Canadian Journal of Public Health (2018) 109:128–133
https://doi.org/10.17269/s41997-018-0019-8

INNOVATIONS IN POLICY AND PRACTICE

Quitting the smoke break: a successful partnership with the construction industry

Lorette Dupuis[1] · Heidi McKean[1] · Hilda Chow[1]

Received: 3 November 2016 / Accepted: 2 November 2017 / Published online: 26 February 2018

Abstract

Setting The Conference Board of Canada cites that 77% of employees want to receive health information in the workplace. From 2014 to 2016, Ottawa Public Health (OPH) partnered with 25 construction companies, to implement smoking cessation programs on 41 construction sites.

Intervention OPH partnered with local construction companies, unions, and workers to design, deliver, and evaluate a tailored initiative to build smoke-free culture and encourage quit attempts. Workers received group and one on one counseling and nicotine replacement therapy (NRT) from OPH staff. Client satisfaction was assessed and used to inform ongoing quality improvement.

Outcomes Since 2014, this project has expanded from one pilot site to 41 sites and has engaged two of the largest construction companies in Canada. A participant's survey ($N = 62$) found that at 1 month, 40% remained smoke-free and 38% had reduced the amount tobacco smoked. At 6 months, 34% remained smoke-free and 45% had reduced their consumption of tobacco.

Implications Construction workers typically have high smoking rates and low engagement with cessation programs. Public health practitioners working with the construction industry must understand the culture, engage on-site champions, and articulate the added value of tobacco cessation to the business. Using this information on partnering with the construction industry, this innovative program, first of its kind in Canada, could be duplicated in other communities.

Résumé

Contexte D'après le Conference Board du Canada, 77 % des employés veulent obtenir de l'information sur la santé au travail. Entre 2014 et 2016, Santé publique Ottawa (SPO) a établi un partenariat avec 25 entreprises de construction afin de mettre en œuvre des programmes d'abandon du tabac sur 41 chantiers.

Intervention SPO s'est associé à des entreprises de construction, des syndicats et des travailleurs d'Ottawa pour concevoir, mener et évaluer une initiative personnalisée visant à créer une culture sans fumée et à encourager les travailleurs à essayer d'arrêter de fumer. Des employés de SPO ont offert aux travailleurs un counseling individuel et de groupe et une thérapie de remplacement de la nicotine (TRN). Ils ont évalué la satisfaction des clients et ces données ont servi à l'amélioration continue de la qualité.

Résultats Depuis 2014, le projet a pris de l'ampleur, passant d'un seul chantier pilote à 41 chantiers. Deux des plus grandes entreprises de construction au Canada y ont participé. Selon un sondage mené auprès des participants ($N = 62$) : après un mois, 40 % n'avaient pas recommencé à fumer et 38 % avaient réduit leur consommation de tabac. Après six mois, 34 % n'avaient pas recommencé à fumer et 45 % avaient réduit leur consommation de tabac.

Incidences De façon générale, les travailleurs de la construction ont un taux de tabagisme élevé et participent peu aux programmes d'abandon du tabac. Les professionnels de la santé publique collaborant avec l'industrie de la construction doivent comprendre la culture, mobiliser des champions sur les chantiers et présenter clairement les bienfaits de l'abandon du tabac pour le secteur. En utilisant cette information sur le partenariat avec l'industrie de la construction, on pourrait reproduire dans d'autres communautés ce programme novateur, le premier du genre au Canada.

✉ Lorette Dupuis
lorette.dupuis@ottawa.ca

[1] Ottawa Public Health, 100 Constellation Drive, 7th Floor, Ottawa, ON K2G 6J8, Canada

Keywords Smoking cessation intervention · Construction industry

Mots-clés Intervention antitabac · Industrie de la construction

Participants, setting, and intervention

Although health promotion programs and policies have considerably reduced tobacco use, smoking, the leading cause of preventable disease and death (World Health Organization 2011; Mathers and Loncar 2006), is still a major public health concern.

Some population groups, such as construction industry workers, continue to have high smoking prevalence (Rothenbacher et al. 1998; Bang and Kim 2001). The smoking rate in the Canadian construction industry is 34%, double the national average of 17% (The Conference Board of Canada 2013). Furthermore, construction workers face further challenges, frequently pressured to complete very physically demanding tasks quickly, often with long days and in difficult weather conditions, which may increase the stress felt by workers. Demographics of this workforce (education level, gender, and age) along with these high levels of stress may explain why smoking rates and failed quit attempts are high in this population.

