

Iowa Tobacco Cessation Program - Quitline Iowa Evaluation: FY2021

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The logo for the University of Northern Iowa, featuring the letters "UNI" in a bold, italicized, sans-serif font.

**University of
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Executive Summary

This report presents findings for the fiscal year 2021 (FY21) of the Iowa Tobacco Quitline Evaluation conducted by the Center for Social and Behavioral Research (CSBR) at the University of Northern Iowa (UNI). The study was funded by the Iowa Department of Public Health (IDPH) Division of Tobacco Use Prevention and Control (TUPC). The purpose of this project is to evaluate Quitline Iowa, a service for state residents that provides telephone-based tobacco cessation counseling. Any Iowa residents with commercial insurance, Medicare, Medicaid Fee for Service, or without insurance who call Quitline Iowa are eligible to receive free tobacco cessation counseling. The primary goals of the Quitline evaluation are: 1) to assess tobacco quit rates among Quitline Iowa clients; 2) to assess client satisfaction; and 3) to assess program consistency.

- Overall, a majority of respondents (70% 7-month, 74% 13-month) said they were either *very satisfied* or *mostly satisfied* with the services they received. Satisfaction was significantly higher among respondents who had quit smoking (84%) than among those who had not (67%).
- The vast majority of respondents said they *would recommend*, or *have already recommended* Quitline Iowa to a friend in need of similar services (89% of the 7-month group, 90% of the 13-month group).
- Among respondents who said they had not quit smoking cigarettes, there were statistically significant decreases in the number of cigarettes smoked per day in the 7-month and 13-month follow-up cohort. Respondents in the 7-month cohort on average reduced their daily cigarette consumption by 6.7 cigarettes (from 18.6 at intake to 11.9 at follow-up). Respondents in the 13-month cohort on average reduced their daily cigarette consumption by 5.2 cigarettes (from 18.9 at intake to 13.7 at follow-up).
- Among all respondents, 26% said they had not smoked cigarettes or used other tobacco in the past 30 days (25% 7-month; 27% 13-month). Approximately four in five respondents who said they had used tobacco in the past 30 days said they had smoked every day in the last 30 days.
- Among all respondents who had smoked cigarettes in the past 30 days, two-thirds smoked their first cigarette within 30 minutes of waking.
- Ten percent of respondents said they had used e-cigarettes in the past 30 days. Of those, 45% said they currently use e-cigarettes every day, 34% said some days, and 21% said not at all.
- Approximately one-third of respondents (35% 7-month; 27% 13-month) said they intended to quit using tobacco within the next thirty days. Two-thirds of respondents who smoked in the last 30 days said they intended to quit using tobacco within the next 6 months.
- The overwhelming majority of those still smoking said they were going to keep trying to quit smoking (96%), that the people at Quitline Iowa listened carefully to what they said (92%), and that the people at Quitline Iowa were helpful (88%).

- Across all respondents, 19% said they had visited the Quitline Iowa website.
- An analysis of longitudinal follow-up respondents indicates that even for those respondents who have not quit up to a year after intake, there is a significant reduction in cigarettes smoked per day between intake and 7-month follow-up that continues to the 13-month follow-up.
- Similar quit rates were present among longitudinal follow-up respondents and non-longitudinal follow-up respondents.

Conclusions

The ongoing evaluation of Quitline Iowa shows that the services provide effective tobacco cessation support to eligible Iowans. Approximately 26% of all respondents reached for follow-up interviews were able to quit using tobacco, even up to one year after treatment. Respondents were also able to reduce the average number of cigarettes per day from intake to follow-up regardless of their smoking status. Respondents report a willingness to continue to try to quit using tobacco. Approximately two-thirds of tobacco users who smoked in the last 30 days reported that they intended to quit using tobacco within the next 6 months. Satisfaction with Quitline Iowa services are high and most would recommend or have already recommended the services to a friend in need.

Section 1: Demographics and Tobacco Use at Intake

Completed Interviews

Follow-up interviews were conducted with Quitline Iowa clients throughout FY21. Data collection continued with both the 7-month and the 13-month follow-up cohorts. See Table 1 for a data collection breakdown by month. During FY21, 615 interviews were completed. Of these, 397 were in the 7-month cohort, and 218 in the 13-month cohort.

Table 1: Number of completed interviews, by cohort and month

Quarter	Month	7-month	13-month
1	July 2020	34	25
1	August	39	22
1	September	33	24
2	October	51	22
2	November	23	28
2	December	32	10
3	January 2021	28	15
3	February	32	10
3	March	33	15
4	April	45	20
4	May	29	16
4	June	18	11
	Total	397	218

Demographic Characteristics

Not all sampled Quitline Iowa participants responded to our follow-up interviews. A comparison of respondents to the follow-up interview to non-respondents is presented in Table 2 to determine whether we were reaching similar profiles of Quitline Iowa callers (Table 2).

Some differences between respondents and non-respondents were observed; however the effect size for all differences was very small. Chi-square tests indicated that respondents were less likely to be Hispanic, more likely to have a college or university degree and less likely to have a high school degree or GED, more likely to be insured, less likely to have Medicaid, more likely to have Medicare, and less likely to be currently employed than non-respondents. Respondents were of a similar age (54.3) as non-respondents (52.6).

Table 2: Demographic characteristics of the sample at intake

		Total respondents	Non-respondents
Age	Average	54.3	52.6
Gender	Female	62%	60%
	Male	38%	40%
Race	White	91%	90%
	Black	7%	7%
	Asian	<1%	<1%
	American Indian/Alaska Native	3%	3%
	Native Hawaiian/Pacific Islander	<1%	<1%
	Other	1%	2%
Hispanic/Latino	% Yes*	1%	3%
Education*	Less than high school	12%	14%
	High school or GED*	34%	40%
	Some college	32%	30%
	College or university degree*	22%	16%
Health insurance	% Insured*	88%	83%
	Medicaid*	8%	11%
	Medicare*	52%	41%
Employment	% Employed	33%	37%

Note: *indicates a significant difference across groups

Additional demographic characteristics were collected at follow-up for all respondents. These characteristics are summarized in Table 3. More than half of all respondents had an income of less than \$25,000, and more than half of respondents had more than a high school education.

Table 3: Additional characteristics of the sample at follow-up

		Total respondents
Marital Status	Married	30%
	Divorced	29%
	Widowed	11%
	Separated	5%
	Never married	18%
	Member of an unmarried couple	5%
	Missing/refused	2%
Income	Less than \$10,000	17%
	\$10,000 to less than \$15,000	14%
	\$15,000 to less than \$20,000	12%
	\$20,000 to less than \$25,000	9%
	\$25,000 to less than \$35,000	14%
	\$35,000 to less than \$50,000	10%
	\$50,000 to less than \$75,000	9%
	\$75,000 to less than \$100,000	1%
	\$100,000 or more	2%
	Missing/refused	10%

Education	Less than high school	10%
	High school or GED	33%
	Some college	23%
	Associates or other 2-year degree	18%
	College degree	10%
	Graduate degree	5%
	Missing/refused	< 1%
Healthcare coverage	None	2%
	Employer / Union	11%
	Purchased on your own	2%
	Medicare	28%
	Medicaid	11%
	TRICARE, VA, or Military	<1%
	Other Source	<1%
	Don't know	<1%
	Missing/refused	<1%

Note: Reflects data collection at follow-up. Not all percentages sum to 100% due to rounding.

At intake, approximately one in five respondents (18%) smoked more than a pack of cigarettes per day, and about half of respondents (47%) smoked between a half-pack and a full pack of cigarettes per day (Table 4). Thirty-eight percent of respondents had their first cigarette within 5 minutes of waking and 35% had their first cigarette between 6 and 30 minutes after waking (Table 4). No differences were observed between respondents and non-respondents to follow-up.

Table 4: Tobacco use at intake

	Total respondents to follow-up	Non-respondents to follow-up
Cigarettes per day	<1	8%
	1-10	25%
	11-20	47%
	21-30	10%
	31-40	7%
	41 or more	<1%
	Missing/refused/not asked	2%
Time to first cigarette	5 minutes or less	38%
	6-30 minutes	35%
	31-60 minutes	9%
	Longer than 60 minutes	7%
	Missing/refused/not asked	10%

Note: One pack of cigarettes contains 20 individual cigarettes.

Section 2: Tobacco Use at Follow-Up

Tobacco Use in the Past 30 Days

Among all respondents, 26% said they had not smoked cigarettes or used other tobacco in the past 30 days (25% after 7-months and 27% after 13-months; Figure 1). Among all respondents who said they had used tobacco in the past 30 days, 6% said they had not used any tobacco in the past week. Seven percent of respondents who had used tobacco in the past 30 days at 7-month follow-up and six percent at 13-month follow-up reported not using tobacco in the past week – this difference was not significant.

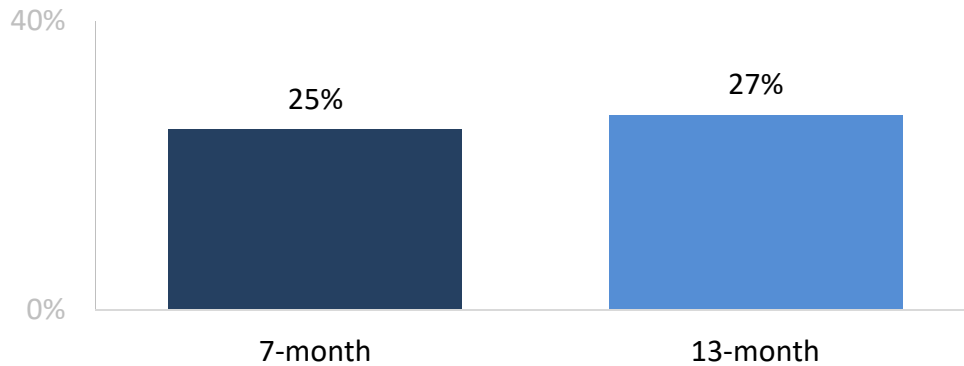


Figure 1: Thirty-day cessation rate

Quit rates were analyzed by three variables of interest to IDPH: LGBT status, veteran’s status, and pregnancy status. There were no statistically significant differences between veterans and non-veterans or LGBT and non-LGBT respondents. There was an insufficient number of cases to analyze quit rates by pregnancy status.

Among respondents who said they had used tobacco in the past 30 days, the types of tobacco used are displayed in Table 5. Cigarettes and electronic smoking devices were the most commonly used tobacco products in both follow-up groups. There were no significant differences between follow-up groups.

Table 5: Type of tobacco products used in past 30 days (among those who had not quit)

	7-month	13-month
Cigarettes	91%	91%
Electronic smoking device	10%	9%
Cigars	6%	6%
Smokeless	4%	3%
Pipes	1%	1%
Other tobacco	2%	< 1%

Note: Because some people used more than one type of tobacco, percentages sum to more than 100%.

Current Cigarette Use at Follow-Up

Approximately four in five respondents (78%) in the 7-month group and nine in ten respondents (89%) in the 13-month group who said they had used tobacco in the past 30 days said they had smoked every day in the last 30 days, a statistically significant difference (Figure 2). Respondents in the 7-month follow-up group reported a fewer days smoked in the past 30 days -- 26 days, than respondents in the 13-month follow-up group -- 28 days.

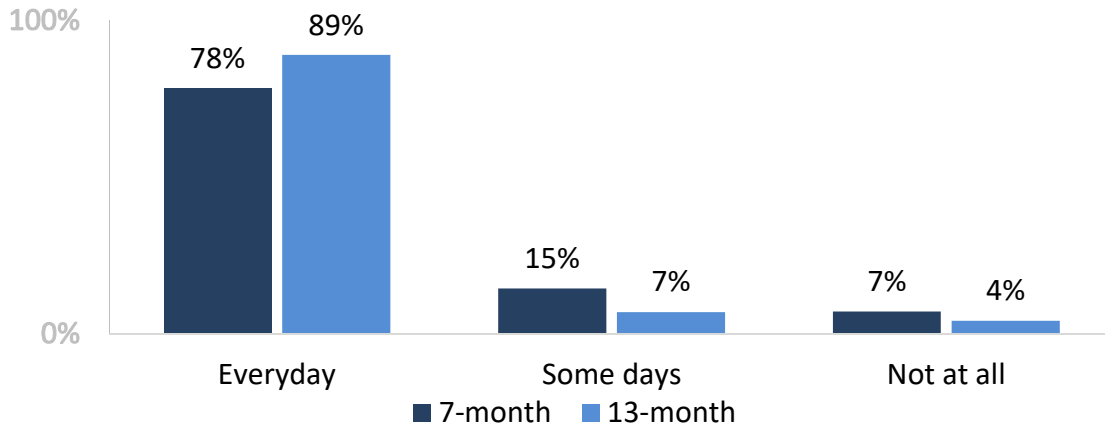


Figure 2: Current smoking behavior (among those who had not quit)

Among respondents who said that they had not quit smoking cigarettes in the 7-month group, the average number of cigarettes smoked per day decreased by more than six cigarettes - from 18 at intake to 12 at follow-up. In the 13-month group, the average number of cigarettes smoked per day decreased by more than five cigarettes - from 19 at intake to 14 at follow-up (Figure 3).

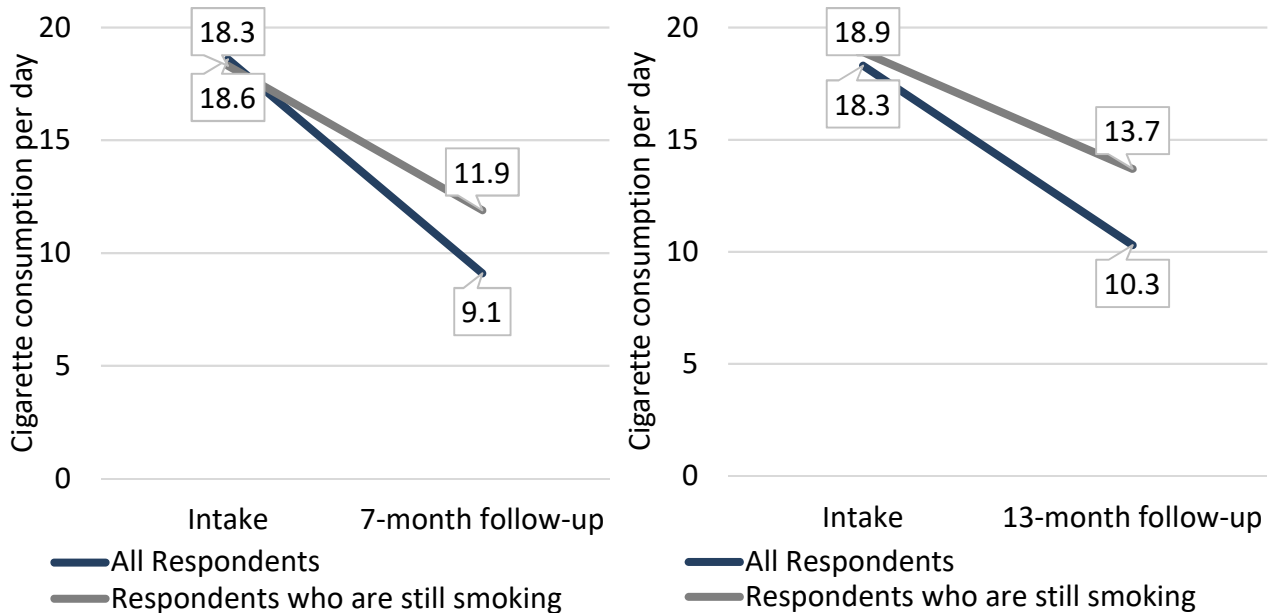


Figure 3: Cigarettes per day at intake and follow-up, by cohort

Twenty-six percent of all respondents in the 7-month group who reported smoking up to a half-pack of cigarettes per day had reduced their consumption to none at follow-up (23% at 7-month, 30% at 13-month). Approximately three in five respondents who said they had smoked between half a pack and one pack per day at intake reported smoking less than half a pack at follow-up (59% at 7-month, 61% at 13-month). More than three-quarters of respondents who said they had smoked between one and two packs per day at intake reduced their consumption to less than a pack at follow-up (79% at 7-month, 81% at 13-month) (Figure 4).

