

Report on the B.C. Smoking Cessation Program Evaluation Survey

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Executive Summary

The Province of British Columbia launched the BC Smoking Cessation Program (BCSCP) in 2011 to support British Columbians who wish to stop using tobacco products by providing coverage for smoking cessation aids. Initial smoking cessation aid products included nicotine replacement therapy (NRT) in the patch and gum formats, along with prescription drugs bupropion (Zyban®) and varenicline (Champix®). In 2016, new NRT formats (lozenge, inhaler) were added to the program along with more direct access to the products. Other elements of the program remain unchanged, including annual eligibility and 12-week coverage duration.

In March 2020, BC Stats and the Ministry of Health conducted the B.C. Smoking Cessation Program Survey to assess the experience of individuals who accessed smoking cessation aids in B.C. during 2019. This evaluation follows a similar one conducted in 2015.¹ In 2020, a total of 4,000 respondents completed the survey online or by telephone. Survey results were weighted to accurately reflect the population’s age, gender, geographic location and use of cessation products.

Key findings

- The overall quit rate was 37%. While this is considerably higher than the 27% quit rate observed in the 2015 evaluation, the shorter elapsed time between respondents’ obtaining the cessation aids and being surveyed in the current study, was likely a key contributing factor (see Introduction on page 3).

**Quit rate definition:
Respondents were
smoke-free at the
time of the survey
and for the previous
30 days.**

¹ Full report can be download at <https://www2.gov.bc.ca/assets/gov/health/health-drug-coverage/pharmacare/smokingcessationevaluationreport.pdf>

- For those who did not quit, the average amount smoked dropped from 17 to 11 cigarettes a day.
- A majority of respondents (66%) said the program was helpful.
- One in ten respondents had a health care professional helping them to quit.
- Getting more exercise or changing eating habits were the most commonly cited new behaviours that respondents used to help quit.

1. Introduction

Although British Columbia has one of the lowest smoking rates in all of Canada, the burden of tobacco-illness continues to have a devastating impact in this province. Tobacco remains the substance responsible for both the most hospitalizations and deaths in BC. In 2019, smoking is projected to have caused or contributed to 6,270 deaths, 4,072 premature deaths, and 23,777 hospitalizations.² Annual health care costs for treating tobacco-caused illness are estimated to be \$699 million (2014 dollars).³

Most of today's smokers want to quit, with nearly half making a quit attempt every year.⁴ For many, quitting is very difficult, given the extreme addictiveness of nicotine. The benefits of quitting are many and begin almost immediately with declines in the risk of heart attack, stroke or dying from a tobacco-caused illness.⁵

Nicotine replacement therapy (NRT) and prescription medications can be effective smoking cessation aids for those committed to quit tobacco use. NRT replaces the nicotine in tobaccos and helps relieve or prevent cravings to ease the transition from cigarette smoking to abstinence. NRT is available without a prescription, in various forms such as patch, gum, lozenge, or inhaler. Bupropion is a prescription antidepressant that can be prescribed for smoking cessation. Varenicline is a prescription drug that affects nicotine receptors in the brain, reducing the cravings for, and decreasing the pleasurable effects of tobacco products.

² Canadian Institute for Substance Use Research, BC Alcohol and Other Drug Monitoring Project Data Visualization Tool. Generated from interactive tool on June 9, 2020 from <http://aodtool.cfar.uvic.ca/aod/tool.php>

³ Canadian Substance Use Costs and Harm: Profile BC. Downloaded June 9, 2020 from <https://www.ccsa.ca/sites/default/files/2019-05/CSUCH-Canadian-Substance-Use-Costs-Harms-British-Columbia-Infographic-2018-en.pdf>

⁴ Reid, J.L., Hammond, D., Tariq, U., Burkhalter, R., Rynard, V.L., & Douglas, O. (2019). *Tobacco Use in Canada: Patterns and Trends*, 2019 Edition. Waterloo, ON: Propel Centre for Population Health Impact, University of Waterloo. Downloaded: https://uwaterloo.ca/tobacco-use-canada/sites/ca.tobacco-use-canada/files/uploads/files/tobacco_use_in_canada_2019.pdf. Page ii

⁵ Critchley & Capewell, 2003; Critchley, J. A., & Capewell, S. (2003). Mortality risk reduction associated with smoking cessation in patients with coronary heart disease: a systematic review. *JAMA*, 290(1), 86-97. Pipe, Papadakis, & Reid, 2010. Pipe, A. L., Papadakis, S., & Reid, R. D. (2010). The role of smoking cessation in the prevention of coronary artery disease. *Current Atherosclerosis Reports*, 12(2), 145-150.

Recognizing both the importance of helping British Columbians quit, combined with evidence that smoking cessation aids are effective and safe, the Province of British Columbia launched the BC Smoking Cessation Program (BCSCP) in 2011. The BCSCP supports British Columbians who want to stop smoking or using tobacco products by providing coverage for smoking cessation aids. The BCSCP has had two iterations to date. From 2011 to the end of 2015, the BCSCP provided no-cost coverage of nicotine replacement therapies (NRTs) in patch or gum form, along with PharmaCare coverage of prescription drugs bupropion (brand name Zyban®) or varenicline (Champix®) for up to 12 weeks. To access the NRTs, British Columbians called HealthLink/8-1-1 to register, while for prescription medications, they contacted their doctors.

Beginning January 1, 2016, the design of the BCSCP changed, with new products and simplified access. Lozenge and inhaler formats of the NRT product were added to those already covered (i.e., patch and gum). Other elements of the program remain the same, such as annual eligibility and program duration.

British Columbians no longer register for NRTs via HealthLink; instead they can pick up the product from a community pharmacy after consultation with a pharmacist. Effective July 2018, varenicline generics were covered as a full benefit while Champix® became a partial benefit under PharmaCare in September 2018.

The Program has provided coverage for a significant proportion (more than 25%) of BC smokers. From September 30, 2011 to March 31, 2020, over 354,900 patients received smoking cessation aids (294,700 for nicotine gum, inhaler, lozenge or patches, and 118,700 for bupropion or varenicline), and the Ministry has invested approximately \$112.2 million for product coverage.⁶

An evaluation of the BCSCP was conducted in 2015, and the report is available online.⁷ As a follow-up, a second Evaluation Survey was conducted in March 2020. This report provides the results of that survey. By collecting feedback from

⁶ PharmaNet data, Health Sector Information, Analysis and Reporting, June 23, 2020

⁷ BC Smoking Cessation Program: Evaluation of the Nicotine Replacement Therapy Component <https://www2.gov.bc.ca/assets/gov/health/health-drug-coverage/pharmacare/smokingcessationevaluationreport.pdf>

program participants, these evaluations can help determine how best to continue helping British Columbians quit smoking.

After an overview of the respondent characteristics, key findings from the analysis of the results are presented and then compared with the findings of the 2015 survey. Both the program and the sampling approach have changed since the 2015 survey, so the comparisons are made at a very high level and should be interpreted with caution.

2. Methodology

2.1. Evaluation approach

The Smoking Cessation Evaluation Working Group of stakeholders from the Ministry of Health helped guide the 2020 evaluation starting with the review and modifications to the questionnaire, confirmation of the sampling plan proposed by BC Stats and approval of the weighting scheme. This group also ensured the necessary safeguards to protect the confidentiality of the participant information and the results when shared between BC Stats and the Ministry of Health.

2.2. Survey design

The questionnaire from the previous evaluation conducted in 2015 formed the basis. The Smoking Cessation Evaluation Working Group and BC Stats made several revisions to reduce the recall time for respondents and make it easier to answer. Some questions were removed and others added to capture more information about what actions helped program participants to quit and whether paying out of pocket for additional products or activities impacted quit rates.

The survey was designed to answer the following research questions:

1. What is the quit rate among program participants at the time of survey administration?
2. What factors are associated with quit outcomes?
3. What are participants' perceptions of the program?
4. What else helped people to quit smoking?

2.3. Sampling plan and survey administration

A total of 96,173 people used smoking cessation aids covered by the B.C. Smoking Cessation Program during 2019. All clients who were under age 19, did not have a valid address and phone number, and those who first accessed the BCSCP in the last two months of the year were removed prior to sampling. A random sample of 15,000 was drawn from this cohort of 80,370 program participants.

Full and accurate mailing information and telephone numbers were required in order to send the survey notifications out to participants randomly selected for the study. Participants with no addresses or an address in short term facilities were removed given the temporary status of their residency. Therefore, some selection bias may exist due to our need to have complete contact information and residents with a fixed address.

