



Canadian Cancer Society
Société canadienne
du cancer

MANITOBA DIVISION

KNOWLEDGE EXCHANGE NETWORK

Information Package for Evidence-Informed
Interventions:

Effective workplace physical activity interventions

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Information Package for Evidence-Informed Interventions

What are Knowledge Exchange Network (CCS KEN) Information Packages?

CCS KEN Information Packages are summaries and descriptions of interventions that have shown effectiveness in reducing risk factors for their respective topic areas. This information comes from systematic reviews of multiple research studies.

What is a systematic review?

Systematic reviews are reviews of multiple research studies that address a particular question. Evidence from scientific studies is located, evaluated and synthesized using a strict design to ensure the review is comprehensive and unbiased.

Why does the KEN use systematic reviews as its source for information?

Effectiveness is a key component of “Best Practice”, and systematic reviews provide reliable information about effective interventions. Systematic reviews:

- Condense and summarize a large quantity of relevant data;
- Ensure generalization;
- Check for consistency and explain inconsistency;
- Improve precision and reduce bias.

For more information about CCS KEN methodology visit our Web site: cancer.ca/ken

What is inside a KEN Information Package?

Information Packages have three sections:

1. A summary report that provides a condensed version of the key components of effective interventions in a particular topic area;
2. A one to three-page description of each intervention which demonstrated effectiveness; and
3. Guidelines for choosing and adapting programs to fit your audience and needs.

All interventions will have to be adapted to fit your particular situation – there is no ‘one size fits all’ solution. You will need to take the information and modify it to fit your context. Knowing the key programs of an intervention will help you to make adaptations without losing effectiveness.

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Effective workplace nutrition interventions

Summary Report

Introduction:

This Summary Report is based on six systematic reviews. They were conducted over the past seven years and included research from North America. Accompanying this Report are brief descriptions of three interventions within the reviews that demonstrated effectiveness in behaviour change.

1. Live for Life³
2. Working Healthy Project²
3. Walk in to Work Out²
4. PACE^{4,5}

Note: The superscript numbers refer to the sources used to identify the respective interventions. See below for citations.

Using evidence for program implementation:

1. There is evidence showing that workplace interventions are effective in increasing physical activity levels in the workplace.¹⁻⁵ Evidence from the three systematic reviews outlined the following strategies in successful interventions:
 - Providing employees with professional guidance about starting an exercise program and ongoing support¹
 - Using print materials geared at lifestyle activity as opposed to structured exercise³
 - Including print materials based on a stages of change paradigm³
2. Effective workplace physical activity interventions include one or more of the following programs:
 - Education
 - Informational/educational/motivational materials²
 - Sessions on skill-building and behaviour change^{2,3}
 - Cafeteria/Meal modification²
 - Onsite exercise classes^{2,3}
 - Health screening³
 - Media marketing³
 - Smoking cessation^{2,3}
 - Individualised counselling^{4,5}

Results:

The effective interventions resulted in an increase in the amount of moderate to vigorous physical activity workers engage in.¹⁻⁵ More specific results are documented in the following intervention descriptions.

Definitions:

1. Intervention: A group of different programs (components) within the same or related topic area(s), usually including a variety of information, skill-building and environmental supports.
2. Program: A specific component of a multi-component intervention.

Reviews:

1. The Cochrane Library (<http://www.thecochranelibrary.com/>):

Hillsdon, M., Foster, C., Thorogood, M. (2005). Interventions for promoting physical activity (Cochrane Review). *The Cochrane Database of Systematic Reviews*, Issue 1.

2. CRD DARE Database (<http://www.crd.york.ac.uk/crdweb/>):

Oglivie, D., Foster, C.E., Rothnie, H., Cavill, N., Hamilton, V., et al. (2007). Interventions to promote walking: Systematic review. *British Medical Journal*, 334, 1204-.

Proper, K.I., Koning, M., van der Beek, A.J., Hildebrandt, V.H., van Mechelen, W. (2003). The effectiveness of worksite physical activity programs on physical activity, physical fitness, and health. *Clinical Journal of Sport Medicine*, 13(2), 106-117.