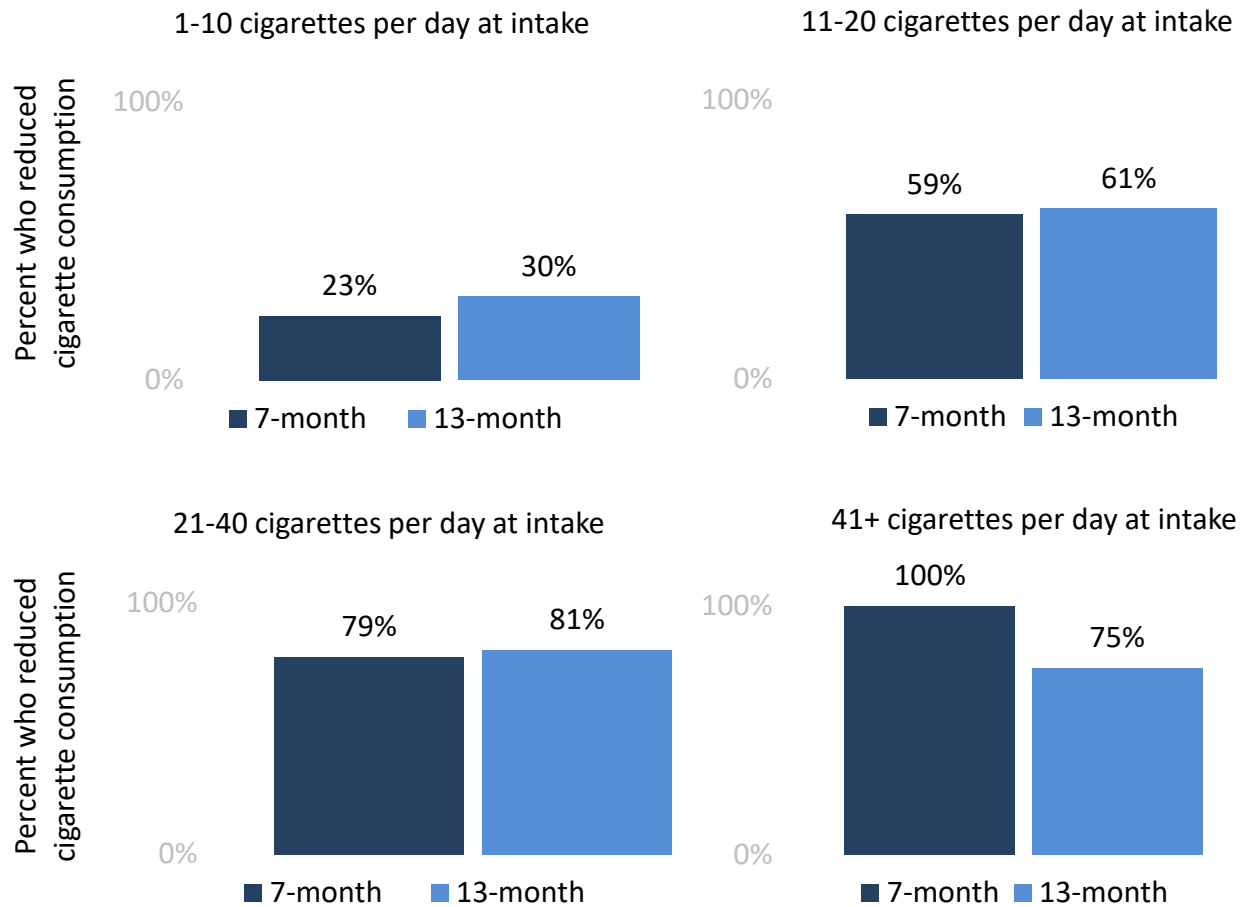


Figure 4: Percent of smokers who reduced cigarette consumption at follow-up

Among respondents in the 7-month and 13-month groups who had smoked cigarettes in the past 30 days, 81% report smoking their first cigarette within 30 minutes of waking at intake (Figure 5). At follow-up slightly more than two-thirds had smoked their first cigarette within 30 minutes of waking (62% at 7-month, 72% at 13-month).

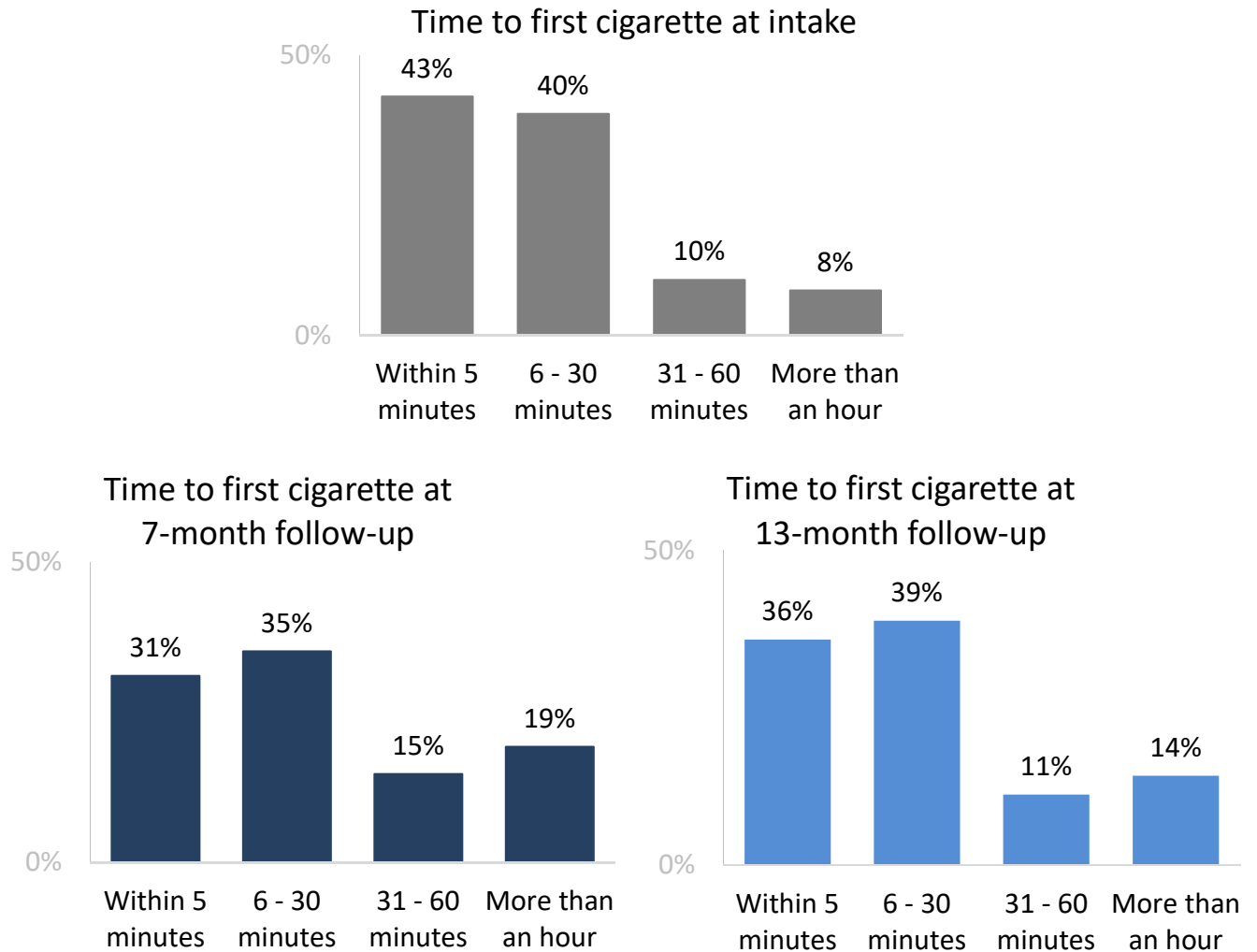


Figure 5: Time to first cigarette after waking at intake and follow-up

From intake to follow-up (among respondents for whom the data were available), large and significant differences were reported in the length of time respondents in the 7-month follow-up group waited to have their first cigarette of the day. Among respondents in the 7-month cohort who waited less than five minutes after waking at intake to have their first cigarette, 49% waited longer at follow-up. Among respondents who waited 6 to 30 minutes after waking at intake, 29% waited longer to smoke at follow-up. Among respondents who waited 31 to 60 minutes at intake, 29% waited longer at follow-up (Figure 6).

From intake to follow-up (among respondents for whom the data were available), large and significant differences were also reported in the length of time respondents in the 13-month follow-up group waited to have their first cigarette of the day. Among respondents in the 13-month cohort who waited less than five minutes to have their first cigarette, 42% waited longer at follow-up than at intake. Among respondents who waited 6 to 30 minutes at intake, 26%

waited longer to smoke at follow-up. Among respondents who waited 31 to 60 minutes at intake, 25% waited longer at follow-up (Figure 6).

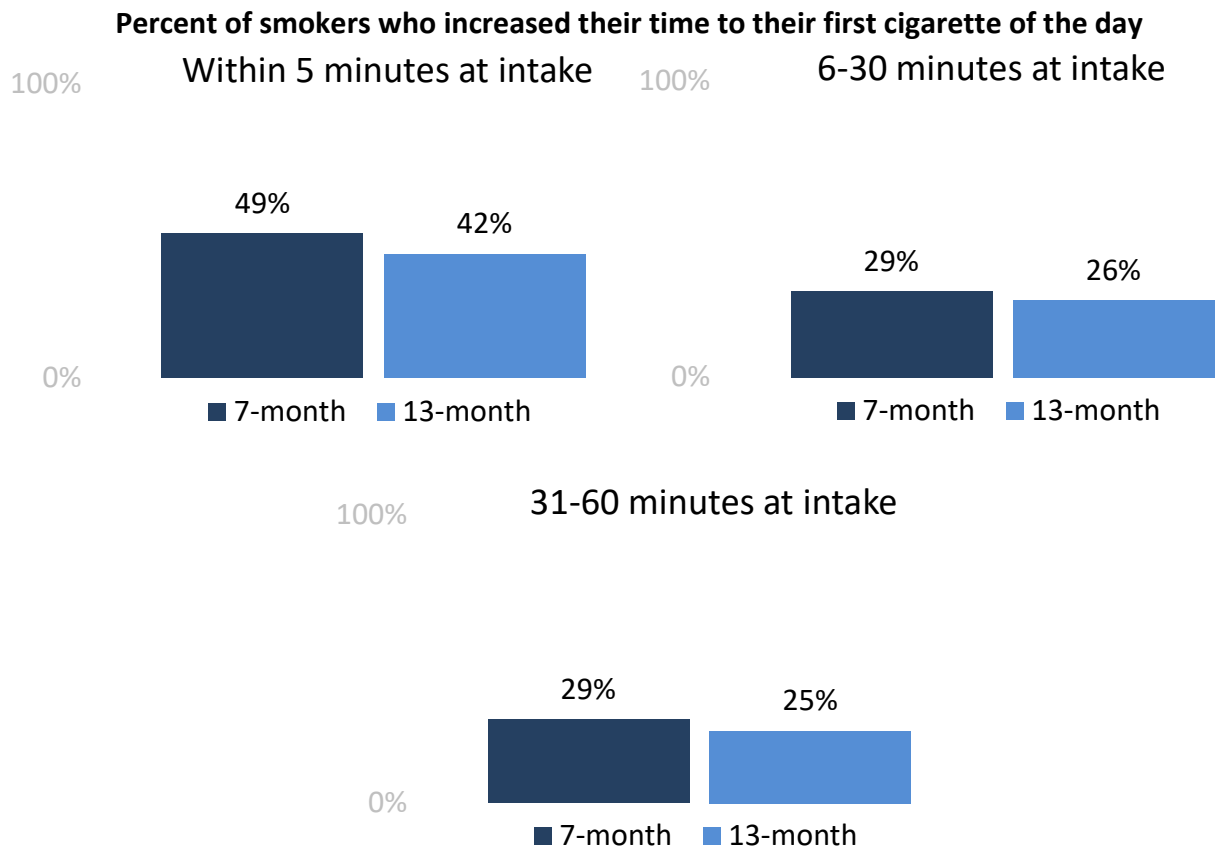


Figure 6: Change in time to first cigarette of the day between intake and follow-up by cohort

Subgroup Differences in Tobacco Use

Respondents who said they had used tobacco in the past 30 days were compared to those who said they had not used tobacco in the past 30 days to determine whether or not there were significant associations with demographic variables. There were no significant differences in quit rates by age, gender, race, Hispanic ethnicity, educational attainment, employment, income, marital status, or insurance status. Respondents who had not used tobacco in the past 30 days were less likely to be on Medicare than those who used tobacco in the past 30 days.

These same groups were compared on the number of cigarettes smoked per day on the days that they smoked. Male respondents smoked more cigarettes per day, 14.6, than female respondents, 12.3, and Black respondents smoked fewer cigarettes per day, 8.3, than non-Black respondents, 13.5. A one-way repeated ANOVA was conducted to compare education levels and marital status on the number of cigarettes smoked per day, however no differences were observed.

Section 3: E-Cigarette Use

Among all respondents who reported any tobacco use, 10% said they had used e-cigarettes in the past 30 days. E-cigarette users were younger, 44 years old, than non-e-cigarette users, 56 years old. No significant difference in e-cigarette use was observed for gender, race, Hispanic ethnicity, insurance status, or income. E-cigarette users were more likely than non-e-cigarette users to be employed (59% vs 27%) and more likely to have a graduate degree.

Among those who reported ever using e-cigarettes, 45% said they currently use e-cigarettes every day, 34% said some days, and 21% said not at all. Among respondents who had ever used e-cigarettes, when asked why they use e-cigarettes, the most common reasons provided among respondents were that *e-cigarettes might be less harmful to people around me than cigarettes*, *using e-cigarettes helps me to quit smoking cigarettes*, and that *I can use e-cigarettes at times or in places where cigarettes aren't allowed* (Figure 7).

Among respondents in both follow-up cohorts who had indicated that they had smoked cigarettes, pipes, cigars, or cigarillos, 61% reported that they had used e-cigarettes when they were unable to smoke.

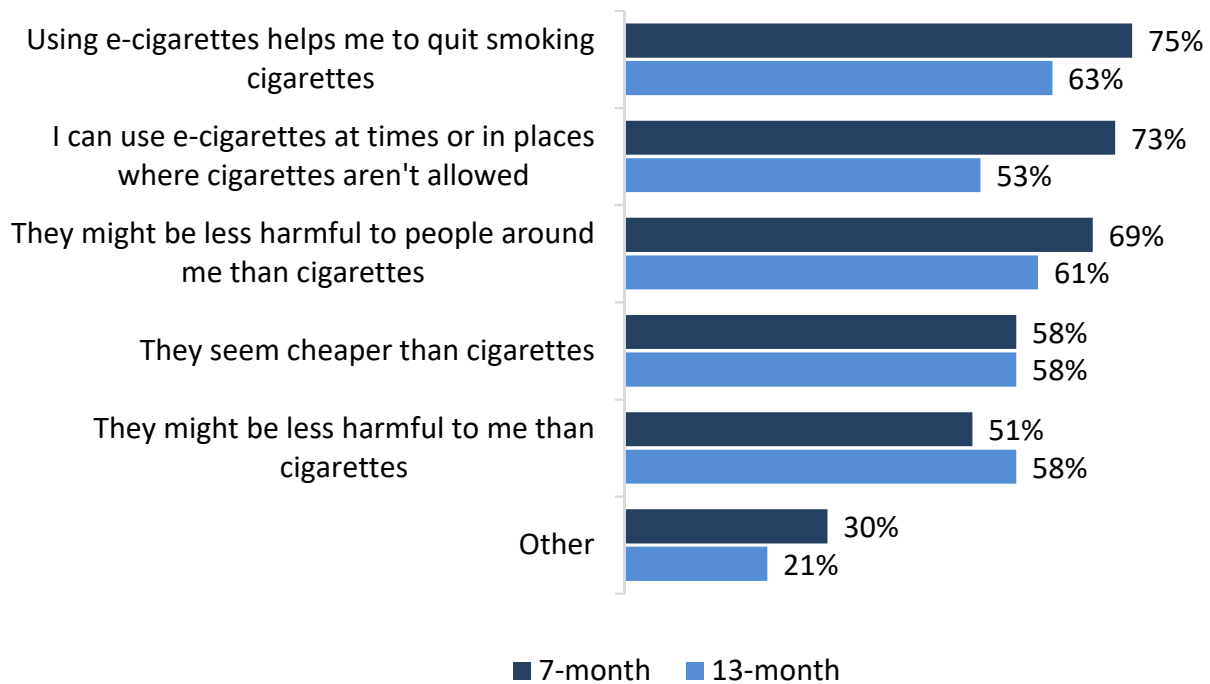


Figure 7: Reasons for using e-cigarettes

Section 4: Satisfaction and Recommendation

Satisfaction

A majority of respondents said that they were either *very satisfied* or *mostly satisfied* with the services they received (41% and 29% in the 7-month, 49% and 25% in the 13-month follow-up cohorts; Figure 8). No significant differences in satisfaction were observed across cohorts.

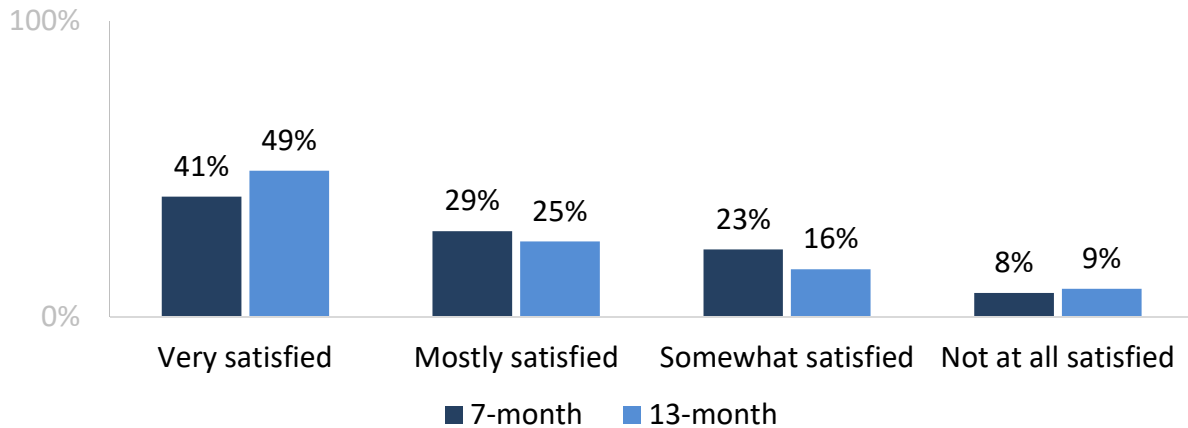


Figure 8: Satisfaction with Quitline Iowa services (7-month vs. 13-month)

Respondents who had not used tobacco in the past 30 days were more likely to report that they were *very satisfied* and less likely to report that they were *somewhat* or *not at all satisfied* than respondents who had not quit (Figure 9). Among respondents who said they had not used tobacco in the past 30 days, 59% reported they were *very satisfied* and 25% reported they were *mostly satisfied* with Quitline Iowa services. Among those who said they had used tobacco in the past 30 days (i.e. had not quit), 38% were *very satisfied* and 29% were *mostly satisfied*.