Quota ranges were set for each health authority and city type (rural/urban), age group and gender as well the product type dispensed to minimize the weighting of the final results. The quota ranges for health authority, city type (rural versus urban), sex as well as age group (19 to 34, 35 to 54 and 55 years and older) were based on the distributions found in the total population of 2019 program participants. When the random sample was pulled, it was checked for comparability with the population distributions on all the quota variables to ensure the sample was representative of the population.

All 15,000 people sampled were mailed a letter explaining the purpose of the survey and inviting them to participate in the survey online. Follow-up calls were made to all participants who had not yet completed the survey online. All phone interviews included a screening question to ensure participants received the covered smoking cessation aids during 2019 before proceeding.

The online and telephone surveys were completed between March 2nd and March 30th, 2020. This included a pre-test period during which 50 telephone interviews were monitored to ensure the survey was performing as expected. Towards the end of the fielding period, some additional random samples were pulled from the hard to reach quota groups. Surveys were collected from each group until the quotas were reached.

2.4. Completions, margin of error and weights

A total of 490 respondents completed the survey online, while the remaining 3,510 were completed over the phone. Advanis was responsible for all data collection activities. Based on the total sample pulled (16,384), the response rate was 24%. With 4,000 program participants responding to the survey, we can be reasonably confident (95 times out of 100) that the survey results are within plus or minus 1.5% of the population statistic. This means that if we pulled a hundred samples and surveyed each, we would get close to the same results as found in this study (i.e., within 3%, 95 times out of 100).

The results in this report were weighted to reflect the same composition by health authority, city type (rural/urban), age group, gender and product type as the population of program participants during 2019. The maximum aggregate weight was 3.6. The unweighted and weighted proportions for the variables used to create the aggregate weights, as well as the margin of error for each of these groupings were provided separately.

2.5. Statistical methods

Data was analyzed using SPSS. Chi-square tests of significance were used for all the cross tabulations and t-tests used for all mean comparisons.

2.6. Information sharing

To ensure compliance with government's privacy protection responsibilities for this survey, the Ministry of Health updated the Privacy Impact Assessment conducted for the 2015 evaluation. BC Stats has an umbrella Privacy Impact Assessment in place for research projects of this nature. As per the Freedom of Information and Protection of Privacy Act, the Information Sharing Agreement was amended to include the 2020 evaluation activities.

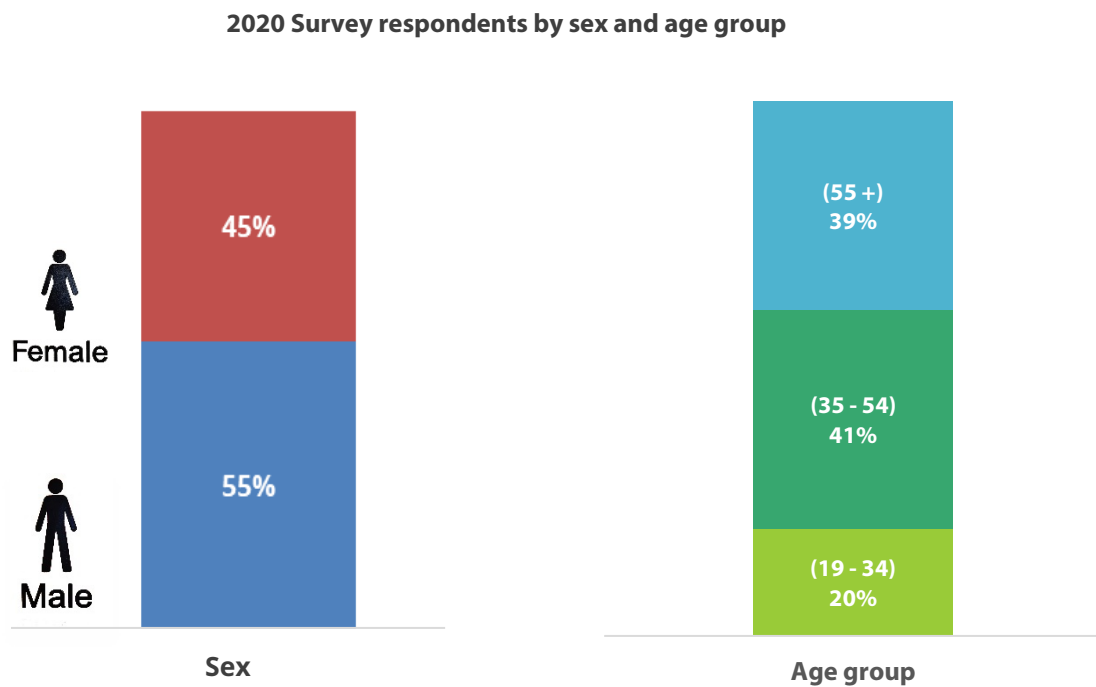
3. Respondent characteristics

Sex, age group, health authority and city type for respondents were available from the program data supplied for this study. Other respondent characteristics are based on answers to questions about their employment status, highest education level and household income.

3.1. Sex and age group

Weighting was used to ensure that the survey responses reflect the same sex and age distributions as found in the total program population from 2019. The sex and age distributions of respondents are shown in the figure below.

Figure 1: Sex and age group of respondents



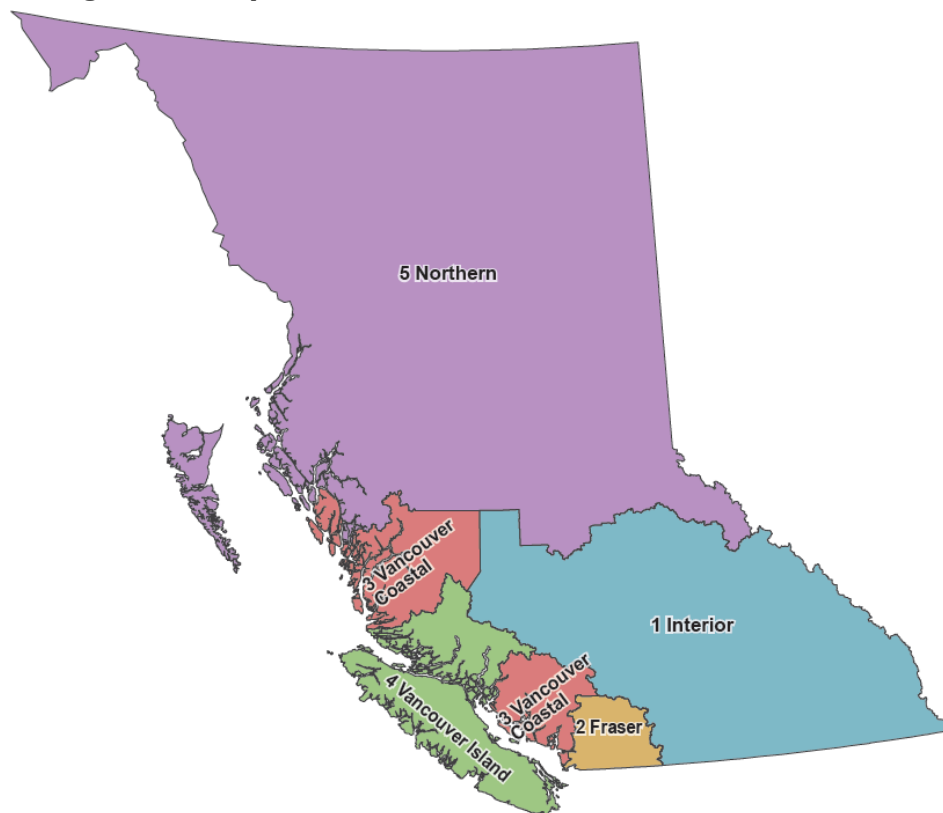
3.2. Health authority and city type

The weighting scheme also considers the distribution of 2019 program participants by health authority and city type (rural or urban). A much higher proportion of respondents live rurally in the Interior region compared to the rest.

Table 1: Distribution of respondents by health authority and % living rurally

Health authority	# of respondents	% of respondents	% living rurally
1. Interior	933	23%	43%
2. Fraser	1,269	32%	10%
3. Vancouver Coastal	602	15%	7%
4. Vancouver Island	812	20%	22%
5. Northern	385	10%	18%
British Columbia	4,000	100%	22%

Figure 2: Map of health authorities



3.3. Education and income levels

The survey also gathered information on employment status, highest level of education, household income level and self-rated mental health status. A total of 59% of respondents indicated they were currently working at a job or business.

As shown in **Figures 3 and 4**, respondents had a wide range of different education and income levels, confirming a diverse sample of British Columbians participated in the survey, and by extension, make use of the B.C. Smoking Cessation Program.

