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Evidence to Guide Action:

Comprehensive tobacco control in Ontario (2016)

Smoke-Free Ontario Scientific Advisory Committee

Executive Summary
April 2017

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SFO-SAC Executive Summary

The purpose of this Report is to provide a comprehensive assessment of the tobacco control interventions that would have the greatest impact on reducing tobacco use and its associated burden in Ontario. This Report is a rigorous synthesis of tobacco control research that builds on the Smoke-Free Ontario Scientific Advisory Committee (SFO-SAC) 2010 Report.

The SFO-SAC 2016 Report provides evidence on the effectiveness of interventions to reduce the use of, and exposure to, tobacco products and an assessment that seeks to identify the scientific consensus on the most impactful interventions for tobacco control in Ontario. The Report includes interventions that target relatively new products, such as e-cigarettes and other non-combustibles.

To achieve the desired substantial reductions in tobacco use requires ongoing, collective and coordinated efforts. The greatest impact is still through a comprehensive tobacco control strategy that produces synergies by leveraging the combined contributions of many interventions.

Background

Despite the established body of evidence on the harms caused by tobacco and the sustained efforts to get tobacco use under control, there is still a far-too-high burden of tobacco-related illness and death in Canada.[1] With approximately two million individuals currently smoking in Ontario, tobacco use is responsible for over 13,000 deaths per year in Ontario, the equivalent of 36 deaths per day.[2] Some groups continue to be particularly vulnerable, including people who identify as Indigenous, the LGBTQ community and people with low socio-economic status.

Ontario has taken the tobacco epidemic seriously and has been a leader in tobacco control for many years, as evidenced by the *Smoke-Free Ontario Act (SFOA)* and its enabling infrastructure of funded tobacco control programs, area networks, resource centres and the Ontario Tobacco Research Unit (OTRU). Since the *SFO-SAC 2010 Report*, there have been advances in tobacco control at the provincial, municipal and federal government levels. For example, Ontario has broadened smoke free-environments through amendments to the *SFOA*,[3] banned the sale of flavoured tobacco, including menthol,[4] and undertaken partial implementation of the *Electronic Cigarettes Act*.[5] Progress on local level policies includes bans on indoor and outdoor waterpipe use.[6]

At the federal level, recent and upcoming developments include regulatory proposals for plain packaging under the Tobacco Act[7] and regulatory frameworks focused on the legalization of marijuana,

which will likely intersect with tobacco control policy via common approaches to reduce secondhand smoke exposure.[8]

To continue to move forward effectively, the Ontario government identified the need for a comprehensive report to support ongoing developments of the provincial tobacco control strategy and to address the changing tobacco landscape. In 2015, the Ministry of Health and Long-Term Care asked Public Health Ontario to reconvene a SFO-SAC committee and update the evidence in the *SFO-SAC 2010 Report*. The request was framed as a specific question: "Which interventions or set of interventions will have the greatest impact on reducing tobacco use in Ontario?" Importantly, the Ministry requested that equity and implementation considerations be addressed (i.e., embedded) throughout the report.

Methods

The Report is organized according to the four pillars of tobacco control; industry, prevention, protection and cessation, consistent with the *SFO-SAC 2010 Report*.

Key interventions are described within each of the four pillars. Each intervention description includes: background information; relevant Canadian and Ontario contextual data; a summary of the evidence sources*, with a synthesis of evidence of effectiveness; any intervention characteristics; and considerations regarding implementation, specific populations and/or equity issues.

A three-part Intervention Summary concludes each description, with a précis of evidence regarding the effectiveness of the intervention, a scientific consensus statement including a categorization of the intervention's potential contribution for Ontario, and a succinct key message recap on potential impact.

To determine the most impactful tobacco control interventions for Ontario, SFO-SAC 2016 engaged in a categorization process to assess the potential contribution of each intervention. Potential contribution was determined by consensus, considering the evidence of effectiveness, the Ontario context and opportunity gap. The 10 categories ranged from 'high' to 'harmful', and included a designation of 'innovative' for emerging evidence or a promising direction. The other categories were 'moderate', 'uncertain at this time' and 'unsupported at this time'. See Figure 1.

