

Original quantitative research

Using the intervention ladder to examine policy influencer and general public support for potential tobacco control policies in Alberta and Quebec

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Abstract

Objective: To assess general public and policy influencer support for population-level tobacco control policies in two Canadian provinces.

Methods: We implemented the Chronic Disease Prevention Survey in 2016 to a census sample of policy influencers ($n = 302$) and a random sample of members of the public ($n = 2400$) in Alberta and Quebec, Canada. Survey respondents ranked their support for tobacco control policy options using a Likert-style scale, with aggregate responses presented as net favourable percentages. Levels of support were further analyzed by coding each policy option using the Nuffield Council on Bioethics intervention ladder framework, to assess its level of intrusiveness on personal autonomy.

Results: Policy influencers and the public considered the vast majority of tobacco control policy options as “extremely” or “very” favourable, although policy influencers in Alberta and Quebec differed on over half the policies, with stronger support in Quebec. Policy influencers and the public strongly supported more intrusive tobacco control policy options, despite anticipated effects on personal autonomy (i.e. for policies targeting children/youth and emerging tobacco products like electronic cigarettes). They indicated less support for fiscally based tobacco control policies (i.e. taxation), despite these policies being highly effective.

Conclusion: Overall, policy influencers and the general public strongly supported more restrictive tobacco control policies. This study further highlights policies where support among both population groups was unanimous (potential “quick wins” for health advocates). It also highlights areas where additional advocacy work is required to communicate the population-health benefit of tobacco control policies.

Keywords: *health policy, tobacco control, public opinion, knowledge, attitudes and beliefs, Nuffield intervention ladder, survey research, population studies, Canada*

Introduction

Despite Canada’s Tobacco Strategy goal of less than 5% tobacco use by 2035,¹ the prevalence of current cigarette smoking has significantly increased, from 13% in 2015 to 15% in 2017.² The negative impacts of tobacco misuse are not felt equally across the country; they are connected to

other health and social inequalities,¹ with higher rates of tobacco misuse found among sexual minorities, young adults and Indigenous peoples.¹ Comprehensive environmental and policy interventions are required to effect substantial population-level changes³ and reduce inequities⁴ in tobacco misuse. While improving access to cessation treatment options (e.g.

Highlights

- Previous research has demonstrated that policy and environmental interventions are high-impact approaches to reducing smoking and tobacco consumption at the population level.
- Understanding the attitudes of policy influencers and members of the general public is essential, as their support can hinder or promote effective policy action.
- This study provides recent evidence on the attitudes of policy influencers and the public towards population-level tobacco control policies in two Canadian provinces.
- These findings will be useful for health advocates to identify policy areas where support is unanimous (i.e. potential “quick wins”) as well as areas where support is weak or lacking consensus.

nicotine replacement therapy) has demonstrated some benefit at the individual level,⁵ the impact of these health service programs pales in comparison to higher-order environmental and policy approaches.⁶ For instance, it has been estimated that a tax increase of 50% on the current price of cigarettes (with no value-added tax) would reduce smoking prevalence by 18% over a 40-year period; evidence-based cessation treatments (e.g. pharmacotherapies) would only reduce smoking prevalence by 4% over the same period.⁶

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The knowledge, attitudes and beliefs of policy influencers (e.g. elected, hired or otherwise appointed professionals with legal standing, authority or input on various policy processes in governments, schools boards, workplaces and the media)⁷ and the general public play an important role in changing political agendas.⁷ While policy influencers are considered the ultimate gatekeepers of policy action, those in elected positions are, in part, influenced by the opinions of their voters and can be particularly attuned to issues the public considers controversial.⁸ While greater levels of public support for tobacco control have contributed to the success of legislative efforts,^{9,10} Chen et al.¹¹ noted that lower levels of support have left policy makers vulnerable to tobacco industry interests.¹² Internationally, recent research has explored public support for specific types of tobacco control interventions (i.e. anti-smoking media campaigns¹³ and pictorial warnings on cigarette packs¹⁴ in the United States of America); and support for tobacco control policies among specific population groups (i.e. smokers in Canada,¹⁵ adolescents in Hong Kong¹¹ and adults in the USA,¹⁶ Finland¹⁷ and Malaysia¹⁸).

