” (CDC).

**Workplace wellbeing programmes:** Workplace wellbeing programmes are a subset of workplace health programmes and for the purpose of this review include health promotion and wellness programmes. These include single or dual focus interventions (e.g. physical activity, dietary behaviour and weight management; smoking and alcohol behaviours; stress, anxiety and depression) and multi-focus programmes. Multi-focus programmes are often referred to in the literature as workplace health promotion programmes, workplace or organisational wellness programmes. They involve a combination of physical activity, weight, nutrition and physical activity, stress management and anxiety/depression, and lifestyle interventions.

**Systematic reviews:** A systematic review is a review of literature that has a detailed and comprehensive plan and search strategy derived *a priori*. It is undertaken with the goal to reduce bias by identifying, appraising, and synthesizing all relevant studies on a particular topic (Uman, 2011).

**Meta-analyses:** A meta-analysis is a systematic review that synthesizes the data from several studies into a single quantitative estimate or summary effect size. Effect sizes measure the strength of the relationship between two variables, thereby providing information about the magnitude of the intervention effect (i.e., small, medium or large) (Uman, 2011).

**Effectiveness:** Effectiveness is concerned with whether an intervention achieves its objective. To measure effectiveness, the objective of an intervention is captured in a

quantified outcome indicator and an approximately designed methodology is used to determine if the intervention resulted in a change in the outcome indicator in the desired direction.

**Effect size:** Effect size is a way of quantifying the difference between two groups, e.g. workers who participated in a programme and workers who did not. It has many advantages over tests of statistical significance. Effect size emphasises the size of the difference between groups rather than confounding this with the sample size (number of people participating in the programmes) (Coe, 2002).

One of the most popular effect sizes is Cohen's  $d$  (Cohen, 1988). This is a measure of the difference between the means of the two groups being compared. The difference is divided by the standard deviation, which standardises the result so that we are told how many standard deviations the two groups are apart (Clark-Charter, 2003).

**Effect size and meta-analysis:** The different effect sizes from different primary studies can be converted to a common form. This is what is done in meta-analysis. Typically, other effect sizes are converted to either  $d$  or  $r$ . It is then possible to create a combined effect size that summarises the results of a number of studies (Clark-Charter, 2003).

**Effect size and classifications:** Cohen (1988) reports work he conducted to measure the effect sizes found by behavioural scientists using various designs and data. For each situation he described what he considered to be a small effect, a medium effect and a large effect. Regarding  $d$ , Cohen defined 0.2 (or just under a quarter of a standard deviation difference between the conditions) as a small effect size, 0.5 (or half a standard deviation) as a medium effect and 0.8 (or over three-quarters of a standard deviation) as a large effect size. Many researchers use this "classification" of small, medium and large when referring to the effect sizes found. Other researchers have argued that the term "small, medium and large" should be based on the context and nature of the intervention, i.e. in some cases an intervention with a  $d = 0.5$  can have substantial impacts in practice.

## EXECUTIVE SUMMARY

### Policy Context and Purpose of the Review

The Healthy Workplace Framework is an important component of the Government-led Healthy Ireland agenda, which “aims to create an Irish society where everyone can enjoy physical and mental health and wellbeing to their full potential, and where wellbeing is valued and supported at every level of society”.

Workplaces directly influence the physical, mental, economic and social wellbeing of workers and in turn, the health of their families, communities and society. With more than two million people employed in Ireland, the workplace offers an ideal setting and infrastructure to support the promotion of health to a large audience. A Healthy Workplace Framework across both public and private sectors aims to encourage and support the development of health and wellbeing programmes in all places of employment. This research paper is an input into the Framework.

A healthy workplace is “one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of the workplace” (WHO). A workplace health programme can help to achieve a healthy workplace and can be described as “a coordinated and comprehensive set of health promotion and protection strategies implemented at the worksite which include programs, policies, benefits, environmental supports, and links to the surrounding community designed to encourage the health and safety of all employees” (CDC). The first two questions in this review focus on the workplace as a whole:

1. What are the **steps in the process of developing healthy workplaces** identified by international good practice models or guides?
2. What **features or elements in the design of workplace health programmes** are reported by international models or quality criteria to increase the likelihood of success?

In addition to identifying factors that would support organisations to develop healthy workplaces, the Health & Wellbeing Programme in the Department of Health, for which this review was prepared, was interested in participative workplace interventions that workers could participate in for mental health, nutrition and/ or physical activity, smoking cessation and alcohol consumption. These can be referred to as workplace wellbeing programmes (a subset of workplace health programmes) and include health promotion and wellness programmes. These programmes were the focus of the final two questions in this review.

3. What are the documented **views of people with experience of workplace wellbeing programmes**?
4. What **features of workplace wellbeing programmes** are associated with increased effectiveness?

### **Steps in Developing Healthy Workplaces**

Based on a thematic review of six international models which set out the steps in the process of building and sustaining healthy workplaces, five common steps were identified:

1. Gaining and demonstrating support.
2. Assessing needs and objectives.
3. Planning and resourcing.
4. Implementing.
5. Evaluating and improving.

### **Features Likely to Increase the Success of Workplace Health Programmes**

A thematic analysis of guides for workplace health programmes identifies six themes reported to support success:

- Organisational leadership.
- Management, integration and co-ordination.
- Employee participation.
- Analysis of needs and motivations.
- Information and communication.
- Sustainability.

### **Views of People with Experience of Workplace Wellbeing Programmes**

In a review by Brunton et al. (2016) of ten studies reporting people's "views" of their experience of workplace health, the five most frequently cited barriers and facilitators are:

- acceptability,
- accessibility to the intervention,
- managerial support,
- tailored or individualised intervention,
- ease of delivery.

## Features Associated with Increased Effectiveness of Workplace Wellbeing Programmes

This report looked for differences in estimated pooled effects of interventions by intervention feature (moderator analysis) across 19 reviews. It found that while many features are examined, in most cases it is difficult to identify a consistent pattern from the available evidence. Nevertheless, there seems to be some support for increased intervention effects for:

- Physical activity interventions which target one intervention; are based in theory; use individual rather than group delivery; involve supervision; have higher intensity of physical activity.
- Physical activity and/or nutrition interventions with scheduled sessions; with behavioural counselling.
- Occupational stress management interventions, and stress reduction interventions that are individual focused; include cognitive behavioural interventions,
- Workplace health promotion programmes with at least weekly contact.

However, caution is required in interpreting the above given the more limited amount of evidence, and also the need for the above to be viewed in context.



## 1. INTRODUCTION

### 1.1 Background and Policy Rationale

The Healthy Workplace Framework is an important component of the Government-led Healthy Ireland agenda, which “aims to create an Irish society where everyone can enjoy physical and mental health and wellbeing to their full potential, and where wellbeing is valued and supported at every level of society”.

Workplaces directly influence the physical, mental, economic and social wellbeing of workers and in turn, the health of their families, communities and society. According to the World Health Organisation (WHO), workplace health programmes are one of the best ways to prevent and control chronic disease, and also to support mental health. With more than two million people employed in Ireland, the workplace offers an ideal setting and infrastructure to support the promotion of health to a large audience.

A Healthy Workplace Framework across both public and private sectors aims to encourage and support the development of health and wellbeing programmes in all places of employment. Key elements in the development of a Healthy Workplace Framework include a number of literature reviews, a policy landscape paper, a consultation, building capacity, development of an accreditation model, and development of resources. This research paper is an input into the Framework.

#### Purpose and Scope

The focus of this review is “What factors should be considered by organisations when developing healthy workplaces and when considering the development or expansion of workplace wellbeing programmes?” The review broke down the main question into four more specific questions:

1. What are the **steps in the process of developing healthy workplaces** identified by international good practice models or guides?
2. What **features or elements in the design of workplace health programmes** are reported by international models or quality criteria (hereafter “guides”) to increase the likelihood of success?
3. What are the documented **views of people with experience of workplace wellbeing programmes**?

4. What **features of workplace wellbeing programmes** are associated with increased effectiveness?

The first two questions focus on the workplace as a whole. Literature in this area refers to concepts of a “healthy workplace” and “workplace health programmes”. The WHO (2010, p. 6) notes:

“A healthy workplace is one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of the workplace by considering the following, based on identified needs:

- health and safety concerns in the physical work environment;
- health, safety and well-being concerns in the psychosocial work environment, including organization of work and workplace culture;
- personal health resources in the workplace; and
- ways of participating in the community to improve the health of workers, their families and other members of the community.”

The CDC notes “Workplace health programs are a coordinated and comprehensive set of health promotion and protection strategies implemented at the worksite that includes programs, policies, benefits, environmental supports, and links to the surrounding community designed to encourage the health and safety of all employees.”

The third and fourth questions focus on workplace wellbeing programmes. Workplace wellbeing programmes are a subset of workplace health programmes and for the purpose of this review include health promotion and wellness programmes. These include single or dual focus interventions (e.g. physical activity, dietary behaviour and weight management; smoking and alcohol behaviours; stress, anxiety and depression) and multi-focus programmes. Multi-focus programmes are often referred to in the literature as workplace health promotion programmes, workplace or organisational wellness programmes. They involve a combination of physical activity, weight, nutrition and physical activity, stress management and anxiety/depression, and lifestyle interventions.

### **Method and Limitations**

The methodology was tailored to the questions and the timeframe available. Most of the searches were undertaken in Q2 2016. More details on the methodology and approach are provided below.

## Healthy workplaces and workplace health programmes (Questions 1 and 2)

### **Search terms**

Terms included “employ\* or work\*” and “model or strat\* or framework or guide”.

### **Data sources**

A keyword search of the peer-reviewed database PubMed and of Google and Google Scholar was undertaken. Websites of organisations (Table 1.1) were also searched.

**Table 1-1: Key organisations searched for models and guides**

World Health Organisation (WHO)
Centers for Disease Control and Prevention (CDC)
National Institute for Occupational Safety and Health (NIOSH)
Organisation for Economic Co-operation and Development (OECD)
European Foundation for the Improvement of Living and Working Conditions (EuroFound)
International Labour Organization (ILO)
European Agency for Safety and Health at Work (EU-OSHA)
National Institute for Health and Care Excellence (NICE)
Chartered Institute of Personnel and Development (CIPD)
Institute for Employment Studies (IES)
European Observatory on Health Systems and Policies
The Commonwealth Fund

### **Inclusion criteria**

Documents were included once they were models, guidelines or quality criteria that focused on healthy workplaces as a whole - not just health promotion (HP) or occupational safety and health (OSH) - and included explicit steps on developing healthy workplaces.