Figure 3: Percentage of respondents by highest education level, n=3,917

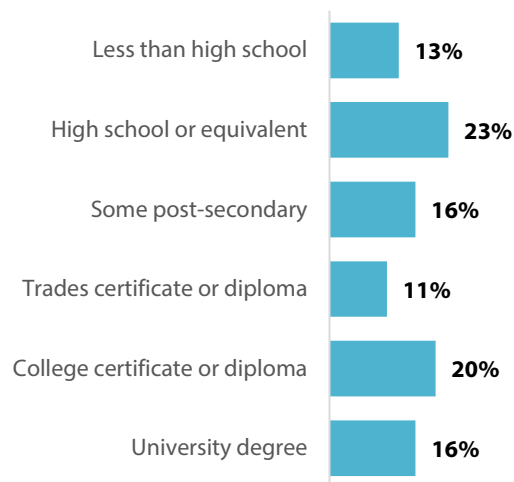
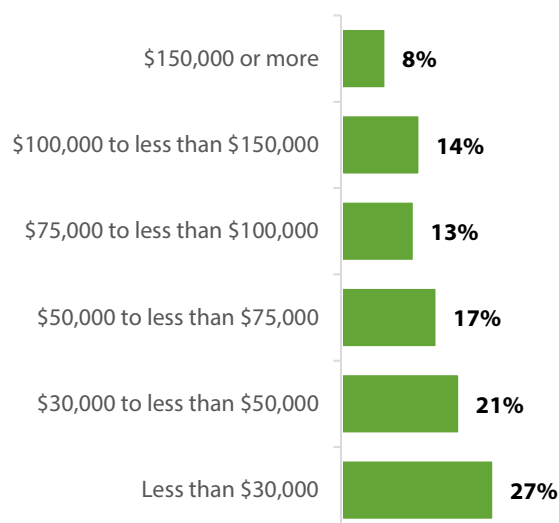


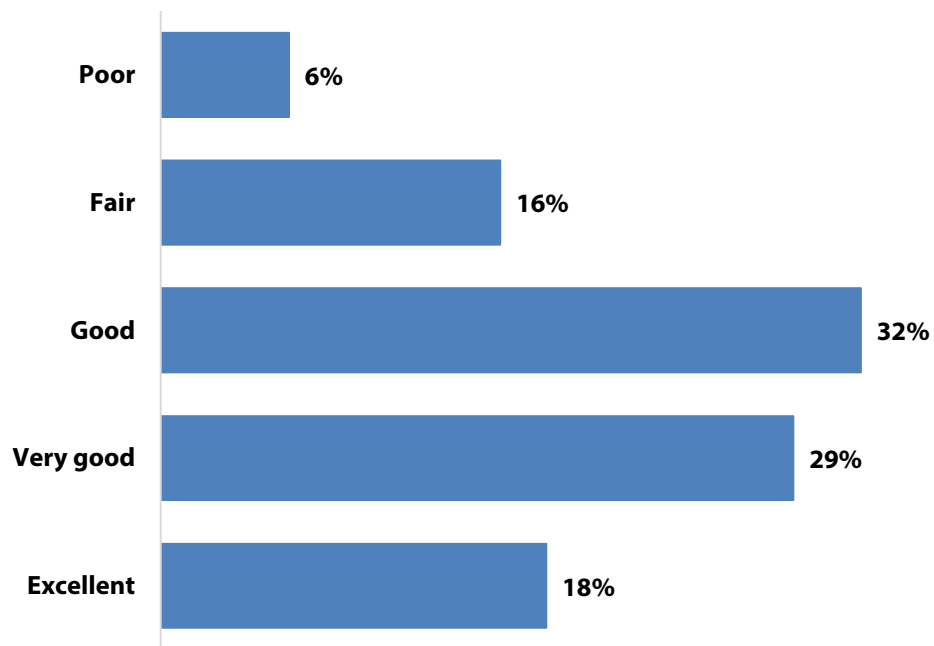
Figure 4: Percentage of respondents by annual household income, n=3,442



3.4. Self-rated mental health

While most respondents (78%) rated their overall mental health status ranging from good to excellent, 22% felt it was fair or poor (see **Figure 5**).

Figure 5: Percentage of respondents by mental health status, n=3,909



4. Tobacco use by respondents

4.1. Consumption prior to cessation program

Research shows that many people experiment with cigarettes at a young age. This continues to be an issue in B.C., with the most common age for ‘trying’ at 14 or 15. Overall, in 2018, 18% of youth in grades 7-12 had tried smoking.⁸

Cigarettes were the most common tobacco product program participants were trying to quit (95% of respondents). The remaining (5%) identified vaping, cigars, chewing tobacco and other products as the substance they wanted to stop using.⁹

The 2020 survey also collected information about the age respondents started smoking and the number of prior quits as these are well-known correlates with quit outcomes.

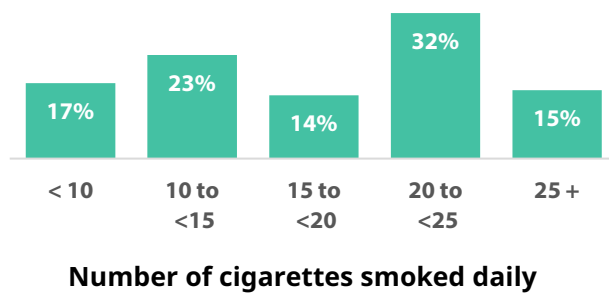
The average age that respondents started using tobacco products was 17, but the ages reported ranged from eight years old to 60 years of age. Over three quarters (77%) began smoking at the age of 19 or younger and only 3% started after the age of 30.

⁸ Balance and Connection: B.C. Adolescent Health Survey (2018). McCreary Centre Society (Vancouver). Pages 46-48. Downloaded from https://mcs.bc.ca/about_bcahs

⁹ Under the current program eligibility rules, the BCSCP is designed to help tobacco users quit smoking and other tobacco products only, not vapour products. PharmaCare is aware that clients may be using BCSCP to help them quit the use of vapour products, but this approach is not currently backed by clinical evidence.

As shown in **Figure 6**, just over half of respondents smoked less than a pack a day (54%), almost a third smoked between 20 and 24 cigarettes a day (32%) and the remaining 15% consumed 25 or more daily.¹⁰ The average amount smoked before the program was 17 cigarettes, pieces of tobacco products or millilitres of e-juice.¹¹

Figure 6: Cigarette consumption prior to program participation, n=3,739



Respondents were also asked how many times they stopped smoking, for at least 24 hours before they participated in the program in 2019. The number of quit attempts before starting the smoking cessation program ranged from none to “too many to count”.¹² Due to the number of respondents with this response (too many to count), the average number of prior quits could not be calculated.¹³

Tobacco use disorder is considered a chronic relapsing condition. Most tobacco users will need multiple quit attempts – for some it may take up to 30 attempts.¹⁴

¹⁰ This includes the use of other tobacco products and vaping which was measured in millilitres used each day.

¹¹ The current BCSCP is not designed to provide products for vaping cessation.

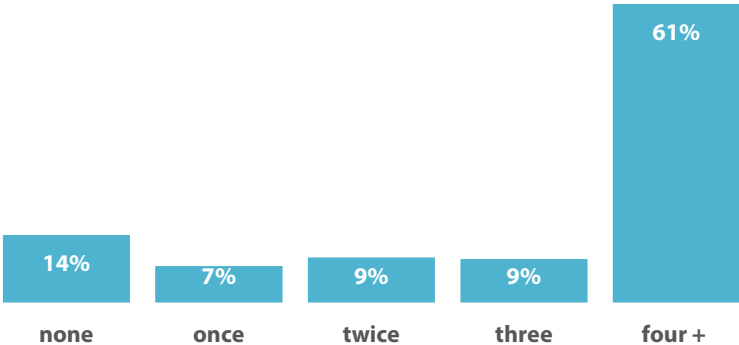
¹² Due to the number of respondents who said “I don’t know” because the number of quit attempts was so high, the “too many to count” response option was added during pretesting. Respondents were more willing to respond to this question when not required to give an actual figure.

¹³ This measure differs from the 2015 evaluation which only evaluated the six months prior to the program whereas the 2020 evaluation did not limit the timeframe. To create a more useful predictor from this data it was grouped into five categories ranging from none to four+.

¹⁴ Chaiton, M. et al. (2016). Estimating the numbers of quit attempts it takes to quit successfully in a longitudinal cohort of smokers. *British Medical Journal*, 6, 1-9.