Within the Canadian context, despite a limited number of studies examining the knowledge, attitudes and beliefs of policy influencers and the general public on specific initiatives,^{7,19,20} there remains a paucity of evidence concurrently assessing both policy influencer and general public perspectives across a wide range of tobacco control policy options. Having current data on both policy influencer and general public perspectives is important, as previous research has demonstrated that health policy advisers tend to underestimate general public levels of support for tobacco control legislation.²¹ Such misinterpretations may have impeded policy action.²¹

In 2009, the Alberta Policy Coalition for Cancer Prevention (later renamed as the Alberta Policy Coalition for Chronic Disease Prevention [APCCP]) developed the Chronic Disease Prevention (CDP) Survey to assess the knowledge, attitudes and beliefs of policy influencers and members of the general public on healthy public policy for chronic disease prevention in Canada. Since 2009, the survey has been administered six times to examine support for tobacco control policy, most recently in 2016. The survey provides data to support

public health advocates working to reduce the prevalence of this deadly behavioural risk factor.

The 2016 survey assessed the general public's and policy influencers' support for population-level policies to reduce tobacco-related harm in two Canadian provinces, one western and English-speaking (Alberta) and one eastern and French-speaking (Quebec). We also aimed to compare patterns of support between policy influencer and general public groups as well between regions. In our analysis of data from this sample, we used the Nuffield Council on Bioethics (NCB) intervention ladder as a framework to consider the balance between individual autonomy and collective benefit for each of the surveyed policy options.²² Research on policy acceptance has demonstrated that the way policy/intervention affects individual freedom of choice is a strong predictor of policy/intervention acceptance.²³ In neoliberal countries such as Canada that lean towards individualistic rather than collective or communitarian values,²⁴ the autonomy versus collectivity debate is an important lens, potentially determining the levels of support for healthy public policy adoption. Further, by characterizing interventions as more or less restrictive to individual autonomy, the intervention ladder framework allows for comparison of differences and understanding of similarities in terms of the psychosocial mechanisms operating on population-level behaviour. Relevant literature that has employed the intervention ladder to propose and evaluate public health policies include research in the field of occupational health,²⁵ infectious diseases,²⁶ public health nutrition,²⁷⁻³⁰ physical activity,³¹ alcohol³² and tobacco control.³³

Given the renewal of Canada's tobacco control strategy,¹ our recent survey contributes timely evidence on attitudes towards tobacco control policy options in two provinces in Canada. Our findings illuminate trends in the type of tobacco-related policy interventions most likely to garner wide support and can thereby help to strategize priorities for future healthy public policy advocacy initiatives.

Methods

Chronic Disease Prevention Survey

The CDP Survey aims to understand the knowledge, attitudes and beliefs of policy

influencers and the general public on healthy public policy related to major modifiable risk factors.³⁴ The findings presented here focus on results from the 2016 CDP Survey, administered in English and French, assessing support for healthy public policy approaches specific to tobacco control in Alberta and Quebec. We also aimed to compare patterns of support between policy influencer and general public groups as well between regions. Survey respondents were asked to rank their support for tobacco control healthy public policy options on a four-point Likert-style scale measuring opposition versus support (1 = strongly oppose, 2 = oppose, 3 = support, 4 = strongly support). The evidence-based policy options to reduce tobacco use included in the survey were developed in collaboration with a team of experts from the APCCP with specialized knowledge and experience in tobacco control to ensure that the policy options aligned with existing national recommendations.

This study was approved by the Research Ethics Office at the University of Alberta (Pro00046150 and Pro00044424).

Survey respondents

A census sample of policy influencers were invited by email to participate in an online survey that included 29 items related to tobacco control policies. The census sample of policy influencers was developed using publicly available information (e.g. organizational websites that provided contact information such as the Legislative Assembly of Alberta and the National Assembly of Quebec, school board associations for each province, media directories in each province, the Orbis database of private companies to identify workplaces with more than 500 employees and by subsequently searching the relevant websites for chief executive officers, human resource executives and health and safety executives, etc.).

We used a comprehensive definition of "policy influencer" that focused on three core domains of influence: government actors at the municipal and provincial level due to their decision-making authority; non-governmental leaders within school and workplace settings due to the impact that policies in these key environments have on improving health outcomes;³⁵ and media actors due to their influencing role in shaping public opinion

and legislative agendas through policy narratives.³⁶ This comprehensive definition of “policy influencer” aligned with our research objective to provide an aggregate population-level view of policy influencers’ perspectives across settings.

The policy influencer sampling frame included all elected provincial legislators in Alberta and Quebec; senior provincial bureaucrats at the deputy ministerial level; mayors, reeves and senior municipal bureaucrats; school board members and chairs; senior executives of companies with over 500 employees; and editors/health reporters for print media outlets.