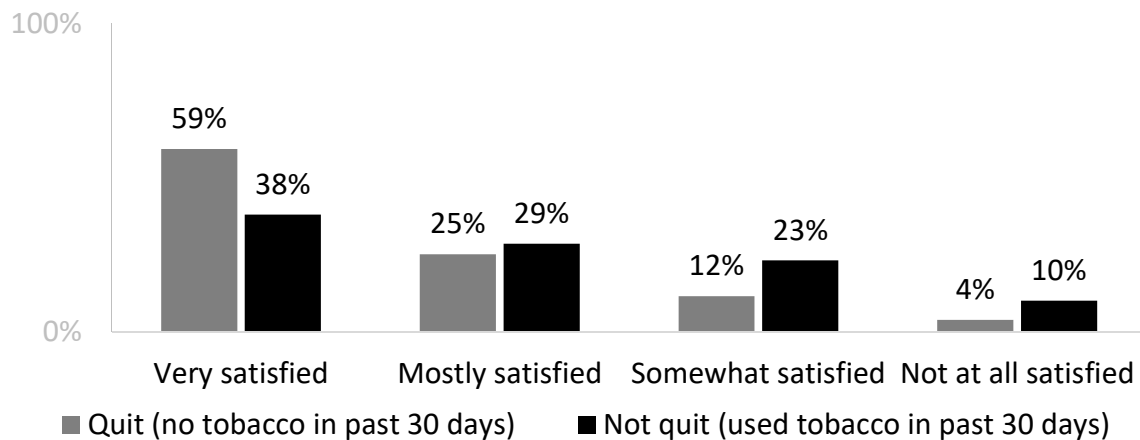


Figure 9: Satisfaction with Quitline Iowa services (quit vs. not quit)

While the majority of respondents reported being pleased with Quitline Iowa services, respondents who were not entirely satisfied with their services were asked an open-ended follow-up question to identify the aspect(s) of the Quitline Iowa program that they viewed as unsatisfactory. The issues outlined below are consistent with previous year's findings. Some respondents were unable to identify a specific issue with the program or reported that their own behaviors were to blame. Others cited areas of concern that were related to accessing program services, coordination of insurance, receipt of medications, and coach quality and automation.

Some respondents reported difficulty when contacting and scheduling calls with Quitline Iowa and that the follow-up calls were at poor or inconvenient times, or not according to the schedule. Some respondents indicated a complete lack of follow-up calls, very few calls (only one or two), or were unable to talk to a coach. On the other hand, some respondents reported that they received too many calls, texts, or emails. Issues with the text messaging system where respondents were unable to opt-out or only received text messages but no phone calls.

Coach quality was also identified as an unsatisfactory aspect of Quitline Iowa. Some respondents felt that the coaches did not provide helpful tips, had poor telephone manners or rude behavior, that the coaching was too scripted and not personal enough, or that the coach did not have the demeanor or enthusiasm to inspire motivation to change in the respondent. Some respondents wished that they were able to talk to the same coach throughout the process, rather than different coaches each call. Others did not like automated calls and would rather have talked to a coach. There was also comments about the repetitive nature and personal nature of the intake questions. A few respondents were put off by coaches who were non-smokers and felt that they could not relate to the coach.

Respondents also indicated trouble in getting nicotine replacement therapies (NRT), most notably difficulty in coordinating between Quitline Iowa and their insurance for coverage. Some respondents expressed confusion and frustration with the process and were often not sure whether insurance or Quitline Iowa was supposed to cover a medication or for what duration. Some respondents indicated that they did not receive NRT at all, that the delivery of NRT was delayed, or that they received the wrong dose. Some respondents reported that the NRT did not work for them or they had a negative physical reaction to the medication.

Recommendation

Issues with coaching, medication, and scheduling aside, 89% of respondents said they *definitely would, probably would, or already have recommended* Quitline Iowa to a friend in need of similar services (89% in the 7-month and 90% in the 13-month follow-up cohorts; see Figure 10). The differences of satisfaction and the likelihood to recommend Quitline services between 7- and 13-month cohorts were not statistically significant. In both cohorts, almost all respondents who reported that they have already recommended Quitline Iowa and said they would do so again if given the opportunity.

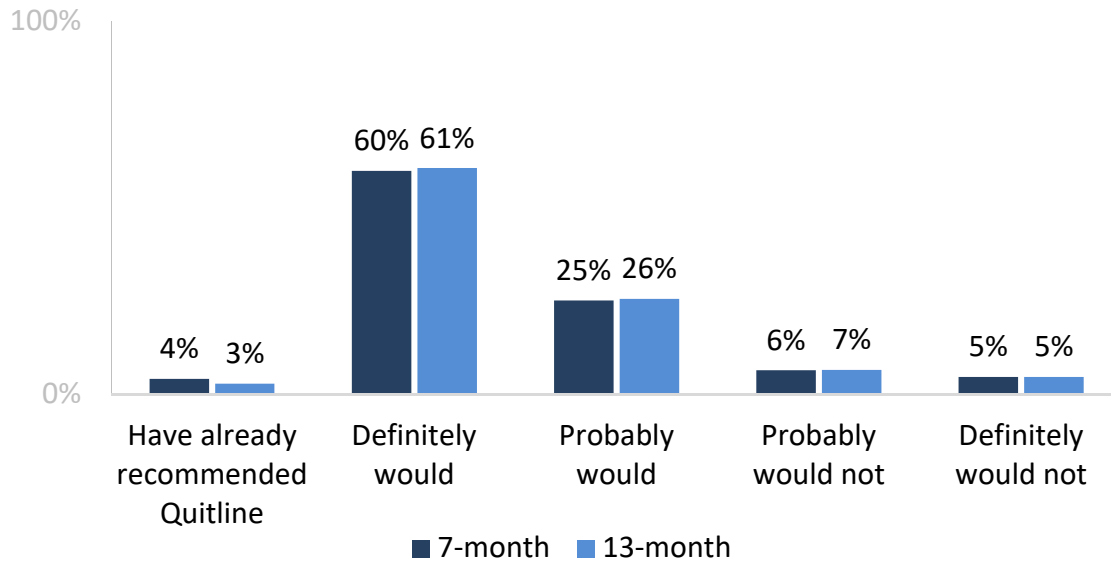


Figure 10: Recommendation of Quitline Iowa services (7-month vs. 13-month)

Follow-up respondents who had not quit tobacco in the past 30 days were more likely to report that they *probably would recommend* Quitline Iowa and less likely to have *already recommended* Quitline to a friend and *definitely would recommend* Quitline Iowa than those who had quit (Figure 11).

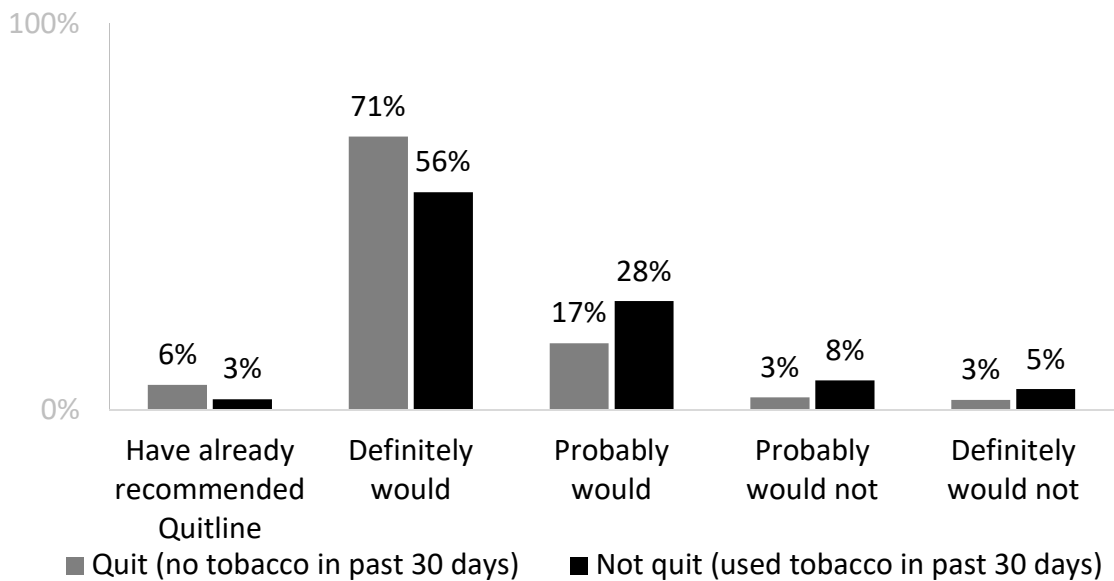


Figure 11: Recommendation of Quitline Iowa services (quit vs. not quit)

Section 5: Tobacco Cessation

Intention to Quit

The majority of respondents who reported using tobacco in the last 30 days said they intended to quit using tobacco within the next 6 months (Figure 12). Seven percent of these respondents in the 7-month follow-up group and 8% of respondents in the 13-month follow-up group reported that they had quit using tobacco within the past 30 days. There were no significant differences in quit intention between follow-up groups.

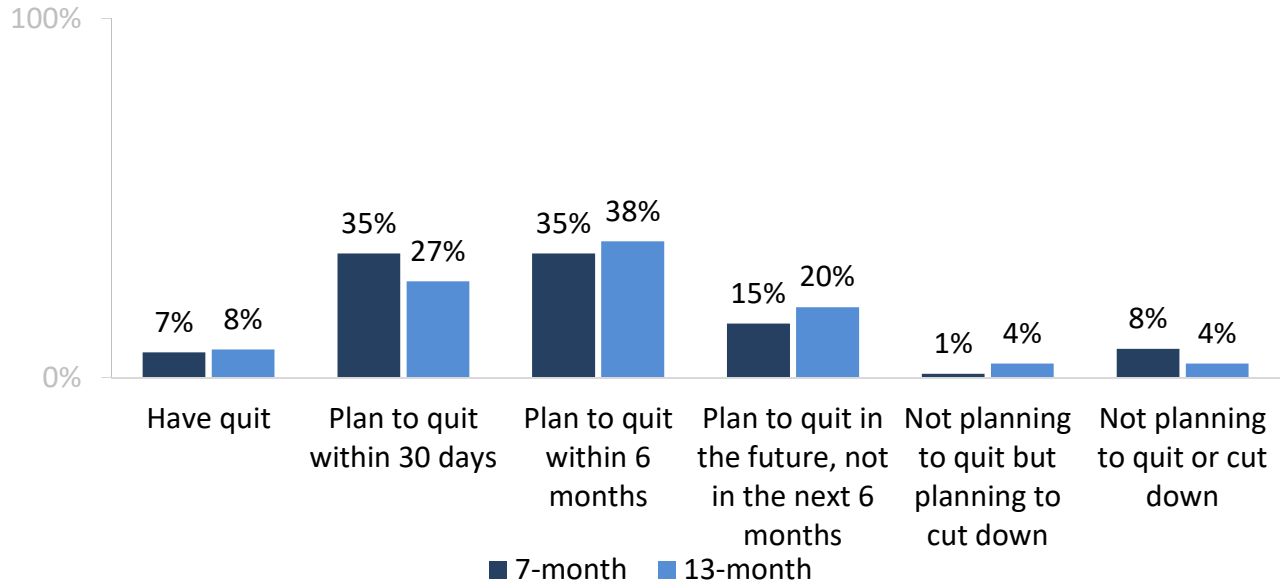


Figure 12: Intention to quit using tobacco

Cessation Attempts

The percentage of respondents still using tobacco who said they had stopped using tobacco for 24 hours or longer was 77% overall (77% in the 7-month group and 77% in the 13-month group). Among those who attempted to quit (i.e. stopped for 24 hours or longer), more than one third of both follow-up groups (41% in the 7-month group and 39% in the 13-month group) made just one quit attempt during the follow-up period (Figure 13). Respondents who quit made fewer quit attempts, 2.1 quit attempts, than respondents who did not quit smoking, 3.5 quit attempts.

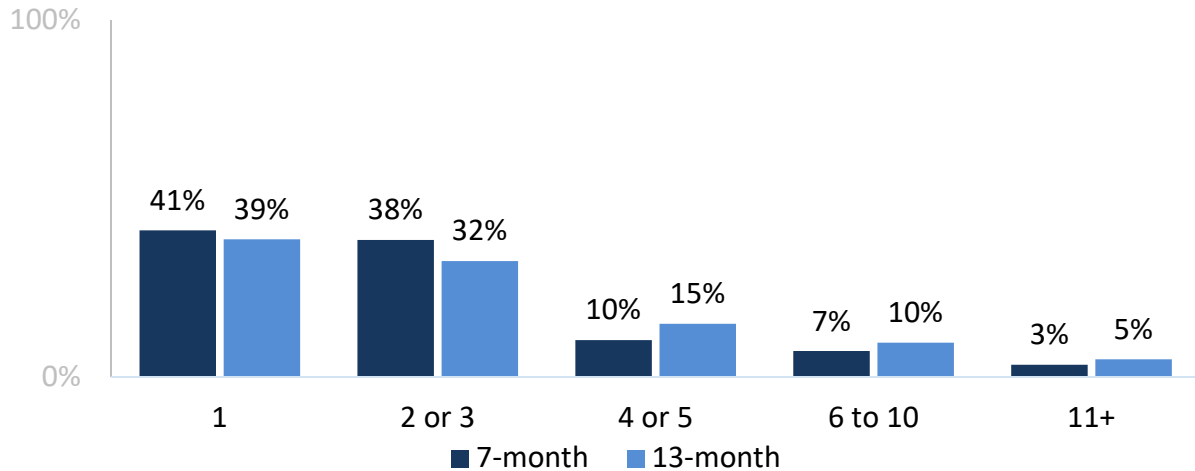


Figure 13: Number of quit attempts at follow-up among those who attempted

Barriers and Enablers to Quitting

All respondents were asked to name the three hardest things about quitting tobacco for them (Figure 14). Ninety-seven percent of respondents reported one or more barriers to quitting and 60% reported two or more barriers. The top three responses across the follow-up cohorts were *nicotine addiction*, the *association of tobacco products with other activities*, and *stress*. Respondents who had quit at follow-up reported approximately the same number of barriers as those who had not quit at follow-up. There were no differences between follow-up groups regarding reported barriers to quitting.

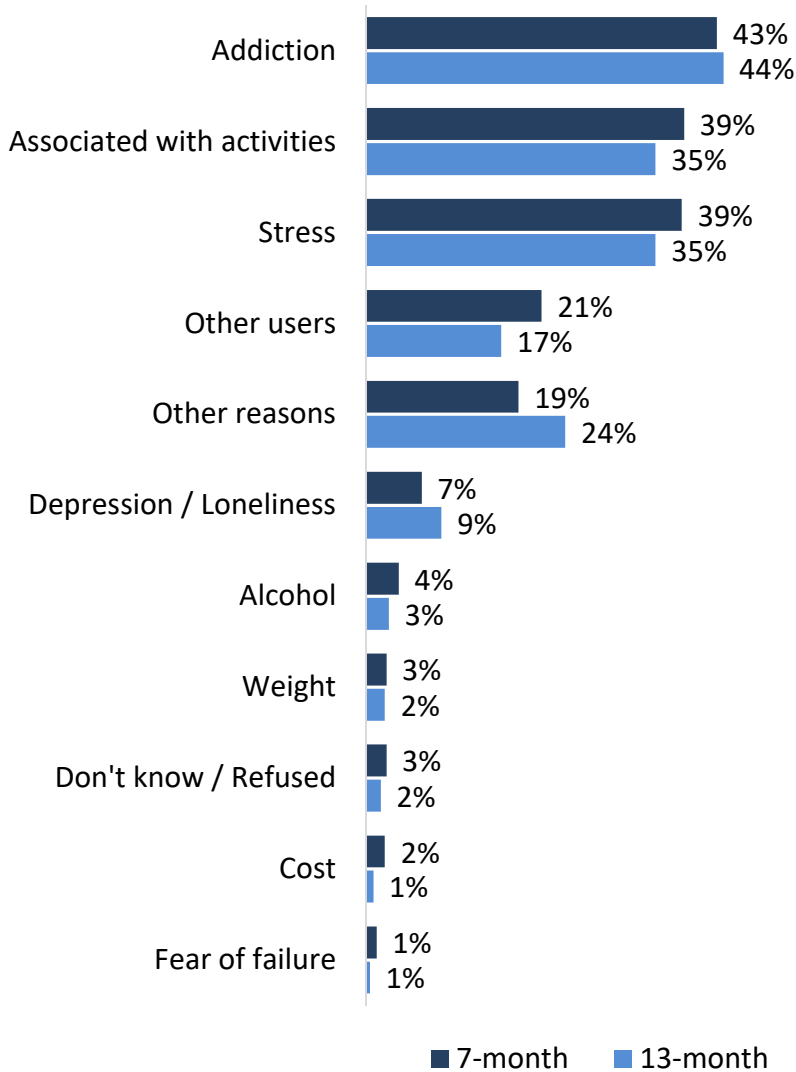


Figure 14: Barriers to quitting tobacco

Respondents who had attempted to quit tobacco were asked to name the three most helpful things for them while they were quitting tobacco (Figure 15). The five most common responses were using *nicotine replacements* such as the patch, *other* things (the most common responses were related to a mindset change, other health conditions motivating quitting, the health benefits of quitting, and e-cigarettes / vaping), *family / friend support*, *replacement behaviors*, and *staying busy*. There were no differences across follow-up groups.