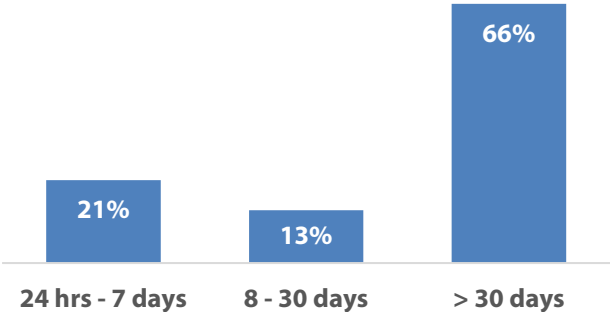
As displayed in **Figure 7**, 14% of respondents indicated they had never quit for at least 24 hours in the past. Another 25% of participants said they quit one to three times and the largest group (61%) attempted quitting four or more times prior to their participation in the program during 2019.

Figure 7: Number of prior 24-hour quits, n=3,822



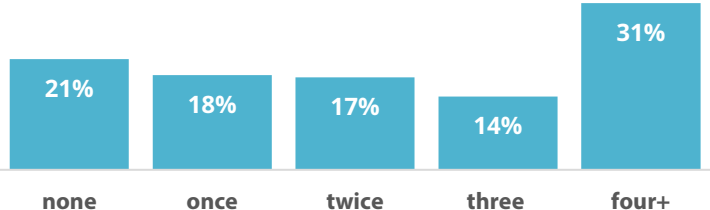
Respondents with prior quit attempts were also asked to estimate the longest period they have remained smoke-free prior to participating in the program in 2019. Two thirds of respondents indicated they did not smoke for a month or longer. One in five stayed smoke-free for less than a week and the remaining 13% said longer than a week, but shorter than a month (see **Figure 8**).

Figure 8: Longest quit period prior to program, n=3,371



This study is also interested in respondents' previous use of smoking cessation aids. Before starting the program, 79% had already used smoking cessation aids at least once and almost a third of respondents had previously used aids four or more times in the past (see **Figure 9**).

Figure 9: Number of times cessation aids were previously used, n=3,365

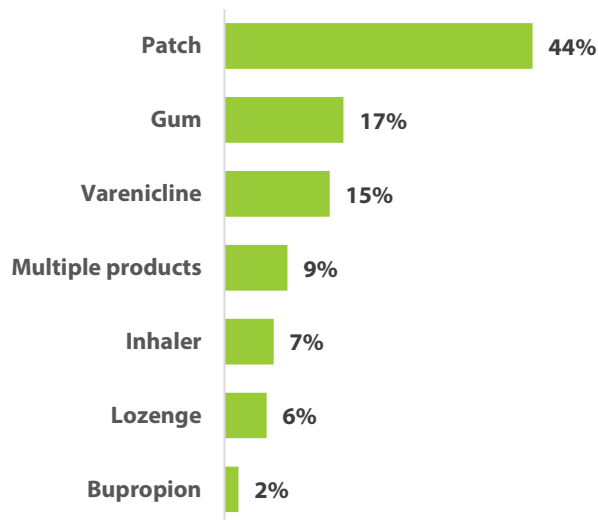


4.2. Type of cessation aid used by participants

Unlike the 2015 survey, the 2020 survey also included British Columbians who tried to quit smoking using two approved quit medications insured by PharmaCare. As shown in **Figure 10** below, 17% used either varenicline (Champix®) or bupropion (Zyban®) to help them quit, which are the two types of prescription drugs that are covered by the program. Another 17% chose to use nicotine gum and 15% chose either the inhaler or lozenges. The patch was most commonly used (44%) and the remaining 9% used multiple smoking cessation aids when starting the program.¹⁵ While PharmaCare policy allows switching from one product to another in the course of treatment, only one of either NRTs or prescription medication is covered for 12 weeks each calendar year. Concurrent use implies that patients were paying out of pocket for the products they used.

¹⁵ A small portion of respondents received multiple aids at the same time. Analysis of PharmaCare data may reveal more about this cohort and the combination of products used.

Figure 10: Type of cessation product used by program participants, n=4,000



4.3. Smoking status at time of survey

All respondents were asked if they were smoking or using tobacco products at the time of the survey.¹⁶ Two in five reported smoking daily (44%), 17% said they smoked occasionally and 39% were not smoking at all.

Of those smoking daily, one in five had their first cigarette of the day within five minutes of waking and another two in five said it was between six and 30 minutes. For one in five, it was longer than 30 minutes, but less than an hour and the remaining 13% reported not having a cigarette until at least an hour after waking.

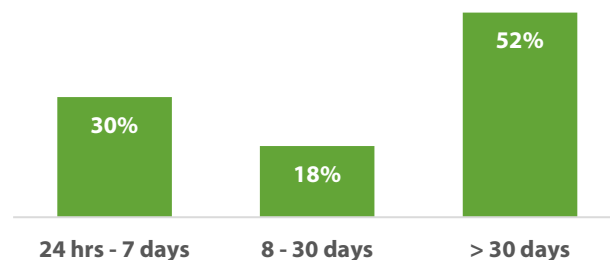
Two questions (how many cigarettes per day/ how many minutes to first cigarette) are used by clinicians to assess a patient's dependence on nicotine. This information can be used to tailor prescribing decisions and provide other supports to help manage withdrawal symptoms.

¹⁶ The words related to "smoking" were swapped with "tobacco products" for the small percentage of respondents who were quitting products other than cigarettes (i.e., vaping, chewing tobacco, pipes, etc.)

4.4. Quit attempts and consumption change

Participants' estimates of the number of quit attempts after starting the smoking cessation program ranged from zero to 748. One in five respondents (20%) did not attempt a quit after the program started, about half (51%) said they tried to quit between one and four times and the remaining 29% said five or more times. The respondents who attempted a quit were then asked for the longest period of time they remained smoke-free since the program started. One in three said they were able to for less than a week, 18% abstained for over a week but less than a month, while just over half (52%) did for a month or longer.

Figure 11: Longest quit period after program started, n=2,474



The BC Smoking Cessation Program did appear to help reduce the number of cigarettes consumed by those still smoking daily or occasionally at the time of the survey. This group showed a considerable drop in average daily consumption with the group smoking an average of 17 cigarettes prior to the program, and this dropped down to an average of 11 among those still smoking at the time of the survey. This group may be using the Reduce to Quit protocol where the smoker cuts down the number of cigarettes smoked gradually, using gum to manage cravings.¹⁷ The goal should be a complete stop to cigarettes by six months, continuing with gum to relieve cravings and eventually stopping gum use completely.

¹⁷ Selby P 2012. CAN-ADAPTT Algorithm for tailoring pharmacotherapy Guide to Smoking Cessation www.canadaptt.net Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-informed Tobacco Treatment (CAN-ADAPTT) updated June 2017 <https://www.nicotinedependenceclinic.com/en/teach/Documents/Pharmacotherapy%20Algorithm%20JAN2018%20updated.pdf>

4.5. Quit rates

The quit rate is based on how many participants had been smoke-free for the previous 30 days at the time of the survey. This measure is known as the 30-day point prevalence abstinence (PPA), the recommended primary measure for reporting quit outcomes.

Daily smokers were considered to have not quit since they were smoking at the time of the survey. Respondents who were smoking occasionally were counted as quit if they had not smoked in the previous 30 days. Non-smokers at the time of the survey were asked if they had smoked since the program started. Those that responded “no” were counted as quit since the program started more than 30 days ago for all participants. Participants that responded “yes” were then asked for the longest period they remained smoke-free since the program started. Those that responded more than 30 days were counted as quit.

The overall quit rate was 37%. However, this rate varied considerably across some respondent characteristics as discussed in the next section.

4.6. Factors associated with quit rates

The quit rates by different respondent characteristics are shown in **Table 2** below. There appears to be a relationship between quit rate and sex and level of education, where quit rates were higher among males and those with a university degree. The age respondents started smoking also seem to make a difference with higher quit rates observed for those who started later than age 19.

Quit rates also differed by income level and self-rated mental health status. Respondents with household incomes of less than \$30,000 had lower quit rates than all other income levels and those who rated their mental health from “good” to “excellent” had higher quit rates than those who rated their mental health status as “fair” or “poor”. In addition, those who quit five or more times in the past had a higher quit rate than those who had previously quit four or fewer times. No significant differences in quit rates by employment status were observed.