Within our census sampling frame, 115 email contacts bounced back (33 in Alberta, 82 in Quebec), 61 substituted emails were included where we were advised to contact another person (20 in Alberta, 41 in Quebec) and 25 emails resulted in direct refusals (18 in Alberta, 7 in Quebec). Ethical information related to the voluntary nature of participation and confidentiality was outlined on the main page of the survey. Consent was implied when participants chose to continue on and complete the survey.

A shorter subset of the survey (13/29 policy options related to tobacco control) was administered to the public, who were sampled via random digit dialling (stratified by sex, urban versus rural residence and age, at the household level, to achieve a weighted sample proportionate to the Canadian population in those regions). Policy options included as part of the shorter subset of the survey were determined through expert consensus by members of the APCCP and the Policy Opportunity Windows—Engaging Research Uptake in Practice (POWER UP!) CLASP. The focus was on timeliness and relevance in the current tobacco control advocacy environment in each province, that is, were current or anticipated policy issues relative to decisions being made in each province at the time of the survey.

The general public survey was administered by a professional polling firm using computer-assisted telephone interviewing. We requested that the contracted survey vendor complete 2400 interviews with 400 participants each in Calgary, Edmonton, Montréal, Québec City, the rest of Alberta and the rest of Quebec. Eligible households that were “non-interviews” included

refusals, partial interviews, language barriers, underage respondents and answering machines. Potential participants were informed their participation was voluntary. Verbal consent was obtained to proceed with the telephone survey. None of the survey participants received any type of incentive to participate. Demographic data for both sample groups were also collected.

Analysis

Aggregate responses were analyzed for each tobacco control policy option by deriving the net favourable percentage (NFP)³⁷ for both public and policy influencer responses as well as by province. NFPs are calculated by subtracting the percentage of respondents who “strongly oppose” or “oppose” from the percentage of respondents who “somewhat support” or “support” a policy option. The resulting metric has a continuous range from +100 to -100 and is readily interpretable (positive percentages indicate favourability while negative percentages are considered unfavourable). To facilitate a consistent comparison of levels of support across the different tobacco control policy options and by sample group, we used Roselius’³⁷ seven categories for qualitative interpretation of NFP values (see Table 1). We opted to use this categorical framework to compare levels of support since NFP values are descriptive, rather than inferential, statistics.

In addition, all policy options were coded according to the different levels of the NCB intervention ladder in order to consider policies in terms of their benefits to society against any loss of individual autonomy.²² The NCB intervention ladder proceeds along steps from least to most intrusive, including do nothing; provide information; enable choice; guide choice

through changing the default policy; guide choice through incentives; guide choice through disincentives; restrict choice; and eliminate choice.²² Three coders categorized each tobacco control policy option in the CDP Survey using a detailed codebook.³⁸ Any disagreements were resolved by consensus and in consultation with the principal investigator.

During this coding process, we found that not all policy options fit into the existing levels of the NCB intervention ladder. Hence, we developed a separate category called “reorient government action.” This new level accounted for policy options focused on interventions that implicated the way government takes action, rather than directly affecting individual autonomy (e.g. sue tobacco companies to seek compensation for those who have been harmed by tobacco products).

Results

The response rate for the 2016 CDP Survey was 5.1% of 5926 invited policy influencers ($n = 302$; $n = 174$ in Alberta and $n = 128$ in Quebec) and 7.4% of 32 580 invited members of the general public ($n = 2400$; $n = 1200$ in Alberta and $n = 1200$ in Quebec). Table 2 presents survey respondent demographics. While policy influencer respondents in our survey were more often older and male, this demographic profile reflects the makeup of policy leaders in Canada more generally.^{39,40}

Similarly, general public respondents were selected at the household level to reflect the demographic profiles within their respective provinces.

Both policy influencers and the general public considered all of the policy options to be “slightly,” “very” or “extremely favourable,” with the exception of one

TABLE 1
Roselius’ qualitative interpretation of favourability levels based on net favourable percentages³⁷

Qualitative interpretation	Net favourable percentage range
Extremely favourable	+100 to +71.5
Very favourable	+71.4 to +42.9
Slightly favourable	+42.8 to +14.3
Neutral	+14.2 to -14.1
Slightly unfavourable	-14.2 to -42.7
Very unfavourable	-42.8 to -71.3
Extremely unfavourable	-71.4 to -100.0

TABLE 2
Demographics of policy influencers and the general public
from Alberta and Quebec in the 2016 Chronic Disease Prevention Survey

