



# Effective Public Health Practice Project Summary Statement

October 2006

This is a summary statement written to condense the work of the authors of a systematic review. The reference for the full review is below. The intent of this summary is to provide an overview of the findings and implications of the full review. For more information on individual studies included in the review, please see the review itself.

**Reference for Review:** Moher, M., Hey, K., Lancaster, T. (2005). **Workplace interventions for smoking cessation.** *The Cochrane Database of Systematic Reviews 2005*, Issue 2. Art. No.: CD003440.pub2. DOI: 10.1002/14651858.CD003440.pub2.

## Issue

The Mandatory Health Programs and Services Guidelines on chronic disease prevention for Ontario include objectives to reduce the proportion of adults who smoke (Ontario Ministry of Health and Long-Term Care [MOHLTC], 1997). Although smoking rates have declined since 1997, 20% of Ontarians still smoked in 2003 (MOHLTC, 2005). Smoking is the leading cause of lung cancer, which will be diagnosed in 3,900 people in Ontario in 2006 and cause 3,500 deaths (Canadian Cancer Statistics, 2006). Smoking has also been linked to other cancers and many other health problems, including cardiovascular disease (Yusuf et al., 2004), age-related macular degeneration (Thornton et al., 2005), osteoporosis (Bass et al., 2006) and stroke (Yusuf et al., 1993). In addition to preventing morbidity and mortality from smoking-related disease, reducing smoking among employees may decrease the cost to employers of health, disability and life insurance (Javitz et al., 2006).

Although smoking cessation programs can be delivered in a number of settings, the workplace has some advantages. It offers access to large numbers of smokers, convenience to employees (resulting in the potential for high participation rates), an environment amenable to building peer-group support, access to occupational health staff, and the opportunity to target young men—a group who may not visit general practitioners as frequently as other members of the population. Systematic reviews have established the effectiveness of various behavioural interventions for encouraging smoking cessation across a variety of settings (Stead & Lancaster, 2005; Lancaster & Stead, 2005), but an up-to-date review of the evidence related to workplace interventions would be useful to employers and public health planners.

## Review Content Summary

This systematic review assessed the extent to which different kinds of workplace smoking cessation programs helped smokers to reduce or stop cigarette consumption. In addition to interventions to help individuals stop smoking, the reviewers examined interventions aimed at the workforce as a population, such as restrictive smoking policies or bans. The latter evidence will not be summarized here, as smoking in the workplace has been banned in Ontario since 1990. Evidence on interventions aimed at individual employees was available from 30

randomized controlled trials (RCT). Group-format programs, individual counselling and pharmacologic treatment increased the likelihood of quitting smoking. Self-help did not appear to be effective.

### Comments on this Review's Methodology

In addition to MEDLINE, EMBASE, PsycINFO and reference lists, the reviewers searched a register of trials assembled from searches of health and social science databases, relevant journals, conference proceedings and reference lists. Eligibility criteria were well described. Randomized trials with at least six months follow-up were included. Concealment of allocation and biochemical verification of smoking cessation were assessed as indicators of study quality. Fixed-effects models were used to pool results across subgroups of studies evaluating individual counselling, self-help interventions, group-based behavioural therapy, nicotine-replacement therapy and incentives. Despite the fact that there were differences among studies in design and control interventions, there was no statistically significant heterogeneity among studies within each of these subgroups. Forest plots from meta-analysis were used to illustrate results for groups of studies, but the reviewers synthesized the results using "qualitative narrative review".

Randomization procedures were poorly described, making it difficult for the reviewers to assess allocation concealment. All but two studies obtained biochemical verification of smoking status. Only three studies used a no-treatment or placebo control.

### Evidence and Implications for Practice & Policy

*Evidence points ARE NOT weighted or ranked according to strength*

What's the evidence?	Implications for practice and policy:
<ul style="list-style-type: none"> <li>&gt; There is strong evidence that group-based behavioural therapy, individual counselling and nicotine-replacement therapy can help workers to stop smoking.</li> <li>&gt; These interventions are effective whether offered in the workplace or elsewhere.</li> <li>&gt; Although interventions are effective, the absolute quit rate is low.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Effective strategies for smoking cessation can be identified from the literature.</li> <li>&gt; When applying research results to the workplace, consideration should be given to similarities/differences between the study population and the target group of employees.</li> <li>&gt; Choices should not be limited to strategies evaluated only in the workplace.</li> </ul>
<ul style="list-style-type: none"> <li>&gt; Meta-analysis of data from nine RCTs with 1192 participants detected a significant benefit for group-based behavioural therapy (odds ratio 1.92; 95% CI, 1.37 to 2.69)</li> </ul>	<ul style="list-style-type: none"> <li>&gt; If considering a smoking-cessation program to administer to groups of employees, employers should choose one that has demonstrated effectiveness in a published randomized trial.</li> </ul>