Table 2: Quit rates by respondent characteristics

Characteristic	2020 Evaluation Quit Rate	Significance
Sex		
Males	38.5%	p<.039
Females	35.3%	
Age group		
19-34	40.8%	NS
35-54	35.9%	
55 +	36.4%	
Employment status		
Employed	38.4%	NS
Not employed	35.4%	
BC Health Authorities		
Interior	36.0%	NS
Fraser	39.1%	
Vancouver Coastal	35.4%	
Vancouver Island	39.0%	
Northern	32.1%	
City type		
Rural	36.8%	NS
Urban	37.2%	
Highest Education Level		
Less Than Secondary	31.1%	p<.010
Secondary Complete	38.0%	
Some Post-Secondary	36.3%	
Trades/Apprenticeship	35.7%	
College Diploma	38.4%	
University	41.7%	
Employment Status		
Working	38.4%	NS
Not Working	35.4%	
Self-rated mental health		
Excellent	44.0%	p<.000
Very good	40.4%	
Good	37.3%	
Fair or Poor	27.3%	

Characteristic	2020 Evaluation Quit Rate	Significance
Income level		
Less than \$30,000	31.1%	p<.005
\$30,000 to less than \$50,000	38.0%	
\$50,000 to less than \$75,000	36.3%	
\$75,000 to less than \$100,000	35.7%	
\$100,000 to less than \$150,000	38.4%	
\$150,000 or more	41.7%	
Age started smoking		
< 12 years old	31.2%	p<.001
12 – 15 years old	33.3%	
16 – 19 years old	38.8%	
20 – 24 years old	40.7%	
25+	42.1%	
Number of prior quits		
None	31.3%	p<.000
Once to four times	33.8%	
Five or more times	40.5%	

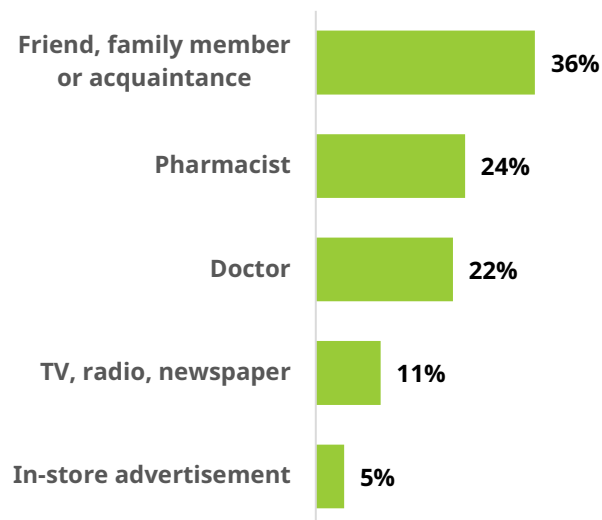
Chi-square tests suggest there is possible association between certain respondent characteristics and the quit rate. However, additional regression analysis would be required to investigate how useful these characteristics are in predicting quit outcomes.

5. Perceptions of the program

5.1. Program referral source

Family and friends were the most commonly identified source of knowledge about the program (one in three). Pharmacists (24%) and doctors (22%) were also frequently mentioned when asked how they first heard about the program, while advertising was identified as the source for 11% or fewer participants.

Figure 12: How participants first heard about the cessation program



Health care providers have an important role to play in assisting individuals to quit smoking. Moreover, even brief interventions by providers are known to be effective in increasing the likelihood of a quit attempt by a person who smokes.¹⁸

It is notable that personal acquaintances were the most common source of information about the program, ahead of clinicians. This implies an opportunity to promote safe and effective ways of quitting through social media and official online sources (such as PharmaCare, QuitNow and HealthLink websites).

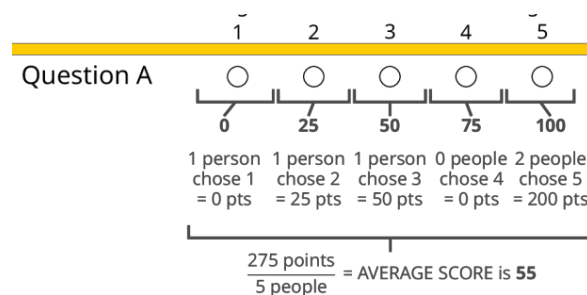
¹⁸ Source: https://www.nicotinedependenceclinic.com/en/canadaptt/PublishingImages/Pages/CAN-ADAPTT-Guidelines/CAN-ADAPTT%20Canadian%20Smoking%20Cessation%20Guideline_website.pdf, page 1.

5.2. Perceptions of program helpfulness

Respondents who were not smoking at the time of the survey were asked to rate how helpful they thought the B.C. Smoking Cessation Program has been in helping them to quit. The question wording was changed to present tense for those who were smoking (i.e., “has been” changed to “is”). When examining the proportion who rated the program helpfulness as a four or a five (on a scale of five), the distribution of responses differed considerably by smoking status at the time of the survey. Just over half of those who were smoking at the time rated the program as helpful (56%), compared to 81% of those who were not smoking when surveyed.

When both groups were combined, 66% of respondents overall rated the program as a four or five out of five on the helpfulness scale. These results are very similar to the findings of the 2015 evaluation even though the response scale differed somewhat between the two studies.¹⁹

By converting the scaled responses into a 100 point scale using the below method, we can compare average scores across different groups. For example, we can examine the average program helpfulness score for those using a specific product type.



¹⁹ The 2014 survey used a five point agreement scale for this question but during testing, it was determined that respondents were having difficulties in applying the agreement scale to the question about program helpfulness. Therefore, the response scale was switched to a five point scale ranging from one indicating “Not at all helpful” to five indicating “Very helpful”. Respondents found the question much easier to answer once the scale was changed and fewer asked for the scale to be repeated for them.

Each group's average score can be easily compared to groups of participants using other product types to see if perceived helpfulness differs by the type of product type. Furthermore, we can perform statistical tests to confirm that any observed differences between these groups are not merely due to chance. Based on the similarity between the perception of helpfulness in 2015 and 2020, the process changes (discontinuation of mail order and elimination of registration by calling 811) appear to have had a neutral impact on user satisfaction.

5.3. Efficacy of pharmacological cessation aids

A 2010 Canadian Agency for Drugs and Technologies in Health (CADTH) review of smoking cessation products showed that nicotine replacement therapy (NRT), bupropion and varenicline are all effective aids in helping the general population of smokers to quit using tobacco. NRT and bupropion generally double the chance of quitting, and varenicline may increase the chance of quitting two- to three-fold.²⁰

According to a 2019 Cochrane Review, there is high-certainty evidence that a combination of NRT cessation aids work better than a single form of NRT, that higher-dose nicotine gum works better than lower-dose gum, and using a fast-acting form of NRT, such as gum or lozenge, resulted in similar quit rates to nicotine patches.²¹

Another Cochrane Review suggested that overall NRT is as effective a quitting aid as the antidepressant bupropion but is less effective than varenicline. However, when different types of NRT are considered, a combination of NRT cessation aids is as effective as varenicline.²²

²⁰ Pharmacologic-based strategies for smoking cessation: clinical and cost-effectiveness analyses. Ottawa: CADTH; 2010 Sep; amended 2011 Oct. (Technology report; no. 130). Available from: https://www.cadth.ca/sites/default/files/pdf/H0486_Smoking_Cessation_tr_e.pdf





²¹ Lindson N, Chepkin SC, Ye W, Fanshawe TR, Bullen C, Hartmann-Boyce J. Different doses, durations and modes of delivery of nicotine replacement therapy for smoking cessation. *Cochrane Database Syst Rev.* 2019;4(4):CD013308. Published 2019 Apr 18. doi:10.1002/14651858.CD013308




²² Cahill K, Stevens S, Perera R, Lancaster T. Pharmacological interventions for smoking cessation: an overview and network meta-analysis. *Cochrane Database of Systematic Reviews* 2013, Issue 5. [DOI: 10.1002/14651858.CD009329.pub2]

Table 3 below presents the quit rate and program helpfulness rating by product type as reported by respondents in this evaluation. The last column shows the number of respondents that these statistics are based on for context. For example, the number that used bupropion (Zyban®) (n=70) may be too small of a group to provide reliable estimates of the impact of this medication on quit rates and perceptions of program helpfulness.

As displayed in the second column in the table below, respondents who used the nicotine gum and the nicotine lozenge reported higher quit rates than the other Nicotine Replacement Therapy (NRT) products and prescription medications. These two products (nicotine gum and lozenges), along with the patch were also observed to be higher on the helpfulness scale by respondents (see column 3).

Table 3: Quit rates and perceived helpfulness by product type

Type of product used	Quit rate*	Program helpfulness rating* (out of 100 points)	# of respondents who used this product
Nicotine Lozenge			
	49.2%*	76.3*	224
Nicotine Gum			
	47.7%*	77.6*	693
The patch			
	37.1%	75.0*	1,777
Multiple Products			
	31.5%	69.4	347

Type of product used	Quit rate*	Program helpfulness rating* (out of 100 points)	# of respondents who used this product
Varenicline 	31.3%	63.0	602
Bupropion 	29.5%	58.0	70
Nicotine inhaler 	22.5%	61.2	287

*Note: The asterisk indicates the cell is significantly higher than those without. Quit rates were compared using a Chi-square test of significance and a t-test was used to assess differences in program helpfulness ratings.