### **Exclusion criteria**

Outside the scope were documents that

- relate to specific forms of interventions (e.g. the NICE guidelines *Smoking: workplace interventions*, 2007 and *Physical activity in the workplace*, 2008), to specific practices (e.g. NICE guidelines *Workplace health: management practices*, 2015), or to specific aspects of health (e.g. NICE guidelines *Mental wellbeing at work*, 2009),

- specifically relate to how to integrate health promotion with occupational safety and health (e.g. the ILO's *SOLVE: Integrating Health Promotion into Workplace OSH Policies*, 2012),
- relate to health in the workplace more broadly (e.g., the ILO's *Improving health in the workplace: ILO's framework for action*, 2014 and the CIPD document *Growing the health and well-being agenda: From first steps to full potential*, 2016).

### ***Data extraction and synthesis***

The reports were summarised by one author and the summaries were reviewed by another author. A thematic synthesis was then produced for Questions 1 and 2.

### ***Assessment of quality***

The reports used to answer Questions 1 and 2 were not subject to quality assessment, but all of the reports are from recognised models/guides.

### **Workplace wellbeing programmes (Questions 3 and 4)**

#### ***Search terms, data sources, inclusion criteria, exclusion criteria***

A sister review to this report - Murphy, R., O'Donoghue, E., Doyle, C. & Taaffe, C. (2018) - examines over 60 meta-analyses and systematic reviews on the effect of workplace health promotion and wellbeing interventions. These reports were used to answer Questions 3 and 4, and the above report details the search terms, data sources and inclusion and exclusion criteria.

A review of the 60 plus reports above showed that 17 reports included estimated pooled effects of interventions and examined for differences in effect by intervention feature (moderator or subgroup analysis). These were used to answer Question 4.

### ***Assessment of quality***

The answer to Question 3 was based on the synthesis of studies reporting people's views on workplace health from Brunton et al. (2016). With regard to quality appraisal of views studies, the authors note:

"Judgements about study quality were based on the reliability, relevance and usefulness of the findings contained in each study. . . Overall, study quality varied across all three dimensions. Of the three studies judged to be of high reliability, two were also judged to be

of high relevance and usefulness and one was judged to be of medium relevance and high usefulness. Six studies were judged to have medium reliability; two of these provided highly relevant and useful findings, three medium relevant and useful findings and one study was judged as highly relevant with medium useful findings. Only one study was judged to be of low reliability but contributed findings judged to be of medium relevance and usefulness.”

By selecting only systematic reviews and meta-analyses for Question 4, this report had an element of implied quality assurance. This review did not explicitly undertake an assessment of the quality of meta-analyses and systematic reviews examined. A recent review of systematic reviews and meta-analyses by Brunton et al. (2016) examined many of the reviews covered in this report, assessed their quality using the ‘AMSTAR’ rating system, and concluded: “Overall, the reviews of effectiveness were of moderate to high methodological quality.”

### Limitations

With regard to Questions 1 and 2, it is important to note the models reviewed were produced before new methods for designing behaviour change interventions (e.g. Michie et al., 2011, 2013) had been developed. With regard to Question 4, key limitations include the fact that most of the systematic reviews and meta-analyses were restricted to English-language publications, that there is a risk of publication bias in the individual studies reviewed, and that this review does not explicitly quality appraise the studies covered. In addition, heterogeneity of reporting of interventions was a factor hindering the meaningful reporting and analysis of intervention features.

### Review

This report was subject to internal and external review as follows (a) by colleagues in the Research Services Unit, Department of Health not involved in the production of the review and (b) by professionals working in the area of workplace health promotion and wellbeing (listed in the acknowledgements at the end of this report).

## 2. DEVELOPING HEALTHY WORKPLACES AND WORKPLACE HEALTH PROGRAMMES

This review identified six documents which set out the steps in the process of building and sustaining healthy workplaces and workplace health programmes. The number of steps involved varies by model, and ranges from three to eight.<sup>1</sup> These models are presented in Figure 2.1, and Appendix A summarises the steps in each model.

From an examination of the six models, this review identified five common steps, namely:

1. Gaining and demonstrating support.
2. Assessing needs and objectives.
3. Planning and resourcing.
4. Implementing.
5. Evaluating and improving.

---

<sup>1</sup> The focus in this Chapter is on models, guidelines or quality criteria that cover healthy workplaces and health programmes or initiatives. Outside the scope of this section are documents that relate to specific forms of interventions, practices or aspects of health; documents that do not include explicit steps; and documents that specifically relate to how to integrate health promotion with occupational safety and health. More details are provided in Chapter 1.

**Figure 2-1: Steps in the process of international models for developing healthy workplaces and workplace health programmes**

	Author(s)	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
1.	<b>WHO Healthy Workplace Model</b>	Mobilize	Assemble	Assess	Prioritize	Plan	Do	Evaluate	Improve
2.	<b>CDC Workplace Health Model</b>	Assessment	Planning and management	Implementation	Evaluation				
3.	<b>NIOSH The Essential Elements of Effective Workplace Programs and Policies for Improving Worker Health and Wellbeing</b>	Organizational Culture and Leadership	Program Design	Program Implementation and Resources	Program Evaluation				
4.	<b>WRC, Tools and techniques to support promoting health activity at work manual</b>	Getting started	Identifying needs and problems	Organising solutions and planning health programme	Implementation	Evaluation and consolidation			
5.	<b>Australian D. of Health, Healthy Workers Initiative</b>	Gain support from management	Engage your employees	Assess your needs	Choose health issues you would like to include	Plan and deliver your program			
6.	<b>PWC's Framework</b>	Plan	Execute	Manage					

## 1. Gaining and demonstrating support

The first step involves *gaining* and *demonstrating support* within the organisation. The WHO (2010) notes it is important to “Mobilize and gain support from major stakeholders and key opinion makers in the enterprise before beginning” and that “Evidence of this commitment is development and adoption of a comprehensive policy signed by the highest authority in the enterprise and communicated to all workers, and the engagement of key leaders in mobilizing resources for change.” NIOSH notes “The connection of workforce health to the core values and products of the enterprise should be acknowledged and communicated by leaders and perhaps incorporated into the business plan.”

Australia’s Healthy Workers Initiative makes the point that gaining and demonstrating support can be done via a manager who makes things happen: “It is important to identify a manager or team leader who is willing to make things happen, or lead by example.” It states that “A more detailed approach would require proponents of a program to: build a strong business case for the program; describe why the program would be of benefit to the workplace (e.g. ROI, worker loyalty, reduced absenteeism and presenteeism, reduced costs); outline the program and its goals; use case studies to highlight successes in other workplaces.”

The models provide a number of reasons for undertaking this step:

“If permission, resources or support are required from a senior manager, it’s important to get that commitment and buy-in before trying to proceed” (WHO Healthy Workplace Model).

“It is particularly important to engage mid-level managers as they are the direct link between workers and upper management and will determine if the program succeeds or fails” (NIOSH The Essential Elements of Effective Workplace Programs).

“This stage is very important, as it sets the scope of the health improvement programme, establishes the structures to run the programme and integrates the programme with existing organisational policies, practices and structures” (WRC Tools and Techniques Manual).

“There is evidence that the most successful programs are those that have widespread support from the CEO or senior management team” (Australian Healthy Workers Initiative).



## 2. Assessing needs and objectives

This step can be summarised as describing “what kinds of information can be gathered, how to analyse the information and how it can be used as a basis for programming of health actions” (WRC Tools and Techniques Manual).

The models stress that it is important to assess both the *current* situation and the *desired future* state, and to do this in relation to both individual health and organisational factors.

“Assess both the *present situation* for the workers and the *desired future* conditions and outcomes for the enterprise and workers . . . Review *current policies and practices* related to the four avenues of influence” (WHO Healthy Workplace Model).

“This should capture the factors that influence employee health, including lifestyle choices, the work environment and organizational factors (culture, policies and practices)” (CDC Workplace Health Model).

“Needs assessment might include both what your workplace is like now, and the conditions and outcomes that the workplace health promotion program hopes to achieve” (WRC Tools and Techniques Manual).

“A service review of current wellness initiatives should be carried out, with a gap analysis to compare current services against identified needs . . . Gap analyses should also include a financial review, with resources utilised by individual service offerings clearly delineated” (PWC’s Framework).

The models also offer guidance on how assessment of need can be undertaken:

“baseline data should be collected on employee demographics, sickness and injury data, workplace related injuries and illnesses, short-term and long-term disability, turnover, union grievances and concerns that have arisen from workplace inspections. . .

There should also be a review of the current health status of the workers through a survey, health-risk assessment or checklist; these should incorporate questions about the organizational culture, workplace stress etc. . . .

As regards aspirations for the future, a benchmarking exercise should be undertaken to determine how similar businesses are doing and to determine good practice” (WHO Healthy Workplace Model).

“Assessment of the present situation might include employee illness/injury data; employee turnover data; a comprehensive assessment of how your workplace conditions (both physical and social) impact on employees’ health; the current health of employees through the collection of confidential survey data; the working environment; employee health concerns and issues; what sort of health programs employees consider valuable” (Australian Healthy Workers Initiative).

While some models, such as the WHO model above, describe quite a formal approach, others stress that an informal approach can be taken too, or that the assessment of needs should not take too long:

“The assessment can be done informally (e.g. through conversations or a call for opinions) or formally (e.g. through a survey or environmental audit)” (CDC Workplace Health Model).

“It [needs assessment] can be undertaken in a variety of ways and need not be resource intensive” (PWC’s Framework).

A key reason for assessing needs is to develop objectives that are tailored to the specific workers and organisation. This is clear across a number of models: “Workplace health programs need to be tailored to the specific employee population” (CDC), “can be used as a basis for programming of health actions” (WRC Tools and Techniques Manual), and “to determine the scope, content and approach to wellness initiatives” (PWC).

### **3. Planning and resourcing**

The models stress the importance of careful planning before implementation: “A careful planning stage should precede implementation of the program” (CDC). Setting of priorities as a central part of planning is a common theme across models:

“Once significant issues have been identified through the assessment, prioritise program and policy interventions” (WHO Healthy Workplace Model).

“Clear principles should be established to focus program priorities from the outset” (NIOSH The Essential Elements of Effective Workplace Programs).

“Once priorities are established, develop an action plan for the workplace that includes both longer and short term plans” (Australian Healthy Workers Initiative).

“Companies should clearly understand their priorities around wellness and have an understanding of their organisational risks in relation to their wellness agenda” (PWC’s Framework).

The WHO model also provides guidance on factors to consider when setting priorities: “In setting priorities, opinions and preferences of workplace parties should be taken into consideration, as should the urgency of an intervention in the context of Maslow’s hierarchy of needs. Also to be taken into account are ‘quick wins’ (how easy it would be to implement a solution to the problem) that might motivate and encourage continued progress, and the relative cost of the problem if it is ignored.” The Australian Workers Initiative recommends involving “both management and employees from all levels of the organisation in identifying priority health issues through meetings, emails or suggestion boxes.”

