

## SYNTHESIS

# Smoke-Free Series: Workplace Cessation Interventions

**Research Question:** What is the effectiveness of workplace-based tobacco cessation interventions?

## Key Messages

- Three systematic reviews were included in this document on workplace-based smoking cessation interventions, including incentives, competitions and policies.
- Recent findings showed mixed effectiveness for workplace interventions using cash or vouchers as incentives to quit smoking. Some studies showed positive effects, while others found no effect.
- Competitions and workplace-based policy interventions for smoking cessation showed no evidence of effectiveness.
- There appears to be nothing in the new reviews to suggest a change in evidence for the effectiveness of comprehensive workplace-based cessation interventions compared to the 2016 SFO-SAC report findings; however, with respect to **incentives**, the evidence does appear to be the same (i.e., mixed).
- More research is needed on workplace incentives, as well as workplace policies for smoking cessation to determine effectiveness.

## Background

- Since most adults spend approximately one-third of their day at work, the workplace presents a unique setting where large groups of smokers can be reached.<sup>1</sup> Individuals who work in trades, construction, primary industry, retail and hospitality tend to have the highest smoking rates among occupations, as well as lower uptake of smoking cessation interventions in the workplace.<sup>2,3</sup>
- Workplace cessation interventions include a variety of strategies targeted to individuals or groups.<sup>1</sup> Examples include individual and group counselling, self-help materials, pharmacological therapy, social and environmental support, incentives, work policies and comprehensive

programmes.<sup>1</sup> In this document, only reviews on workplace-based incentives, competitions, and policies for smoking cessation emerged from the literature search.

- Incentives for smoking cessation, in theory, work by positively rewarding the desired behaviour or by providing short-term gain for behaviour change that ultimately results in long-term gain.<sup>4</sup> Incentives can be used to encourage recruitment into the programme, to reward compliance with the process, and to reward cessation achieved at predefined stages, usually contingent on production of a biochemically-confirmed cessation outcome.<sup>4</sup>
- Competitions for smoking cessation offer individual participants or groups a chance, but not a guarantee, of winning a particular reward if they successfully quit.<sup>5</sup> Examples of rewards include cash payments, vouchers, salary bonuses, promotional items, such as t-shirts, pens and bags, holidays, and luxury goods, such as cars or boats.<sup>5</sup>
- Workplace policies can support smoking cessation in the physical and social environment, such as compliance with smoking policies, freedom from environmental tobacco smoke at work, management concern about smoking, and encouragement from co-workers and employers to stop smoking.<sup>6</sup> These policies can be supported by implementation strategies; for example, quality improvement initiatives, education and training, performance feedback, prompts and reminders, and the use of opinion leaders or implementation consensus processes.<sup>6</sup>
- Evidence from the Smoke-Free Ontario Scientific Advisory Committee 2016 (SFO-SAC 2016) report<sup>7</sup> noted that comprehensive cessation interventions in the workplace are effective to increase smoking cessation (e.g., behavioural therapy, pharmacological support, self-help, counselling). There is also well-supported evidence from the 2016 SFO-SAC report (smoke-free policies section) that workplace smoke-free policies support smoking cessation (i.e., quitting and reducing smoking); however, they did find that the evidence regarding workplace incentive programs (e.g., monetary incentives) was mixed.
- This synthesis is focused on the evidence about workplace-based cessation interventions published since the SFO-SAC (2016) report.

## Methods

- A peer-reviewed literature search was conducted in September 2019 by Public Health Ontario (PHO) Library Services, for articles published between 2015 and 2019. The search did not extend earlier than 2015 because a comprehensive summary of evidence on this research question had been completed (see the Cessation Chapter in SFO-SAC 2016).<sup>7</sup>
- The search involved five databases, including MEDLINE, Embase, PsycINFO, CINAHL and SocINDEX. Examples of search terms included employment, occupation, workplace, tobacco, cessation, smoke-free, and nicotine. The full search strategy is available upon request from PHO.

- Articles were eligible for inclusion if they were review-level articles, published between 2015 and 2019, focused on tobacco cessation interventions taking place in the workplace, and measured cessation outcomes.
- One reviewer screened titles and abstracts, and two reviewers screened full-text versions of all articles for inclusion. For all relevant papers, one PHO staff extracted relevant data and summarized content.
- Quality appraisal was conducted for each included review using the [Healthevidence.org](https://www.healthevidence.org) Quality Assessment Tool for Review Articles.<sup>8</sup> Two reviewers made independent assessments for each of the 10 quality criteria. Any discrepancies were resolved by discussion.

## Findings

- The literature search identified 375 articles, of which three reviews met inclusion criteria.<sup>4-6</sup> All three were systematic reviews and were appraised as strong quality.<sup>4-6</sup> Most of the jurisdictions of the included studies within reviews were from the USA; others included Russia, Canada, Sweden, and the Netherlands. All reviews targeted the adult population aged 18 or older. Interventions were conducted in a variety of workplaces, such as ambulance stations; banks/savings and loan companies; manufacturing; aerospace industry; universities; manufacturing; communications; public service; and utilities sectors. Organization size ranged from small (e.g., 49 employees) to large companies (e.g., 1,700 employees).
- The systematic review by Notley et al. (2019) investigated incentives, such as cash payments or vouchers for goods and groceries.<sup>4</sup> Four studies within this review were in a workplace setting. Overall, the results were mixed; two studies found incentives to significantly increase smoking cessation and two studies found no difference between incentives and control group (either usual care or an intervention without incentives).<sup>4</sup>
- The systematic review by Fanshawe et al. (2019) investigated competitions that were either performance-based reward (smokers competing against each other to win a prize) or performance-based eligibility (smokers who quit were entered into a prize draw).<sup>5</sup> Of the 20 studies included in this review, there was no evidence of effectiveness of competitions for smoking cessation at long-term follow-up of six months or more.<sup>5</sup>
- The systematic review by Wolfenden et al. (2018) investigated workplace-based policies targeting a variety of modifiable behavioural risk factors for chronic disease.<sup>6</sup> The Working Well Trial that had policies and practices in the workplace physical and social environment for diet and tobacco use was the only study that reported cessation outcomes. There was no significant difference in smoking prevalence or the proportion of smokers who quit among employees in workplaces receiving implementation support compared to control.<sup>6</sup>
- As stated previously, this evidence review is specifically assessing the effectiveness of incentives, competitions and policies; not comprehensive workplace cessation interventions. There appears

to be nothing in the new reviews to suggest a change in evidence for the effectiveness of comprehensive workplace-based cessation interventions compared to the 2016 SFO-SAC report; however, with respect to **incentives**, the current evidence does appear to be the same as the 2016 SFO-SAC report (i.e., mixed).

## Limitations

- The limitation for all systematic reviews was that included studies within the reviews were of weaker quality. For example, there were some studies with unclear or high risk of bias for randomization and observer blinding.
- Incentives for smoking cessation showed mixed effectiveness; some studies showed positive effects, while others found no effect. Competition and workplace-based policy interventions for smoking cessation showed no evidence of effectiveness. More research is needed on workplace incentives for smoking cessation to determine effectiveness over time.
- More research is also needed to assess the effectiveness of workplace policies. There was only one study in the Wolfenden et al. (2018) review that reported cessation outcomes and it found no significant difference in smoking prevalence or the proportion of smokers who quit. Findings from more studies are needed to draw a conclusion about effectiveness.
- A challenge with assessing the effectiveness of policies is that this is a very general term and can mean many different things. There is well supported evidence for workplace smoke-free policies and cessation outcomes in the 2016 SFO-SAC report, which is not disputed in the current evidence.

## References

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