***The key tobacco control interventions described in each pillar comprise three types of evidence: best available research evidence from published literature via pre-appraised databases and PHO library searches; contextual evidence from the OTRU Annual Smoke-Free Ontario Monitoring Report, an Internet-based environmental scan and a survey of Ontario's tobacco control stakeholders; and experiential evidence from SFO-SAC 2016 members.**

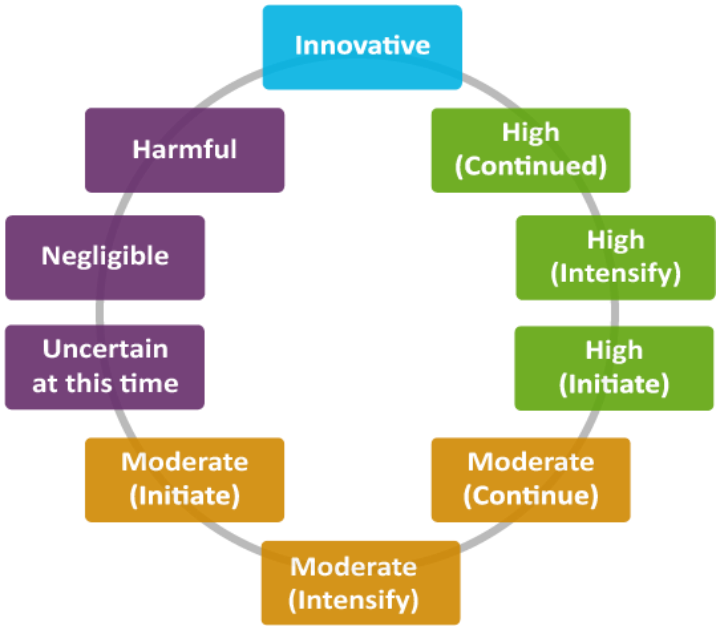

Figure 1: Categorization of Potential Contribution for Tobacco Control in Ontario

Results: Potential Contribution of Key Interventions

To answer the overall question, "Which interventions or set of interventions will have the greatest impact on reducing tobacco use in Ontario?, SFO-SAC 2016 reviewed, assessed and categorized a total of 56 interventions over the four pillar topics of industry, prevention, protection and cessation.

The findings included in this Executive Summary are the interventions that SFO-SAC 2016 categorized as 'high', 'moderate' or 'innovative' in each pillar, and together, present the scientific consensus on interventions with the greatest potential to reduce the use of and exposure to tobacco products.

The 'high' and 'moderate' category has three qualifiers– 'intensify' where the effectiveness of an implemented intervention could have greater impact if its scope, reach and implementation were increased; 'continue' for implemented interventions that evidence supports as effective, but where additional intensity would not increase impact; and 'initiate' for interventions not yet implemented in Ontario that could make a substantial contribution.

For the 'innovative' category the body of evidence is emerging or a promising direction. The intervention is not currently implemented in Ontario. However, if well-implemented, the potential contribution may shift the landscape of tobacco control for Ontario (potential contribution may be transformational).

Detailed descriptions of all the interventions pertaining to each pillar are provided in the relevant chapter.

The titles in Table 1 (below) reflect the intervention titles from the specific chapters.

Table 1: Potential Contribution of Interventions by Pillar Chapter

Potential contribution	Industry	Prevention	Protection	Cessation
High (Intensify)	• Price and Taxation (+) • Tobacco Advertising Promotion and Sponsorship Bans • Anti-Contraband Measures • Banning Flavours in Tobacco Products (+)	• Price and Taxation (+) • Mass Media - Prevention (+)	• Mass Media - Protection • Protection from Tobacco Smoke Exposure in Outdoor Settings • Protection from Tobacco Smoke Exposure in the Home Environment (+)(T) • Protection from Tobacco Smoke Exposure in the Workplace (+)(T)	• Price and Taxation (+) • Smoke-Free Policies • Mass Media - Cessation • Technology-Based Interventions: Internet /Computer and Text Messaging • Hospital-Based Cessation Interventions • Other Healthcare Setting Cessation Interventions • Pharmacotherapy • Behavioural Interventions
High (Initiate)	• Plain and Standardized Packaging	• N/A	• N/A	• N/A
High (Continue)	• N/A	• Bans on Point of Sale Displays	• N/A	• N/A
Innovative	• Zoning Restrictions to Create Tobacco-Free Retail Areas • Retail Licenses • Government-Controlled Outlets • Imposing a Quota on Tobacco Product Availability (Sinking Lid) (+) • Regulated Market Model • Non-profit Enterprise with a Public Health Mandate • Performance-Based Regulation	• Reducing the Availability of Tobacco Products (+) • Raising the Minimum Purchase Age • Social Marketing (T) • Onscreen Tobacco Use and Product Placement • Tobacco-Free Generation	• Integrating E-cigarettes into Smoke-Free Policies	• Cessation Maintenance