Development of an action plan is a common output from the planning stage. Two of the models provide considerable detail on what can be included in action plans, see Figure 2.2.

**Figure 2.2: Details on possible contents of action plans**

*WHO Healthy Workplace Model*

In larger enterprises, this would be a 3-5 year plan setting out the general activities to address the priority problems, with broad timeframes. If senior management sign-off is required, then the rationale and supporting data for each recommendation should be included. Details of actual interventions need not yet be included in the overall plan. Subsequently, an annual plan should be developed. When considering solutions to priority problems, consider all four of the “avenues of influence”, then develop specific programme or policy action plans for the first annual plan. This is where detail is provided for each intervention to be implemented, and would include the required budget, facilities and resources, as well as planning for a launch, marketing and promotion of the intervention or policy. A maintenance plan for 3-5 years and an evaluation plan with measurable goals and objectives for each initiative should also be included. (Note that a plan developed for a SME would probably be much simpler.)

*Australian Healthy Workers Initiative*

The action plan should include: goals that state the overall desired outcome for the workplace; objectives that state what should be done to achieve the goals; how, when and where the program will operate; what activities the program will undertake; how risks will be assessed and managed; who will be responsible for various aspects of the program; what resources are available, both in-house and external, including possible government assistance; ideas for how the program can be marketed and promoted amongst employees; considerations for longer term sustainability; what indicators you will use to measure the success of your program.

Developing a list of issues to target, and list of actions to address these as part of the action plan, is a common theme.

“A truly successful program is one whose components are carefully selected, implemented efficiently, and is suited to the employee population” (CDC Workplace Health Model).

“As part of this phase the health programme plan which details the activities selected for implementation is drawn up and a timetable which proposes a scheduling for the activities is also produced” (WRC Tools and Techniques Manual).

“Create a list of health issues to target from those that have been identified in your assessment step” (Australian D. of Health, Healthy Workers Initiative).

As part of the development of the action plan, the NIOSH The Essential Elements of Effective Workplace Programs recommends integrating systems, employee participation and a number of other factors:

“Relevant systems should be integrated, so program design requires an initial inventory of existing health and wellbeing programs and policies and a determination of their potential connections.”

“Employee participation should be promoted i.e. employees should be engaged actively to identify relevant health and safety issues and contribute to program design and implementation.”

“Further points to consider in designing programs are: tailoring the program to the specific workplace; using incentives and rewards; adjusting the program as needed; designing programs with a long-term outlook to assure sustainability; designing programs with sufficient flexibility; and aligning programs to the core product/values of the enterprise. Finally, confidentiality should be ensured.”

A key part of planning is allocating necessary resources to realise the plans. NIOSH identifies the need to “Allocate sufficient resources, including staff, space and time”; the WHO refers to assembling “a Healthy Workplace Team who will work on implementing change in the workplace”; and the CDC refers to the fact that “The overall program requires a basic governance structure or infrastructure to administer and manage health promotion activities which can be initiated during the planning phase.” A list of strategies is presented in Figure 2.3.

**Figure 2.3: Organizational strategies to operationalize the programme elements: CDC**

- Dedicating senior leadership support to serve as a role model and champion.
- Identifying a workplace health coordinator, council or committee to oversee the program.
- Developing a workplace health improvement plan with sufficient resources to articulate and execute goals and strategies.
- Communicating clearly and consistently with all employees.
- Establishing workplace health informatics to collect and use data for planning and evaluation.

#### **4. Implementing**

This step involves implementing the plans and actions developed at step 3: “at this stage it is just a matter of implementing the action plans” (WHO) and “This phase is concerned . . . with the implementation of these health activities” (WRC Tools and Techniques Manual). The models’ advice on how best to implement programmes is summarised in Figure 2.4. Common across models is the importance of involvement of workers and effective ongoing communication.

**Figure 2.4: Implementing programmes**

##### *Involvement of workers*

It is critical to involve workers and their representatives at this stage, and desirable that management should also demonstrate their support and commitment for specific programmes or policies (WHO).

Engaging employees: Incentives (including direct financial incentives) and social marketing are useful techniques for encouraging employees to engage in wellness. Where programme design and employee need are closely matched, or where there is a clear alliance of wellness and company culture and strategy, incentives may not be necessary (PWC).

##### *Effective communication*

Effective and strategic communication is essential: messages should be tailored to the group or individual and should consistently reflect the values and direction of the programs. Communicate regularly but also have a long-term communication strategy. Regular updates to management and workers should be provided, and visibility should be maintained at the highest level through data-driven reports that allow linkage to program resource allocations

(NIOSH).

Continued communication: Communicating consistent and honest messages to employees is important. Employees also need to see action on and results from wellness initiatives from the very outset. Communicating how the programme is contributing to the mission of the company and its goals is critical. . . Establishing a dedicated team of people or wellness champions is useful as it is an opportunity to provide on-going, personalised messages to employees (PWC).

#### *Other*

Phased implementation, or starting small and scaling up is advisable (NIOSH).

Be willing to abandon pilot projects that fail (NIOSH).

Accountability and rewards for success should also be built into the program (NIOSH).

## **5. Evaluating and improving**

All of the models stress the importance of evaluation. Evaluation should focus on both the *process of the implementation and the outcomes*, and there should be short-term and long-term outcome evaluations (WHO). It should include *individual initiatives and the overall programme*. In addition to evaluating specific initiatives, it is important to evaluate the overall success of the HWP after 3-5 years or after a significant change (WHO), and worksites should plan to evaluate the programs, policies, benefits, or environmental supports implemented (CDC).

The evaluation should *focus on questions* that are relevant, and useful to those who will use the findings (CDC). Part of the evaluation should involve analysis of objectives based on relevant *measurements* (NIOSH). Full financial assessment requires identification and collation of all costs and benefits. (PWC)

The models stress that the evaluation should be *used to modify programmes* based on results you have measured and analysed (NIOSH). The evaluation process should feed into a continuous quality improvement loop to improve and strengthen existing activities; identify potential gaps in current offerings; and describe the efficiency and effectiveness of the resources invested (CDC).

Following commencement of this review, Brunton et al. (2016) published a review of workplace health programmes. The review included 17 reports the authors refer to as “policy documents” and most of which contained recommendations relating to development of workplace health strategies. The documents examined by Brunton et al. (2016) were relatively varied:

- some documents took the form of checklists for accreditation purposes, e.g. The Workplace Wellbeing Charter;
- others contained advice about specific types of wellbeing strategies, e.g. the NICE guidance on mental and physical wellbeing policies;
- and others promoted wellbeing at work more generally, e.g. the Vitality Institute’s Investing in Prevention: A National Imperative.

The scope of Brunton et al’s review was therefore broader than that of this report. Nevertheless, it is instructive to present its findings on recommendations made in relation to project management, health activities, and evidence and evaluation – see Table 2.1.

**Table 2-1: Table Recommendations to organisations: top five by topic<sup>1</sup>**

<b>Item</b>	<b>(n=17)</b>
<b><i>Project management</i></b>	
Engage senior management	14
Encourage employee involvement in wellbeing strategy development	10
Develop action plan/check list	9
Embed programmes in organisational strategies	7
Publicise programme	7
<b><i>Health activities</i></b>	
Employee incentives	6
Publicise services offered by local health services	5
Provide health advice and guidance	5
Tailor the support to individual needs	4
Refer to specialist services	4
<b><i>Evidence and evaluation</i></b>	
Evaluate the programme	10
Invest in evidence-based interventions	7
Measure and report outcomes	3
Adjust the programme in the light of the evaluation	3
Corporate reporting	3
1. The numbers refer to studies, and the total number of studies is 17.	
<b>Source: Brunton et al. (2016)</b>	

Brunton et al. (2016) report that “Only five [of the policy] documents discussed the barriers to workplace health promotion. To help organisations overcome barriers, each has a corresponding recommendation in the policy documents; for example, most of the texts emphasised the endorsement of senior management at the early stage of planning.” These barriers are presented in Table 2.2.

**Table 2-2: Barriers to workplace health promotion<sup>1</sup>**

<b>Item</b>	<b>(n=5)</b>
<b><i>Planning stage</i></b>	
Lack of senior management engagement	3
Lack of business case	3
Not integral to the organisations’ vision and strategy	2
Lack of employee interest	1
Underdeveloped action plan	1
<b><i>Evaluation stage</i></b>	
Failure to evaluate adequately	2
Difficulties in measurement	1
<b><i>Implementation stage</i></b>	
Lack of resources	4
Lack of effective communication	1
Unrealistic time frames	1
Attempting to implement too many strategies	1
Lack of relevant knowledge and experience	1
1. The numbers refer to studies, and the total number of studies is 5.	
<b>Source: Brunton et al. (2016)</b>	



### 3. INCREASING THE LIKELIHOOD OF SUCCESSFUL WORKPLACE HEALTH PROGRAMMES

It could be argued that by following the steps outlined in the previous chapter, an organisation may increase its chances of sustaining successful workplace health programmes. Three guides report features of workplace health programmes that are likely to increase success.<sup>2</sup> In two cases, these features are presented in addition to key steps in the process of developing programmes: in the WHO model they are referred to as “underlying principles of a healthy workplace initiative that will raise its likelihood of success” (WHO, 2010), while the PWC framework refers to them as enablers: “it is critical that an organisation ensures certain enablers are in place before implementing a wellness programme.” (PWC, 2008). In another case, the features are presented in a document discussing “quality criteria for good workplace health promotion practice” (ENWHP).

The key features in these guides are presented in Figure 3.1. Across the literature, this review identifies six key themes reported to support increased likelihood of success. These are listed below and summarised later.

- Organisational leadership.
- Management, integration and co-ordination.
- Employee participation.
- Analysis of needs and motivations.
- Information and communication.
- Sustainability.

---

<sup>2</sup> The focus is exclusively on documents that passed the inclusion and exclusion criteria for Chapter 2.