Demographics	Alberta		Quebec	
	Policy influencer, % (n)	Public, % (n)	Policy influencer, % (n)	Public, % (n)
Sex				
Male	70.9 (107)	49.2 (591)	67.6 (73)	46.7 (560)
Female	29.1 (44)	50.8 (609)	32.4 (35)	53.3 (640)
Age				
18–45	9.6 (15)	32.9 (390)	25.7 (28)	34.8 (415)
46+	90.4 (141)	67.1 (797)	75.3 (81)	65.2 (776)
Education				
Up to postsecondary	–	20.5 (244)	–	18.8 (224)
Postsecondary	–	79.5 (944)	–	81.2 (966)
Household Income				
< \$70 000	–	36.6 (383)	–	52.8 (564)
≥ \$70 000	–	63.4 (663)	–	47.2 (504)
Education				
Up to trade/high school	–	57.7 (685)	–	48.2 (573)
At least some university	–	42.3 (503)	–	51.8 (617)
Sector				
Provincial government	19.2 (30)	–	10.2 (11)	–
Municipal authority	24.4 (38)	–	55.6 (60)	–
Workplace	23.1 (36)	–	24.1 (26)	–
School board	14.7 (23)	–	3.7 (4)	–
Media	6.4 (10)	–	2.8 (3)	–
Other	12.2 (19)	–	3.1 (4)	–

that Alberta policy influencers ranked as neutral. The most commonly coded type of tobacco control policy in our CDP Survey was “eliminate choice” ($n = 12/29$), while the least common policy type was “guide choices through incentives” ($n = 1/29$) (see Table 3).

The public survey items followed the same pattern of policy types as in the policy influencer survey (see Table 4). However, the subsurvey for the general public did not include policy options that were coded as “restrict choice,” “enable choice” or “provide information.” Among policy influencers taken as one group, the most supported policy option (NFP = 94.2, “extremely favourable”) was “fully enforce current tobacco reduction legislation,” a policy labelled as “guide choices through changing the default policy.” The policy that had the lowest support (NFP = 29.1, “slightly favourable”) among policy influencers was “sue tobacco companies to seek compensation for those who have been harmed by tobacco products and

nicotine addiction,” categorized as a “reorient government action” policy.

Taken separately, policy influencers in Alberta and Quebec had different categorical levels of support for 15/29 tobacco control policy options. The two policy options that had the largest difference in support (i.e. a two-category difference) were:

- require cigarettes and other tobacco products be standardized in shape, size, colour and filters (Quebec was “extremely favourable” while Alberta was “slightly favourable”); and
- sue tobacco companies to seek compensation for those who have been harmed by tobacco products and nicotine addiction (Quebec was “very favourable” while Alberta was “neutral”).

Among members of the public in both provinces taken together, respondents demonstrated the strongest support for strengthening procedures to prevent

illegal sales to minors, an “eliminate choice” category (NFP = 86.5, “extremely favourable”). In contrast, the policy options that garnered the lowest support from the public overall was increasing tobacco taxes by more than \$1.00 per pack of 25 cigarettes, a “guide choice through disincentives” category (NFP = 41.9, “slightly favourable”). Similarly, public support for increasing tobacco taxes by up to \$1.00 per pack of 25 cigarettes was the next least supported policy option (NFP = 43.6, “very favourable”).

In contrast to policy influencers, respondents from the general public in Alberta and Quebec differed in terms of levels of support on only two policy options:

- ban cigarette smoking in all motor vehicles, an “eliminate choice” policy option (Alberta was “slightly favourable” while Quebec was “very favourable”); and
- increase tobacco taxes by more than \$1.00 per pack of 25 cigarettes, a “guide

TABLE 3
Net favourable percentage of tobacco control policy options responded
by Alberta and Quebec policy influencers in the 2016 Chronic Disease Prevention Survey