What's the evidence?	Implications for practice and policy:
<ul style="list-style-type: none"> <li>&gt; Meta-analysis of data from six RCTs with 2900 participants detected a significant benefit for individual counselling compared to no or minimal intervention (odds ratio 2.00; 95% CI, 1.51 to 2.66).</li> </ul>	<ul style="list-style-type: none"> <li>&gt; If considering smoking-cessation counselling for individual employees, employers should choose an intervention that has demonstrated effectiveness in a published randomized trial.</li> </ul>
<ul style="list-style-type: none"> <li>&gt; Meta-analysis of data from five RCTs with 1136 participants detected a significant benefit for nicotine-replacement therapy (odds ratio 1.65; 95% CI, 1.10 to 2.48).</li> </ul>	<ul style="list-style-type: none"> <li>&gt; If considering nicotine replacement therapy for individual employees, employers should choose a regimen that has demonstrated effectiveness in a published randomized trial.</li> </ul>
<ul style="list-style-type: none"> <li>&gt; Meta-analysis of data from eight RCTs with 1574 participants failed to detect a significant benefit for self-help (odds ratio 1.41; 95% CI, 0.87 to 2.29).</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Self-help aids are not effective for smoking cessation in the workplace.</li> </ul>
<ul style="list-style-type: none"> <li>&gt; Five studies did not find evidence that participation in programs can be increased by competitions and incentives organized by the employer.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Incentives and competitions are unlikely to improve participation in smoking cessation programs.</li> </ul>
<p><b>General Implications:</b> Employers should consider offering smoking cessation programs to employees. They should choose a program that has been shown to be effective in a workplace or other setting.</p>	

### Cost Benefit or Cost-Effectiveness Information

Seven of the trials included in the review (one from Australia and six from the United States) reported cost data. Although the economic analysis was summarized for each study, it was difficult to synthesize this information because of differences in the methods of calculation and presentation of cost data. The reviewers concluded that there was insufficient evidence to determine the cost-effectiveness of workplace interventions for smoking cessation.

### References Used to Outline Issue

Bass, M., Ford, M.A., Brown, B., Mauromoustakos, A., & Keathley, R.S. (2006). Variables for the prediction of femoral bone mineral status in American women. *Southern Medical Journal*, 99, 115-122.

Canadian Cancer Society, & National Cancer Institute of Canada. (2006). Canadian Cancer Statistics. Retrieved April 13, 2006 from: [http://www.cancer.ca/vgn/images/portal/cit\\_86751114/31/21/935505792cw\\_2006stats\\_en.pdf](http://www.cancer.ca/vgn/images/portal/cit_86751114/31/21/935505792cw_2006stats_en.pdf).

Javitz, H.S., Zbikowski, S.M., Swan, G.E., & Jack, L.M. (2006). Financial burden of tobacco use: an employer's perspective. *Clinics in Occupational and Environmental Medicine*, 5, 9-29.

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- Yusuf, S., Lessem, J., Jha, P., & Lonn, E. (1993). Primary and secondary prevention of myocardial infarction and strokes: an update of randomly allocated, controlled trials. *Journal of Hypertension*, 11, S61-73.

### Other References

- Ontario Ministry of Labour. (2006). Smoke-Free Ontario Act. Retrieved November 6, 2006 from: [http://www.mhp.gov.on.ca/english/health/smoke\\_free/legislation.asp](http://www.mhp.gov.on.ca/english/health/smoke_free/legislation.asp).

### Related EPHPP Summary Statements

The Effective Public Health Practice Project is producing or has completed summary statements for the following systematic reviews on smoking cessation:

- Hey, K. & Perera, R. (2005). Competitions and incentives for smoking cessation. *The Cochrane Database of Systematic Reviews* 2005 (2). Art. No.: CD004307.pub2. DOI: 10.1002/14651858.CD004307.pub2.
- Lancaster, T. & Stead, L.F. (2005). Individual behavioural counselling for smoking cessation. *The Cochrane Database of Systematic Reviews* 2005 (2). Art. No.: CD001292.pub2. DOI: 10.1002/14651858.CD001292.pub2.
- Lancaster, T. & Stead, L.F. (2004). Physician advice for smoking cessation. *The Cochrane Database of Systematic Reviews* 2004 (4). Art. No.: CD000165.pub2. DOI: 10.1002/14651858.CD000165.pub2.
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