Caution is needed in drawing conclusions on the comparative effectiveness of these products based on these findings. This is because optimal use of the various NRT formats and prescription drugs depends on different factors including the level of dependence (number of cigarettes smoked), readiness to quit, approach (reduce to quit), duration of quit attempt, and response.²³ Therefore, the higher rates in those using nicotine gum and the nicotine lozenge may not be attributable to the products alone as these smokers may be in a very different phase of their quitting journey, compared to those using other NRTs and prescription medications.

²³ Selby P 2012. CAN-ADAPTT Algorithm for tailoring pharmacotherapy Guide to Smoking Cessation www.canadaptt.net Canadian Action Network for the Advancement, Dissemination and Adoption of Practice-informed Tobacco Treatment (CAN-ADAPTT) updated June 2017
<https://www.nicotinedependenceclinic.com/en/teach/Documents/Pharmacotherapy%20Algorithm%20JAN2018%20updated.pdf>

6. Types of help utilized to quit

6.1. Health care assistance with quitting

Health care professionals can play a key role with screening and referrals. In British Columbia, there are efforts to systematically embed smoking cessation with other medical interventions. For example, a number of B.C. Guidelines include smoking cessation as an important treatment intervention in patient pathways to improved health. As well, there are a number of transformation projects underway by BC Cancer and pre-surgical clinics that seek to systematically screen patients for smoking status and refer them to quit supports.

When respondents were asked if any health professionals helped them with quitting, only 11% indicated they had. These respondents said they received assistance from pharmacists (29%), doctors (24%), nurses (9%), or from dentists, acupuncturists or surgeons (<2%). There were no significant differences in the quit rate between those who received help from a health care professional and those who did not, however, these results may differ if a matched comparison group was used instead.

6.2. Other types of assistance with quitting

One in five respondents reported using other kinds of assistance to help them quit. The types of assistance used can be classified into four categories which are presented in the order of most to least commonly identified. A list of the types of assistance classified in each category is provided for clarity.

Developing new healthy behaviours (13%)

- Self-motivation/tricks/distractions
- Getting more exercise or going to the gym
- Changed eating habits or started a special diet
- Meditation/yoga/mindfulness/prayer

Reducing nicotine dependence (11%)

- Reduced to quit
- Switching to vaping
- NRT or prescription medication in addition to those provided by program

Getting support (9%)

- Support from a practitioner (e.g., counsellor, therapist)
- Support from a quit smoking service (e.g., hotline, hypnotist, laser therapy)
- Support from non-clinical sources (e.g., friends, family)

Creating replacement behaviours (6%)

- Cannabis
- Chewing gum
- Special filters or holders
- Nicotine-free vaping

6.3. Out-of-pocket costs for quitting

Other research shows evidence that offering free cessation aids has an impact on tobacco use. Cost can be a barrier to accessing these medications, thus affecting smoking cessation pharmacotherapy effectiveness.²⁴

In this evaluation, over a third of respondents (35%) indicated they had out-of-pocket expenses for other products or activities to help them quit smoking. The average monthly costs associated with these cessation products or activities was \$102 and ranged from \$1 to \$2,000 a month. A t-test showed no significant differences by quit outcome in the amount respondents spent on activities or products to help them quit.

²⁴ Source Pharmacologic-based strategies for smoking cessation: clinical and cost-effectiveness analyses. Ottawa: CADTH; 2010 Sep; amended 2011 Oct. (Technology report; no. 130). Available from: https://www.cadth.ca/sites/default/files/pdf/H0486_Smoking_Cessation_tr_e.pdf

7. Comparison with 2015 results

This section provides a high level overview of the differences between the results of the current study and those previously reported in the 2015 evaluation.²⁵ Due to a lack of access to the 2015 evaluation data and methodology, comparisons are limited to the measures reported in the previous evaluation report. No investigations into the prior results were possible and no statistical tests could be performed when making these comparisons. There is also limited information about the methods used to derive key measures in the 2015 study, and so every attempt was made to replicate the same analysis where possible.

Furthermore, there were key differences in the way the sample was selected that likely influenced differences in the key measures. For example, in order to obtain a more representative sample of program participants and more timely results, the 2020 study drew respondents from a ten month timeframe and the survey was administered between four and 14 months after program start. Therefore, the 2020 study evaluated participants with a range of different lengths of time post program participation, whereas in the 2015 study, at least a year had elapsed before the evaluation took place. Compared to the 2015 participants, it is likely that more of the 2020 cohort were evaluated at the seven-month mark as recommended by the North American Consortium Quitline (NACQ) standard.²⁶

As shown in **Table 4**, the distribution of respondents by sex and health area was very similar in both evaluations. Due to changes in the product coverage provided by the program, the distribution of respondents by product type used differed. A comparison also shows that even though the wording of the scale question assessing perceptions of program helpfulness was modified since the prior survey, the results are very similar. This is true when comparing the perceptions of

²⁵ For full report of prior evaluation results see <https://www2.gov.bc.ca/assets/gov/health/health-drug-coverage/pharmacare/smokingcessationevaluationreport.pdf>

²⁶ NACQ (North American Quitline Consortium) -recommended quality standard measuring quit rates <https://www.naquitline.org/page/ImpQR#pointprevabst>

smokers and non-smokers at the time of the survey separately as well as combined.

Table 4: Respondent characteristics and perceptions, 2015 and 2020 surveys

	2015 Respondent Distributions	2020 Respondent Distributions
Sex		
Male	53%	55%
Female	47%	45%
Health authority		
Interior	24%	23%
Fraser	29%	32%
Vancouver Coastal	20%	15%
Vancouver Island	17%	20%
Northern	10%	10%
Product used*		
Gum	33%	17%
Patch	63%	44%
Multiple	4%	9%
Inhaler	n/a	7%
Lozenge	n/a	6%
Varenicline	n/a	15%
Bupropion	n/a	2%
Program helpfulness**		
Program is helping smokers	65%	66%
Program helped non-smokers	58%	56%
	81%	81%

*The 2015 evaluation did not include users of the prescription quit medications. In 2016, the program was expanded to cover two additional types of products: inhaler, lozenges, in addition to the patch and gum offered since 2011.

**In 2015 this was measured on a five point agreement scale whereas in 2020, the question was changed to a five point scale ranging from one (Not at all helpful) to five (Very helpful). The respondents who scored 4 or 5 on the agreement or helpfulness scale were counted as the number who found the program helpful and this was divided by the total respondents to compute these statistics.

One of the key measures in both evaluations was the quit rate. However, due to possible differences in the method of measurement and because there was more elapsed time between the treatment and the evaluation in the 2015 evaluation than in the 2020 evaluation, the comparison of these quit rates must be interpreted with caution. While the 2020 quit rates are consistently higher than found in the 2015 evaluation, similar trends in the data can be observed.

Table 5: Quit Rates for 2015 and 2020 evaluations

	2015 Evaluation Quit Rate	2020 Evaluation Quit Rate*
Sex		
Males	26.5%	38.5%
Females	27.0%	35.3%
Health authorities		
Interior	27.5%	36.0%
Fraser	26.3%	39.1%
Vancouver Coastal	24.2%	35.4%
Vancouver Island	29.2%	39.0%
Northern	26.3%	32.1%
Highest education level		
Less Than Secondary	15.4%	33.5%
Secondary Complete	16.9%	39.1%
Some Post-Secondary	27.9%	39.0%
Trades/Apprenticeship	25.6%	38.0%
College Diploma	29.0%	40.3%
University	33.9%	43.0%
Employment Status		
Working	29.3%	38.4%
Not Working	23.3%	35.4%
Self-rated mental health		
Excellent	34.2%	44.0%
Very good	20.0%	40.4%
Good	25.4%	37.3%
Fair or Poor	16.2%	27.3%
% abstained >30 days		
Time of survey*	27%	37%
Before cessation program	40%	66%
Since cessation program	52%	52%

	2015 Evaluation Quit Rate	2020 Evaluation Quit Rate*
NRT product type		
Gum	35.8%	47.7%
Patch	22.5%	37.1%
Multiple**	21.5%	31.5%

*The timing of the survey post-program was too dissimilar for these to be directly comparable.

** A small portion of respondents received multiple aids at the same time. Analysis of PharmaCare data would be necessary to reveal more about this cohort and the combination of products used.

8. Discussion

While this evaluation sought to replicate the 2015 evaluation, the results had limited comparability due to some key methodological differences. Unlike the 2015 evaluation, which only surveyed users of NRT products, the 2020 survey also included British Columbians who tried to quit smoking using either prescription bupropion or varenicline.

8.1. Limitations

Only participants with complete contact information could be invited to participate in the survey. This may have led to selection bias, excluding certain population groups. With a response rate of 24%, this survey finding is subject to non-responder bias as a result of systematic differences between responders and non-responders.