Potential contribution	Industry	Prevention	Protection	Cessation
Moderate (Intensify)	• Health Warning Labels	• Elementary and Secondary School Tobacco Policies • Campus-Based Tobacco Policies	• Protection from Tobacco Smoke Exposure in Institutional Settings (+) • Protection from Tobacco Smoke Exposure Hospitality Settings (+) • Protection from Tobacco Smoke Exposure in Vehicles • Protection from Waterpipe Smoke	• Workplace-Based Interventions • Campus-Based interventions • Quitlines with Cessation Telephone Support • Financial Incentives (+) (T)
Moderate (Initiate)	• N/A	• N/A	• N/A	• N/A
Moderate (Continue)	• N/A	• Elementary and Secondary School Prevention Programs	• N/A	• Self-Help Materials
Uncertain at this time	• Regulation to Favour Electronic Cigarettes over (Traditional) Cigarettes • Litigation • Reducing Product Toxicity • Reduction of Nicotine Content in Cigarettes to Reduce Addictiveness	• Prevention in the Family Setting • Prevention in the Primary Care Setting	• Impacts of post-consumer Waste	• Electronic Cigarettes • Enhancing Partner Support (+) (T) • Biomedical Risk Assessment • Acupuncture and Related Interventions • Combustible Products - Waterpipe • Smokeless Tobacco
Unsupported at this time	• N/A	• N/A	• N/A	• Hypnotherapy
Harmful	• N/A	• N/A	• N/A	• N/A

(+) = Demonstrated or potential positive equity (T) = Targeted

Industry

The Industry chapter examines actions and interventions that could most effectively counter the tobacco industry's efforts to promote and sell their products.

The term 'industry' refers to entities that produce, supply, market and promote commercial tobacco to current and potential users. This group includes tobacco growers and importers, manufacturers, companies involved in producing tobacco product inputs (e.g., cigarette paper), wholesalers and the retailer network, including tobacconists. Additional networks that take part in illicit contraband tobacco trade outside the regulatory framework are also deemed part of industry.[9]

SFO-SAC 2016 assessed a total of 17 interventions pertaining specifically to the tobacco industry. The interventions were grouped as retail-based, market-based or product-based, and included relatively new products such as e-cigarettes and other non-combustibles.

Four Interventions Categorized as 'High (Intensify)'

SFO-SAC 2016 categorized four interventions that are already implemented in Ontario as 'high (intensify)' for greater impact. These include: increasing price and taxation; banning tobacco advertising, promotion and sponsorship (TAPS); banning flavours in tobacco products; and both continuing and strengthening anti-contraband measures already in place. For example, Ontario has one of the lowest tobacco tax rates in Canada and substantial tax increases, in conjunction with addressing pricing strategies, would contribute significantly to decrease tobacco use in Ontario.

One intervention was categorized as 'high initiate'. Evidence from Australia showed that plain and standardized packaging is an effective public health intervention to reduce smoking prevalence. Based on the Australian experience, the implementation of plain and standardized packaging could help reduce tobacco use in Ontario.

Seven Interventions Categorized as 'Innovative'

SFO-SAC 2016 categorized seven interventions as 'innovative'. They include: zoning restrictions to create tobacco retail-free areas; retail licenses; government-controlled outlets; reducing the quota on tobacco product availability ('sinking lid'); regulated market model; non-profit enterprise with a public health mandate, and performance-based regulation. For example, in Ontario, there are no zoning restrictions and, while evidence about the effects of zoning is sparse, theory and experience from other areas suggest that zoning restrictions that reduce tobacco retailer density, tobacco product availability and environmental cues for smoking could contribute substantially to decreased initiation and more successful cessation.