3. Peer Reviewed Journal (*American Journal of Preventive Medicine*):

Marcus, B.H., Owen, N., Forsyth, L.H., Cavill, N.A., Fridinger, F. (1998). Physical activity interventions using mass media, print media, and information technology. *American Journal of Preventive Medicine*, 15(4), 362-378.

4. National Institute for Health and Clinical Excellence (www.nice.org.uk):

Dugdill, L., Brettell, A., Hulme, C., McCluskey S. & Long, A.F. (2007). A review of effectiveness of workplace health promotion interventions on physical activity and what works in motivating and changing employees' health behaviour. London: National Institute for Health and Clinical Excellence.

5. EPHPP Public Health Reviews (<http://old.hamilton.ca/phcs/ephpp/ReviewsPortal.asp>):

Micucci, S., Thomas, H. (2007). The effectiveness of multi-faceted health promotion interventions in the workplace to reduce chronic disease. Effective Public Health Practice Project.



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Workplace physical activity interventions: Live for Life

Entered on August 8, 2005

Expected outcomes:

Live for Life aims to increase regular vigorous exercise among working adults.

Audience & setting of the study:

The study intervention was situated in the workplace. Age, gender and socioeconomic statistics were not given. The research study was conducted in New Jersey.

Results of the study:

20% of the women and 30% of the men in the Live for Life study intervention group reported that they began a regular vigorous exercise program over the two year period. Total daily energy expenditure in vigorous physical activity increased by 104% among the intervention employees.

Time & training required for the intervention:

Live for Life is two years in length. No training is specified.

Description of the intervention:

This intervention begins with a three-hour introduction lifestyle seminar, and consists of five programs:

1. Annual Health Screening program: Medical encouragement is given to initiate and/or maintain a regular exercise regimen. This program is a way for employees to:
 - a. Find out how healthy they are; and
 - b. Learn about good health practice
2. Onsite Exercise program: Space in the worksite is created for exercise equipment, as well as regularly scheduled exercise classes. This program is free of charge to all employees.
3. Media Marketing program: Highly visible health promotion campaigns include:
 - a. Newsletters
 - b. Health fairs and contests
 - c. Informational displays delivered in:
 - i. Cafeterias
 - ii. Hallways
 - iii. Restrooms
4. Smoking Cessation program: Attractive "Thank you for Not Smoking" signs are widely distributed in individual work areas. Designation of specific non-smoking areas is included.
5. Professionally Led Action Group program: These are designed to teach employees how to alter and maintain lifestyles. They are offered to employees on:
 - a. Smoking cessation
 - b. Weight control
 - c. Exercise
 - d. Applied stress management
 - e. Nutrition, etc.

Each employee receives a quarterly summary of “lifestyle points” earned during the previous quarter. Points are acquired through participation in Live for Life programs, lifestyle improvements and for fitness achievement. Employees are also contacted at the end of the program for information on their progress and reactions to the program.

Theoretical models used:

- Not reported

Cost of materials:

Information not provided.

References:

Blair, S.N., Piserchia, P.V., Wilbur, C.S., Crowder, J.H. (1986). A public health intervention model for work-site health promotion: Impact on exercise and physical fitness in a health promotion plan after 24 months. *The Journal of the American Medical Association*, 255(7), 921-926.

Nathan, P.E. (1984). Johnson & Johnson’s Live for Life: A comprehensive positive lifestyle change program. In J.D. Matarazzo, et al. (Ed.), *Behavioral health: A handbook of health enhancement and disease prevention* (pp. 1064-1070). New York: John Wiley & Sons.

Live for Life Web site:

Live for Live at Duke: Services & programs. (2005). Retrieved August 9, 2005 from the Duke Human Resources Web site: <http://www.hr.duke.edu/eohs/livelife/services.html>.

This site describes the Live for Life intervention as it is administered at Duke HR. The program originated from Duke University.