**Figure 3-1: Features reported in guides to increase the likelihood of programme success**

Healthy workplaces a model for action, WHO (2010)	Quality criteria of workplace health promotion, ENWHP	Building the case for wellness, PWC (2008)
<p>“While all enterprises have different needs and situations, there are some key underlying principles of a healthy workplace initiative that will raise its likelihood of success.”</p>	<p>“The members of the network developed corresponding guidelines for effective WHP, which led to the quality criteria on hand. . . All companies of course are different, facing different needs and requirements. However, these guidelines can help to determine how well an organization is performing when tested to the individual criteria and can provide a comprehensive outline for the creation of a modern corporate health policy.”</p>	<p>“In order for wellness programmes to be effective, they need to focus on both improving the health and wellbeing of employees and on organisational change and development. As many large scale initiatives fail without the appropriate supports, it is critical that an organisation ensures certain enablers are in place before implementing a wellness programme.”</p>
<p>1. Leadership engagement based on core values.</p>	<p>1.WHP should be a management responsibility with:                      - support and integration of management and executive staff                      - integration in company policy                      - provision of sufficient financial and material resources.</p>	<p>1. Leadership goes beyond endorsement of programmes and involves active and visible participation of senior management in wellness programmes.</p>
<p>2. Involve workers and their representatives.</p>	<p>2. Employee participation in planning and implementation of the WHP measures.</p>	<p>2. Create a culture of wellness that aligns wellness with a business’ overall goals and missions.</p>
<p>3. Gap analysis: dealing with the gap between "what the situation is now" as compared to ideal conditions.</p>	<p>3. WHP should be based on a comprehensive understanding of health.</p>	<p>3. Create effective communication channels that ensure employees are consulted and continually informed of wellness initiatives.</p>
<p>4. Learn from others.</p>	<p>4. WHP should be based on accurate analysis and continually improved.</p>	
<p>5. Sustainability: ensuring healthy workplace initiatives are integrated into business plans along with evaluation and continuous improvement is key.</p>	<p>5. WHP should be professionally coordinated and information should be made available regularly to all the staff.</p>	
<p>6. The importance of integration across the organisation</p>	<p>6. The benefits of WHP are evaluated and quantified on the basis of specific indicators.</p>	

**Organisational leadership:** Two of the three documents (WHO, PWC) mention organisational leadership. It is argued that in order to increase programme effectiveness, it is important to engage senior leaders at the earliest stage and to promote active leadership in the programmes. It is then important to gain and mobilise commitment, and to demonstrate senior management commitment through a signed policy and ideally also through active and visible participation. The importance of obtaining permission, resources and supports from relevant leaders such as owners, managers, union leaders, and informal leaders is stressed.

**Management, integration and co-ordination:** All three documents highlight this theme. It is argued that programme effectiveness is increased when the programme is not stand-alone but instead is part of organisational culture (e.g. regularly monitored at board level, part of company's overall mission statement, and supported by physical environment) and seen as a management responsibility.

It is noted that programmes are likely to be more successful when the organisation focuses on the human and not just the financial side of performance, where performance management systems include behaviour standards as well as output targets, and the organisation considers the various components of a healthy workplace when a problem arises.

Co-ordination of staff with different objectives (e.g. health and safety personnel, wellness professionals, human resource professionals and the management team) is stressed and it is suggested that programmes are more likely to be more effective when wellness is professionally coordinated and when the use of cross functional and multi-disciplinary teams is encouraged.

**Employee participation:** All three documents mention employee participation and stress the benefits of involving employees in a meaningful way in every step of the process. This entails involvement at each stage, from programme planning (e.g. needs assessment, and design) to implementation, communication activities and evaluation.

**Analysis of needs and motivations:** All three documents highlight the benefit of basing programme activities on an accurate analysis of employee needs and motivations. It is noted that programmes are likely to be more effective when grounded in a comprehensive understanding of health, and an accurate analysis of the current situation and of desired outcomes. The benefit of learning from others (e.g. from other organisations with programmes, or from experts in the subject area) is also stressed.

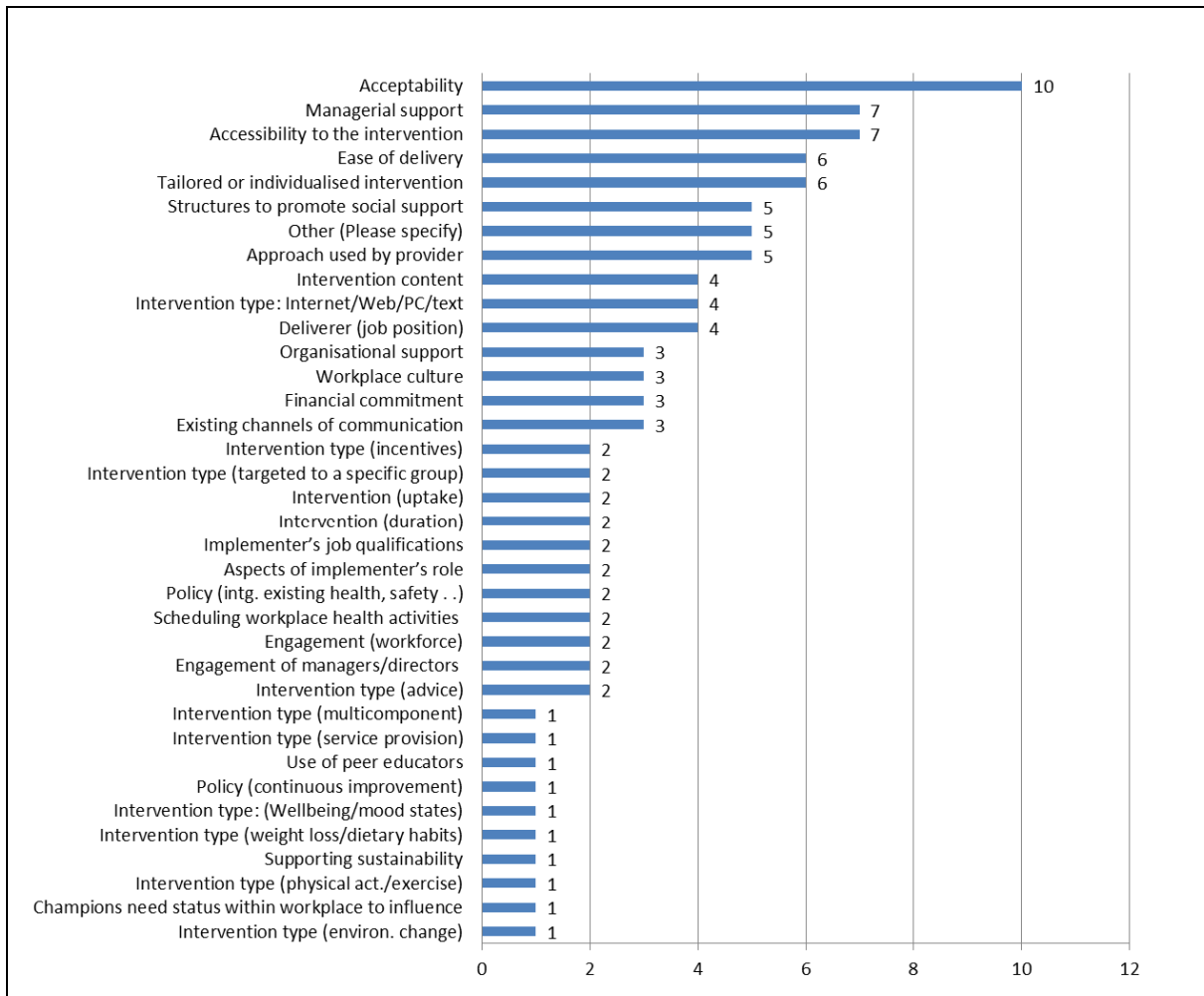
**Information and communication:** Two of the three documents (ENWHP, PWC) stress the importance of information and communication channels for programmes. It is argued that programmes have a higher chance of success if information is made available to all staff, and if staff are continually informed of the progress and outcomes of programmes; a continuous support or communication channel (e.g. a health advisor, wellness champion) can help to achieve this.

**Sustainability:** The importance of sustainability is mentioned in all three documents, either directly (WHO) or indirectly (ENWHP, PWC). Three aspects are mentioned relevant to supporting sustainability, namely: integration of wellbeing/health promotion into an organisation's culture and policies, evaluating and quantifying (on the basis of specific indicators) the benefits of wellness programmes, and continuous improvement of programmes.

#### 4. BARRIERS TO AND FACILITATORS FOR WORKPLACE WELLBEING PROGRAMMES

Brunton et al. (2016) reviewed ten studies containing people’s “views” of their experience of workplace health promotion. The studies reviewed by Brunton et al. are all within the scope of this report. Across the 10 studies, Brunton et al. identified a total of 36 barriers to and facilitators of workplace health interventions and these are presented in Figure 4.1.

**Figure 4-1: People’s views on barriers to & facilitators for employer-led workplace health<sup>1</sup>**



1. The numbers refer to studies, and the total number of studies is 10.

Source: Adapted from Brunton et al. (2016)

## 5. DESIGN FEATURES TO INCREASE THE EFFECTIVENESS OF WELLBEING PROGRAMMES

The focus of this chapter is wellbeing interventions delivered within organisations as opposed to overall workplace health programmes or strategies. Therefore, while the focus of Chapters 3 and 4 was on organisational factors (steps in the process of developing programmes, and features of programmes likely to increase success), the focus of this chapter is somewhat more “micro” as it deals with individual interventions for workplace health promotion or organisational/work wellness.

A sister review to this report - Murphy, R., O’Donogue, E., Doyle, C. & Taaffe, C. (2018) - examines over 60 meta-analyses and systematic reviews on the effect of workplace health promotion and wellbeing interventions. Of these, 17 reviews included estimated pooled effects of interventions and examined differences in effect by intervention feature (moderator or subgroup analysis). Table 5.1 list the intervention features examined.

**Table 5-1: Sub-group or intervention features examined in reviews**

Counselling component	Intervention delivery
Educational component	Intervention duration
Exercise component	Intervention Type
Frequency of contact	Length of treatment
Group Size	One component interventions
Homework	Relaxation component
In-class hours	Remedial programs
Individual intervention	Targeted Programs

Having examined the evidence (see Appendix B), this review concludes that it is difficult to identify patterns. The ability to do so is limited by the fact that in most cases the extent to which a particular intervention feature is associated with increased effect size is not examined in more than one review. In addition, in many cases there is an inconsistency in results across different metrics of an increase in effectiveness. For example, a feature of a physical activity intervention might be associated with greater effect size where the outcome is measured as body weight but not where the outcome is measured as BMI.

Nevertheless, there seems to be some support for **increased effectiveness** for:

- Physical activity interventions which target only one intervention (i.e. physical activity alone rather than physical activity plus diet (Abraham and Graham-Rowe, 2009) or physical activity plus lifestyle (Conn, 2010), are based in theory (Taylor et al., 2012); use

individual rather than group delivery (Conn, 2010); involve supervision (Conn, 2010); have higher intensity of physical activity (Conn, 2010).