The smoking cessation rate of construction industry trade workers has not followed the marked improvements seen in Canada's decreasing tobacco-use rate overall. Targeting this high-risk population in the workplace was identified as an ideal setting to encourage cessation and support smokers in their quit attempts. This manuscript will describe the steps taken to develop strong partnerships with the construction industry in order to implement a public health intervention aimed at encouraging smoking cessation attempts for workers employed in this industry.

In 2012–2014, the Ministry of Health and Long-Term Care (MOHLTC) provided $105,800 in one-time funding for a workplace-based demonstration project to increase smoking cessation in high-risk populations through multisectoral partnerships. Ottawa Public Health (OPH) intended to motivate and assist construction trade workers to make a quit attempt through a tailored and innovative approach. To do so, OPH dedicated two full-time staff to the project. This on-site program was a first of its kind in Canada that aimed at outcomes of smoking cessation for workers, reduction of secondhand smoking exposures, and overall improvement of the employee's work environment. This program consisted of four elements: awareness raising via tailored promotional material, a quit contest (coined Fresh Air by the construction workers), on- and off-site smoking-cessation counseling with nicotine replacement therapy (NRT) support, and incorporating smoking-cessation resources and referral information in the construction company's communication channels to sustain program efforts.[1] A critical element to this project was the development of a partnership with the construction industry. This article will focus on OPH's approach to building a partnership with the construction industry and the lessons learned in working with them. The efforts in working with the construction industry sector were guided by the framework from the *Partnership handbook* (Frank and Smith 2000). This framework has three components—initial development, making it happen, and setting future directions—that can be applied in any public health issue.

Initial development: building the relationship with management

Establishing a strong collaborative relationship with the construction industry leaders supported a tailored approach to ensure successful implementation of the tobacco cessation program on the job site. This was essential when creating goals for the partnership as suggested in the partnership framework. The genesis of the OPH program came from an encounter with the Director, Community Relations of the Building and Construction Trades Council, who had a keen interest in smoking cessation. The Council represented approximately 25,000 workers from 25 independent yet affiliated organizations. This relationship was leveraged when the opportunity for funding for this smoking cessation program became available. This champion was instrumental in arranging the first contact with company leaders by putting OPH on the agenda of the council meetings to launch the idea, and helped to keep the dialogue about the smoking cessation top of mind with these organizations. Through this champion and introduction to the industry, OPH staff were able to build relationships with representatives from The Labour International Union of North America (LiUNA), Infrastructure Health and Safety Association (IHSA), Ottawa Construction Association (OCS), Unionized Building and Construction Association Trades Council (UBTCT), and the Greater Ottawa Home Builders Association (GOHBA). The representatives from these groups became champions who helped OPH staff understand construction industry business and facilitated connection to trades and company decision makers. With access to the senior management of individual construction companies, OPH staff presented the business case of the benefits of a smoke-free workforce and the value to their organizations in

[1] (Note: For further information on the OPH construction industry cessation program, a copy of the detailed guide: *Quitting the Smoke-break: a guide to building smoke-free culture in the construction industry* may be obtained by contacting OPH.)

helping workers make a quit attempt. With a minimal investment of just 2 h of time from the on-site supervisor over an 8-week period (15 min per week), OPH pitched the program that could be conducted on site to achieve the stated goals.

Once senior management of each individual construction company endorsed the program, they facilitated OPH access to their construction sites via the on-site supervisors, where tailored planning for each site was initiated. OPH staff worked closely with the on-site supervisor to learn about their operations specifically, hours of work, time constraints for service provision so as to not to interfere with production or delay construction project completion, and profit margin. Both levels of champions, senior managers and on-site supervisors, were committed to endorse a positive environment for employees to access necessary services and supports to quit within the time segments agreed upon between OPH and the company.

Make it happen: tailored approach

After the working parameter was clearly defined and established with the company, OPH launched the four-stage intervention based on the Stages of Change Theory Transtheoretical Model by Prochaska and DiClemente (Prochaska and DiClemente 1984). The intervention began with an awareness-raising segment which described the harmful effects of smoking, the benefits of quitting (pre-contemplation), the details for the Fresh Air contest (contemplation and action), on- and off-site smoking-cessation counseling, and environmental changes for ongoing support (maintenance or relapse prevention).