Tobacco control policy options	Total		Alberta		Quebec	
	NFP, %	Missing, %	NFP, %	Missing, %	NFP, %	Missing, %
Eliminate choice						
Prohibit e-cigarette sales to minors (18 or 19 years of age, depending on the minimum tobacco age in the province)	92.6	9.9	91.1	9.2	94.7	10.9
Ban smoking in all public outdoor spaces where children are permitted (e.g. children's playgrounds, parks, sports fields and beaches)	91.4	7.6	86.6	5.7	98.3	10.2
Increase penalties for stores selling tobacco products to minors	84.9	7.6	86.7	4.6	82.3	11.7
Strengthen the procedures to prevent illegal sales to minors (e.g. mandatory ID check for anyone under 25, staff training, no employees under age 18)	81.4	7.6	80.6	5.2	82.5	10.9
Prohibit e-cigarette sales in locations where tobacco sales are banned	79.9	10.9	74.5	9.8	87.5	12.5
Actively enforce the existing ban on e-cigarettes with nicotine to prevent illegal/non-approved nicotine based e-cigarette products from being available in Canada ^a	76.8	14.2	71.1	12.6	85.0	16.4
Ban the use of water pipes (hookahs) in all public places where tobacco use is banned	75.8	20.5	73.9	12.1	79.3	4.7
Ban the use of e-cigarettes in all public places where tobacco use is banned ^a	69.9	11.9	63.4	12.1	78.8	11.7
Ban smoking at all workplaces, including outdoor worksites ^a	66.7	8.6	60.0	8.0	75.9	9.4
Ban cigarette smoking in all group living facilities (smoking is currently allowed in designated smoking rooms) ^a	59.0	7.9	48.1	6.9	74.1	9.4
Ban all flavoured tobacco products, including menthol cigarettes ^a	53.0	16.9	42.5	16.1	67.6	18.0
Ban cigarette smoking in all motor vehicles ^a	51.1	7.9	37.4	6.3	70.4	10.2
Restrict choice						
Strictly regulate e-cigarette advertising and promotion, including prohibiting celebrity and lifestyle marketing, unsubstantiated health claims, retail promotion, youth targeted marketing and the co-branding of e-cigarettes with traditional cigarette brands	79.1	14.6	73.7	12.6	86.8	17.2
Require all tobacco retailers to obtain a special licence to sell tobacco products ^a	44.9	12.3	52.3	10.9	34.5	14.1
Guide choices through disincentives						
Increase tobacco taxes by up to \$1.00 per pack of 25 cigarettes	59.4	16.9	58.4	14.4	60.8	20.3
Increase tobacco taxes by more than \$1.00 per pack of 25 cigarettes	52.2	18.2	46.2	16.7	60.8	20.3
Guide choices through incentives						
Subsidize 100% of approved stop-smoking treatment costs, including nicotine replacement therapy (NRT) ^a	44.4	8.3	35.0	6.3	57.9	10.9
Guide choices through changing the default policy						
Fully enforce current tobacco reduction legislation	94.2	8.3	91.4	6.9	98.3	10.2
Require that e-cigarettes be visually distinct from regular cigarettes	86.3	17.9	84.7	17.2	88.5	18.8

Continued on the following page

TABLE 3 (continued)
Net favourable percentage of tobacco control policy options responded
by Alberta and Quebec policy influencers in the 2016 Chronic Disease Prevention Survey

Tobacco control policy options	Total		Alberta		Quebec	
	NFP, %	Missing, %	NFP, %	Missing, %	NFP, %	Missing, %
Require that all tobacco products be sold in plain and standardized packs with no promotional elements, except the brand name, and health warnings and a list of harmful ingredients and emissions ^a	64.1	13.2	55.0	13.2	76.6	13.3
Require cigarettes and other tobacco products be standardized in shape, size, colour and filters ^b	53.2	17.9	35.2	16.7	78.6	19.5
Ban signs that advertise the price and availability of tobacco products at point-of-sale	50.6	12.9	44.7	12.6	58.6	13.3
Enable choice						
Provide counselling and support programs for people who want to quit smoking	93.7	6.0	90.4	4.0	98.3	8.6
Require employer-provided support options, such as counselling or nicotine replacement therapy for workplaces where smoking is banned ^a	33.3	9.6	16.5	9.2	56.5	10.2
Provide information						
Implement mass media campaigns to educate the general public about the implications of tobacco use ^a	75.5	7.9	64.4	6.3	91.3	10.2
Deploy tobacco industry denormalization campaigns that educate the general public about the industry's deceptive practices ^a	67.3	12.9	50.6	11.5	90.8	14.8
Reorient government action						
Government re-allocation of 100% of any new tobacco tax revenue directly to disease prevention or wellness programs	84.8	8.3	81.5	6.9	89.6	10.2
Sue tobacco companies to recover health care costs resulting from deceptive and negligent marketing practices like targeting youth, lying about health effects, fighting laws, etc. ^a	46.8	11.6	31.6	9.2	68.8	14.8
Sue tobacco companies to seek compensation for those who have been harmed by tobacco products and nicotine addiction (Quebec smokers class action suit) ^b	29.1	12.3	12.3	10.9	52.7	14.1

^a Indicates a 1-category qualitative difference in level of support between policy influencers in Alberta and Quebec.

^b Indicates a 2-category qualitative difference in level of support between policy influencers in Alberta and Quebec.

choice through disincentives” policy option (Alberta was “slightly favourable” while Quebec was “very favourable”).