One Intervention Categorized as 'Moderate (Intensify)'

SFO-SAC 2016 categorized health warning labels as 'moderate (intensify)'. In Canada, health warning labels currently cover 75% of the package, with toxic emission statements on the sides, interior health information and a toll-free quitline number. Health warning labels can be further improved by increasing their periodic rotation of images and/or messaging which on its own would have a moderate contribution to decreasing tobacco use in Ontario.

Find all interventions described in **Chapter 3: Industry** of the full Report.

Prevention

The Prevention chapter focuses on the effectiveness of various primary and secondary tobacco prevention interventions that target tobacco use among youth and young adults. Primary prevention aims to prevent tobacco use initiation, while secondary prevention aims to detect and prevent the progression of further tobacco use.

Youth and young adults are susceptible to smoking, and once individuals start smoking, they are at greater risk of progressing to increased tobacco use. The transition period from youth to young adulthood increases the risk of initiation.

SFO-SAC 2016 identified a total of 14 interventions pertaining specifically to the prevention of tobacco use by youth and young adults. The interventions were primarily grouped into retail-based, marketing, school and campus-based interventions, but also included others, such as on-screen tobacco use and product placement, and 'tobacco-free generation'.

Two Interventions Categorized as 'High (Intensify)'

SFO-SAC 2016 categorized two interventions, price and taxation as well as mass media, as 'high intensify' for greater impact. Evidence supports the effectiveness of both these interventions, and while both have been implemented in Ontario to some degree, intensifying them could contribute to reducing initiation and use of tobacco by youth and young adults in Ontario. For example, with the second lowest provincial/territorial excise tax and the second lowest retail price for cigarettes in Canada, Ontario could raise the prices of all tobacco products to maximize deterrence of tobacco use.

One intervention was categorized as **'**high continue'. Banning point-of-sale (POS) tobacco promotions removes sensory cues to purchase and use tobacco, and helps to denormalize its use. The *Smoke-free Ontario Act* has prohibited retail tobacco product displays since 2008; tobacco products must be hidden from sight and customers are not permitted to handle tobacco products prior to purchase. Continued

monitoring and enforcement of existing bans on POS displays can further reduce smoking prevalence in Ontario.

Five Interventions Categorized as 'Innovative'

SFO-SAC 2016 categorized five interventions as 'innovative'. The evidence for these interventions is still in development or non-existent, and they have not been implemented in Ontario, they have the potential to significantly affect initiation rates, and therefore, the prevalence of tobacco use in Ontario. These interventions are: raising the minimum purchase age; reducing the availabilty of tobacco products; social marketing; tobacco-free generation; and removing onscreen tobacco use and product placement. For example, while there is no direct evidence to date regarding the effectiveness and feasibility of implementing a tobacco-free generation, that is, banning tobacco sales to Ontarians born after a certain date, conceptually this makes a lot of sense and some countries, including Singapore, Australia, New Zealand and the U.K., view it as a promising strategy to reduce smoking prevalence. Similarly, given there is strong evidence of a positive association between onscreen tobacco exposure and increased risk of smoking initiation among young people, it is likely that restricting movies with tobacco imagery to adults in Ontario would substantially decrease smoking initiation among youth.

Two Interventions Categorized as 'Moderate (Intensify)'

SFO-SAC 2016 categorized two interventions as 'moderate (intensify)'. Tobacco policies in elementary and secondary schools have the potential for greater impact if combined with other strategies such as prevention and education components with strict monitoring and enforcement. Tobacco-free policies on campuses (e.g., colleges, universities and trades schools) are more effective when comprehensive (e.g., prohibit the advertising, promotion and sale of all tobacco products on campuses).

Find all interventions described in **Chapter 4: Prevention** of the full Report.

Protection

The Protection chapter focuses on interventions in numerous settings that would enhance protection for all Ontarians from physical exposure to secondhand smoke (SHS) and thirdhand smoke (THS) and from social exposure to smoking, vaping and using other tobacco products, particularly where there are protection gaps and opportunities. Interventions include reducing exposure to emissions from newer products such as e-cigarettes and waterpipes. Physical exposure occurs when people who are not actively engaged in smoking are involuntarily exposed to pollutants from tobacco, e-cigarettes or other related products, such as waterpipes.[10] Social exposure includes visual and sensory cues associated with the use of tobacco, e-cigarettes or related products.