The intervention was tailored to each company and each of their job sites with their unique set of challenges, such as culture, policies, organizational structure, and safety equipment. The on-site supervisors, worksite champions, and employees (the administrative assistants or workers themselves) helped with tailoring of the poster information to their site, with placement of the tailored promotional materials for maximum viewing, and with logistic support for their site, such as where OPH staff could set up for the information sessions, how they access the site and workers, and dates and optimum times to reach the construction trade employees. Each construction site was different. Workers who had participated in cessation programs in the past were engaged to share their experiences and encourage positive outcomes.

Communication from the top down is key in this industry. Communication with the appropriate people enabled information to be shared in a timely manner with frontline workers. This was facilitated by a good understanding of the sites' structure and company hierarchy. Regular meetings with the management team (corporate champions) further enhanced the capacity of the on-site foreman and workers to build trust with the project team, to support them and to minimize challenges particular to this industry. This stage emphasized active participation by each company's representatives involved in the program at all levels. When OPH staff were not on site, these representatives kept the message of moving to a non-smoking culture, encouraged the workers they knew who were attempting to quit, and tried to remove the barriers these employees faced in quitting. Simply asking co-workers to not use tobacco near someone trying to quit was helpful in an industry where workers listen to the foreman. These representatives commented on how encouraged they were to keep supporting the program as they could visibly see their contributions in action. The "Fresh Air" contest was used to motivate the employees to make a quit attempt. Monetary prizes were determined to work best as incentives for this population of workers. The 1-month Fresh Air contest consisted of three categories: one for non-smokers to ensure that they remain smoke-free, another for those who become a support buddy to those who attempt to quit, and a third for those quitting smoking. The contest began with all participants attending a lunch-hour information session on the benefits of a smoke-free culture, importance of support to those who wish to quit, and how to quit. The value of everyone supporting those who wish to quit was emphasized.

During the contest, participants who wished to quit attended weekly brief cessation counseling sessions where they received encouragement from public health staff and received NRT. They were also referred to Canadian Cancer Society's Smoker's Helpline (SHL) for continued ongoing support when OPH staff were not on site. Quit kits were also provided at no cost. The on-site supervisors helped to motivate the employees to participate through word of mouth and reminders of this program during morning work briefings called "Tailgate talks."

Immediately post contest, the on-site supervisors continued to promote the smoke-free messaging via the already established "tailgate talks," providing information about community tobacco cessation services for those who wanted further counseling, and enforced the smoke-free construction site policies. Other tools used to sustain the program were messages embedded on construction industry websites, and the health and safety coordinator referred workers to OPH's tobacco program and smokers' helpline for continued counseling support. At 1-month post contest, an information sheet about triggers for smoking, motivational words to keep trying, and reinforcing the availability of local cessations supports was mailed out to all participants in the contest.

Future direction setting

The relationship between OPH and the construction company decision makers continued after the Fresh Air contest was completed. Key messages for senior management were focused on maintaining a healthier and a smoke-free workforce to improve profit for the company with fewer injuries and absenteeism as stated in the literature. Content for this type

of messaging highlighted success stories from their employees who made successful quit attempts, participation numbers, and worker testimonials about the program. This was provided through bulletins, posted on site, and relayed through regular emails and phone calls.

OPH staff and the construction companies worked together throughout the project toward a smoke-free environment. All construction sites have smoke-free policies; however, enforcement was often challenging as some workers would sneak a smoke when supervisors and foremen were not looking. Engaging all stakeholders (champions and non-smokers) was needed to promote a smoke-free culture and played an important role in changing the culture on site. To assist with this culture shift, the Infrastructure Health and Safety Association (IHSA) incorporated the smoking cessation "Safety Talk" on their website and published information in their construction magazine, to increase program uptake by others. Also, this group is working to include tobacco in their construction industry health and safety manual, the template for construction company health and safety manuals. Going beyond the individual job sites and companies to involving industry-level associations such as trade unions, occupational health representatives, health and safety committees, and employee assistance also helped to promote and sustain the smoke-free culture.