- Physical activity and/or nutrition interventions with scheduled sessions (individual or group) rather than self-directed sessions; with behavioural counselling (Anderson et al., 2009).
- Occupational stress management initiatives which are individual focused; involve one component; include cognitive behavioural interventions (Richardson and Rothstein, 2008).
- Occupational stress reduction interventions that are cognitive behavioural interventions rather than relaxation or multimodal; are focused on the individual rather than the organisation (van der Klink et al., 2001).
- Workplace health promotion programmes that included interventions with at least weekly contact with participants were related to higher effect sizes than those with less frequent contact (Rongen et al., 2013).

## REFERENCES

Brunton G, Dickson K, Khatwa M, Caird J, Oliver S, Hinds K, Thomas J (2016) *Developing evidence informed, employer-led workplace health*. London: EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

World Health Organization (2010), *Healthy workplaces: a model for action: for employers, workers, policymakers and practitioners*. Retrieved at:

[http://www.who.int/occupational\\_health/healthy\\_workplaces/en/](http://www.who.int/occupational_health/healthy_workplaces/en/)

Centre for Disease Control and Prevention (CDC), *Workplace Health Model*. Retrieved at:

<https://www.cdc.gov/workplacehealthpromotion/model/>

Michie, S., Richardson, M., Johnston, M., Abraham, C., Francis, J., Hardeman, W., . . . Wood, C. E. (2013). The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: Building an international consensus for the reporting of behavior change interventions. *Annals of Behavioral Medicine*, 46(1), 81-95.

<http://dx.doi.org/10.1007/s12160-013-9486-6>

Michie, S., van Stralen, M. M., & West, R. (2011). The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implementation science*: IS, 6, 42. doi:10.1186/1748-5908-6-42

National Institute for Occupational Safety and Health (NIOSH) (2008). *The Essential Elements of Effective Workplace Programs and Policies for Improving Worker Health and Wellbeing*. Retrieved at:

[http://www.safetybok.org/essential\\_elements\\_of\\_effective\\_workplace\\_programs\\_and\\_policies\\_for\\_improving\\_worker\\_health\\_and\\_wellbeing/](http://www.safetybok.org/essential_elements_of_effective_workplace_programs_and_policies_for_improving_worker_health_and_wellbeing/)

WRC (1996). *Tools and Techniques to support Promoting Health Activity at Work Manual*. Commissioned by DG V Public Health Programme of the European Union.

Department of Health, Australian. *Healthy Workers Initiative*. Retrieved at:

<http://www.healthyworkers.gov.au/internet/hwi/publishing.nsf/Content/plan>



PWC (2008). *Building the case for wellness*. Commissioned by the Health Work Wellbeing Executive. Retrieved at:

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/209547/hwb-dwp-wellness-report-public.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/209547/hwb-dwp-wellness-report-public.pdf)

## APPENDIX A: STEPS IN THE PROCESS – DETAILS OF INTERNATIONAL MODELS

### A.1 Overview

In a recent review of worksite health and wellness (WHW) in the European Union, Guazzi et al. (2014) observe that “there is a high degree of variability in how optimal models for WHW programs ... are delivered in different geographic contexts” and that “since there is no single model for health care in Europe and different countries uniquely address the coverage and costs, essential components of WHW programs must be structured in a way that is conducive to the unique environment they are delivered in.” This observation is echoed across the literature, where it is emphasised that most well-planned WHP programmes combine the needs of the organisation with the needs of the workers.

Chapter 2 summarises key steps in the process of developing workplace health and wellness programmes based on a review of six models. Figure A.1 summarises the steps in each model and the following section provide a description of the steps described in each model.

The text in this Appendix is taken from the cited documents. If using material from this Appendix please cite the relevant publications for each model.

**Figure A.1: Steps in the process of international models for developing health promotion and wellbeing programmes**

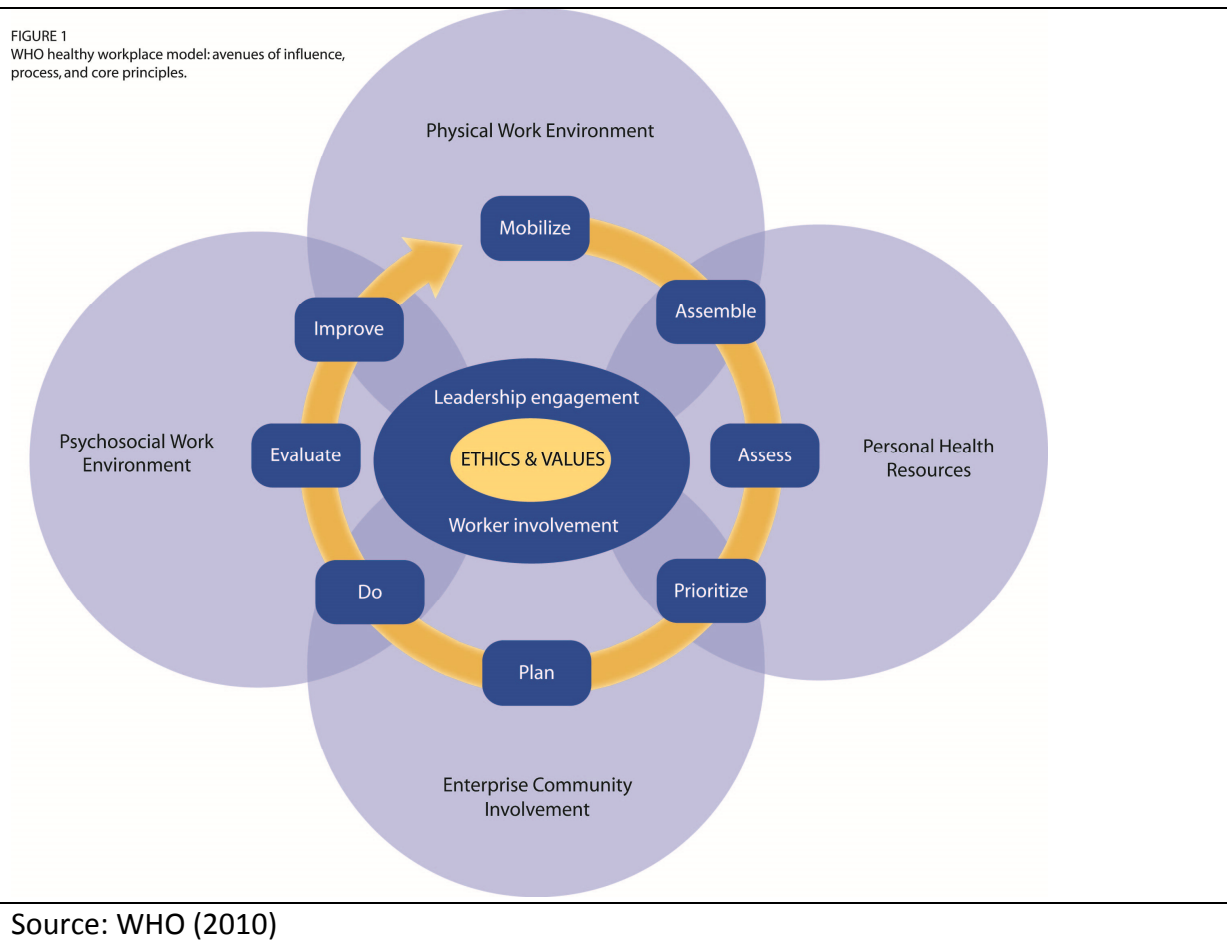
	Author(s)	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8
1.	<b>WHO Healthy Workplace Model</b>	Mobilize	Assemble	Assess	Prioritize	Plan	Do	Evaluate	Improve
2.	<b>CDC Workplace Health Model</b>	Assessment	Planning and management	Implementation	Evaluation				
3.	<b>NIOSH The Essential Elements of Effective Workplace Programs and Policies for Improving Worker Health and Wellbeing</b>	Organizational Culture and Leadership	Program Design	Program Implementation and Resources	Program Evaluation				
4.	<b>WRC, Tools and techniques to support promoting health activity at work manual</b>	Getting started	Identifying needs and problems	Organising solutions and planning health programme	Implementation	Evaluation and consolidation			
5.	<b>Australian D. of Health, Healthy Workers Initiative</b>	Gain support from management	Engage your employees	Assess your needs	Choose health issues you would like to include	Plan and deliver your program			
6	<b>PWC's Framework</b>	Plan	Execute	Manage					

## A.2 WHO Healthy Workplace Model

The WHO defines a healthy workplace as “one in which workers and managers collaborate to use a continual improvement process to protect and promote the health, safety and well-being of all workers and the sustainability of the workplace”, based on certain identified needs, which are represented in the WHO model (Figure A.2).

The four avenues (large circles) in the model refer to content and not process, and address ways in which the employer working in collaboration with employees can influence the health status not only of the workers, but also the enterprise/organization in terms of its efficiency, productivity and competitiveness. These four avenues are: the physical work environment; the psychosocial work environment; personal health resources in the workplace; and enterprise community involvement. The loop illustrated in the centre of the four avenues represents a process of continuous improvement, the steps of which are described below.

**Figure A.2: WHO healthy workplace model: avenues of influence, process and core principles**



**Mobilize:** Mobilize and gain support from major stakeholders and key opinion makers in the enterprise before beginning. If permission, resources or support are required from a senior manager, it is important to get that commitment and buy-in before trying to proceed. Evidence of this commitment is development and adoption of a comprehensive policy signed by the highest authority in the enterprise and communicated to all workers, and the engagement of key leaders in mobilizing resources for change.

**Assemble:** Assemble a Healthy Workplace Team who will work on implementing change in the workplace.

**Assess:** Assess both the present situation for the workers and the desired future conditions and outcomes for the enterprise and workers. Regarding the former, baseline data should be collected on employee demographics, sickness and injury data, workplace related injuries and illnesses, short-term and long-term disability, turnover, union grievances and concerns that have arisen from workplace inspections. Review current policies and practices related to the four avenues of influence. There should also be a review of the current health status of the workers through a survey, health-risk assessment or checklist; these should incorporate questions about the organizational culture, workplace stress etc. As regards aspirations for the future, a benchmarking exercise should be undertaken to determine how similar businesses are doing and to determine good practice.

**Prioritize:** Once significant issues have been identified through the assessment, prioritise program and policy interventions. In setting priorities, opinions and preferences of workplace parties should be taken into consideration, as should the urgency of an intervention in the context of Maslow's hierarchy of needs. Also to be taken into account are 'quick wins' (how easy it would be to implement a solution to the problem) that might motivate and encourage continued progress, and the relative cost of the problem if it is ignored.