SFO-SAC 2016 identified a total of 10 interventions pertaining specifically to protection from SHS and THS including restricting smoking in different settings, mass media campaigns and addressing the impacts of post-consumption product waste, primarily in the form of cigarette butts.

Four Interventions Categorized as 'High (Intensify)'

SFO-SAC 2016 categorized four interventions as 'high (intensify)' for greater impact. These include: increasing smoke-free outdoor public spaces in settings that are not covered, or are covered insufficiently, by *SFOA* (e.g., buffer zones around bar and restaurant patios, and entrances to buildings); smoke-free home environments; outdoor workplace settings; and mass media and social media campaigns with a focus on protection outcomes.

These interventions, which are already implemented in Ontario at the local level, would benefit from intensification at the provincial level. For example, some municipalities in Ontario have implemented smoke-free policies in community housing; implementing similar policies at the provincial level would contribute substantially to protect people from tobacco smoke exposure and to decrease tobacco use.

Another example of intensifying an existing initiative would be a new province-wide mass media campaign on the recently-expanded *SFOA* restrictions on smoking in outdoor spaces. The new campaign would reinforce previous campaign messages and increase awareness about the dangers of secondhand and thirdhand smoke.

Four Interventions Categorized as 'Moderate (Intensify)'

SFO-SAC 2016 categorized four interventions as 'moderate (intensify)'. These include: eliminating designated smoking rooms (e.g., guest rooms) in hospitality settings; continued enforcement and expansion of smoking bans in all indoor and surrounding outdoor areas of institutional settings; continued enforcement of existing legislation banning smoking in vehicles with children and increasing the age of coverage in Ontario; and prohibiting non-tobacco waterpipe use in indoor and outdoor public spaces. Intensification of these interventions within these settings would have a moderate contribution to decreasing use and exposure of tobacco in Ontario.

One Intervention Categorized as 'Innovative'

SFO-SAC 2016 categorized one intervention as 'innovative'. This intervention was integrating e-cigarettes into smoke-free policies. Although still emerging, the evidence suggests that policies prohibiting the use of e-cigarettes in public places are likely to be effective to reduce physical and social exposure to e-cigarette use.

Find all interventions described in **Chapter 5: Protection** of the full Report.

Cessation

The Cessation chapter focuses on interventions that motivate, encourage and support efforts to quit smoking, at both the population and individual levels. It includes interventions related to other tobacco products such as waterpipes and smokeless tobacco.

SFO-SAC 2016 identified a total of 15 different types of interventions, targeted to populations and individuals, and in specific settings that included a range of health care settings, workplaces and campuses.

Eight Interventions Categorized as 'High (Intensify)'

SFO-SAC 2016 categorized six interventions as 'high (intensify)' for greater impact. These include: price and taxation; smoke-free policies; mass media (cessation related); technology-based interventions (Internet/computer and text messaging); hospital-based cessation interventions; other healthcare setting cessation interventions; pharmacotherapy; and behavioural interventions.

SFO-SAC 2016 emphasized that although these interventions are already in place in Ontario, increasing the intensity of any or all of them would increase their impact on smoking cessation. For example, pharmacotherapy treatments are effective at increasing smoking cessation and the Ontario Drug Benefit Program covers a number of effective smoking cessation drugs such as NRT, varenicline and bupropion. However, vulnerable populations, such as youth and young adults, have less access to smoking cessation medication. Extending coverage to these populations would likely increase cessation.

One Intervention Categorized as 'Innovative'

SFO-SAC 2016 categorized cessation maintenance as 'innovative'. Cessation maintenance includes behavioural, psycho-educational skills training, pharmacotherapy and text messaging interventions, all of which have been implemented at varying intensities across the province. Further, the evidence suggests that cessation maintenance can sustain long-term quitting.

Four Interventions Categorized as 'Moderate (Intensify)'

SFO-SAC 2016 categorized four interventions as 'moderate (intensify)'. These include: workplace-based interventions, campus-based interventions, quitlines with cessation telephone support and financial incentives. Increasing impact could be achieved by providing support at the health unit level for workplace interventions and implementing 100% smoke-free policies on campuses in Ontario. In addition, promotion of quitlines (e.g., mass media) and other financial incentives (e.g., direct payment using cash).

Find all interventions described in **Chapter 6: Cessation** of the full Report.