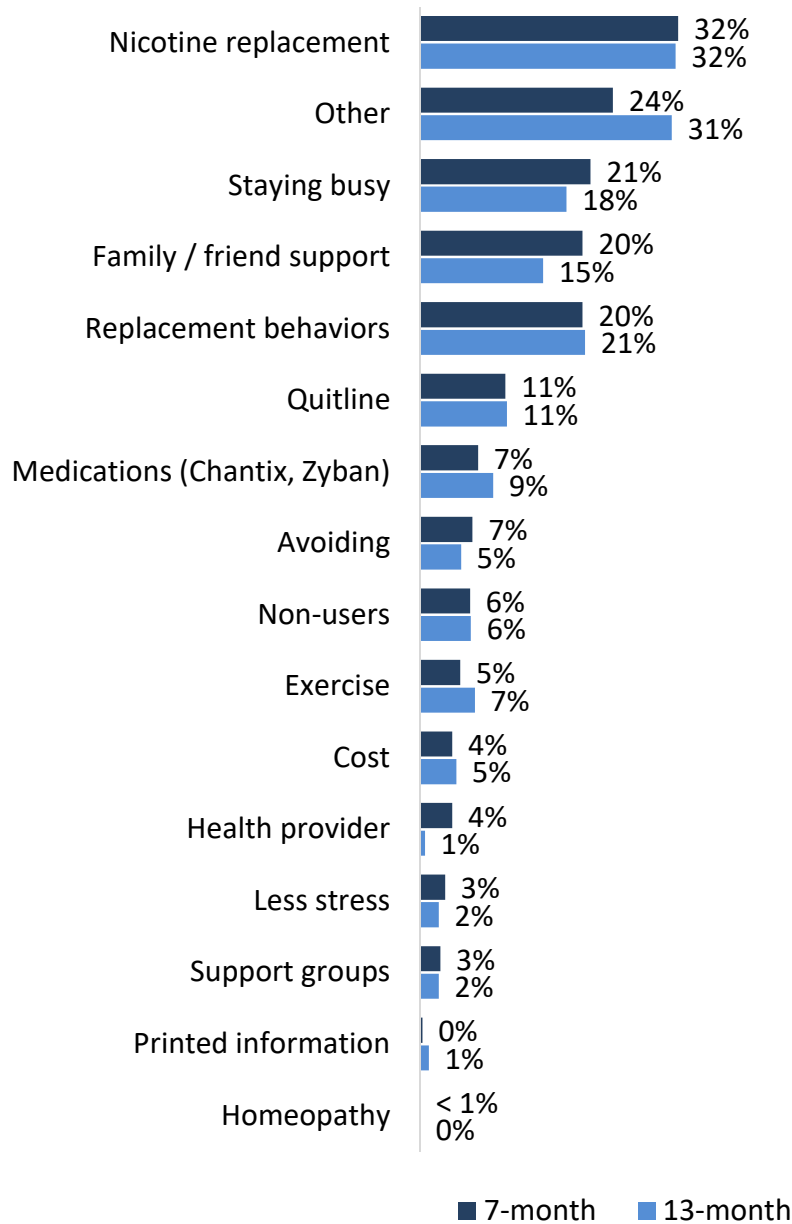


Figure 15: Enablers to quitting tobacco (among respondents who had made a quit attempt after Quitline intake, n = 497)

Respondents who had not yet made at least one quit attempt were asked to name what they think would be the three most helpful things for them when they attempt to quit using tobacco (Figure 16). *Nicotine replacements*, such as the patch, gum, or inhalers, *staying busy*, *replacement behaviors*, and *other* (the most common responses were related to e-cigarettes / vaping, improving the respondent’s health and life outlook, and a change in mindset related to quitting) were the most common responses. Twelve percent of respondents at 7-month and nineteen percent of respondents at 13-month reported that they *don’t know* what they think would be helpful for their future quit attempts. Respondents in the 7-month follow-up group were less likely than respondents in the 13-month follow-up group to report that they think *non-users* would be enablers to quitting. There were no other significant differences across follow-up groups.

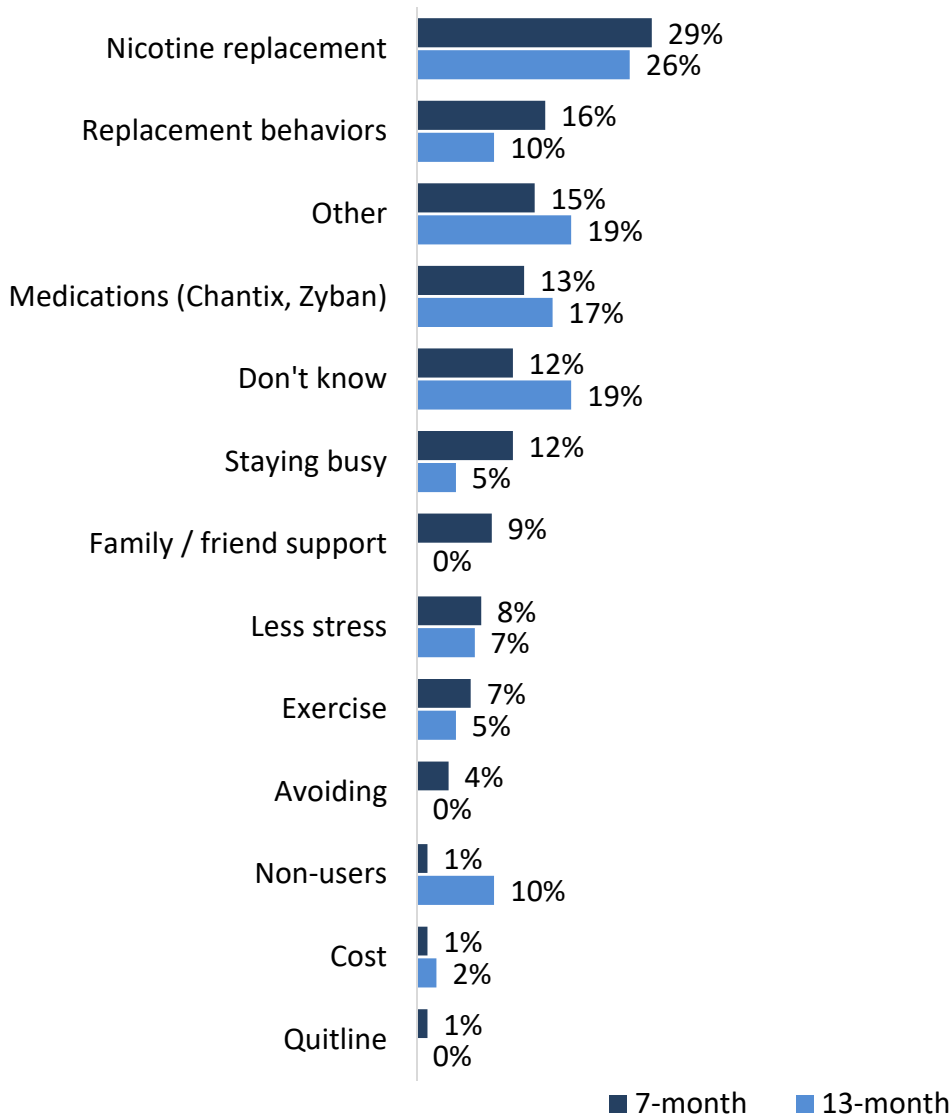


Figure 16: Potential enablers to quitting tobacco (among respondents who had not made a quit attempt after Quitline intake, n = 118)

Use of Nicotine Replacement Therapy

Respondents rate nicotine replacement therapy (NRT) highly as enablers or potential enablers to quitting. All respondents, regardless of insurance status, were asked if they knew how to receive NRT, and approximately half reported that they knew how to receive nicotine replacement therapy. Of those respondents who reported having healthcare coverage, 32% reported that their insurance covers NRT while more than one-third (38%) did not know whether NRT was covered by their insurance. Despite the lack of knowledge, approximately half of respondents (45%) were *very satisfied* or *mostly satisfied* with their insurance’s coverage of NRT (Table 6).

Table 6: Nicotine replacement therapy

	7-month follow-up group	13-month follow-up group
Does your insurance cover NRT?		
Yes	30%	36%
No	32%	28%
Don’t Know	39%	36%
Do you know how to receive NRT?		
Yes	47%	51%
No	47%	47%
Don’t Know	5%	2%
Satisfaction with NRT coverage?		
Very satisfied	27%	32%
Mostly satisfied	16%	7%
Somewhat satisfied	18%	18%
Not at all satisfied	38%	33%
Don’t know	6%	3%

Note: Not all percentages sum to 100% due to rounding.

Similar use rates of nicotine replacement therapies were observed between insured versus uninsured, Medicaid versus non-Medicaid, and Medicare versus non-Medicare respondents, respectively (Table 7).

Table 7: Use of nicotine replacement therapies (NRT) by type of insurance

	% Using NRT
Medicaid insurance	
Medicaid	84%
Non-Medicaid	78%
Medicare insurance	
Medicare	82%
Non-Medicare	76%
Insured (at follow-up)	
Insured	80%
Uninsured	74%

Among all respondents, 79% said they used any NRT during the follow-up period to help them quit using tobacco. No difference was observed across follow-up cohorts however respondents who had quit smoking were more likely to report using medication (85%) compared to those who had not quit smoking (77%). Approximately 35% of respondents reported using two or more medications. No difference in the number of medications used was observed between respondents who did and did not quit smoking.

The most commonly reported medications were nicotine patches and lozenges; no differences were observed between follow-up cohorts, insurance type, or quit status regarding the types of products or medications used (Figure 17).

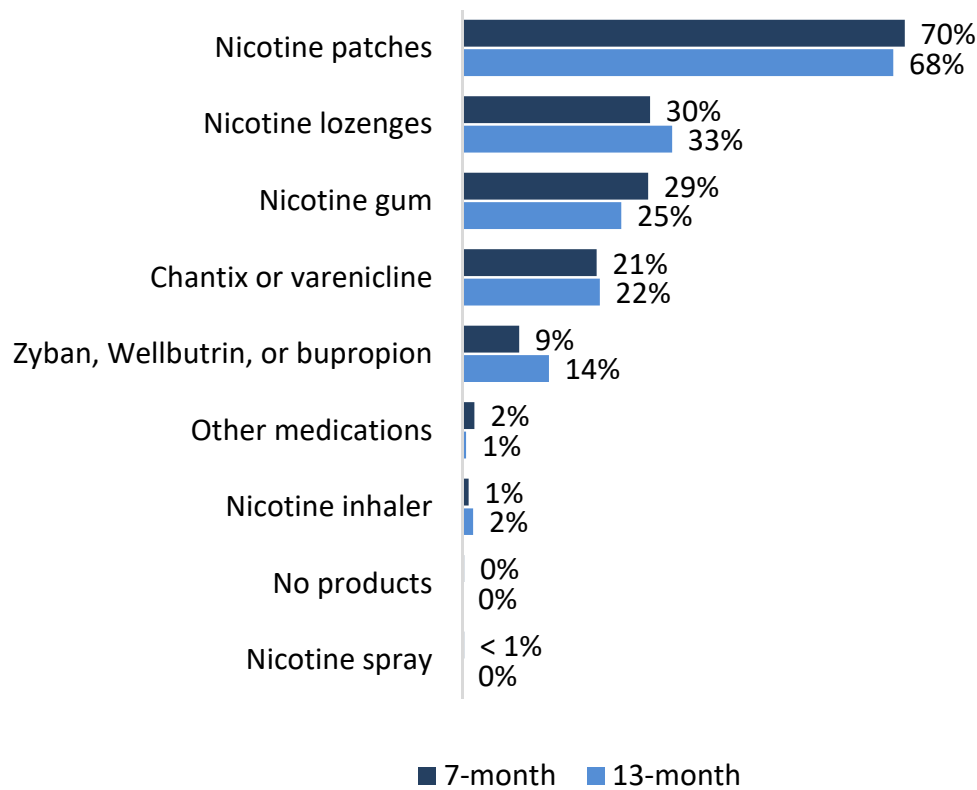


Figure 17: Types of nicotine replacement therapies used

Significant differences in the types of medications used were observed among respondents with Medicare compared to other forms of insurance. Respondents on Medicare reported higher rates of nicotine patch use and nicotine gum compared to respondents without Medicare. Respondents with “other” forms of insurance (i.e. private or employer purchased insurance) reported significantly lower rates of nicotine patch use and nicotine gum use than respondents without those forms of insurance.

Section 6: Additional Findings

Behavior, Cessation, and Quitline Services

Respondents who had not quit smoking were asked how strongly they agreed with a series of statements about their smoking behavior, cessation, and the services they received through Quitline Iowa. The four response options were *strongly agree*, *agree*, *disagree*, and *strongly disagree*. The *strongly agree* and *agree* response options were combined to show the proportion of respondents who agreed with each statement (Figure 18).

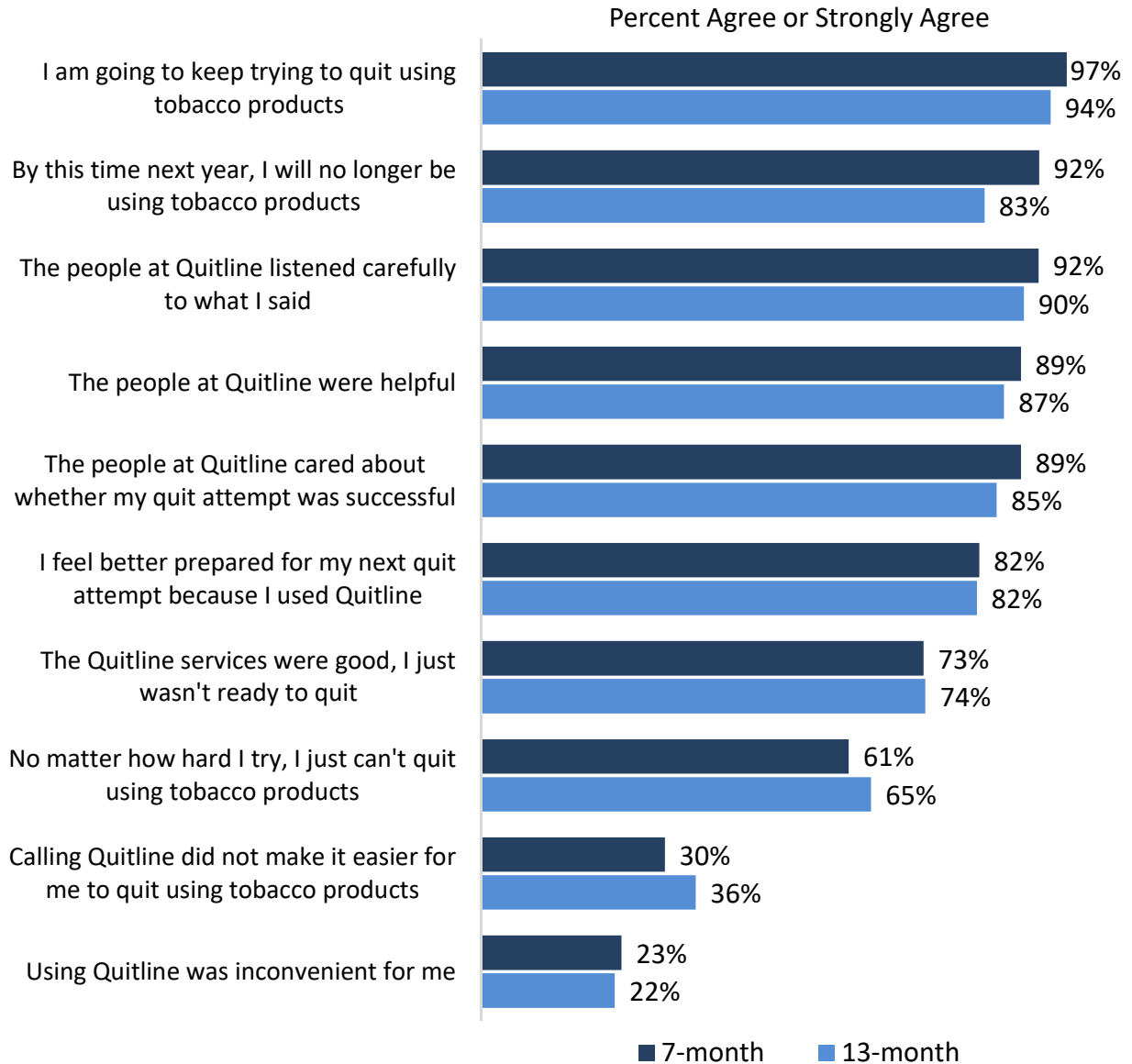


Figure 18: Perceptions about smoking, cessation, and Quitline Iowa services (among those who did not quit smoking), % *Strongly Agree* or *Agree*

Website Use

Among all respondents, 19% said they had visited the Quitline Iowa website. No significant differences in having reported visiting the Quitline Iowa website were found when comparing follow-up groups, quit status, use of medication, insurance, and gender. Respondents who reported visiting the Quitline Iowa website were significantly more likely to have a college degree or higher than respondents who did not report visiting the Quitline Iowa website. Respondents who used the Quitline Iowa website were significantly younger than those who did not visit the website, however the effect size for this difference was small.

The mean helpfulness rating of the website was 3.9 on a scale of 1 to 5 where 1 was *not at all helpful* and 5 was *extremely helpful*. A majority of respondents who visited the website (72%) rated the website as a 4 or 5 on that scale. Respondents who had quit rated the website higher than respondents who were still smoking (Figure 19). No differences in helpfulness ratings were found when comparing follow-up groups, gender, insurance, medication use, education, or age.