**Plan:** In larger enterprises, this would be a 3-5 year plan setting out the general activities to address the priority problems, with broad timeframes. If senior management sign-off is required, then the rationale and supporting data for each recommendation should be included. Details of actual interventions need not yet be included in the overall plan. Subsequently an annual plan should be developed. When considering solutions to priority problems, consider all four of the "avenues of influence", then develop specific programme or policy action plans for the first annual plan. This is where detail is provided for each intervention to be implemented, and would include the required budget, facilities and resources, as well as planning for a launch, marketing and promotion of the intervention or policy. A maintenance plan for 3-5 years and an evaluation plan with measurable goals and

objectives for each initiative should also be included. (Note that a plan developed for a SME would probably be much simpler).

**Do:** Responsibilities for each action plan should have been assigned in the plan, and at this stage it is just a matter of implementing the action plans. It is critical to involve workers and their representatives at this stage, and desirable that management should also demonstrate their support and commitment for specific programmes or policies.

**Evaluate:** Both the process of the implementation and the outcomes should be evaluated, and there should be short-term and long-term outcome evaluations. In addition to evaluating specific initiatives, it is important to evaluate the overall success of the HWP after 3-5 years or after a significant change (such as a change of manager).

**Improve:** The last step or the first in the new cycle is to make changes based on the evaluation results, in order to improve the programmes that have been implemented.

The WHO model includes the following sections:

- I. Why develop a healthy workplace initiative?
- II. Definition of a healthy workplace
- III: Healthy workplace processes and avenues of influence
- IV. The content: avenues of influence for a healthy workplace
- V. The process: initiating and sustaining a programme
- VI. Underlying principles: keys to success
- VII. Adapting to local contexts and needs

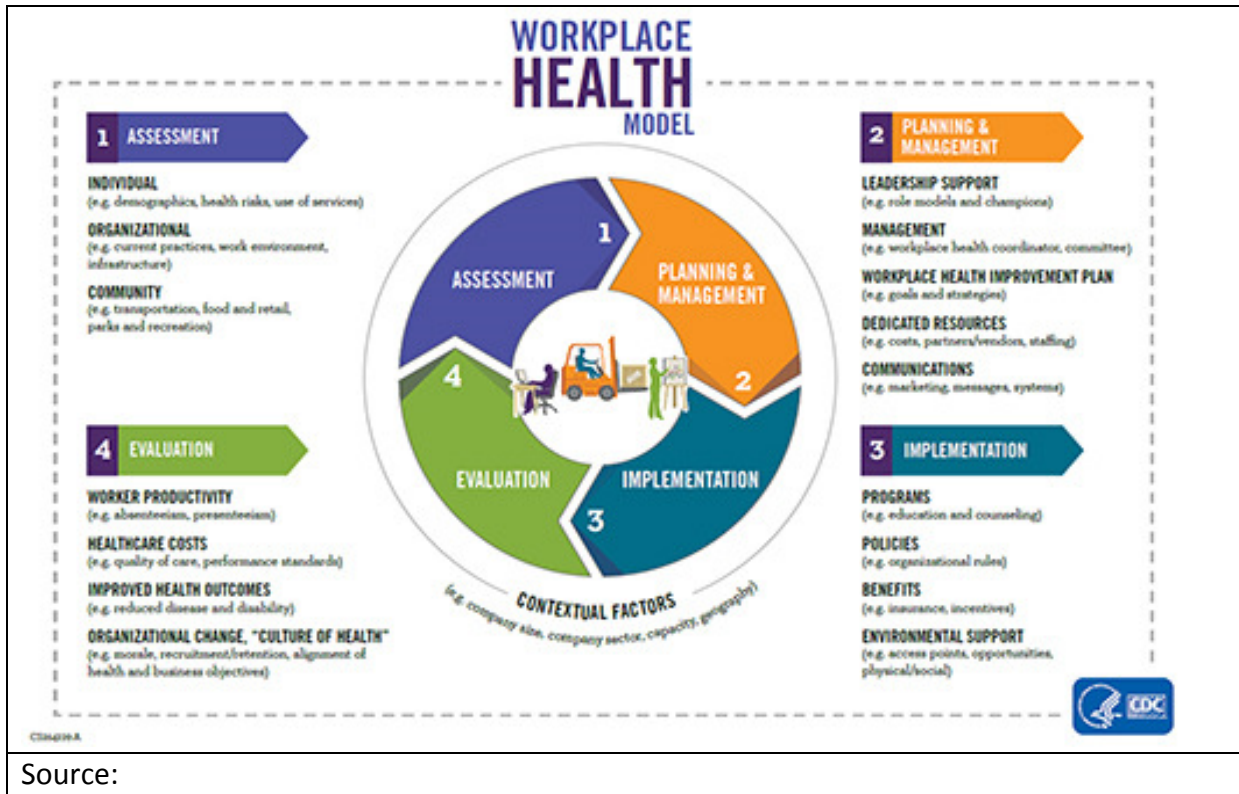
The text in this Appendix relates mainly to the section “V. The process: initiating and sustaining a programme” as this is the section addressing steps in the development of workplace programmes as discussed in Chapter 2.

### A.3 CDC Workplace Health Model

The CDC Workplace Health Model emphasizes a “comprehensive approach” to workplace health promotion which “puts policies and interventions in place that address multiple risk factors and health conditions concurrently and recognizes that the interventions and strategies chosen may influence multiple organization levels including individual employee

behaviour change, organizational culture, and the worksite environment.” The model has four main steps- assessment, planning and management, implementation and evaluation - described below.

Figure A.3: CDC Workplace Health Model



Source:

**Assessment:** Workplace health programs need to be tailored to the specific employee population, so an initial workplace health assessment should be the first step. This should capture the factors that influence employee health, including lifestyle choices, the work environment and organizational factors (culture, policies and practices). The assessment can be done informally (e.g. through conversations or a call for opinions) or formally (e.g. through a survey or environmental audit). Involving the employees from the beginning is important for reinforcing the shared responsibility and commitment of the employee and the organization to employee health, and for the overall success of the workplace health program.

**Planning and management:** A careful planning stage should precede implementation of the program. The overall program requires a basic governance structure or infrastructure to administer and manage health promotion activities which can be initiated during the planning phase. Organizational strategies to operationalize the program elements include:

- Dedicating senior leadership support to serve as a role model and champion.

- Identifying a workplace health coordinator, council or committee to oversee the program.
- Developing a workplace health improvement plan with sufficient resources to articulate and execute goals and strategies.
- Communicating clearly and consistently with all employees.
- Establishing workplace health informatics to collect and use data for planning and evaluation.

A truly successful program is one whose components are carefully selected and implemented efficiently, and which is suited to the employee population. It may be more prudent to focus on one or two policies/programs at first and build on early successes, rather than poorly implement several interventions at the beginning.

**Implementation:** A person's health is a result of both individual actions (e.g. losing weight, quitting smoking and exercising) and the context or environment within which those actions are taken. It is important for the overall workplace health program to contain a combination of individual and organizational level strategies and interventions to influence health. The strategies and interventions available fall into four major categories:

- Health-related Programs – opportunities available to employees at the workplace or through outside organizations to begin, change or maintain health behaviors.
- Health-related Policies – formal/informal written statement that are designed to protect or promote employee health. They affect large groups of employees simultaneously.
- Health Benefits – part of an overall compensation package including health insurance coverage and other services or discounts regarding health.
- Environmental Supports – refers to the physical factors at and nearby the workplace that help protect and enhance employee health.

**Evaluation:** Worksites should plan to evaluate the programs, policies, benefits, or environmental supports implemented. The evaluation should focus on questions that are relevant and useful to those who will use the findings, and the evaluation process should feed into a continuous quality improvement loop to improve and strengthen existing activities; identify potential gaps in current offerings; and describe the efficiency and effectiveness of the resources invested.



#### A.4 NIOSH Model

NIOSH has developed a resource document entitled *Essential elements of effective workplace programs and policies for improving worker health and wellbeing* (2008), intended as a guide for employers. *Essential elements* comprises twenty components divided into four areas, which are discussed below and presented in list form at the end of this section.

**Organizational culture and leadership:** Organizations with ‘human-centred’ cultures, which promote respect and encourage worker participation are more likely to achieve success in workplace health promotion implementation. The connection of workforce health to the core values and products of the enterprise should be acknowledged and communicated by leaders and perhaps incorporated into the business plan. It is particularly important to engage mid-level managers as they are the direct link between workers and upper management and will determine if the program succeeds or fails.

**Program design:** Clear principles should be established to focus program priorities from the outset. Relevant systems should be integrated, so program design requires an initial inventory of existing health and wellbeing programs and policies and a determination of their potential connections. Consistency is important; workplace policies should be linked to specific interventions. Employee participation should be promoted i.e. employees should be engaged actively to identify relevant health and safety issues and contribute to program design and implementation. Further points to consider in designing programs are: tailoring the program to the specific workplace; using incentives and rewards; adjusting the program as needed; designing programs with a long-term outlook to assure sustainability; designing programs with sufficient flexibility; and aligning programs to the core product/values of the enterprise. Finally, confidentiality, should be ensured.

**Program implementation and resources:** Phased implementation, or starting small and scaling up is advisable. Be willing to abandon pilot projects that fail. Allocate sufficient resources, including staff, space and time. Effective and strategic communication is essential: messages should be tailored to the group or individual and should consistently reflect the values and direction of the programs. Communicate regularly but also have a long-term communication strategy. Regular updates to management and workers should be provided, and visibility should be maintained at the highest level through data-driven reports that allow linkage to program resource allocations. Accountability and rewards for success should also be built into the program.

**Program evaluation:** Develop objectives and relevant measurements. Modify programs based on results you have measured and analysed.

**Figure A.4: Itemised list of the Essential Elements**

1. Develop a "Human Centered Culture."
2. Demonstrate leadership.
3. Engage mid-level management.
4. Establish clear principles.
5. Integrate relevant systems.
6. Eliminate recognized occupational hazards.
7. Be consistent.
8. Promote employee participation.
9. Tailor programs to the specific workplace and the diverse needs of workers.
10. Consider incentives and rewards.
11. Find and use the right tools.
12. Adjust the program as needed.
13. Make sure the program lasts.
14. Ensure confidentiality.
15. Be willing to start small and scale up.
16. Provide adequate resources.
17. Communicate strategically.
18. Build accountability into program implementation.
19. Measure and analyze.
20. Learn from experience.

## **A.5 Manual for promoting health activity at work**

The *Tools and techniques to support promoting health activity at work manual* (1996) is the output of a project funded by DG V Public Health Programme of the European Union. The manual includes a methodology for the promotion of health activity in the workplace, organised into five phases of activity.

**Getting started:** At this stage of the process, the emphasis is on generating support for and setting up structures for the health improvement process. This stage is very important, as it

sets the scope of the health improvement programme, establishes the structures to run the programme and integrates the programme with existing organisational policies, practices and structures.

**Identifying needs and problems:** This phase describes what kinds of information can be gathered, how to analyse the information and how it can be used as a basis for programming of health actions.