The cross-sectional survey design conducted in a single timeframe limits any inference of causal association. In the absence of predictive modeling, the findings reported cannot answer the question related to predictors of quit outcomes or test the effectiveness of different smoking cessation products. For example, while users of nicotine gum and lozenges reported higher quit rates, the type of statistical analysis performed does not consider other factors impacting quitting outcomes. While the analysis suggested a possible relationship between certain respondent characteristics, cessation products and the quit rate, further analysis would be required to determine how well these variables perform when predicting quitting outcomes.

8.2. Strengths

With 4,000 completions, the survey results were representative of the population (within 3%, 95 times out of 100). The results were weighted to reflect the same composition by health authority, city type, age group, gender and product type as the population of program participants. Since the respondent population was representative of the sample population in key characteristics, the results can be extrapolated to the population of program users.

The 30-day point prevalence abstinence was measured between four and fourteen months after program start compared to the 2015 survey, which was administered at the 10 to 13 month mark. Therefore, the 2020 cohort was closer to the seven-month mark for measuring abstinence as recommended by the Quitline standard than in the previous study. However, the wide range of follow-up intervals limited meaningful comparability.

Changes to the 2020 survey also allowed this evaluation to better characterize reductions in smoking behaviour than what was used in 2015, which relied upon respondents' perceptions of whether they smoked less after the program.

8.3. Areas of focus for future evaluations

As the BCSCP seeks to improve the quit rate and fund effective, safe and cost-effective treatments, future evaluations should consider addressing the following questions:

- What factors constrain access to the smoking cessation program, particularly for populations that may have been excluded from this survey?
- Is a 12-week coverage duration adequate? Are quitting outcomes different for patients accessing longer durations of treatment?
- What proportion of patients use combination therapies (prescription and NRTs) and how do their quit rates differ from the rest?
- What factors are helpful in predicting quitting outcomes?
- What is the role of pharmacists or other health care providers in facilitating access to smoking cessation products or improving quit outcomes?
- How can the smoking cessation program be tailored to address the growing prevalence of vaping, especially among younger people?
- Do patient behaviour and preference for smoking cessation method or products affect quit outcomes? Do patients retry the same agents or try new agents for quit attempts? What products and dosages are patients using over successive attempts, and what is their quit rate?
- How many patients have used the program more than once and how does this correlate with the quit rate? Is there a sub-set that have tried multiple times without success and could benefit from other therapies?
- What is the role of supportive treatments such as counselling, in helping people to quit?

9. Summary of 2020 results

The study reported the following key findings from a survey of British Columbians who participated in the BC Smoking Cessation Program during 2019.

- It provided access to smoking cessation products for a significant number of British Columbians (n=96,173).
- The overall quit rate was 37%.
- For those who did not quit, the average amount smoked dropped from 17 to 11 cigarettes a day.
- The highest proportion used the nicotine patch (44%), followed by nicotine gum (17%) and varenicline (15%)
- Users of nicotine gum and lozenges reported higher quit rates (49% and 48% respectively) than other cessation products available under the program (ranging from 23% to 37%).
- A majority of respondents (66%) said the program was helpful.
- Respondents using nicotine gum, lozenges and the nicotine patch rated program helpfulness higher than those using other types of cessation aids.
- One in ten respondents had a health care professional helping them to quit.

These findings indicate that the BCSCP program continues to be valuable in supporting British Columbians who wish to stop smoking.

Appendix A: B.C. Smoking Cessation Survey 2020 (Telephone version)

INTRODUCTION

Hello, may I please speak with <NAME FROM SAMPLE>? My name is _____, and I am calling on behalf of BC Stats and the Ministry of Health. We are conducting a survey to evaluate and improve the BC Government's Smoking Cessation Program. You should have already received a letter in the mail explaining the purpose of this survey.

This helps British Columbians who want to stop smoking or using tobacco products by assisting them with the cost of smoking cessation aids such as the patch, gum and medications in tablet form. Did you receive any of these smoking cessation aids in 2019?

- Yes
- No/Don't know

[IF DON'T RECALL GOING THROUGH THE B.C. SMOKING CESSATION PROGRAM:]

You may have received free smoking cessation aids from the BC Smoking Cessation Program, a PharmaCare program. It provides smokers and other tobacco users with no-cost patch, gum, lozenges or inhaler; and coverage for prescription quitting drugs for those on Fair PharmaCare, up to three months per calendar year. People are considered part of the program when they obtain smoking cessation aids from a community pharmacy. Does that sound familiar?

[IF STILL DON'T RECALL REGISTERING FOR/GOING THROUGH THE B.C. SMOKING CESSATION PROGRAM: Is there anyone else at this phone number that may have tried quitting smoking last year with the help of a government program?]

[IF TARGET RESPONDENT NOT AVAILABLE, ARRANGE CALL BACK, RE-INTRODUCE IF SPEAKING TO NEW PERSON]

[IF NO: THANK AND TERMINATE] Thank you for your time. Have a good day/evening.

The interview will take up to 10 minutes to complete and is completely voluntary.

Your answers will be used for statistical and research purposes only. Your responses will be shared with the Ministry of Health through a data sharing agreement and your information will be kept confidential in accordance with the Statistics Act.

If there is a question that you prefer not to answer, tell me and I will move onto the next one. You can end the interview at any time you wish. May I begin the survey now?

- I consent to begin
- No, I do not consent to begin

[IF NO: THANK AND TERMINATE] Thank you for your time. Have a good day/evening.

[IF ADDITIONAL INFORMATION IS REQUESTED BY RESPONDENT ABOUT SELECTION:]

You were selected to participate in this study because you participated in the BC Government's Smoking Cessation Program. If you agree to participate, I will ask you some questions about your experience. The interview is confidential. All interviewers have sworn an oath that they will not identify you and can be prosecuted for breaking this oath. Your feedback will be used to plan improvements and changes to the Smoking Cessation Program that the BC Government delivers.]

[IF QUESTIONS ABOUT WHO HAS ACCESS TO THEIR INFORMATION OR IF THEY WANT THEIR RESULTS NOT TO BE SHARED WITH THE MINISTRY.]

The information in this survey is collected under Section 26 (a), (c), and (e) of the *Freedom of Information and Protection of Privacy Act* (FOIPPA). It is collected and kept confidential in accordance with the *Statistics Act*. Your answers will be shared with the Ministry of Health unless you give notice in writing to the Director of Statistics before **April 20th, 2020**. When survey results are published, your answers will be combined with the answers of others so you cannot be identified.

[IF RESPONDENT ENDS SURVEY INTERVIEW AT ANY POINT:]

Because you have decided to stop the interview, you may decide to have all your responses erased or allow us to use the information you have provided. What would you prefer me to do?

- Use the information provided– Thank & Terminate: *Thank you for your time. Your time and input will be very useful in improving services to British Columbians. Have a good day/evening.*
- Erase all my responses – Thank & Terminate: *Thank you for your time. Have a good day/evening.*

[IF CONSENT TO BEGIN]

We are interested in your smoking behaviour *before* and after using the cessation aids provided by the BC Smoking Cessation Program in 2019. If you have used the Program more than once, please answer the questions based on the most recent cessation aids that you received last year.

1. Before we begin, what was the main type of tobacco product you were trying to quit?

- Cigarettes
- Cigars, Cigarillos, Pipe
- Electronic Cigarettes (also referred to as: Vape Pen, e-Hookah, Hookah Pen)
- Smokeless Tobacco Products (chewing tobacco and moist snuff)
- Other (specify): _____
- None of the above

BEFORE PARTICIPATING IN THE PROGRAM LAST YEAR

The first set of questions are about any smoking behaviours *prior to 2019*.

2. At what age did you begin to smoke cigarettes everyday? [BEST GUESS IS OK IF NEEDED]

__years old [answer must be a numeric, whole number]

[DO NOT READ]

- Never smoked daily, only smoked occasionally **[ASK 1B]**
- Never smoked or used tobacco products **[TERMINATE SURVEY]**
- Don't Know/No Response/Not Applicable

[TERMINATE SURVEY: Thank you for your time. Those are all my questions as this survey is related to smoking behaviours. Have a nice day.]

[IF Q2 = Never smoked daily, only smoked occasionally ASK:]

b) At what age did you begin to smoke cigarettes? [BEST GUESS IS OK IF NEEDED]

__years old [answer must be a numeric, whole number]

- [DO NOT READ]** Don't Know/No Response/Not Applicable

3. Before participating in this program last year, how many cigarettes did you typically have each day? [*day is replaced with week for occasional smokers/tobacco users*]

___# cigarettes [answer must be a numeric, whole number]

- [DO NOT READ] Don't Know/No Response/Not Applicable

4. Prior to this program, how many times did you stop smoking for at least 24 hours because you were trying to quit? [DO NOT READ LIST; BEST GUESS IS OK IF NEEDED]

__# times [answer must be a numeric, whole number]

- None [go to Next Section]
 Too many to count
 [DO NOT READ] Don't Know/No Response/Not Applicable

5. And prior to this program, how many times did you use cessation aids, such as nicotine patches, gum, lozenges or prescription medications in your past attempts to quit smoking?