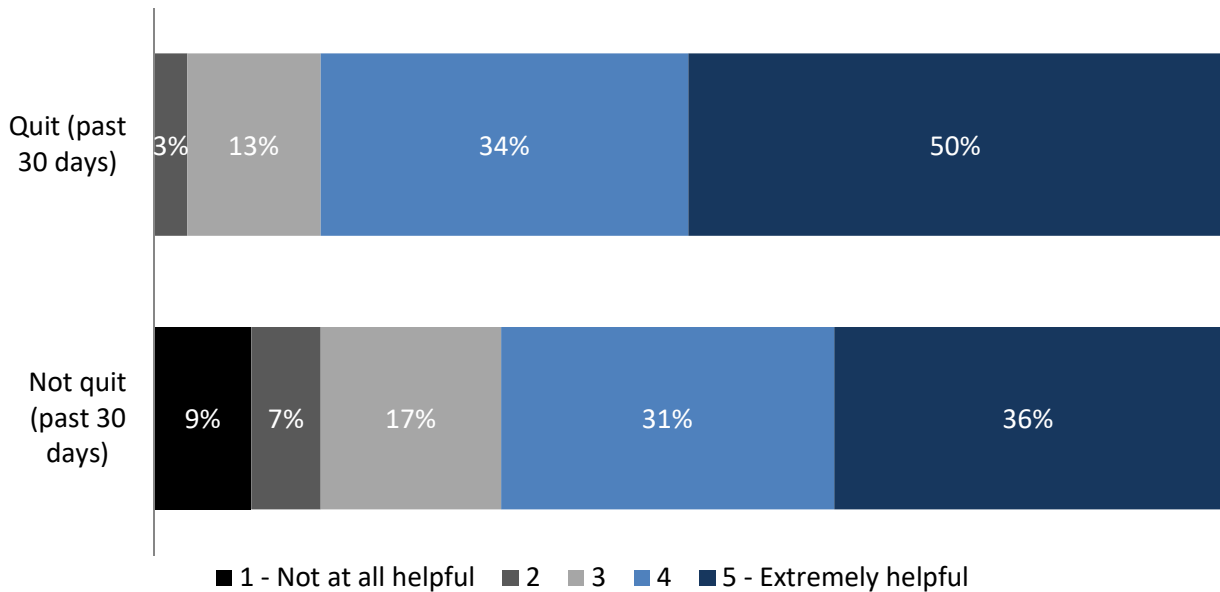


Figure 19: Helpfulness of Quitline website (quit vs. not quit)

COVID-19 Related Questions

In April 2020, two questions related to COVID-19 were added to the questionnaire. The first asked if COVID-19-related issues were a barrier to quitting smoking. Five percent of respondents reported that they experienced barriers to quitting related to COVID-19. There was no difference across follow-up cohorts. The most common responses about COVID-19-related barriers were stress, anxiety, and boredom from isolation.

The second question asked how COVID-19 affected respondent's employment. Most respondents reported no change in their employment due to COVID-19 (Figure 20). A significantly larger proportion of respondents in the 7-month follow-up group reported having reduced hours/workload (11%) than respondents in the 13-month group (5%). No other differences were statistically significant. This will continue to be monitored in FY22.

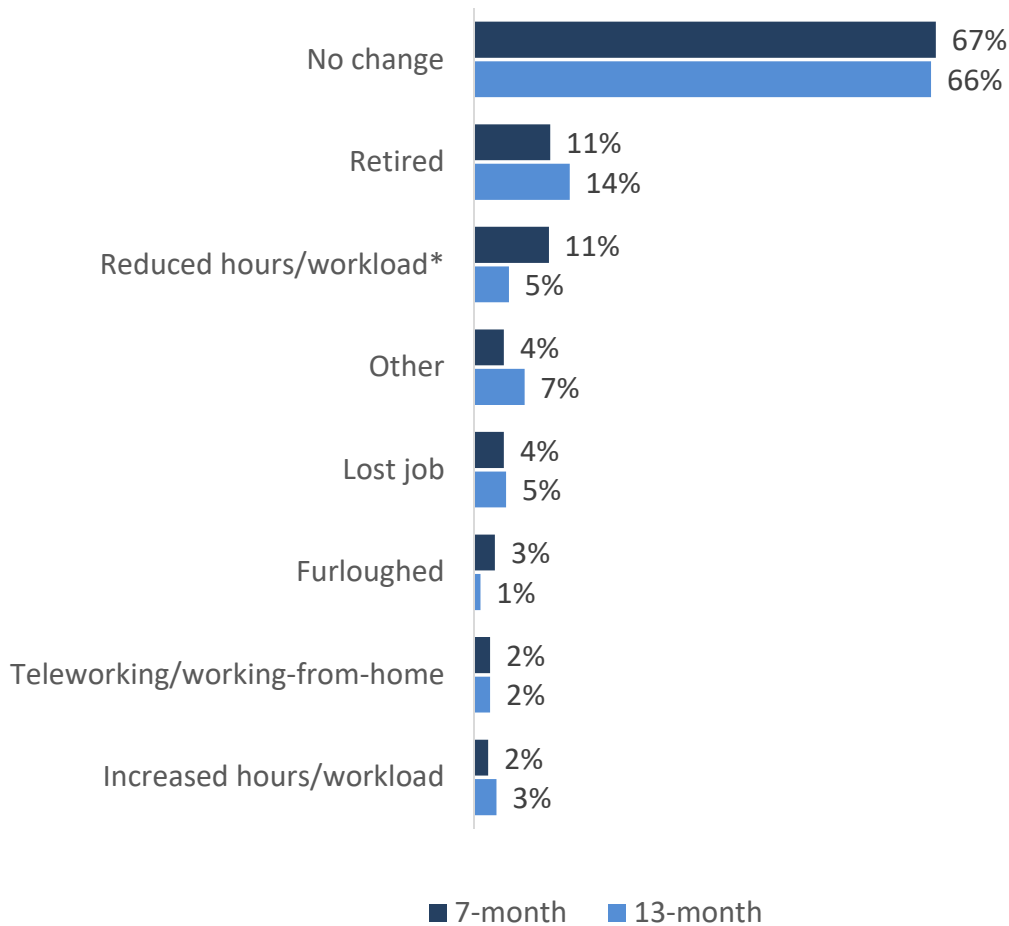


Figure 20: How COVID-19 has affected employment by cohort

Section 7: Longitudinal Follow-up

This section presents analysis of longitudinal follow-up data from a subset of respondents (panel) that are followed over time to allow for a more rigorous assessment of smoking outcomes and provides the strongest evidence as it is a within-person research design. This section contains follow-up data from FY20 and FY21 in order to match intake, 7-month, and 13-month records. Not all panel respondents from the second half of FY21 are included because insufficient time has elapsed to collect 13-month follow-up data. These respondents will be reported in FY22.

A total of 583 respondents at their 7-month follow-up consented to be in the panel and 218 of those respondents completed interviews at the 13-month follow-up – a 37% response rate. No demographic differences were observed between panel and non-panel respondents. Demographic characteristics of the panel are displayed in Table 8. More than half (63%) of panel respondents were female. Most were White (91%), had insurance (86%), and had at least some college education (54%). The average age of panel respondents was 55.8 years (range 18 to 86 years).

Table 8: Demographic characteristics of panel respondents at intake

		%
Gender	Female	63%
	Male	37%
Race	White	91%
	Black	6%
	Asian	--
	American Indian/Alaska Native	4%
	Native Hawaiian/Pacific Islander	--
	Other	1%
Hispanic/Latino % Yes		< 1%
Education		
	Less than high school	14%
	High school or GED	31%
	Some college	36%
	College of university degree	18%
Health insurance	Insured	86%
	Medicaid	9%
	Medicare	51%
Employment	Employed	27%

The quit rate for these respondents was the same between 7-month and 13-month follow-up (Figure 21).

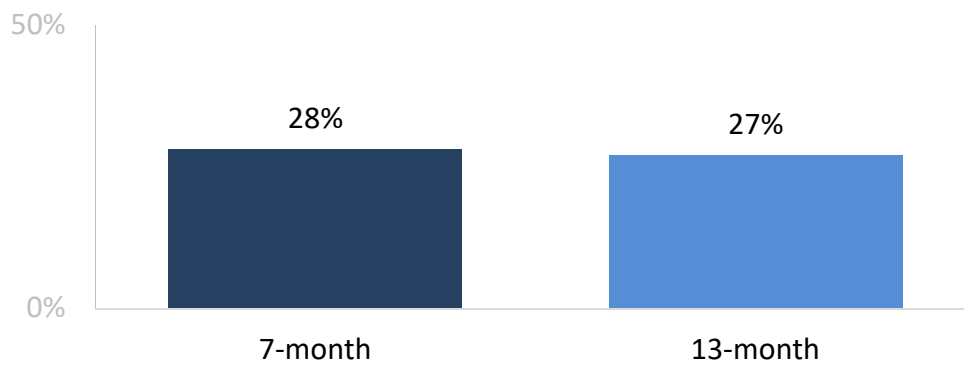


Figure 21: Thirty-day cessation rate (panel respondents)

Although the majority (87%) of the panel respondents did not change their smoking behavior between 7-month and 13-month follow-ups, approximately 7% of the panel respondents who reported having quit using tobacco products at 7-month indicated using tobacco products at 13-month, and 6% of the panel respondents who reported using tobacco products at 7-month indicated having quit using tobacco products at 13-month (Figure 22). Approximately 21% of respondents stayed tobacco free from 7-month to 13-month follow-up. There were no significant differences across these groups on any demographic variables.

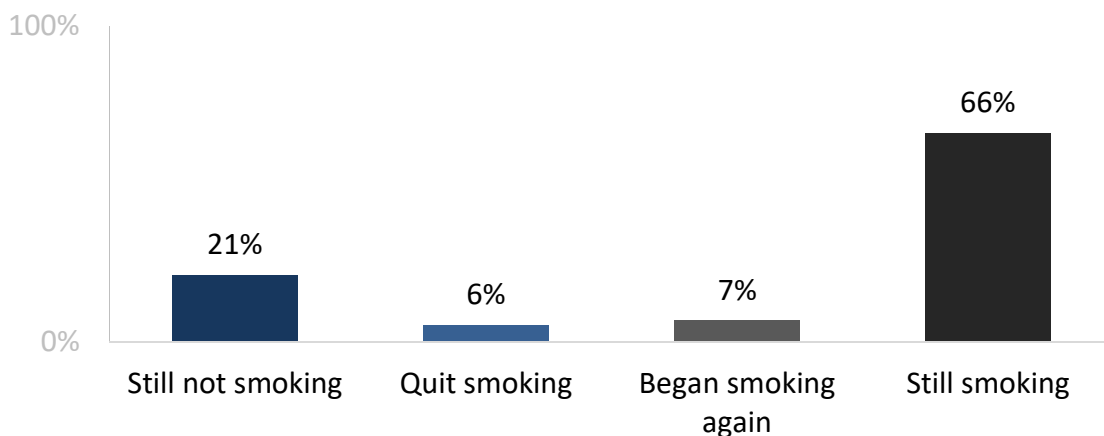


Figure 22: Change in tobacco use from 7-month to 13-month follow-up (panel respondents)

There was a significant difference in daily cigarettes smoked between intake (18.1) and both the 7-month follow-up (9.3, a reduction of 9 cigarettes per day) and 13-month follow-up (10.3, a reduction of 8 cigarettes per day) The difference in cigarettes per day between 7-month and 13-month was not statistically significant. This indicates that on average the reduction of approximately half a pack a day from intake to follow-up was maintained for up to a year after intake among all respondents (Figure 23).

Even if a respondent did not quit smoking, a reduction in cigarette consumption is a positive outcome of treatment. There was a significant difference between intake (18.4 cigarettes per day) and both the 7-month follow-up (12.9, a reduction of 5.5 cigarettes per day) and 13-month follow-up (14.9, a reduction of 3.5 cigarettes per day). The difference in cigarettes per day between 7-month and 13-month was not statistically significant. This indicates that on average the reduction from intake to follow-up of slightly more than a quarter of a pack of cigarettes was maintained for up to a year after intake for smokers.

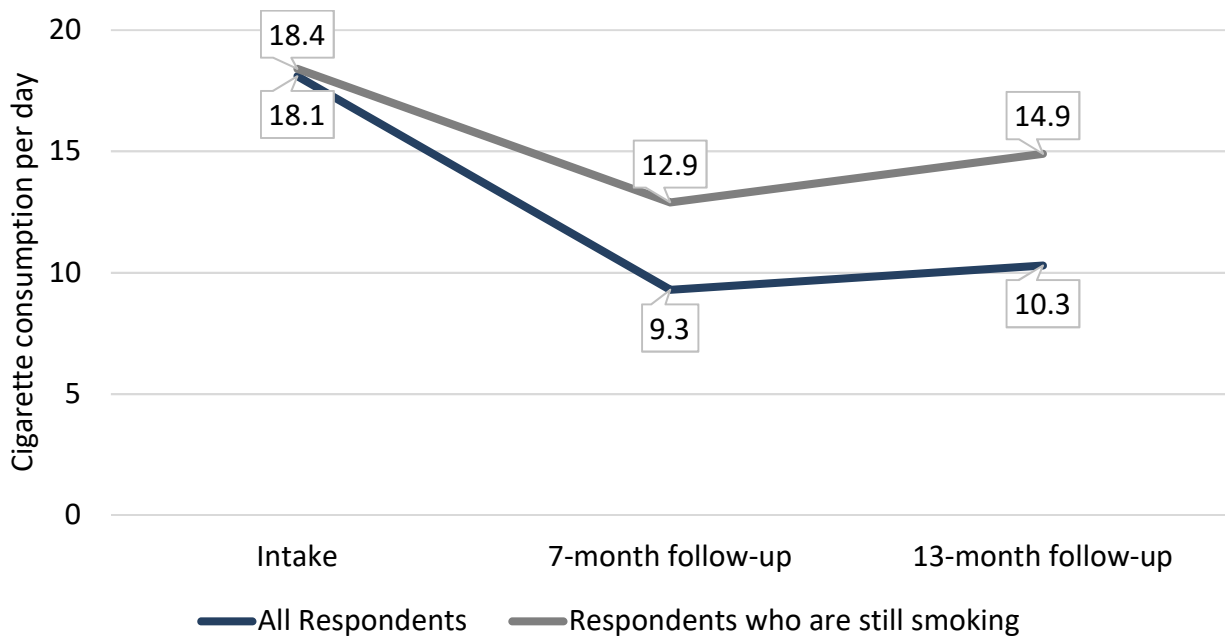


Figure 23: Cigarette consumption among panel respondents (all respondents vs. smokers)

Section 8: Summary and Conclusions

CSBR completed 615 follow-up interviews with Quitline Iowa callers between July 2020 and June 2021. Results of the FY21 evaluation were consistent with results from previous years with FY17 being an outlier. Twenty six percent of Quitline callers were able to quit tobacco and stay tobacco free up to a year after intake (Figure 24). Among Quitline Iowa callers who reported using tobacco products, there was a reduction in both the number of cigarettes smoked per day and the number of days per month that they smoked compared to intake. Those using tobacco also increased the length of time they waited to have their first cigarette of the day (compared to intake), indicating a possible reduction in addiction intensity over the follow-up period.

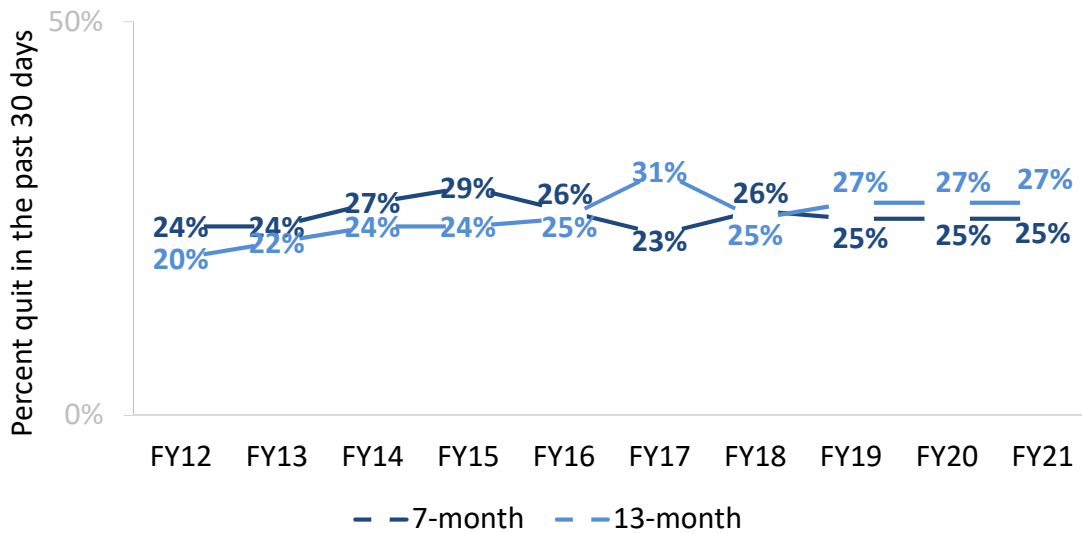


Figure 24: Thirty-day cessation by follow-up cohort (FY12 to FY21)

Approximately 10% of respondents reported using e-cigarettes in the past 30 days. Of those who reported using e-cigarettes in the past 30 days, 79% reported using them *every day* or *some days*. Approximately 61% of respondents who reported using e-cigarettes in the past 30 days reported that they had substituted e-cigarettes for cigarettes, pipes, cigars, or cigarillos when they were unable to smoke.

More than two-thirds of respondents (71%) said they were either *very satisfied* or *mostly satisfied* with the services they received - satisfaction was much higher among follow-up respondents who had quit smoking than among those who had not quit. In addition, 89% of respondents said they *definitely would*, *probably would*, or *already have recommended* Quitline Iowa to a friend in need of similar services. Most respondents expressed positive perceptions about Quitline Iowa and their future quit attempts.