**Organising solutions and planning health programme:** In this phase, the emphasis is on prioritising the health-related issues which are to be addressed by the programme, and with developing solutions to these issues. As part of this phase, the health programme plan which details the activities selected for implementation is drawn up and a timetable which proposes a scheduling for the activities is also produced.

**Implementation:** This phase is concerned with developing an implementation plan for each of the selected health activities and with the implementation of these health activities.

**Evaluation and consolidation:** This phase is concerned with two related processes – the evaluation of the successes and failures of the health improvement programme, and with its consolidation. Consolidation here refers to ensuring that the successful programme activities are integrated into ongoing company policy and practice, and also to the process of building a second cycle of the programme, thus ensuring that an effective and ongoing process of health improvement is put in place.

The authors remark that while the methodology may be followed in a sequential manner, it is also possible for users to adapt the phases and activities to the demands of their own situation. The methodology allows accelerated implementation of health improvement activities if appropriate; the authors note in this regard that if there is too much delay during the activities of needs analysis and organising solutions there can be a loss of momentum.

## **A.6 Australian Government Department of Health, Healthy Workers Initiative**

The Australian Government Department of Health and Ageing (the Department) is implementing the Healthy Workers Initiative (HWI), which is one component of three setting-based approaches to reduce the number of Australians at risk of lifestyle-related chronic disease. These initiatives (Healthy Communities, Healthy Workers and Healthy Children) are provided under the National Partnership Agreement on Preventive Health.

The Healthy Workers Initiative outlines five main stages for creating a healthier workplace.

**Gain support from management:** There is evidence that the most successful programs are those that have widespread support from the CEO or senior management team. It is important to identify a manager or team leader who is willing to make things happen, or lead by example. A more detailed approach would require proponents of a program to: build a strong business case for the program; describe why the program would be of benefit to the workplace (e.g. ROI, worker loyalty, reduced absenteeism and presenteeism, reduced costs); outline the program and its goals; use case studies to highlight successes in other workplaces.

**Engage your employees:** engaging employees requires that the people involved in implementing workplace health programs be supported, as well as those employees who participate. It's also helpful to identify and recruit the support of employees who may be key leaders and influencers in the workplace to help build maximum support. Approaches to employee engagement could involve: nominating one person to take a leading role in developing the workplace health program (possibly a Healthy Workplace Champion); forming a Healthy Workplace Team which is representative of the differences amongst employees (such as gender, workplace positions and languages); using staff meetings or regular staff interviews to talk about workplace health in your workplace; identifying how you will prioritise and act on employees suggestions; identifying how to communicate i.e. circulate program information and encourage participation in the programs.

**Assess your needs:** One approach is to conduct a needs assessment to: identify the priority health concerns; involve employees; and create interest in your program. It's important to be aware that employees might be at different stages in their awareness of personal health risks. The assessment might include both what your workplace is like now, and the conditions and outcomes that the workplace health promotion program hopes to achieve.

Assessment of the present situation might include employee illness/injury data; employee turnover data; a comprehensive assessment of how your workplace conditions (both physical and social) impact on employees' health; the current health of employees through the collection of confidential survey data; the working environment; employee health concerns and issues; what sort of health programs employees consider valuable.

**Choose one or more health issues you'd like to include in your program:** Create a list of health issues to target from those that have been identified in your assessment step. Involve both management and employees from all levels of the organisation in identifying priority health issues through meetings, emails or suggestion boxes.

**Plan and deliver your program:** Once priorities are established, develop an action plan for the workplace that includes both longer and short term plans. The action plan should include: goals that state the overall desired outcome for the workplace; objectives that state what should be done to achieve the goals; how, when and where the program will operate; what activities the program will undertake; how risks will be assessed and managed; who will be responsible for various aspects of the program; what resources are available, both in-house and external, including possible government assistance; ideas for how the program can be marketed and promoted amongst employees; considerations for longer term sustainability; what indicators you will use to measure the success of your program.

## A.7 PWC's Framework

As part of research carried out on behalf of the Health Work Wellbeing Executive to review the business case for workplace wellness programmes in the UK and the economic case for UK employers, PWC provide a framework for programme implementation and management. The framework outlines important principles in the planning, execution and management of wellness programmes and incorporates the steps below.

### **Plan:**

**Assessing need:** A needs assessment should be the first step, to determine the scope, content and approach to wellness initiatives, to ensure that employers are investing in the 'right' programmes. The assessment will also provide the baseline data for subsequent evaluations. It can be undertaken in a variety of ways and need not be resource intensive. A well-designed needs assessment will ensure that stakeholders are represented in the design process and that planned strategic interventions represent issues that matter to employees.

**Describing services and gap analysis:** A service review of current wellness initiatives should be carried out, with a gap analysis to compare current services against identified needs. Gap analyses should also include a financial review, with resources utilised by individual service offerings clearly delineated. The combination of a needs assessment and gap analysis should help employers identify whether current wellness services are addressing the needs of the population, and their cost effectiveness.

**Risk management and deciding priorities:** Companies should clearly understand their priorities regarding wellness, and have an understanding of their organisational risks in relation to their wellness agenda. This includes a review of the changes that are likely to impact the organisation in relation to employee wellness. Following this, there should be

agreement on methods to mitigate identified risks. Using feedback from needs assessment, gap analyses and risk management discussion programmes, it should be possible to decide organisational priorities for a wellness programme.

**Wellness options:** Following on from previous steps, organisations should consider which types of programmes would meet employee needs and potential performance indicators. Difficulty of implementation, barriers and expected impact should be assessed. Partnerships and providers may be used to help deliver the programmes. The outcome should be a meaningful wellness framework which identifies programmes that would address an organisation's particular needs.

#### **Execute:**

**Appropriate programme design:** Robust programme design, built on wellness agenda priorities, will increase the effectiveness of wellness initiatives. Programme design should consider the scope and severity of need, so that initiatives can be tailored appropriately. Organisations should continue to further identify and refine key performance indicators that will evaluate programme processes, impact and outcomes. A practical evaluation and monitoring system will help ensure continual program improvement and enhanced effectiveness.

**Continued communication:** Communicating consistent and honest messages to employees is important. Employees also need to see action on and results from wellness initiatives from the very outset. Communicating how the programme is contributing to the mission of the company and its goals is critical.

**Engaging employees:** Incentives (including direct financial incentives) and social marketing are useful techniques for encouraging employees to engage in wellness. Where programme design and employee need are closely matched, or where there is a clear alliance of wellness and company culture and strategy, incentives may not be necessary. With regard to marketing, targeted marketing campaigns that focus on specific employee behaviours or characteristics, such as age or sex, are particularly effective in increasing participation. Establishing a dedicated team of people or wellness champions is useful as it is an opportunity to provide on-going, personalised messages to employees.

## **Manage:**

***Overall programme evaluation and management:*** Establishing evaluation and monitoring programmes to evaluate programme processes, outcomes and financial impact is essential. It is necessary to capture critical aspects of participation as well as measuring both short- and long-term strategic aims of the wellness programme. Ongoing evaluation should continue to inform programme development. The implementation cycle should therefore be a continual process where information from the evaluation / management stage will continue to inform the plan and execute stages. Monitoring systems for evaluation should be clear, simple and ensure confidentiality.

**Financial evaluation of wellness programmes:** Financial evaluation or financial impact modelling of wellness programs requires identification and collation of all costs associated with wellness interventions, and all of the associated savings or benefits. Financial variables such as the net present value (NPV), internal rate of return (IRR) or break-even point (BEP) are then calculated. A financial evaluation will also incorporate an appropriate discount rate and terminal value. These inputs allow for a comprehensive evaluation that reports on the key measures of: net present value; return on investment; internal rate of return; and pay-back period.

**APPENDIX B: EVIDENCE ON INTERVENTION FEATURES ASSOCIATED WITH INCREASED EFFECTIVENESS**

**B-1: Increased Effect for Physical Activity, Dietary Behaviour and Weight Management? Summary of Intervention Subgroup Analysis**

**Physical activity *and* dietary programmes**

Intervention	Subgroup Analysis	Effect	Summary sentence	Study T.	Author
Nutrition and/or physical activity programs to promote healthy weight (includes combined)	Program Focus	↔/?	No relationship was found between program effectiveness and focus of the program (e.g. CVD risk reduction, weight loss, physical fitness) but analysis was limited by a small number of studies	Meta-A	Anderson et al. (2009)
	Behavioural Focus	↔/?	No relationship was found between program effectiveness and behavioural focus (e.g. diet or physical activity) but analysis was limited by a small number of studies		
	Multiple program components	↑/~	Interventions which offered multiple program components typically resulted in greater weight loss. However in one paper three intervention arms are associated with weight gain.		
	Structured Programs	↑	Scheduled individual or group sessions for behavioural skills development or physical activity were associated with greater effectiveness than self-directed approaches.		
	Behavioural counselling	↑	Programs with behavioural counselling were more effective than informational or educational programs.		
Physical activity <i>and</i> dietary behaviour	Professional group leaders	↔	Professional group leaders vs non-professional group leaders or lay leaders were found to be unrelated to effect size.	Meta-A	Verweij et al., (2011)
	Environmental element	~	Too little evidence to evaluate effect.		
	Environmental Component	↑/↔	Larger mean effect on body weight estimates found for programs with environmental element (-1.50 kg vs -1.01 kg). No change in effect was found for BMI estimates.		