___# times [answer must be a numeric, whole number]

- [DO NOT READ] Don't Know/No Response/Not Applicable

6. What was the longest period you have quit, and remained smoke-free, before you started the program? [READ LIST]

- 24 hours (1 day) to 7 days
 8 days to 30 days
 More than 30 days
 [DO NOT READ] Don't Know/No Response/Not Applicable

SINCE THE PROGRAM STARTED

The next set of questions are about any smoking behaviour *since* the program started, meaning since you received the smoking cessation aids provided by the program.

7. Do you currently smoke daily, occasionally, or not at all?

- Daily [ASK B]
- Occasionally [SKIP TO C]
- Not at all [SKIP TO E]
- Don't Know/No Response/Not Applicable

b) How soon after you wake up do you smoke your first cigarette? [READ LIST]

- Within first 5 minutes
- Between 6 to 30 minutes
- Between 31 to 60 minutes
- More than 60 minutes
- Don't Know/No Response/Not Applicable

c) Have you smoked, or had even a puff from a cigarette, in the last 30 days?

- Yes [ASK d]
- No [SKIP TO Q9]
- Don't Know/No Response/Not Applicable

d) Have you smoked, or had even a puff from a cigarette, in the last 7 days?

- Yes
- No [SKIP TO Q9]
- Don't Know/No Response/Not Applicable

e) Have you smoked, or had even a puff from a cigarette, since the program started?

- Yes
- No [SKIP TO Q9]
- Don't know/No Response/Not Applicable

[ASK IF 7A="DAILY" or "OCCASIONALLY" and if C, D or E = "YES"]

8. How many cigarettes have you smoked in the last seven days ? [BEST GUESS OR AVERAGE IS OK; ROUND TO NEAREST WHOLE NUMBER]

___# cigarettes [answer must be a numeric, whole number]

___mls of E-liquid [where applicable]

Don't Know/No Response/Not Applicable

9. Since the program started, how many times did you stop smoking for at least 24 hours because you were trying to quit? [DO NOT READ LIST; BEST GUESS IS OK IF NEEDED]

None [skip to next section]

___# times [answer must be a numeric, whole number]

Don't Know/No Response/Not Applicable

10. What is the longest period you have quit and remained smoke-free since the program started? [READ LIST]

24 hours (1 day) to 7 days

8 days to 30 days

More than 30 days

[DO NOT READ] Don't Know/No Response/Not Applicable

WHAT HELPED WHEN TRYING TO QUIT SMOKING

Now we are interested in your perceptions of the BC Smoking Cessation Program and what types of things help people to quit.

**11. How did you first hear about the B.C. Smoking Cessation Program?
[PRECODES, DO NOT READ LIST, RECORD ALL RESPONSES.]**

- Government or HealthLink BC website
- QuitNow BC or quit smoking website
- Other websites
- Health care professional
- Doctor
- Pharmacist
- Other health professional (Nurse, Dentist)
- Friend, family member or acquaintance
- TV, radio, newspaper
- Social media
- In-Store advertisement
- Other please specify: _____
- Don't Know/No Response/Not Applicable

Using a scale from 1 to 5, where 1 is “not at all helpful” and 5 is “very helpful”, please respond to this statement:

12. How helpful has the B.C. Smoking Cessation Program been in helping you quit smoking?

- 1) Not at all helpful
- 2)
- 3)
- 4)
- 5) Very helpful
- Don't Know/No Response/Not Applicable

13. How helpful is the B.C. Smoking Cessation Program in helping you quit smoking?

- 1) Not at all helpful
- 2)
- 3)
- 4)
- 5) Very helpful
- Don't Know/No Response/Not Applicable

14. In addition to the products provided by the program, did you receive any assistance with quitting from a health professional?

b) IF YES, which? [READ LIST, RECORD ALL RESPONSES]

- Doctor [probe for additional support beyond prescription for smoking cessation drugs e.g., brief counselling, follow-up].
- Dentist
- Pharmacist [probe on nature of support beyond dispensing NRT/prescription – dosing recommendation, counselling, motivation...]
- Nurse
- Other health professional (please specify _____)
- Don't Know/No Response/Not Applicable

15. Did you use any other kind of assistance to help you quit? IF YES, What kind of assistance have you used? [READ LIST, RECORD ALL RESPONSES]

- Reduce to quit (I reduced the number of cigarettes until I wasn't smoking)
- Nicotine-free vaping
- Vaping or e-cigarettes that contained nicotine
- A counselling program
- Self-help materials, such as websites, booklets, pamphlets, or books
- Quit with a friend or family member for support
- Special filters or holders
- Started therapy such as psychological therapy or acupuncture
- Getting more exercise or going to the gym
- Changed your eating habits or started a special diet
- Don't Know/No Response/Not Applicable

16. Did you use any other types of assistance?

EXPENSES RELATED TO QUITTING SMOKING

17. How much did you spend, on average, per month on other products or activities to help you quit smoking?

_____ \$ per month

- I don't have any additional expenses

ABOUT YOU

We'd like to understand a bit more about those who have used the Program – for example, education and employment status. Please remember that your answers are kept completely confidential by BC Stats and the Ministry of Health.

18. What is the highest level of education you have completed?

[READ LIST, RECORD ONE RESPONSE, "HIGHEST EDUCATION"]

- Less than high school
- High school diploma, certificate or equivalent
- Some post-secondary education without degree, certificate or diploma
- Registered apprenticeship or trades certificate or diploma
- College, CEGEP, or other non-university certificate or diploma
- University degree including Bachelor's, Master's or PHD
- [Don't Know/No Response/Not Applicable]

19. Do you currently work at a job or business? [INTERVIEW NOTE, this includes self-employed)

- Yes
- No
- Don't Know/No Response/Not Applicable

20. What is your best estimate of your total household income, received by all household members, from all sources, before taxes and deductions?

[INTERVIEWER NOTE: READ LIST]

- Less than \$30,000
- \$30,000 to less than \$50,000
- \$50,000 to less than \$75,000
- \$75,000 to less than \$100,000
- \$100,000 to less than \$150,000
- \$150,000 or more

[DO NOT READ]

- Don't Know/No Response/Not Applicable

21. In general, would you say your overall mental health is...? [READ LIST]

- Excellent
- Very good
- Good
- Fair
- Poor
- Don't Know/No Response/Not Applicable

PLEASE READ: THE BC GOVERNMENT – AS WELL AS MANY OTHER ORGANIZATIONS IN BC – OFFER SERVICES FOR PEOPLE WHO MAY BE EXPERIENCING MENTAL HEALTH ISSUES OR SIMPLY GOING THROUGH A TOUGH TIME. YOU CAN LEARN MORE ABOUT SOME OF THESE SERVICES BY CALLING 8-1-1 OR BY VISITING HERETOHELP.CA. [INTERVIEW NOTE, IF SITUATION IS URGENT, PLEASE ENSURE RESP IS SAFE AND CONTACT 911]

CLOSING SCRIPT – DETAILS REMOVED

[Request if willing to participate in future evaluations and if need any further information about privacy protection or contact information for the Provincial Statistician]

Thank you for your participation in this important research. Have a nice day.

Appendix B: Factground

High Level

Study BC Smoking Cessation 2020 Evaluation Project
Project Sponsor Ministry of Health

Operations

Data Collection Method Survey
Modes Online and telephone
Fielding Window / Dates March 2 – 30, 2020
Project History BC Smoking Cessation 2015 Evaluation Project

Population / Sample

Scope Random sample of population from Jan 1 – Oct 31, 2020
Population 80,370
Contacted 16,384 program participants
Completions 4,000
Sampling Strategy Soft quotas for age and gender, health authority and city type, and product type

Key Measure

Key Question Being smoke-free for past 30 days = Quit rate: 37%
66% found the cessation program helpful (4 or 5/5 point scale)
Margin of error: ± 1.5

Methods of Analysis Statistical testing of differences in quit rates by respondent characteristics and prior smoking behaviours using Chi-square and t-test for differences in measure of Program Helpfulness



BCStats

BC Stats is the provincial government's leader in statistical and economic research, information and analysis essential for evidence-based decision-making. The goal is to increase overall business intelligence—information decision makers can use. For more information, please contact Executive Director Elizabeth Vickery at elizabeth.vickery@gov.bc.ca.

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