Final Considerations

It is essential to build on Ontario's current comprehensive tobacco control strategy to save lives and improve health in the province. This Report provides strong evidence for a number of high-impact interventions and identifies several innovative interventions that have potential to substantially reduce tobacco use and its associated burden and to transform the tobacco control landscape in Ontario.

Coordinated and Comprehensive Strategy

To optimize the impact of interventions requires a coordinated and comprehensive strategy that leverages the synergy of multiple interventions across the four tobacco control pillars of industry, prevention, protection and cessation. A number of interventions categorized by SFO-SAC 2016 as having the greatest potential to reduce tobacco use in Ontario are considered impactful in a cross-cutting way across multiple pillar chapters. For example, price and taxation was determined to be a 'high (intensify)' intervention in the Industry, Prevention and Cessation chapters, based on evidence that showed its effectiveness to: (1) reduce the demand for tobacco products, (2) reduce the prevalence, initiation and uptake of tobacco use among young people and (3) increase smoking cessation. Mass media campaigns are another example of a cross-cutting intervention, particularly when implemented as part of a comprehensive strategy.

The importance of a coordinated and comprehensive approach was also observed in specific intervention settings. When interventions are integrated and policy coverage is optimized (more blanket than partial), greater impact is observed. For example, this can include coordinated smoke-free policies in outdoor public places, workplaces, elementary schools, post-secondary campuses, hospitals and home environments.

Addressing equity within a coordinated and comprehensive strategy is critical to provide a combination of population-wide interventions and more targeted interventions that can reduce smoking prevalence in specific vulnerable groups. The SFO-SAC 2016 scientific consensus process specifically considered the equity impacts of each intervention in terms of demonstrated or potential positive equity (indicated by a + in Table 1) and targeting (indicated by a T in Table 1). Interventions with a demonstrated or potential

positive equity impact included taxation, banning flavours in tobacco products, prevention-focussed mass media and interventions that protect individuals from tobacco smoke exposure. Interventions targeted to specific populations included protection interventions in home environments and workplaces, and prevention interventions that use social marketing.

Coordinating implementation is a key factor to optimize impact; for example, Australia introduced plain packaging regulations along with a national mass media public awareness campaign, and implementation is more effective with a multi-component approach such as combining technology-based and behavioural interventions. Active enforcement is another important component of coordinated and comprehensive implementation, required for policy interventions such as raising the minimum purchase age.

System Enablers Support

System enablers, which are interrelated functions within and between organizations and institutions, support effective comprehensive tobacco control. The *SFO-SAC 2010 Report* identified five system enablers that were endorsed by SFO-SAC 2016. System enablers include: 1) leadership, including at all levels of government, and partnership to develop multi-sector measures, strategic plans and coordinated responses; 2) capacity to develop and implement policies, programs and mass and social marketing that deliver information and services to the population as a whole, and to specific groups, such as potential smokers; 3) funding to achieve the high levels of population reach and intervention intensity required to effect changes in tobacco use; 4) capacity-building infrastructure, surveillance, evaluation and research to provide continued support to Ontario's comprehensive tobacco control learning system; 5) coordination to sustain and enhance Ontario's substantial contributions to global understanding of what works to eliminate tobacco use and exposure through its role in the global tobacco control framework, contributing to Canada's obligations under the WHO Framework Convention on Tobacco Control. Investment in key system enablers is critical for the effective management and implementation of a comprehensive tobacco control strategy.

Endgame Framing

The *SFO-SAC 2016 Report* frames the opportunities to reduce tobacco use in Ontario beyond a five-year tobacco control strategy, incorporating the concept of tobacco 'endgame', a vision of a tobacco-free future. Importantly, there is a commitment that the evidence and potential contribution be updated annually. Annual updating will provide tobacco control decision-makers and implementers access to best available research evidence and scientific consensus to progress towards an endgame goal.

SFO-SAC 2016 categorized a number of interventions as 'innovative' that could be considered endgame measures, including tobacco-free generation, zoning restrictions to create tobacco retail-free areas and imposing a quota on tobacco availability ('sinking lid').

The *SFO-SAC 2016 Report* is intended for a range of audiences, including government, non-government organizations, program developers, policy-makers and service providers. All audiences can contribute to reducing tobacco use and its associated burden in Ontario.

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