Results

The Ontario Tobacco Research Unit (OTRU) led the evaluation of this workplace-based cessation project from 2013 to 2015. The evaluation was informed by development and realist approaches and information from the field to facilitate learning and improve program delivery. The evaluation employed the use of both qualitative and quantitative measures. Employee and employer needs assessments, intervention intake surveys, 6- and 12-month follow-up surveys, check-in surveys, and case study focus groups with public health staff, employees, and workplace leaders were used to gather the data. Details of the evaluation process, methods, tools, and results for the pilot project can be found in the *Workplace-based cessation demonstration projects evaluation—final report* (Kaufman et al. 2015). By the end of 2016, 41 construction sites had participated in the construction industry smoking cessation program in Ottawa with over 1500 workers participating in the Fresh Air contest. Of the 565 in the quit category, 83% ($n = 468$) opted to receive NRT and 131 smokers were referred to SHL. At 1-month follow-up, 40% ($n = 115$) of the 287 reached were smoke-free and 39% ($n = 112$) reduced the number of cigarettes smoked. The words of one construction worker highlight the sentiments of many participants of the program:

> "I wanted to stop smoking and this program came at the perfect time for me. I liked the support from the people in the program who came to our work and gave us follow-up calls. I also liked the support from co-workers."

Key findings

A key element in the partnership framework was taking the time to build a good relationship with the management and workers involved. This was essential to maintain mutual responsibility, accountability, and transparency. Maintaining frequent communication with program updates, highlighting the positive outcomes, and obtaining their feedback were necessary for continued engagement. Specific resources such as the use of posters was an effective way to get messages across to workers and could be left on site to sustain the momentum after OPH staff moved to another site. Table 1 outlines the key enablers and barriers to working with these construction industry workers and to implementation of the project.

An example of one of the barriers encountered was access to workers. There was easy access to workers on an industrial site as there was usually one point of entrance/exit. However, for those working on residential construction sites, workers were spread out across many construction site locations (e.g., working on detached houses), creating challenges in accessing the workers, providing support to those quitting, and getting the information out about the program.

Based on OPH's experiences with this industry, the following were four important points that may be helpful in working with other industries:

(1) *Build the public-private partnership based on a win-win scenario for both organizations.* It was important to build partnership by shared interests, values, issues, and vision. At the outset, companies may need to be convinced about benefits of investing in the partnership, understanding how the project visions were complementary to their own, the project's positive impact on their workers, and how they will realize financial gain through a healthier workforce, that is, less absenteeism and fewer injuries. Furthermore, demonstrating how the program provides a competitive advantage to companies looking to differentiate themselves in their industry was an added bonus. This was a good measure for the company to show it cared about its employees' "health and health of the community being built" and provided a positive corporate image. Table 2 outlines three factors that staff needed to be mindful of to create winning partnerships within this project.

(2) *Champions within the industry at all levels.* It was necessary to identify key people within the company or associations who could advocate for the program. A

Table 1 Enablers and barriers

Enablers to the partnership	Barriers to moving forward
• Taking time to build a positive relationship with the key members of the industry and individual companies • Senior management approvals • On-site champion with health and safety (both H&S safety coordinator and/or H&S trade representative) • On-site supervisor commitment • Staff flexibility • Open communication	• Skepticism of company owners/leaders • Negative attitude of workers on site • Limitations on construction sites (timing, access to workers and construction sites, scheduling; enforcing smoke-free policies)

champion from the industry facilitated the connection with the management team and helped establish a positive and clearly defined working relationship. Moreover, collaboration allowed employees to learn and gain support from each other and the management teams.

"Promoting better health options is a win for both our trades-people and our bottom line. Having on-site supports for workers interested in quitting smoking is a valuable tool for any business that wants to build a healthy and productive workforce and workplace." Steve Smith, Vice President and Area Manager, EllisDon.

(3) *Look for common ground and focus on the positive.* Involving, recognizing, and thanking all workers to create a positive work atmosphere. It was necessary to learn from mistakes and tweak the service model for continuous improvement. Look at the big picture and remember the things that were done well. Celebrate and share some fun together. For example, at the end of each contest period, OPH staff hosted an event that celebrated contest winners held at the job site during the break. It created support for the Quit category winner to keep going, and allowed all the workers to share some fun together. This was also a good time for the company's management to take photos of their employees to be published in their company promotional material. This also demonstrated to others that the small investment of time was worth it, as workers quit and the smoke-free culture on site improved.