Appendix A: Item Frequency Tables

Q1. Overall, how satisfied were you with the services you received from the Quitline?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not at all satisfied	31	7.8	8.0	20	9.2	9.4
Somewhat satisfied	88	22.2	22.7	34	15.6	16.0
Mostly satisfied	112	28.2	28.9	54	24.8	25.4
Very satisfied	157	39.5	40.5	105	48.2	49.3
Don't know	5	1.3	0.0	0	0.0	0.0
Refused	4	1.0	0.0	5	2.3	0.0

Q2. If a friend were in need of similar help, how likely would you be to recommend the Quitline to him/her?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Definitely would not recommend	18	4.5	4.6	10	4.6	4.6
Probably would not recommend	25	6.3	6.4	14	6.4	6.5
Probably would recommend	98	24.7	25.1	55	25.2	25.5
Definitely would recommend	234	58.9	59.8	131	60.1	60.6
Have already recommended Quitline to a friend	16	4.0	4.1	6	2.8	2.8
Don't know	3	0.8	0.0	0	0.0	0.0
Refused	3	0.8	0.0	2	0.9	0.0

Q2a. Would you recommend Quitline again?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	16	100.0	100.0	6	100.0	100.0

Q3. Have you smoked any cigarettes or used other tobacco, even a puff, pinch, or vape, in the last 7 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	277	69.8	70.1	150	68.8	68.8
No	118	29.7	29.9	68	31.2	31.2
Don't know	1	0.3	0.0	0	0.0	0.0
Refused	1	0.3	0.0	0	0.0	0.0

Q3a. Have you smoked any cigarettes or used other tobacco, even a puff, pinch, or vape, in the last 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	20	16.9	16.9	9	13.2	13.2
No	98	83.1	83.1	59	86.8	86.8

Q3b. Have you smoked any cigarettes or used other tobacco, even a puff, pinch, or vape, in the last 6 months?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	35	35.7	36.5	16	27.1	27.1
No	61	62.2	63.5	43	72.9	72.9
Don't know	2	2.0	0.0	0	0.0	0.0

Q3c. Have you smoked any cigarettes or used other tobacco, even a puff, pinch, or vape, in the last 12 months?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	0	0.0	0.0	19	44.2	44.2
No	0	0.0	0.0	24	55.8	55.8

Q4. Since you first called the Quitline on [INTAKE DATE], [seven or thirteen] months ago, did you stop using tobacco for 24 hours or longer because you were trying to quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	321	80.9	81.3	176	80.7	81.5
No	74	18.6	18.7	40	18.3	18.5
Don't know	2	0.5	0.0	2	0.9	0.0

Q5. How many times did you stop using tobacco for 24 hours or longer?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	120	37.4	41.0	57	32.4	38.5
2	67	20.9	22.9	27	15.3	18.2
3	45	14.0	15.4	21	11.9	14.2
4	23	7.2	7.8	11	6.3	7.4
5	7	2.2	2.4	11	6.3	7.4
6	6	1.9	2.0	4	2.3	2.7
7	6	1.9	2.0	1	0.6	0.7
8	2	0.6	0.7	2	1.1	1.4
10	7	2.2	2.4	7	4.0	4.7
12	2	0.6	0.7	3	1.7	2.0
14	0	0.0	0.0	1	0.6	0.7
15	3	0.9	1.0	1	0.6	0.7
20	2	0.6	0.7	1	0.6	0.7
24	1	0.3	0.3	1	0.6	0.7
28	1	0.3	0.3	0	0.0	0.0
30	1	0.3	0.3	0	0.0	0.0
76 or more	1	0.3	0.0	1	0.6	0.0
Don't know	24	7.5	0.0	23	13.1	0.0
Refused	3	0.9	0.0	4	2.3	0.0

Q6. Which of these statements best describes your intentions regarding your tobacco use at this time?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Planning to quit in the next 30 days	99	24.9	25.6	41	18.8	19.4
Planning to quit in the next 6 months	101	25.4	26.1	58	26.6	27.5
Planning to quit sometime in the future but not in the next 6 months	43	10.8	11.1	30	13.8	14.2
Not planning to quit or cut down	3	0.8	0.8	6	2.8	2.8
Not planning to quit but planning to cut down	23	5.8	5.9	6	2.8	2.8
You have quit	118	29.7	30.5	70	32.1	33.2
Don't know	9	2.3	0.0	5	2.3	0.0
Refused	1	0.3	0.0	2	0.9	0.0

Q7_11. Other Users. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	312	78.6	78.6	182	83.5	83.5
Selected	85	21.4	21.4	36	16.5	16.5

Q7_12. Cost. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	388	97.7	97.7	216	99.1	99.1
Selected	9	2.3	2.3	2	0.9	0.9

Q7_13. Fear of failure. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	392	98.7	98.7	217	99.5	99.5
Selected	5	1.3	1.3	1	0.5	0.5

Q7_14. Stress. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	244	61.5	61.5	141	64.7	64.7
Selected	153	38.5	38.5	77	35.3	35.3

Q7_15. Alcohol. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	381	96.0	96.0	212	97.2	97.2
Selected	16	4.0	4.0	6	2.8	2.8

Q7_16. Addiction. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	227	57.2	57.2	123	56.4	56.4
Selected	170	42.8	42.8	95	43.6	43.6

Q7_17. Weight. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	387	97.5	97.5	213	97.7	97.7
Selected	10	2.5	2.5	5	2.3	2.3

Q7_18. Associated with activities. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	243	61.2	61.2	141	64.7	64.7
Selected	154	38.8	38.8	77	35.3	35.3

Q7_19. Depression/Loneliness. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	370	93.2	93.2	198	90.8	90.8
Selected	27	6.8	6.8	20	9.2	9.2

Q7_20. Other (Specify). What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	323	81.4	81.4	165	75.7	75.7
Selected	74	18.6	18.6	53	24.3	24.3

Q7_21. Coronavirus/COVID-19-related barriers (Specify). What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
0	377	95.0	95.0	207	95.0	95.0
1	20	5.0	5.0	11	5.0	5.0

Q7_77. Don't Know. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	391	98.5	98.5	214	98.2	98.2
Selected	6	1.5	1.5	4	1.8	1.8

Q7_99. Refused. What are the three hardest things about quitting for you?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	393	99.0	99.0	218	100.0	100.0
Selected	4	1.0	1.0	0	0.0	0.0

Q8a_11. Nicotine Replacement. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	218	67.9	67.9	120	68.2	68.2
Selected	103	32.1	32.1	56	31.8	31.8

Q8a_12. Medications. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	298	92.8	92.8	160	90.9	90.9
Selected	23	7.2	7.2	16	9.1	9.1

Q8a_13. Replacement behaviors. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	256	79.8	79.8	140	79.5	79.5
Selected	65	20.2	20.2	36	20.5	20.5

Q8a_14. Support groups. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	313	97.5	97.5	172	97.7	97.7
Selected	8	2.5	2.5	4	2.3	2.3

Q8a_15. Family/friend support. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	256	79.8	79.8	149	84.7	84.7
Selected	65	20.2	20.2	27	15.3	15.3

Q8a_16. Exercise. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	305	95.0	95.0	164	93.2	93.2
Selected	16	5.0	5.0	12	6.8	6.8

Q8a_17. Staying Busy. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	253	78.8	78.8	144	81.8	81.8
Selected	68	21.2	21.2	32	18.2	18.2

Q8a_18. Printed Info. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	320	99.7	99.7	174	98.9	98.9
Selected	1	0.3	0.3	2	1.1	1.1

Q8a_19. Quit Line. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	287	89.4	89.4	157	89.2	89.2
Selected	34	10.6	10.6	19	10.8	10.8

Q8a_20. Avoiding. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	300	93.5	93.5	167	94.9	94.9
Selected	21	6.5	6.5	9	5.1	5.1

Q8a_21. Health Provider. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	308	96.0	96.0	175	99.4	99.4
Selected	13	4.0	4.0	1	0.6	0.6

Q8a_22. Non-users. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	301	93.8	93.8	165	93.8	93.8
Selected	20	6.2	6.2	11	6.3	6.3

Q8a_23. Homeopathy. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	321	100.0	100.0	176	100.0	100.0

Q8a_24. Less Stress. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	311	96.9	96.9	172	97.7	97.7
Selected	10	3.1	3.1	4	2.3	2.3

Q8a_25. Cost. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	308	96.0	96.0	168	95.5	95.5
Selected	13	4.0	4.0	8	4.5	4.5

Q8a_26. Other (Specify). What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	244	76.0	76.0	121	68.8	68.8
Selected	77	24.0	24.0	55	31.3	31.3

Q8a_77. Don't Know. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	311	96.9	96.9	168	95.5	95.5
Selected	10	3.1	3.1	8	4.5	4.5

Q8a_88. None. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	303	94.4	94.4	169	96.0	96.0
Selected	18	5.6	5.6	7	4.0	4.0

Q8a_99. Refused. What three things do you think were the most helpful to you in quitting?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	320	99.7	99.7	173	98.3	98.3
Selected	1	0.3	0.3	3	1.7	1.7

Q8b_11. Nicotine Replacement. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	54	71.1	71.1	31	73.8	73.8
Selected	22	28.9	28.9	11	26.2	26.2

Q8b_12. Medications. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	66	86.8	86.8	35	83.3	83.3
Selected	10	13.2	13.2	7	16.7	16.7

Q8b_13. Replacement behaviors. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	64	84.2	84.2	38	90.5	90.5
Selected	12	15.8	15.8	4	9.5	9.5

Q8b_14. Support groups. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	76	100.0	100.0	42	100.0	100.0

Q8b_15. Family/friend support. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	69	90.8	90.8	42	100.0	100.0
Selected	7	9.2	9.2	0	0.0	0.0

Q8b_16. Exercise. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	71	93.4	93.4	40	95.2	95.2
Selected	5	6.6	6.6	2	4.8	4.8

Q8b_17. Staying Busy. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	67	88.2	88.2	40	95.2	95.2
Selected	9	11.8	11.8	2	4.8	4.8

Q8b_18. Printed Info. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	76	100.0	100.0	42	100.0	100.0

Q8b_19. Quit Line. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	75	98.7	98.7	42	100.0	100.0
Selected	1	1.3	1.3	0	0.0	0.0

Q8b_20. Avoiding. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	73	96.1	96.1	42	100.0	100.0
Selected	3	3.9	3.9	0	0.0	0.0

Q8b_21. Health Provider. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	76	100.0	100.0	42	100.0	100.0

Q8b_22. Non-users. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	75	98.7	98.7	38	90.5	90.5
Selected	1	1.3	1.3	4	9.5	9.5

Q8b_23. Homeopathy. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	76	100.0	100.0	42	100.0	100.0

Q8b_24. Less Stress. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	70	92.1	92.1	39	92.9	92.9
Selected	6	7.9	7.9	3	7.1	7.1

Q8b_25. Cost. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	75	98.7	98.7	41	97.6	97.6
Selected	1	1.3	1.3	1	2.4	2.4

Q8b_26. Other (Specify). What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	65	85.5	85.5	34	81.0	81.0
Selected	11	14.5	14.5	8	19.0	19.0

Q8b_77. Don't Know. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	67	88.2	88.2	34	81.0	81.0
Selected	9	11.8	11.8	8	19.0	19.0

Q8b_88. None. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	68	89.5	89.5	36	85.7	85.7
Selected	8	10.5	10.5	6	14.3	14.3

Q8b_99. Refused. What three things do you think would be most helpful in your future quit attempts?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	75	98.7	98.7	39	92.9	92.9
Selected	1	1.3	1.3	3	7.1	7.1

Q9. Not including yourself, is there anyone in your home who smokes?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	102	25.7	25.7	63	28.9	28.9
2	295	74.3	74.3	154	70.6	70.6
7	0	0.0	0.0	1	0.5	0.5

Q10a. Cigarettes? What types of tobacco have you used in the past 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	269	90.6	90.6	145	91.2	91.2
No	28	9.4	9.4	14	8.8	8.8

Q10b. Cigars, cigarillos, or little cigars? What types of tobacco have you used in the past 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	17	5.7	5.7	10	6.3	6.3
No	280	94.3	94.3	149	93.7	93.7

Q10c. Pipe? What types of tobacco have you used in the past 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	3	1.0	1.0	2	1.3	1.3
No	294	99.0	99.0	157	98.7	98.7

Q10d. Chewing tobacco, snuff, or dip? What types of tobacco have you used in the past 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	12	4.0	4.0	5	3.1	3.1
No	285	96.0	96.0	154	96.9	96.9

Q10e. Electronic Smoking Device such as e-cigarettes or vape pens? What types of tobacco have you used in the past 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	40	10.1	10.1	19	8.7	8.7
No	357	89.9	89.9	199	91.3	91.3

Q10f. Other? What types of tobacco have you used in the past 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	2	0.7	0.7	0	0.0	0.0
No	294	99.0	99.3	159	100.0	100.0
Refused	1	0.3	0.0	0	0.0	0.0

Q11_1. Bidis. What other types of tobacco products do you use?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	2	100.0	100.0	0	0.0	0.0

Q11_2. Kreteks. What other types of tobacco products do you use?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	2	100.0	100.0	0	0.0	0.0

Q11_3. Tobacco pouches or “Snus”. What other types of tobacco products do you use?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	1	50.0	50.0	0	0.0	0.0
Selected	1	50.0	50.0	0	0.0	0.0

Q11_4. Water pipes or hookahs. What other types of tobacco products do you use?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	2	100.0	100.0	0	0.0	0.0

Q11_5. Other [Specify]. What other types of tobacco products do you use?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	1	50.0	50.0	0	0.0	0.0
Selected	1	50.0	50.0	0	0.0	0.0

Q11_7. Don't Know. What other types of tobacco products do you use?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	2	100.0	100.0	0	0.0	0.0

Q11_9. Refused. What other types of tobacco products do you use?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	2	100.0	100.0	0	0.0	0.0

Q12. Do you currently smoke cigarettes everyday, some days, or not at all?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Everyday	211	78.4	78.4	129	89.0	89.0
Some days	39	14.5	14.5	10	6.9	6.9
Not at all	19	7.1	7.1	6	4.1	4.1

Q13. How many days did you smoke cigarettes in the last 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	5	9.4	9.8	1	7.1	7.1
2	5	9.4	9.8	1	7.1	7.1
3	3	5.7	5.9	1	7.1	7.1
4	0	0.0	0.0	1	7.1	7.1
5	2	3.8	3.9	0	0.0	0.0
7	0	0.0	0.0	1	7.1	7.1
8	1	1.9	2.0	0	0.0	0.0
9	1	1.9	2.0	0	0.0	0.0
10	3	5.7	5.9	0	0.0	0.0
12	1	1.9	2.0	0	0.0	0.0

14	4	7.5	7.8	2	14.3	14.3
15	5	9.4	9.8	2	14.3	14.3
18	1	1.9	2.0	0	0.0	0.0
20	12	22.6	23.5	2	14.3	14.3
21	0	0.0	0.0	1	7.1	7.1
25	4	7.5	7.8	1	7.1	7.1
26	1	1.9	2.0	0	0.0	0.0
27	1	1.9	2.0	0	0.0	0.0
28	0	0.0	0.0	1	7.1	7.1
29	1	1.9	2.0	0	0.0	0.0
30	1	1.9	2.0	0	0.0	0.0
Don't know	2	3.8	0.0	0	0.0	0.0

Q14. On average, how many cigarettes do you smoke per day on the days that you smoke?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	11	4.2	4.2	3	2.1	2.1
2	7	2.7	2.7	2	1.4	1.4
3	8	3.0	3.1	1	0.7	0.7
4	12	4.5	4.6	2	1.4	1.4
5	14	5.3	5.4	5	3.5	3.5
6	14	5.3	5.4	5	3.5	3.5
7	12	4.5	4.6	3	2.1	2.1
8	11	4.2	4.2	11	7.7	7.8
9	2	0.8	0.8	2	1.4	1.4
10	52	19.7	20.1	38	26.6	27.0
12	5	1.9	1.9	2	1.4	1.4
13	3	1.1	1.2	0	0.0	0.0
14	0	0.0	0.0	2	1.4	1.4
15	26	9.8	10.0	12	8.4	8.5
16	1	0.4	0.4	0	0.0	0.0
17	1	0.4	0.4	1	0.7	0.7
18	1	0.4	0.4	1	0.7	0.7
19	1	0.4	0.4	0	0.0	0.0
20	64	24.2	24.7	38	26.6	27.0
25	2	0.8	0.8	5	3.5	3.5
30	8	3.0	3.1	7	4.9	5.0
40	4	1.5	1.5	0	0.0	0.0
60	0	0.0	0.0	1	0.7	0.7
Don't know	1	0.4	0.0	1	0.7	0.0
Refused	4	1.5	0.0	1	0.7	0.0

Q15. Do you currently smoke cigars, cigarillos, or little cigars everyday, some days, or not at all?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Everyday	5	29.4	29.4	5	50.0	55.6
Some days	6	35.3	35.3	4	40.0	44.4
Not at all	6	35.3	35.3	0	0.0	0.0
Refused	0	0.0	0.0	1	10.0	0.0

Q16. How many days did you smoke cigars, cigarillos, or little cigars in the last 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	0	0.0	0.0	1	20.0	25.0
2	0	0.0	0.0	1	20.0	25.0
3	1	16.7	16.7	1	20.0	25.0
4	1	16.7	16.7	0	0.0	0.0
5	1	16.7	16.7	0	0.0	0.0
10	1	16.7	16.7	0	0.0	0.0
20	2	33.3	33.3	0	0.0	0.0
30	0	0.0	0.0	1	20.0	25.0
Refused	0	0.0	0.0	1	20.0	0.0

Q17. On average, how many cigars, cigarillos, or little cigars do you smoke per week during the weeks that you smoke?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	1	9.1	10.0	1	10.0	14.3
2	1	9.1	10.0	0	0.0	0.0
4	1	9.1	10.0	0	0.0	0.0
5	1	9.1	10.0	0	0.0	0.0
7	0	0.0	0.0	1	10.0	14.3
10	2	18.2	20.0	2	20.0	28.6
12	0	0.0	0.0	1	10.0	14.3
20	3	27.3	30.0	1	10.0	14.3
21	0	0.0	0.0	1	10.0	14.3
42	1	9.1	10.0	0	0.0	0.0
Refused	1	9.1	0.0	3	30.0	0.0

Q18. Do you currently smoke a pipe every day, some days, or not at all?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Some days	3	100.0	100.0	1	50.0	50.0
Not at all	0	0.0	0.0	1	50.0	50.0