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Workplace physical activity interventions: Working Healthy Project

Entered on August 8, 2005

Note: This intervention also appears in the Workplace Nutrition Interventions package.

Expected outcomes:

The Working Healthy Project aims to increase physical activity; increase fruit, fibre and vegetable intake; reduce fat intake; and promote smoking cessation in working adults.

Audience & setting of the study:

The study intervention was situated in the workplace. Participants were predominantly Caucasian male blue collar workers with a mean age of 40.6 years. The research study was conducted in Rhode Island and southeastern Massachusetts.

Results of the study:

The Working Healthy Project study intervention resulted in a 30% increase of physical activity, an 11% increase in fibre intake, and a 7% increase in fruit and vegetable consumption for the intervention group. The project did not yield significant changes in smoking behaviour.

Time & training required for the intervention:

The Working Healthy Project is two and a half years in length. This intervention makes use of an Employee Advisory Board and a Worksite Coordinator at each worksite. No training is specified.

Description of the intervention:

This intervention begins with a kick-off event. The following program targets the individual:

1. Education program: Consists of groups or classes on skill-building, social support, and behaviour change. These classes are supplemented by:
 - a. Informational/motivational materials: posters, brochures, newsletters
 - b. Self-assessment with feedback: questionnaires, tests, surveys
 - c. Self-help/self-skills management: at-home videos or print materials
 - d. Contests and monetary incentives: fitness challenges, special events

The following programs are targeted at the environment:

1. Smoking Cessation program: Implements smoking restriction policies and/or bans
2. Cafeteria Modification program: Follows guidelines used in the Working Well Trial.
3. Exercise program: Increases the allocation of space for exercise equipment, purchases new equipment, offers training on the use of new equipment, etc.

Theoretical models used:

- Individual, Organization and Community Activation theories
- Participatory Strategies model

Cost of materials:

Information not provided.

References:

Emmons, K.M., Linnan, L.A., Shadel, W.G., Marcus, B., Abrams, D.B. (1999). The Working Healthy Project: A worksite health-promotion trial targeting physical activity, diet, and smoking. *The Journal of Occupational and Environmental Medicine*, 41(7), 545-555.



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Workplace physical activity interventions: Walk in to Work Out

Entered on February 20, 2008

Expected outcomes:

Walk in to Work Out (WW) aims to increase active commuting behaviour (walking and cycling).

Audience & setting of the study:

The study intervention was situated in the workplace and targeted professional and managerial employees identified as contemplating or preparing to actively commute. Workplaces included were an acute hospital trust, a university, and a health board. Employees were an average of 38 years old and 64% were women. The research study was conducted in Glasgow, Scotland.

Results of the study:

Six-month follow-up showed a significantly greater average time per week spent walking to work for those in the intervention group compared with controls, among those who had not walked to work at the start of the program. There was also a significant increase in the average time spent walking to work per week in favour of the intervention group, among those who already walked to work (from 52 m/w to 79 m/w). Twenty five percent of the intervention group, who received the intervention, were regularly actively commuting at the 12-month follow-up. WW was not successful at increasing cycling.

Time & training required for the intervention:

WW consists of one contact. Training is not required.

Description of the intervention:

Participants receive a pack that consists of a booklet with educational and practical materials on: choosing routes, maintaining personal safety, shower and safe cycle storage information and useful contacts. The pack also includes an activity diary in the form of a wall chart, a workplace map, distances from local stations, local cycle retailers and outdoor shops, local maps, and reflective safety accessories.

Theoretical model used:

- Stages of change model

Cost of materials:

The WW pack can be purchased from NHS Scotland for £3.95:

<http://www.healthscotland.com/resources/publications/catalogue.aspx>

References:

Mutrie, N., Carney, C., Blamey, A., Crawford, F., Aitchison, T. & Whitelaw, A. (2002). "Walk in to Work Out": A randomised controlled trial of a self help intervention to promote active commuting. *Journal of Epidemiology and Community Health*, 56, 407-412.