(4) *Maintain effective communication.* Maintaining regular communication and obtaining feedback to keep for-profit industries interested in smoking cessation initiatives. Communicating the right way (which means choosing the best time and the preferred channels, i.e., e-mail, text, or telephone to reach people) and with the right people helped to keep employees and company executives informed and involved. This also facilitated the sharing of success stories, and organizing debrief sessions with on-site supervisors after every site's intervention helped maintain employee interest. The supervisors often passed on the information to their superiors. This allowed for learning about the work completed and its impact, including demonstrating how many employees quit and the positive stories heard, and this built encouragement for the intervention to move to other construction sites.

Table 2 Factors for a winning partnership with the construction industry

Productivity	• A priority for all companies and trades. • Intervention is implemented around employee schedules in order to not interrupt or slow down production. • Sell the idea of how the work deliverables will be improved with fewer workers smoking.
Safety	• Another priority for industry partners. • Health and safety coordinators link smoking to safety for the workers (i.e., how workers smoking affected their non-smoking co-workers, leaving a worker alone while they took a smoke break, or discussing the effects of secondhand smoke on others). • PH staff adhered to safety rules on site (i.e., safety clothing when on site, even for the short meetings; work in designated areas only, no wandering on construction sites).
Flexibility	• Multiple layers of subcontractors all with competing priorities need to be informed. • Each company comes with a different perspective and culture regarding tobacco use, and not all were receptive. • Different culture exists on each site depending on demands, schedules and timelines, and philosophy of the general contractor.

Conclusion

The construction industry is well known to have higher rates of smoking than the general population, and research has shown that it is hard for construction industry employees to successfully quit smoking (Kaufman et al. 2015). The

approach taken by Ottawa Public Health to address this complex problem that spans sectors, organizations, and professions has resulted in positive feedback from the companies involved and successful quit attempts for construction workers. The satisfaction of employees and employers with this program demonstrates an approach that works with this industry, and the lessons learned from this initiative can be applied successfully to other settings. Individual cessation efforts on worksites, while time-consuming, may be the type of intervention needed to get hard-to-reach tobacco users. Working with employers to assist in these efforts, with further study, may be a direction to be included in the next iteration of The Smoke-Free Ontario Strategy.

Acknowledgements The authors would like to thank Debbie McCulloch, Kelly McKay, and Darcie Taing for their time and guidance in reviewing the various drafts of abstracts and text.

Compliance with ethical standards

Conflict of interest The authors declare that they have no competing interests.

References

Bang, K. M., & Kim, J. H. (2001). Prevalence of cigarette smoking by occupation and industry in the United States. *Am J Ind Med, 40*, 233–239.

Frank, F. & Smith A. (2000) Canada. *The partnership handbook*. Human Resources Development Canada.

Kaufman, P., Borland, T., Luk, R. et al. (2015). Workplace-based cessation demonstration projects evaluation—final report. Toronto: Ontario Tobacco Research Unit, June, 2015. Available http://otru.org/evaluation-of-workplace-cessation-demonstration-projects-construction-organizations/

Mathers, C. D., & Loncar, D. (2006). Projections of global mortality and burden of disease from 2002 to 2030. *PLoS Med, 3*, e442.

Prochaska, J. O., & DiClemente, C. C. (1984). *The transtheoretical approach: towards a systematic eclectic framework*. Homewood: Dow Jones Irwin.

Rothenbacher, D., Arndt, V., Fraisse, E., et al. (1998). Early retirement due to permanent disability in relation to smoking in workers of the construction industry. *J Occup Environ Med, 40*, 63–68.

The Conference Board of Canada (2013) Smoking cessation and the workplace: briefing 1—profile of tobacco smokers in Canada. Retrieved on December 13, 2015 from http://www.heartandstrokenbca/atf/cf/%7Be9d7fd18-5e5f-4b5f-b6cf-4142e95dc0c8%7D/13-267_SMOKINGCESSATION-BRIEF1_CASHC.PDF.

World Health Organization. (2011). *WHO report on the global tobacco epidemic, 2011*. Geneva: World Health Organization.