Q19. How many days did you smoke a pipe in the last 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
2	2	66.7	66.7	1	100.0	100.0
4	1	33.3	33.3	0	0.0	0.0

Q20. On average, how many pipes do you smoke per week during the weeks that you smoke?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	3	100.0	100.0	1	100.0	100.0

Q21. Do you currently use chewing tobacco, snuff, or dip everyday, some days, or not at all?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Everyday	7	58.3	58.3	3	60.0	60.0
Some days	4	33.3	33.3	2	40.0	40.0
Not at all	1	8.3	8.3	0	0.0	0.0

Q22. How many days did you chew in the last 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	0	0.0	0.0	1	50.0	50.0
3	1	25.0	25.0	0	0.0	0.0
10	1	25.0	25.0	0	0.0	0.0
20	1	25.0	25.0	1	50.0	50.0
25	1	25.0	25.0	0	0.0	0.0

Q23. On average, how many pouches or tins do you use per week during the weeks that you chew?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	3	27.3	27.3	2	40.0	40.0
2	3	27.3	27.3	0	0.0	0.0
3	1	9.1	9.1	0	0.0	0.0
4	1	9.1	9.1	0	0.0	0.0
6	1	9.1	9.1	0	0.0	0.0
7	1	9.1	9.1	1	20.0	20.0
666	1	9.1	9.1	2	40.0	40.0

Q24. Do you currently use an Electronic Smoking Device everyday, some days, or not at all?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Everyday	15	37.5	38.5	11	57.9	57.9
Some days	17	42.5	43.6	3	15.8	15.8
Not at all	7	17.5	17.9	5	26.3	26.3
Refused	1	2.5	0.0	0	0.0	0.0

Q25. How many days did you use an Electronic Smoking Device in the last 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
2	1	5.6	5.9	0	0.0	0.0
3	2	11.1	11.8	0	0.0	0.0
5	1	5.6	5.9	1	33.3	33.3
6	2	11.1	11.8	0	0.0	0.0
7	1	5.6	5.9	0	0.0	0.0
10	2	11.1	11.8	1	33.3	33.3
14	1	5.6	5.9	0	0.0	0.0
15	2	11.1	11.8	0	0.0	0.0
18	1	5.6	5.9	0	0.0	0.0
20	2	11.1	11.8	0	0.0	0.0
25	1	5.6	5.9	0	0.0	0.0
30	1	5.6	5.9	1	33.3	33.3
Refused	1	5.6	0.0	0	0.0	0.0

Q26. On average, how many cartridges do you use per week on the weeks that you use an Electronic Smoking Device?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	10	30.3	50.0	5	35.7	41.7
2	4	12.1	20.0	2	14.3	16.7
3	2	6.1	10.0	2	14.3	16.7
4	1	3.0	5.0	0	0.0	0.0
5	1	3.0	5.0	2	14.3	16.7
7	1	3.0	5.0	1	7.1	8.3
8	1	3.0	5.0	0	0.0	0.0
Don't know	7	21.2	0.0	1	7.1	0.0
Refused	6	18.2	0.0	1	7.1	0.0

Q27a. Using e-cigarettes helps me to quit smoking cigarettes.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	30	75.0	75.0	12	63.2	63.2
No	10	25.0	25.0	7	36.8	36.8

Q27b. They might be less harmful to me than cigarettes.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	18	45.0	51.4	11	57.9	57.9
No	17	42.5	48.6	8	42.1	42.1
Don't know	5	12.5	0.0	0	0.0	0.0

Q27c. They seem cheaper than cigarettes.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	22	55.0	57.9	11	57.9	57.9
No	16	40.0	42.1	8	42.1	42.1
Don't know	2	5.0	0.0	0	0.0	0.0

Q27d. I can use e-cigarettes at times or in places where smoking cigarettes isn't allowed.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	29	72.5	72.5	10	52.6	52.6
No	11	27.5	27.5	9	47.4	47.4

Q27e. They might be less harmful to people around me than cigarettes.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	27	67.5	69.2	11	57.9	61.1
No	12	30.0	30.8	7	36.8	38.9
Don't know	1	2.5	0.0	1	5.3	0.0

Q27f. Are there any other reasons you use e-cigarettes?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	12	30.0	30.0	4	21.1	21.1
No	28	70.0	70.0	15	78.9	78.9

Q28. Have you used an Electronic Smoking Device when you were unable to smoke cigarettes, pipes, cigars, or cigarillos?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	14	66.7	66.7	5	50.0	50.0
No	7	33.3	33.3	5	50.0	50.0

Q29. Have you used an Electronic Smoking Device when you were unable to use chewing tobacco, snuff, or dip?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	1	100.0	100.0	1	100.0	100.0

Q30. Do you currently use other tobacco products everyday, some days, or not at all?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Some days	1	50.0	50.0	0	0.0	0.0
Not at all	1	50.0	50.0	0	0.0	0.0

Q31. How many days did you use other types of tobacco in the last 30 days?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
20	1	100.0	100.0	0	0.0	0.0

Q33. How soon after you wake up do you smoke your first cigarette?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
5 minutes or less	76	30.2	31.0	48	34.5	35.8
Between 6 minutes and 30 minutes	86	34.1	35.1	52	37.4	38.8
Between 31 minutes and 60 minutes	36	14.3	14.7	15	10.8	11.2
More than 60 minutes	47	18.7	19.2	19	13.7	14.2
Don't know	4	1.6	0.0	3	2.2	0.0
Refused	3	1.2	0.0	2	1.4	0.0

Q34. How soon after you wake up do you use tobacco other than cigarettes?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
5 minutes or less	9	15.3	18.4	3	10.7	14.3
Between 6 minutes and 30 minutes	11	18.6	22.4	6	21.4	28.6
Between 31 minutes and 60 minutes	6	10.2	12.2	2	7.1	9.5
More than 60 minutes	23	39.0	46.9	10	35.7	47.6
Don't know	4	6.8	0.0	3	10.7	0.0
Refused	6	10.2	0.0	4	14.3	0.0

Q35_11. Nicotine patches. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	180	45.3	45.3	99	45.4	45.4
Selected	217	54.7	54.7	119	54.6	54.6

Q35_12. Nicotine gum. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	306	77.1	77.1	174	79.8	79.8
Selected	91	22.9	22.9	44	20.2	20.2

Q35_13. Nicotine lozenges. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	305	76.8	76.8	160	73.4	73.4
Selected	92	23.2	23.2	58	26.6	26.6

Q35_14. Nicotine spray. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	396	99.7	99.7	218	100.0	100.0
Selected	1	0.3	0.3	0	0.0	0.0

Q35_15. Nicotine inhaler. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	394	99.2	99.2	215	98.6	98.6
Selected	3	0.8	0.8	3	1.4	1.4

Q35_16. Zyban, also called Wellbutrin or bupropion. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	369	92.9	92.9	194	89.0	89.0
Selected	28	7.1	7.1	24	11.0	11.0

Q35_17. Chantix, also called varenicline. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	331	83.4	83.4	180	82.6	82.6
Selected	66	16.6	16.6	38	17.4	17.4

Q35_18. Other products or medications to help you quit? [Specify]. Since you first called the Quitline [7-13] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	391	98.5	98.5	217	99.5	99.5
Selected	6	1.5	1.5	1	0.5	0.5

Q35_66. No products or medication. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	311	78.3	78.3	175	80.3	80.3
Selected	86	21.7	21.7	43	19.7	19.7

Q35_77. Don't know. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	639	100.0	100.0	300	100.0	100.0

Q35_99. Refused. Since you first called the Quitline [seven or thirteen] months ago, have you used any of the following products or medications to help you quit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	396	99.7	99.7	218	100.0	100.0
Selected	1	0.3	0.3	0	0.0	0.0

Q36a. Quitline Iowa?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	209	67.4	67.4	115	65.7	66.5
No	101	32.6	32.6	58	33.1	33.5
Don't know	0	0.0	0.0	2	1.1	0.0

Q36b. A pharmacy: with a prescription?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	116	37.4	37.7	63	36.0	36.4
No	192	61.9	62.3	110	62.9	63.6
Don't know	1	0.3	0.0	2	1.1	0.0
Refused	1	0.3	0.0	0	0.0	0.0

Q36c. A pharmacy or store: over-the-counter?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	93	30.0	30.0	62	35.4	35.8
No	217	70.0	70.0	111	63.4	64.2
Don't know	0	0.0	0.0	2	1.1	0.0

Q36d. Somewhere else? [SPECIFY]

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	10	3.2	3.2	6	3.4	3.4
No	299	96.5	96.8	169	96.6	96.6
Refused	1	0.3	0.0	0	0.0	0.0

Q37_1. Advice from a health professional. Other than the Quitline or medications, what other kinds of assistance did you use to help quit over the past [seven or thirteen] months

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	324	81.6	81.6	184	84.4	84.4
Selected	73	18.4	18.4	34	15.6	15.6

Q37_2. Website [Specify]. Other than the Quitline or medications, what other kinds of assistance did you use to help quit over the past [seven or thirteen] months

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	390	98.2	98.2	212	97.2	97.2
Selected	7	1.8	1.8	6	2.8	2.8

Q37_3. Telephone program [Specify]. Other than the Quitline or medications, what other kinds of assistance did you use to help quit over the past [seven or thirteen] months

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	396	99.7	99.7	218	100.0	100.0
Selected	1	0.3	0.3	0	0.0	0.0

Q37_4. Counseling program [Specify]. Other than the Quitline or medications, what other kinds of assistance did you use to help quit over the past [seven or thirteen] months

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	391	98.5	98.5	215	98.6	98.6
Selected	6	1.5	1.5	3	1.4	1.4

Q37_5. Self-help materials [Specify]. Other than the Quitline or medications, what other kinds of assistance did you use to help quit over the past [seven or thirteen] months

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	391	98.5	98.5	217	99.5	99.5
Selected	6	1.5	1.5	1	0.5	0.5

Q37_6. Something else [Specify]. Other than the Quitline or medications, what other kinds of assistance did you use to help quit over the past [seven or thirteen] months

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	374	94.2	94.2	204	93.6	93.6
Selected	23	5.8	5.8	14	6.4	6.4

Q37_7. Don't Know. Other than the Quitline or medications, what other kinds of assistance did you use to help quit over the past [seven or thirteen] months

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	394	99.2	99.2	217	99.5	99.5
Selected	3	0.8	0.8	1	0.5	0.5

Q37_8. No other assistance. Other than the Quitline or medications, what other kinds of assistance did you use to help quit over the past [seven or thirteen] months

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	116	29.2	29.2	55	25.2	25.2
Selected	281	70.8	70.8	163	74.8	74.8

Q37_9. Refused. Other than the Quitline or medications, what other kinds of assistance did you use to help quit over the past [seven or thirteen] months

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	394	99.2	99.2	217	99.5	99.5
Selected	3	0.8	0.8	1	0.5	0.5

Q38a. The people at Quitline listened carefully to what I said.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	7	1.8	1.8	7	3.2	3.3
Disagree	23	5.8	5.9	11	5.0	5.1
Agree	161	40.6	41.2	79	36.2	36.7
Strongly agree	200	50.4	51.2	118	54.1	54.9
Don't know/Not sure	3	0.8	0.0	3	1.4	0.0
Refused	3	0.8	0.0	0	0.0	0.0

Q38b. The people at Quitline cared about whether my quit attempt was successful.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	11	2.8	2.8	6	2.8	2.8
Disagree	30	7.6	7.8	21	9.6	9.9
Agree	166	41.8	43.0	80	36.7	37.7
Strongly agree	179	45.1	46.4	105	48.2	49.5
Don't know/Not sure	7	1.8	0.0	5	2.3	0.0
Refused	4	1.0	0.0	1	0.5	0.0

Q38c. Using Quitline was inconvenient for me.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	111	28.0	28.7	65	29.8	31.1
Disagree	189	47.6	48.8	104	47.7	49.8
Agree	64	16.1	16.5	29	13.3	13.9
Strongly agree	23	5.8	5.9	11	5.0	5.3
Don't know/Not sure	4	1.0	0.0	3	1.4	0.0
Refused	6	1.5	0.0	6	2.8	0.0

Q38d. The people at Quitline were helpful.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	13	3.3	3.3	9	4.1	4.2
Disagree	26	6.5	6.7	15	6.9	7.0
Agree	167	42.1	42.8	77	35.3	36.0
Strongly agree	184	46.3	47.2	113	51.8	52.8
Don't know/Not sure	4	1.0	0.0	2	0.9	0.0
Refused	3	0.8	0.0	2	0.9	0.0

Q39a. I feel better prepared for my next quit attempt because I used Quitline.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	13	4.4	4.6	10	6.3	6.5
Disagree	37	12.5	13.0	18	11.3	11.6
Agree	148	49.8	51.9	77	48.4	49.7
Strongly agree	87	29.3	30.5	50	31.4	32.3
Don't know/Not sure	6	2.0	0.0	1	0.6	0.0
Refused	6	2.0	0.0	3	1.9	0.0

Q39b. Calling Quitline did not make it easier for me to quit using tobacco products.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	56	18.9	19.8	35	22.0	23.0
Disagree	141	47.5	49.8	63	39.6	41.4
Agree	62	20.9	21.9	38	23.9	25.0
Strongly agree	24	8.1	8.5	16	10.1	10.5
Don't know/Not sure	9	3.0	0.0	5	3.1	0.0
Refused	5	1.7	0.0	2	1.3	0.0

Q39c. The Quitline services were good, I just wasn't ready to quit.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	20	6.7	7.2	11	6.9	7.3
Disagree	54	18.2	19.6	29	18.2	19.2
Agree	111	37.4	40.2	75	47.2	49.7
Strongly agree	91	30.6	33.0	36	22.6	23.8
Don't know/Not sure	11	3.7	0.0	4	2.5	0.0
Refused	10	3.4	0.0	4	2.5	0.0

Q39d. No matter how hard I try, I just can't quit using tobacco products.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	25	8.4	8.7	11	6.9	7.2
Disagree	87	29.3	30.4	43	27.0	28.3
Agree	111	37.4	38.8	70	44.0	46.1
Strongly agree	63	21.2	22.0	28	17.6	18.4
Don't know/Not sure	5	1.7	0.0	3	1.9	0.0
Refused	6	2.0	0.0	4	2.5	0.0

Q39e. I am going to keep trying to quit using tobacco products.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	1	0.3	0.3	2	1.3	1.3
Disagree	8	2.7	2.8	7	4.4	4.5
Agree	137	46.1	47.2	72	45.3	46.8
Strongly agree	144	48.5	49.7	73	45.9	47.4
Don't know/Not sure	3	1.0	0.0	2	1.3	0.0
Refused	4	1.3	0.0	3	1.9	0.0

Q39f. By this time next year, I will no longer be using tobacco products.

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Strongly disagree	2	0.7	0.8	6	3.8	4.2
Disagree	18	6.1	6.9	18	11.3	12.6
Agree	150	50.5	57.7	68	42.8	47.6
Strongly agree	90	30.3	34.6	51	32.1	35.7
Don't know/Not sure	27	9.1	0.0	9	5.7	0.0
Refused	10	3.4	0.0	7	4.4	0.0

Q40. Have you visited the Quitline Iowa website at quitnow.net/iowa?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	75	18.9	19.1	42	19.3	19.4
No	318	80.1	80.9	174	79.8	80.6
Don't know	2	0.5	0.0	1	0.5	0.0
Refused	2	0.5	0.0	1	0.5	0.0

Q41. On a scale of 1 to 5, 1 being not at all helpful and 5 being extremely helpful, how helpful was the information on the Quitline Iowa website?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
1	4	5.3	5.7	3	7.1	7.7
2	4	5.3	5.7	2	4.8	5.1
3	9	12.0	12.9	8	19.0	20.5
4	23	30.7	32.9	12	28.6	30.8
5	30	40.0	42.9	14	33.3	35.9
Don't know	4	5.3	0.0	2	4.8	0.0
Refused	1	1.3	0.0	1	2.4	0.0

Q42a. What was your sex at birth?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Male	161	40.6	40.6	78	35.8	36.1
Female	236	59.4	59.4	138	63.3	63.9
Refused	0	0.0	0.0	2	0.9	0.0

Q42b. Are you currently pregnant?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	0	0.0	0.0	1	0.7	0.7
No	236	100.0	100.0	137	99.3	99.3

Q42c. Were you pregnant at the time of your intake into Quitline [seven or thirteen] months ago?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	0	0.0	0.0	1	0.7	0.7
No	236	100.0	100.0	137	99.3	99.3

Q42. What is the highest level of education you have completed?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Less than high school graduate	35	8.8	8.9	29	13.3	13.3
Grade 12 or GED (high school graduate)	138	34.8	35.0	66	30.3	30.3
One or more years of college but no degree	91	22.9	23.1	53	24.3	24.3
Associate's or other 2-year degree	73	18.4	18.5	40	18.3	18.3
College graduate with a 4 year degree such as a BA or BS	38	9.6	9.6	21	9.6	9.6
Graduate degree completed (MA, MS, MFA, MBA, MD, PhD, EdD)	19	4.8	4.8	9	4.1	4.1
Refused	3	0.8	0.0	0	0.0	0.0

Q43. Is your annual gross household income before taxes from all sources

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Less than \$10,000	65	16.4	18.4	37	17.0	18.8
\$10,000 to less than \$15,000	60	15.1	16.9	28	12.8	14.2
\$15,000 to less than \$20,000	44	11.1	12.4	30	13.8	15.2
\$20,000 to less than \$25,000	30	7.6	8.5	23	10.6	11.7
\$25,000 to less than \$35,000	51	12.8	14.4	32	14.7	16.2
\$35,000 to less than \$50,000	35	8.8	9.9	27	12.4	13.7
\$50,000 to less than \$75,000	45	11.3	12.7	9	4.1	4.6
\$75,000 to less than \$100,000	16	4.0	4.5	6	2.8	3.0
\$100,000 or more	8	2.0	2.3	5	2.3	2.5
Don't Know	16	4.0	0.0	9	4.1	0.0
Prefer Not To Answer	27	6.8	0.0	12	5.5	0.0