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Workplace physical activity interventions: Patient-centered Assessment and Counselling for Exercise and nutrition (PACE)

Entered on February 20, 2008

Expected outcomes:

PACE aims to increase physical activity fitness and health at the workplace.

Audience & setting of the study:

The study intervention targeted employees of three municipal services in the Dutch town of Enschede. Seventy five percent of participants were male.

Results of the study:

There were significant positive effects on total energy expenditure, physical activity during sports, cardiorespiratory fitness, percentage of body fat, and blood cholesterol in the PACE group compared to controls.

No effects were found for the proportion of participants meeting the public health recommendation of moderate-intensity physical activity, physical activity during leisure time other than sports, musculoskeletal symptoms, body mass index, and blood pressure.

Time & training required for the intervention:

PACE is nine months in length. The intervention is delivered by a physiotherapist trained in using the PACE materials.

Description of the intervention:

Note: This intervention is an adaptation of the original PACE program (took place in a clinical setting) which is featured in the CCS KEN Community & Primary Care Physical Activity Interventions package.

Participants receive seven consultations (20 min each) with the physiotherapist which are individualized to his/her stage of change. Counselling primarily focuses on the enhancement of the individual's level of physical activity. A secondary focus is the promotion of healthy nutrition habits. Participants can also obtain counselling about other factors such as work stress or smoking. During the second consultation a plan is made to improve physical activity and nutrition behaviour. The plan is further discussed during the remaining five sessions.

Theoretical model used:

- Stages of change model

Cost of materials:

The physical activity and nutrition manual set (for the original primary care intervention) cost approximately \$85.

References:

Proper, K.I., et al. (2003). Effect of individual counselling on physical activity fitness and health: A randomized controlled trial in a workplace setting. *American Journal of Preventive Medicine*, 24(3), 218-226.

PACE Web site:

PACE Canada. (n.d.). Retrieved September 11, 2008 from <http://www.pace-canada.org>.

To order materials, go to http://www.sandiegochi.com/pace_written_materials.html.



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Guidelines for choosing and adapting programs

(Source: Research-tested Intervention Programs (RTIPS), National Cancer Institute)

ADAPTATION GUIDELINES:

1. Determine the needs of your audience and whether this program addresses those needs;
2. Review the program and its materials with your intended audience for feedback;
3. Define the extent of adaptation needed and potential ways to implement the new program;
4. Develop a “revised” program;
5. Implement and monitor for need for further changes;
6. Modify/revise program based on feedback;
7. Evaluate the effectiveness of your adapted program and products.

PROGRAM ADAPTATION CHECKLIST:

- Objectives:** The program’s objectives fit the needs of your audience, and the program’s content is built to meet its overall objectives;
- Approach used:** The approach(es) used in the program are based on sound theory about how people behave or act, and will fit with your audience;
- Content:** The reading level, complexity and amount of detail of information provided in the program are appropriate for your audience;
- Level of understanding:** The underlying beliefs/values of the program fit with the cultural background and understanding of your audience;
- Fit with community resources:** The program’s activities are realistic and achievable, given the resources of your community;
- Media and information channels:** Your intended mode of delivery for the program will not diminish the effectiveness of the message(s), even if it is different from that of the original program;
- Terminology:** You understand how your audience interprets the key terms used in the program and the program’s terminology will be understood by your audience;
- Fit:** You seek feedback from your audience regarding the fit/cultural appropriateness of the program and make sure there is a good “fit”;
- Intended actions:** The desired/expected behaviours are consistent with your objectives and the needs of the audience.

Monitoring the implementation of the adapted program is important, especially if:

1. Your audience is significantly different from that of the original program;
2. You intend to deliver the product to your audience using a different mode of delivery;
3. You do not intend to use the entire program and all its recommended products as implemented in the original setting – choosing some but not all of the program components or products to modify and use;
4. Your resources prevent you from implementing the program as it was intended;
5. You intend to translate the product into another language, as mere translation does not guarantee that the program’s content will be culturally relevant.