Overall, policy influencers and members of the general public differed in terms of levels of support on only two policy options:

- ban the use of water pipes (hookahs) in all public places where tobacco use is banned, an “eliminate choice” category (policy influencers were “extremely supportive” while the public was “very supportive”); and
- increase tobacco taxes by more than \$1.00 per pack of 25 cigarettes, a “guide choice through disincentives” category (policy influencers were “very

supportive” while the public was “slightly supportive”).

Discussion

One of the central challenges in public health action is negotiating the tension between promoting individual autonomy and freedom versus promoting optimal health at the population level.²² The findings from our research show this tension by identifying varying degrees of support for evidence-based tobacco control policy options that affect individual autonomy. Our results indicate that both the public and policy influencers had “extremely” or “very favourable” levels of support for the majority of tobacco control healthy public policies included in the CDP Survey. This is promising, as it suggests overall high

levels of acceptability among government, non-government and/or citizen stakeholders for policy and environmental interventions to reduce smoking and tobacco consumption. Our findings reveal tobacco control options that may be considered “quick wins” in the policy change process that would enable Canada in reaching its tobacco reduction goals.¹

Among these “quick wins,” we found policy influencers and the public favourably supporting tobacco control policies that target children and youth and policies that focus on electronic cigarette (e-cigarette) regulation. For example, policy influencers and the public were “very favourable” about banning the use of e-cigarettes in all public places where tobacco use is banned and “extremely favourable” about prohibiting

TABLE 4
Net favourable percentage of tobacco control policy options responded
by the Alberta and Quebec general public in the 2016 Chronic Disease Prevention Survey

Tobacco control policy options	Total		Alberta		Quebec	
	NFP, %	Missing, %	NFP, %	Missing, %	NFP, %	Missing, %
Eliminate choice						
Strengthen the procedures to prevent illegal sales to minors (e.g. mandatory ID check for anyone under 25, staff training, no employees under age 18)	86.5	0.3	84.3	0.3	88.6	0.3
Prohibit e-cigarette sales to minors (18 or 19 years of age, depending on the minimum tobacco age in the province)	80.5	1.7	79.6	1.8	81.4	1.7
Ban smoking in all public outdoor spaces where children are permitted (e.g. children's playgrounds, parks, sports fields and beaches)	78.4	0.3	72.6	0.3	84.3	0.3
Ban the use of water pipes (hookahs) in all public places where tobacco use is banned	64.4	14.0	60.7	6.8	68.7	21.2
Ban the use of e-cigarettes in all public places where tobacco use is banned	64.4	2.3	63.5	2.7	65.2	1.8
Ban smoking at all workplaces, including outdoor worksites	59.4	0.5	51.2	0.7	67.5	0.4
Ban all flavoured tobacco products, including menthol cigarettes	50.7	1.9	44.8	1.8	56.7	1.9
Ban cigarette smoking in all motor vehicles ^a	46.5	1.2	36.3	1.2	56.7	1.2
Guide choices through disincentives						
Increase tobacco taxes by up to \$1.00 per pack of 25 cigarettes	43.6	2.3	43.6	1.8	43.5	2.7
Increase tobacco taxes by more than \$1.00 per pack of 25 cigarettes ^a	41.9	2.0	39.2	1.8	44.7	2.1
Guide choices through incentives						
Subsidize 100% of approved stop-smoking treatment costs, including nicotine replacement therapy (NRT)	61.7	1.3	55.6	1.3	67.8	1.2
Guide choices through changing the default policy						
Require that all tobacco products be sold in plain and standardized packs with no promotional elements except the brand name and health warnings and a list of harmful ingredients and emissions	57.9	2.6	53.4	2.0	62.5	3.2
Government action						
Sue tobacco companies to recover health care costs resulting from deceptive and negligent marketing practices like targeting youth, lying about health effects, fighting laws, etc.	55.7	1.6	47.8	1.6	63.6	1.7

^a Indicates a 1-category qualitative difference in level of support between the general public in Alberta and Quebec.

the sale of e-cigarettes to minors. Healthy public policy advocates in Alberta may find these results particularly interesting, as the province had not, as of April 2019, enacted legislation specific to the regulation of e-cigarettes.^{41,42} Given this high level of support among survey respondents in Alberta, our results indicate an opportunity for public health advocates to capitalize on these results and advocate for policy and environmental interventions to regulate e-cigarettes in the province.

As part of our analysis, we used the NCB intervention ladder to assess policy support by its level of intrusiveness on individual autonomy. According to the NCB, more intrusive policies tend to require stronger justifications (i.e. that the intervention will produce the desired outcome despite losses of individual liberty) in order to garner public acceptability.²² In other words, the least intrusive policy and environmental interventions tend to be most acceptable.²³ Nevertheless, we found considerable support among both policy

influencers and the general public for more restrictive policies higher on the intervention ladder (i.e. “eliminate choice”).