## Physical activity programmes

Intervention	Subgroup	Effect	Summary sentence	Study T.	Author
Worksite interventions for increasing physical activity or fitness	Intervention Type	↑/↔	Intervention type e.g. health education/risk appraisal vs. exercise prescription, behaviour modification and combined types, was found to be unrelated to effect size ( $\beta=-0.08$ , $t=.523$ , $P=0.604$ ). Interventions that fell into the category of exercise prescription (defined as: Specified low-to moderate frequency, intensity, duration and mode, usually based on exercise tolerance test) were associated with higher follow-up effects ( $r=0.47$ , $P=0.013$ ).	Meta-Anal	Dishman et al. (1998)
	Incentives	↔	Incentives vs. no incentives were found to be unrelated to effect size ( $\beta=0.04$ , $t=.849$ , $P=0.401$ ).		
	Worksites	↔	Corporate worksites vs. university worksites were found to be unrelated to effect size ( $\beta=0.04$ , $t=.30$ , $P=0.769$ ).		
	Duration of interventions	↔	No relationship was found between duration of intervention and effect size ( $r=0.08$ ).		
Workplace physical activity interventions	Intervention delivery	↑/↔	Larger effect for anthropometric outcomes (such as BMI, weight, abdominal girth) for interventions delivered at workplaces (0.17 vs 0.05) compared to those delivered elsewhere. No relationship was found for other outcomes.	Meta-Anal	Conn et al (2009)
	Intervention time	↑/↔	Larger effects for interventions received on company paid time for fitness (0.92 vs 0.49) and anthropometric measures (0.22 vs 0.02). No association was seen for lipids (such as cholesterol, high/low density cholesterol ratio) or PA (such as steps counted, self-reported physical activity).		
	Employee interventionists	↑/↔	Interventions where the employees were the interventionists were associated with increased effectiveness for fitness (1.18 vs 0.49), lipids (0.59 vs 0.09)		

Intervention	Subgroup	Effect	Summary sentence	Study T.	Author
	Design participation	↑/↔	and anthropometric measures (0.32 vs 0.05). No association was found for PA. Workplace participation in design was associated with larger effect sizes for fitness (1.18 vs 0.05) and anthropometric measures (0.22 vs 0.06). No association was found for PA.		
	Recruitment	↔	No association found between effectiveness and recruitment.		
	Data collection location	↔	No association found between effectiveness and data collection location.		
	Onsite fitness facility	↑/↔	Interventions with onsite fitness facilities are associated with larger effect sizes for lipids (0.32 vs 0.07) and anthropometric outcomes (0.24 vs 0.05) but no association was found for PA or fitness outcomes.		
	Policy changes	↑(↔)	Policy changes were associated with larger effect sizes for anthropometric measures (0.24 vs 0.03). No association was found for other outcome measures.		
Worksite interventions to increase PA, exercise or fitness	One target intervention	↑	One target interventions with PA only were associated with increased effect on PA outcomes, such as self-reported changes in PA, total minutes of PA, energy expenditure etc. (0.27 vs 0.14) and fitness outcomes such as fitness tests, heart rate measures etc. (0.29 vs 0.08), compared more general interventions aimed at changing lifestyles.	Meta-Anal	Abraham and Graham-Rowe (2009)
	Walking/Steps intervention	↑/~	Interventions with walking or counting steps were associated with larger average effects for PA outcomes (0.54 vs 0.16) however there was not enough evidence to evaluate fitness outcomes		
	Tailored interventions	↔	Tailored information or instructions were not found to be more effective than non-tailored interventions for fitness		

Intervention	Subgroup	Effect	Summary sentence	Study T.	Author
	Inclusion of self-monitoring	↑/↓	or PA measures. Inclusion of self-monitoring was associated with greater average effect sizes for PA outcome (0.39 vs 0.22). However inclusion of self-monitoring was associated with smaller effect sizes for fitness outcomes (0.13 vs 0.20).		
Worksite interventions to promote physical activity	Behavioural target	↔	Interventions with behavioural targets were not found to be related to effect size compared to those without targets.	Meta-A	Taylor et al. (2012)
	Delivery source	↔	Delivery source was not found to be related to effect size.		
	Format of delivery	↔	Format of delivery of the intervention was not found to be related to effect size.		
	Location of delivery	↔	The location of delivery of the intervention was not found to be related to effect size.		
	Delivery approach	↔	The intervention's delivery approach was not found to be related to effect size.		
	Delivery during work hours	↔	Whether an intervention was delivered during work hours was not found to be related to effect size.		
	Intervention length	↔	The length of the intervention was not found to be related to effect size.		
	Intervention contact time	↔	The intervention contact time was not found to be related to effect size.		
Based in theory	↑	Studies that described how theoretical constructs were used to inform the design of some specific intervention strategies were associated with larger effect sizes( 0.34 vs 0.21)			
Behavioural change techniques	↓/↑	Six out of eight of the behavioural change techniques used was found to be related to smaller effect sizes in interventions which used these techniques. The remaining two, prompt barrier identification and relapse			

Intervention	Subgroup	Effect	Summary sentence	Study T.	Author
	Number of behavioural techniques	↔	prevention, were associated with larger effect sizes in interventions which used these techniques. No relationship found between the number of behavioural techniques used and effect size was found.		
Interventions to increase physical activity	Only one behaviour targeted	↑	Interventions that only targeted PA behaviour were found to have larger effects (ES=0.454), compared to studies which focused on PA plus other behaviours such as diet (ES = -.011)	Meta-A	Conn (2010)
	Individual Intervention	↑	Interventions that were delivered on an individual basis were more effective than those delivered to groups ( ES = .408 vs ES = -.040 )		
	Worksite-linked interventions	↔	No relationship was found between interventions that took place on the work site and effect size.		
	Supervised PA	↑	Interventions with supervised PA were more effective than those without (ES = .454 vs ES= -.011)		
	Intensity of supervised PA	↑	Interventions with high or moderate PA intensity had larger effects than those with low intensity (ES = .452 vs ES = .106).		
	Amount of supervised PA	↔	The amount of supervised PA was found to be related to effect size		
	PA at fitness centres	↑	Studies that recommended PA based in fitness centres had larger effects than studies which recommended home PA (ES = 0.472 vs ES = 0.093).		
PA= Physical Activity					

## B-2: Increased Effect for Stress, Anxiety and Depression? Summary of Intervention Subgroup Analysis

### Stress management programmes

Intervention	Subgroup	Effect	Summary sentence	Study T.	Author
Occupational stress management programmes	Intervention Type	↑	Cognitive behavioural interventions were found to have the largest effect size (d = 1.164). Organizational interventions were found to have no effect (d = 0.144). Relaxation (d= 0.497), multimodal (d= 0.239) and alternative interventions (d= 0.909) all had positive effect sizes. Alternative interventions consist of 7 interventions that could not be classified into the other groupings of interventions.	Meta-A	Richardson and Rothstein (2008)
	One component interventions	↑	Interventions that focused on a single component (i.e. either cognitive-behavioural component or relaxation or organisational etc.) were seen to be more effective (d= 0.643) than those that focused on multiple component (d = 0.271 for interventions with 4 components or more). Interventions where the single component was cognitive-behaviour had the largest effects (d= 1.230).		
	Length of treatment	↓/↔	Shorter interventions were found to be more effective than longer ones (d= 0.804 vs d= 0.401). This relationship does not hold when studies are broken down by intervention type.		
Psychoeducational interventions	Group Size	↔	The size of the intervention groups was not found to be related to effect size.	Meta-A	Van Daele et al. (2012)
	Homework	↔	Whether the intervention made use of homework was not found to be related to effect size.		
	Relaxation component	↔	Whether the intervention contained a relaxation component was not found to be related to effect size.		
	Intervention duration	↓	The duration of the intervention was inversely related to the effectiveness of the intervention ( $\beta = -.020$ ).		

Mindfulness-based interventions (MBIs)	Intervention Type	↔	The effect size was not found to be related to the type of intervention used ( $Q_b=1.27$ , $df = 2$ , $p= 0.53$ ) e.g. different types of mindfulness interventions.	Meta-A	Virgili (2015)
	Intervention duration	↔	Intervention duration was not found to be related to effect size ( $Q_b= 0.82$ , $df = 2$ , $p=0.66$ ).		
	In-class hours	↔	The amount of in-class hours in the intervention was not associated with effect size ( $Q_b= 0.02$ , $df = 1$ , $p=0.88$ ).		

### Anxiety and depressive symptoms

Intervention	Subgroup	Effect	Summary sentence	Study T.	Author
Occupational stress-reducing interventions	Intervention Type	↑	Cognitive-behavioural interventions were more effective than relaxation techniques ( $d= 0.68$ vs $0.35$ ). Cognitive-behavioural interventions were slightly more effective than multimodal ( $d= 0.68$ vs $0.51$ ). No effect difference between relaxation and multimodal ( $d= 0.35$ vs $0.51$ ).	Meta-A	van der Klink et al. (2001)
	Individual intervention	↑	Organizational interventions were not found to be effective ( $d = 0.08$ ) Interventions which focused on the individual were more effective ( $d= 0.44$ ) than those that focused on organisation.		
	Remedial programs	↑	Remedial programs were associated with larger effect sizes compared to preventative programs ( $d= 0.59$ vs $0.32$ ).		
	Intervention duration	↔/↓	No relationship was found between number of weeks, number of contact hours or number of sessions and effect size. However for cognitive-behavioural interventions there was an inverse relationship between effect size and number of sessions ( $r= -0.27$ , $P<.05$ ).		
Resilience building programmes	Targeted Programs	~	Individually targeted programs were not found to be related to effect size ( $d=0.09$ ) while universal programs	Meta-A	Vanhove et al. (2016)

	Intervention delivery	↑	<p>were found to be related to larger effects (d= 0.29). However when looking at results for distally measured outcomes targeted programs are associated with positive effects (d=0.26) and universal programs are not found to be related to effect size (d= .04).</p> <p>One-on-one delivery was seen the most effective type of intervention delivery based on 3 papers (d= 0.59). Interventions with classroom-based group delivery were related to small positive effect sizes (d= 0.25). Train-the-trainer delivery and computer-based delivery had weak, non-significant effects (d= 0.16 and d= 0.16).</p>		
--	-----------------------	---	--	--	--

### B-3: Increased Effect for Multi-component Workplace Health Promotion programmes? Summary of Intervention Subgroup Analysis

Intervention	Subgroup	Effect	Summary sentence	Study Type	Author
<b>Health only outcomes</b>					
Health promotion	Mental Health Focus	↔	No difference was found between effect sizes of interventions that had a direct focus on mental health as those that had an indirect focus on risk factors.	Meta-A	Martin et al. (2009)
<b>Economic or organisational outcomes only</b>					
Organizational wellness programmes	Intervention Type	↔	No significant relationship found between either fitness only programs and absenteeism effect size or comprehensive programs and absenteeism effect size.	Meta-A	Parks & Steelman (2008)
<b>Multiple category outcomes</b>					
WHPP aimed at physical activity, healthy nutrition, weight loss, or smoking cessation	Counselling component	↑/↔	Interventions with counselling components were found to be related with effect size (B= 0.13). Those without were not found to be related to effect size.	Meta-A	Rongen et al. (2013)
	Exercise component	↔	Whether an intervention had an exercise component was not found to be related to effect size.		
	Educational component	↔	Whether an intervention had an educational component was not found to be related to effect size.		
	Frequency of contact	↑	Interventions with at least weekly contact made were related to higher effect sizes than those with less frequent contact (Difference in effect sizes $\beta=0.10$ ).		
Workplace health promotion				Meta-A	Kuoppala et al. (2008)
WHPP = Workplace Health Promotion Program					
Physical activity or nutrition	Intervention duration	↔	No relationship found between the duration of the intervention and effect size.	Meta-A	Hutchinson and Wilson (2012)
	Length of maintenance	↔	No relationship found between the length of any maintenance period and effect size.		
	Number of health behaviours	↑	Effect sizes were larger for studies focusing on one health behaviour.		