Q44a. Have you ever served on active duty in the United States Armed Forces, either in the military or in a National Guard or military reserve unit?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	31	7.8	7.8	13	6.0	6.0
No	364	91.7	92.2	205	94.0	94.0
Prefer Not To Answer	2	0.5	0.0	0	0.0	0.0

Q44b. Which of the following best represents how you think of yourself? Would you say

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Straight	363	91.4	94.5	202	92.7	95.3
Lesbian or Gay	6	1.5	1.6	5	2.3	2.4
Bisexual	12	3.0	3.1	4	1.8	1.9
Transgender	1	0.3	0.3	0	0.0	0.0
In some other way	2	0.5	0.5	1	0.5	0.5
Don't know	1	0.3	0.0	2	0.9	0.0
Prefer Not To Answer	12	3.0	0.0	4	1.8	0.0

Q45. What is the primary source of your health care coverage? Is it

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
A plan purchased through an employer or union (includes plans purchased through a spouse or parent's employer)	81	20.4	20.8	40	18.3	18.9
A plan that you or another family member buys on your own (includes Healthcare exchanges or Obamacare)	18	4.5	4.6	7	3.2	3.3
Medicare	194	48.9	49.9	110	50.5	51.9
Medicaid or other state program	64	16.1	16.5	40	18.3	18.9
TRICARE (formerly CHAMPUS), VA, or Military	6	1.5	1.5	6	2.8	2.8
Alaska Native, Indian Health Service, Tribal Health Services	1	0.3	0.3	0	0.0	0.0
Some other source	9	2.3	2.3	2	0.9	0.9
None (no coverage)	16	4.0	4.1	7	3.2	3.3
Don't know/Not sure	4	1.0	0.0	4	1.8	0.0
Refused	4	1.0	0.0	2	0.9	0.0

Q46. Does your current insurance plan cover nicotine replacement therapy?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	109	29.2	29.5	74	36.1	36.1
No	117	31.4	31.6	58	28.3	28.3
Don't know	144	38.6	38.9	73	35.6	35.6
Refused	3	0.8	0.0	0	0.0	0.0

Q47. Do you know how to receive nicotine replacement therapy?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	186	46.9	47.4	110	50.5	50.7
No	186	46.9	47.4	102	46.8	47.0
Don't know	20	5.0	5.1	5	2.3	2.3
Refused	5	1.3	0.0	1	0.5	0.0

Q48. Overall, how satisfied are you with your insurance's coverage of nicotine replacement therapy? Would you say you are

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not at all satisfied	77	34.1	38.5	41	31.1	33.3
Somewhat satisfied	37	16.4	18.5	22	16.7	17.9
Mostly satisfied	32	14.2	16.0	21	15.9	17.1
Very satisfied	54	23.9	27.0	39	29.5	31.7
Don't know	22	9.7	0.0	7	5.3	0.0
Refused	4	1.8	0.0	2	1.5	0.0

Q49. What is your current employment status?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Full-time	117	29.5	29.9	49	22.5	23.1
Part-time	36	9.1	9.2	15	6.9	7.1
Homemaker/Stay-at-home parent	3	0.8	0.8	6	2.8	2.8
Disabled (on Disability) or on Medical Leave	114	28.7	29.2	61	28.0	28.8
Unemployed, not seeking work	2	0.5	0.5	4	1.8	1.9
Unemployed/Laid-off, seeking work	16	4.0	4.1	11	5.0	5.2
Student	6	1.5	1.5	3	1.4	1.4
Retired	97	24.4	24.8	63	28.9	29.7
Refused	6	1.5	0.0	6	2.8	0.0

Q50_11. Lost job. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	380	95.7	95.7	208	95.4	95.4
Selected	17	4.3	4.3	10	4.6	4.6

Q50_12. Furloughed. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	385	97.0	97.0	216	99.1	99.1
Selected	12	3.0	3.0	2	0.9	0.9

Q50_13. Reduced hours/workload. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	354	89.2	89.2	207	95.0	95.0
Selected	43	10.8	10.8	11	5.0	5.0

Q50_14. Teleworking/Working-from-home. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	388	97.7	97.7	213	97.7	97.7
Selected	9	2.3	2.3	5	2.3	2.3

Q50_15. Increased hours/workload. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	389	98.0	98.0	211	96.8	96.8
Selected	8	2.0	2.0	7	3.2	3.2

Q50_16. No change. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	132	33.2	33.2	74	33.9	33.9
Selected	265	66.8	66.8	144	66.1	66.1

Q50_17. Retired. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	355	89.4	89.4	188	86.2	86.2
Selected	42	10.6	10.6	30	13.8	13.8

Q50_18. Other [Specify]. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	380	95.7	95.7	202	92.7	92.7
Selected	17	4.3	4.3	16	7.3	7.3

Q50_77. Don't know. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	394	99.2	99.2	217	99.5	99.5
Selected	3	0.8	0.8	1	0.5	0.5

Q50_99. Refused. How, if at all, has COVID-19 affected your employment?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Not selected	390	98.2	98.2	214	98.2	98.2
Selected	7	1.8	1.8	4	1.8	1.8

Q51. Could we contact you by phone again in 6 months to ask about your experience with Quitline Iowa?

	7-month cohort			13-month cohort		
	Frequency	Percent	Valid Percent	Frequency	Percent	Valid Percent
Yes	337	84.9	84.9	0	0.0	0.0
No	60	15.1	15.1	0	0.0	0.0

Appendix B: Statistical Narrative

Section 1: Demographic Characteristics

Demographic Characteristics

Some differences between respondents and non-respondents were observed, however the effect size for all differences was very small. Chi-square tests indicated that respondents were less likely to be Hispanic ($\chi^2 (1, n = 2,267) = 5.0, p = .025, \phi = -0.02$), more likely to have a college or university degree and less likely to have a high school degree or GED ($\chi^2 (1, n = 2,261) = 16.28, p = .001, \phi = -0.05$), more likely to be insured ($\chi^2 (1, n = 2,283) = 8.48, p = .004, \phi = 0.08$), less likely to have Medicaid ($\chi^2 (1, n = 2,289) = 5.23, p = .022, \phi = 0.06$), more likely to have Medicare ($\chi^2 (1, n = 2,289) = 20.64, p < .001, \phi = -0.05$), and less likely to be currently employed ($\chi^2 (1, n = 2,289) = 5.13, p = .024, \phi = 0.09$) than non-respondents. Respondents were of a similar age (54.3) as non-respondents (52.6).

Section 2: Tobacco Use at Follow-Up

Current Cigarette Use at Follow-Up

Approximately four in five respondents in the 7-month group and nine in ten respondents in the 13-month group who said they had used tobacco in the past 30 days said they had smoked every day in the last 30 days (Figure 2). This difference is statistically significant ($\chi^2 (2, n = 414) = 7.2, p = .027, \text{Cramer's } V = 0.13$). Respondents in the 7-month follow-up group reported a lower number of days smoked in the past 30 days ($M = 26.8, SD = 7.6$) than respondents in the 13-month follow-up group ($M = 28.4, SD = 5.6; t(367.5) = -2.38, p = .018, \text{eta squared} = 0.02$)

Among respondents who said that they had not quit smoking cigarettes, there was a statistically significant decrease in the number of cigarettes smoked per day at follow-up compared to the number at intake for both the 7-month and 13-month follow-up groups. In the 7-month group, the average number of cigarettes smoked per day decreased by more than six cigarettes - from almost a pack at intake ($M = 18.3, SD = 9.1$) to fewer than 12 at follow-up ($M = 11.9, SD = 8.2; t(264) = 12.6, p < .001, \text{eta squared} = 0.38$). In the 13-month group, the average number of cigarettes smoked per day decreased by more than five cigarettes - from almost a pack at intake ($M = 18.9, SD = 10.4$) to fewer than 14 at follow-up ($M = 13.7, SD = 8.3; t(142) = 6.1, p < .001, \text{eta squared} = 0.21$). The effect sizes for these differences were medium to large.

From intake to follow-up (among respondents for whom the data were available), large and significant differences were reported in the length of time respondents in the 7-month follow-up group waited to have their first cigarette of the day ($\chi^2 (9, n = 235) = 101.7, p < .001, \text{Spearman Correlation} = 0.44$).

From intake to follow-up (among respondents for whom the data were available), large and significant differences were also reported in the length of time respondents in the 13-month follow-up group waited to have their first cigarette of the day ($\chi^2 (9, n = 131) = 59.0, p < .001$, *Spearman Correlation* = 0.55).

Subgroup Differences in Tobacco Use

Respondents who had not used tobacco in the past 30 days were less likely to be on Medicare than those who used tobacco in the past 30 days ($\chi^2 (1, n = 613) = 4.12, p = .042$).

Male respondents ($M = 14.6, SD = 8.8$) smoked more cigarettes per day than female respondents ($M = 12.3, SD = 7.2; t (397) = 2.8, p = .006$, eta squared = 0.02) and Black respondents ($M = 8.3, SD = 6.4$) smoked fewer cigarettes per day than non-Black respondents ($M = 13.5, SD = 7.9; t (33.7) = 4.1, p < .001$, eta squared = 0.33).

Section 3: E-Cigarette Use

Among all respondents who reported any tobacco use, 10% said they had used e-cigarettes in the past 30 days. E-cigarette users were younger ($M = 44.2, SD = 15.7$) than non-e-cigarette users ($M = 56.0, SD = 13.8; t(67.88) = -5.5, p < .001$, eta squared = 0.31). No significant difference in e-cigarette use was observed for gender, race, Hispanic ethnicity, insurance status, or income. E-cigarette users were more likely than non-e-cigarette users to be employed (58.5% vs 26.9%) ($\chi^2 (1, n = 450) = 15.5, p < .001$, *Spearman Correlation* = -.2) and more likely to have a graduate degree (13.6% vs 3.6%) ($\chi^2 (5, n = 612) = 15.7, p = .008$, *Spearman Correlation* = -.07) although the effect size was small.

Section 4: Satisfaction and Recommendation

Satisfaction

Follow-up respondents who had quit tobacco in the past 30 days and those who had not quit differed significantly in their levels of satisfaction with Quitline services ($\chi^2 (3, n = 599) = 25.4, p < .001$, *Spearman Correlation* = .2) (Figure 9). The effect size for this difference was medium to large. Respondents who had not used tobacco in the past 30 days were significantly more likely to report that they were *very satisfied* and less likely to report that they were *somewhat* or *not at all satisfied* than respondents who had not quit.

Recommendation

Follow-up respondents who had not quit tobacco in the past 30 days were more likely to report that they *probably would recommend* Quitline Iowa and less likely to have *already recommended* Quitline to a friend and *definitely would recommend* Quitline Iowa than those who had quit (Figure 11). A Chi-square test for independence indicated a significant association

between smoking status and recommendation of Quitline Iowa ($\chi^2 (4, n = 606) = 19.3, p = .001$, *Spearman Correlation* = .18).

Section 5: Tobacco Cessation

Cessation Attempts

Respondents who quit ($M = 2.1, SD = 2.4$) made fewer quit attempts than respondents who did not quit smoking ($M = 3.5, SD = 4.1; t(399.7) = 4.5, p < .001, \eta^2 = 0.05$).

Barriers and Enablers to Quitting

Respondents in the 7-month follow-up group were less likely than respondents in the 13-month follow-up group to report that they think *non-users* would be enablers to quitting ($\chi^2 (1, n = 118) = 4.5, p = .03, \phi = 0.19$). There were no other significant differences across follow-up groups.

Use of Nicotine Replacement Therapy

Respondents who had quit smoking were more likely to report using medication (85%) compared to those who had not quit smoking (77%) ($\chi^2 (1, n = 615) = 3.8, p = .05, \phi = 0.08$), although the effect size for this difference was small.

Significant differences in the types of medications used were observed among respondents with Medicare and other forms of insurance. Respondents on Medicare reported higher rates of nicotine patch use ($\chi^2 (1, n = 601) = 4.3, p = .039, \phi = .08$) and nicotine gum ($\chi^2 (1, n = 601) = 9.7, p = .002, \phi = -.13$) as compared to respondents without Medicare. Respondents with “other” forms of insurance (i.e. private or employer purchased insurance) reported significantly lower rates of nicotine patch use ($\chi^2 (3, n = 916) = 36.3, p < .001, \phi = .2$) and nicotine gum use ($\chi^2 (3, n = 916) = 36.3, p < .001, \phi = .2$) than respondents without those forms of insurance.

Section 6: Additional Findings

Website Use

A Chi-square test for independence indicated no significant association between having smoked in the past 30 days and ever visiting the Quitline website. No significant differences in having reported visiting the Quitline website were found when comparing follow-up groups, use of medication, insurance, and gender. Respondents who reported visiting the Quitline Iowa website were significantly more likely to have a college degree or higher than respondents who did not report visiting the Quitline Iowa website ($\chi^2 (5, n = 606) = 35.2, p < .001, \textit{Spearman Correlation} = -.23$). Respondents who used the Quitline Iowa website were significantly younger ($M = 49.1, SD = 14.3$) than those who did not visit the website ($M = 56.2, SD = 14.1; t(607) = -4.9, p < .001, \eta^2 = 0.04$), however the effect size for this difference was small.

Respondents who had quit rated the website higher ($M = 4.3$, $SD = .8$) than respondents who were still smoking ($M = 3.8$, $SD = 1.3$; $t(87.3) = -2.5$, $p = .013$, $\eta^2 = 0.14$) (Figure 19). No differences in helpfulness ratings were found when comparing follow-up groups, gender, insurance, medication use, education, or age.

COVID-19 Related Questions

Most respondents reported no change in their employment due to COVID-19. A significantly larger proportion of respondents in the 7-month follow-up group reported having reduced hours/workload (11% vs 5%) ($\chi^2(1, n = 615) = 5.9$, $p = .015$, $\phi = -.1$) than respondents in the 13-month group. No other differences were statistically significant.

Section 7: Longitudinal Follow-Up

A one-way repeated measures ANOVA was conducted to compare the number of cigarettes smoked per day at intake, 7-month follow-up, and 13-month follow-up among all respondents (Figure 23). There was a significant difference between intake (18.1) and both the 7-month follow-up (9.3, a reduction of 9 cigarettes per day) and 13-month follow-up (10.3, a reduction of 8 cigarettes per day) (Wilks' Lambda = 0.6, $F(2, 185) = 68.1$, $p < .001$, multivariate partial $\eta^2 = .42$). The effect size of this difference was very large. The difference in cigarettes per day between 7-month and 13-month was not statistically significant.

A one-way repeated measures ANOVA was conducted to compare the number of cigarettes smoked per day at intake, 7-month follow-up, and 13-month follow-up among smokers (Figure 23). There was a significant difference between intake (18.4 cigarettes per day) and both the 7-month follow-up (12.9, a reduction of 5.5 cigarettes per day) and 13-month follow-up (14.9, a reduction of 3.5 cigarettes per day) (Wilks' Lambda = 0.7, $F(2, 123) = 26.3$, $p < .001$, multivariate partial $\eta^2 = .30$). The effect size of this difference was very large. The difference in cigarettes per day between 7-month and 13-month was not statistically significant.

Appendix C: Purpose, Methodology, and Sampling

Purpose

This report presents findings for the fiscal year 2021 (FY21) of the Iowa Tobacco Quitline Evaluation conducted by the Center for Social and Behavioral Research (CSBR) at the University of Northern Iowa (UNI). The study was funded by the Iowa Department of Public Health (IDPH) Division of Tobacco Use Prevention and Control (TUPC). The purpose of this project is to evaluate Quitline Iowa, a service for state residents that provides telephone-based tobacco cessation counseling. Any Iowa residents with commercial insurance, Medicare, Medicaid Fee for Service, or without insurance who call Quitline Iowa are eligible to receive free tobacco cessation counseling. The primary goals of the Quitline evaluation are: 1) to assess tobacco quit rates among Quitline Iowa clients; 2) to assess client satisfaction; and 3) to assess program consistency.

Methodology and Sampling

The study participant samples were created monthly from the intake data, provided by National Jewish Health (Denver, CO) from July 2019 to November 2020. For most callers, counseling lasts about 2 months. Therefore, following up with callers 7 or 13 months after their first call helps ensure an approximate 6-month or 12-month period from intake to follow-up.

CSBR draws a random sample from the complete list of all Quitline callers who registered each month, to be called 7 months after intake. In order to be eligible for follow-up, callers must have been 18 years or older, have provided a telephone number, and have consented to participate in the follow-up study. At 7-month follow-up, respondents can consent to a second follow-up interview 13 months after intake (6 months after the 7-month follow-up call). These respondents become a part of the 13-month group. Those respondents are referred to as the “panel” or “panel respondents.”

CSBR aims to conduct between 75 and 100 interviews per month, with 75% of its cases at 7-month follow-up and 25% of its cases at 13-month follow-up. Due to the 7- or 13-month lags between intake and follow-up data collection, the intake data and corresponding follow-up data were collected during different time periods. The intake data that correspond to the follow-up data used in this report were collected from callers who first contacted Quitline Iowa between June 1, 2019 and November 30, 2020. The follow-up data used in this report were collected from July 1, 2020 through June 30, 2021. In order to achieve the target number of interviews, all intake cases were sampled for follow-up calls.

Where possible, missing information was replaced with the most recent demographic information that had been archived for those individuals during the last 18 months. There were 1,289 eligible respondents in FY21 and interviews were completed with 615 of those. All interviews were completed in English. The alpha level for statistical significance for the hypothesis testing in the analyses was set at .05 meaning that there is a 95% probability that any

differences found are a result of chance. The data were not weighted for any analyses. Among the completed follow-up interviews, 397 were completed 7 months after intake and 218 were completed 13 months after intake.

The follow-up questionnaire is available upon request.