The high levels of support for policies that “restrict choice” or “eliminate choice” may reflect Canada’s long history of success with more restrictive tobacco control policies.⁴³ It may also have some relation to whether the survey respondents were smokers or nonsmokers, which would be predictable, but not a variable that we measured. However, a recent Canadian

survey found strong support even among smokers for tobacco control policies that expand beyond current legislative approaches, as many Canadian smokers regret having started smoking, are interested in quitting and plan to quit.¹⁵

Further, level of education is also a predictor of tobacco policy support.¹⁵ In our survey, the vast majority of participants had completed postsecondary education, which may also have influenced the higher levels of support for more restrictive tobacco control policies.

Our findings from the 2016 CDP Survey reinforce that the level of intrusiveness on individual autonomy of healthy public policies is only one factor impacting attitudes towards tobacco control. While we found strong support for policies on the highest rungs of the intervention ladder, the lowest levels of support were for policies that “guide choice through disincentives” (a middle-of-the-rung policy on the intervention ladder), particularly among respondents from the general public. In our survey, members of the public were the least supportive of policies that increase taxes on packs of cigarettes (NFP values ranged from 43.6 to 41.9, depending on the specific policy). These lower levels of support are surprising given that it is unlikely that a majority of survey respondents were smokers (i.e. the prevalence of smoking in Canada was 15% in 2017,² and general public participants were sampled through random digit dialling) and these respondents would not be directly affected by such a policy. These lower levels of support suggest that policy preference may not only be affected by self-interest,⁴⁴ but also by more deeply rooted societal beliefs found in neoliberal political climates (i.e. where there is a strong preference for less state intervention).

In addition, certain strategies within the “reorient government action” level were also the least supported among policy influencers, particularly in Alberta (i.e. sue tobacco companies to seek compensation for those who have been harmed by tobacco products and nicotine addiction). These low levels of support are a challenge for public health advocates working to reduce tobacco use. In particular, fiscal policies have been found to be some of the most effective and potent strategies for changing behaviour.³ Our survey findings suggest that health advocates may need to

focus advocacy efforts on the public health impacts of fiscally based policy intervention to reduce tobacco consumption. One approach that has increased support for fiscally based policies to reduce tobacco use has been linking additional tax revenue with direct support for health promotion initiatives. For example, people who smoke have been found to be more supportive of taxes on tobacco products when the taxes were being used to fund health-related initiatives, rather than going into the general budget pool and funding other, non-health-related priorities.⁴⁴

Overall, our findings indicate that both policy influencers and the general public reported comparable levels of support for the vast majority of tobacco control policy options presented in the 2016 CDP Survey. The only two cases where support differed were banning the use of hookahs in all public places where tobacco use is banned and increasing tobacco taxes by more than \$1.00 per pack of 25 cigarettes. In both these cases, policy influencers indicated stronger support than members of the public. If policy influencers are taking a risk and looking to enact policy where public support is weaker, existing support is not always required prior to behaviour change, since support has been shown to increase over time following the enactment of legislation.^{14,23}

Members of the general public in Alberta and Quebec had comparable levels of support for the majority of policy options (11/13). This finding is surprising, as previous research has shown that smokers in Quebec in particular had stronger support for tobacco control policies than their counterparts in Alberta.¹⁵ In contrast, policy influencers in Alberta and Quebec disagreed on more than half (15/29) of the policy options. For example, policy influencers in Quebec were “extremely supportive” of policy options categorized as “provide information” (e.g. deploy tobacco industry denormalization campaigns that educate the general public about the industry’s deceptive practices) while their counterparts in Alberta were “very supportive” (NFPs ranged from 90.8 to 91.3 in Quebec compared to 50.6 to 64.4 in Alberta). Despite “provide information” being the lowest level on the NCB intervention ladder, and thus the least intrusive, policies situated at this level did not garner the most support among policy influencers in Alberta. This too is surprising as, historically, this provincial government has

favoured policies involving less government intervention.⁴⁵ However, it could be that “provide information” campaigns targeting the tobacco industry are perceived as being on a level of government intervention that differed from information pamphlets on smoking cessation framed as an individual choice. In contrast to the policy climate in Alberta, the policy climate in Quebec has been more supportive of state intervention, for example, through spending and taxation.⁴⁶ While Alberta has been historically defined as a “neoliberal democratic one-party state governed by a Conservative political party,”^{45, p.258} Quebec has a history of a union-led, social economy defined by more state involvement.⁴⁷ Hence, it is not surprising that in the 15/29 policies where policy influencers differed by province in levels of support, policy influencers in Quebec indicated more favourable support in 14/15 of those areas. The different historical political climates (i.e. approaches to state intervention) in each province may explain these differences in levels of support.

Strengths and limitations

The CDP Survey was limited by its cross-sectional and mixed purposive (policy influencers) and random (general public) sample, which precluded longitudinal or inferential interpretation of results. Rather, we calculated NFP values, a measure developed in marketing research (where more motivated respondents are generally the norm) to facilitate decision making on market actions.³⁷ Similarly, we used NFP values in a similar fashion to better understand policy influencer and general public perspectives in order to make decisions about advocacy actions. Another potential limitation was the low survey response rate, although this was in keeping with many other similar surveys with professionals.^{48,49} It also mirrors an overall decline in survey participation more generally.⁵⁰ The lower response rate made it difficult to analyze policy support by policy influencer subgroup, for example. While research has demonstrated that decreasing survey participation rates do not necessarily bias the results,^{51,52} we did use a variety of strategies to reduce non-response bias, such as repeated follow-up calls and emails (according to participant group) to ensure we obtain the largest sample size possible.

A strength of this research is our focused examination of policy influencer and general public support for potential tobacco control policies in two Canadian provinces. To our knowledge, few studies in a Canadian context have examined the acceptability of tobacco interventions of government and non-governmental stakeholders, as well as the general public.^{7,19,20} Although our survey was implemented in 2016, our findings still provide the most current overview of policy influencers and general public opinions on the acceptability of tobacco control policies in Alberta and Quebec at the time of writing. While it is possible that participants' opinions may have changed since 2016, previous research indicates that support for tobacco control policies tends towards increased acceptability over time.^{23,53,54} Therefore, it may be the case that levels of support in the 2016 CDP Survey will follow a similar trend. Future rounds of the CDP Survey may benefit from including additional demographic variables that may have influenced levels of support (e.g. smoking status), as well exploring patterns of support over time, including a 2019 update on tobacco control policy options.

Another strength of this study was our development of the intervention ladder codebook,³⁸ a notable first effort at advancing the interpretability of the NCB intervention ladder category levels for healthy public policy research. This work helped increase the transparency of our findings and led to the development of the new category to "reorient government action." We believe other researchers may find the codebook we developed useful in interpreting the NCB intervention ladder, particularly for understanding the ethical implications of healthy public policy options that do not fit into the original ladder. Our use of multiple coders in the analysis process further increased the rigour of the codebook process.

A final strength of our study is that policy options presented to respondents were vetted by an expert group of community organizations, practitioners and researchers in tobacco control as being timely and evidence-based, therefore increasing the relevance of and uptake of our findings for policy action.

Conclusion

As the Government of Canada renews its commitment to tobacco control policy,

aiming to significantly reduce the population-level burden of tobacco use,¹ it is important to examine policy influencers' and the general public's levels of support for potential interventions to help strategize tobacco control initiatives and activities. Our research showed that respondents considered nearly all of the tobacco control policy options to be "extremely," "very" or "slightly" favourable, even for policies that highly restrict or eliminate the autonomy of individuals. Policies that were viewed as particularly favourable were those that strengthen the regulation of emerging tobacco products (e.g. e-cigarettes) to align with currently regulated tobacco products and policies that target children and youth. Our study provides further insights into some of the barriers that health advocates may experience in achieving tobacco control policy progress. For example, while taxing tobacco products has been one of the most effective policy interventions for decreasing tobacco use,⁶ we found it to be one of the least supported policies. We also found many differences in favourability between policy influencers in Alberta and Quebec, with the latter demonstrating stronger support for most policies. In order for Canada to reach its new target to reduce smoking levels to less than 5%, advocates will have to identify strategies to overcome barriers to effective policy interventions, helping to decrease tobacco-related harm through knowledge-brokering strategies that communicate the population-health benefits. Despite the nuances in levels of support reported in our study, we found that both policy influencers and the general public overall indicated favourable support for the vast majority of tobacco control policy options. These favourable levels of support are positive and should be encouraging for health advocates to push for stronger legislative action on tobacco control policies and interventions to meet Canada's 2035 targets.

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Conflicts of interest

All authors declare no conflicts of interest.

Authors' contributions and statement

CIJN and KDR led the design of the project and obtained project funding. CIJN led survey development, fielding and oversaw analysis. JAM and KK conducted the analysis. KK developed the manuscript with critical editorial support from JAM, CIJN and KDR.

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