802Quits: Tobacco and Nicotine Treatment

Report on Enrollment, Usage, and Outcomes for Vermont's Quitline

August 2025

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Effectiveness of 802Quits

802Quits is an evidence-based tobacco and nicotine treatment program accessible by phone, online, or text for Vermont residents wanting support in their quit journey.

802Quits services reach those who need treatment and are ready to make a quit attempt.

Between September 2023 and September 2024, 2,734 Vermont adults enrolled in 802Quits.

802Quits successfully served many populations that typically face barriers to treatment, including Medicaid members, those without health insurance, those with mental health conditions, and those with cognitive or mobility disabilities.

802Quits reaches a higher percentage of tobacco users in Vermont (1.3% – 2.5%, depending on the type of tobacco used at intake) than the national average for state quitlines (0.9%).

802Quits provides evidence-based nicotine and tobacco treatment.

64% of enrollees received evidence-based treatment services, including a counseling call or medication to support quitting.

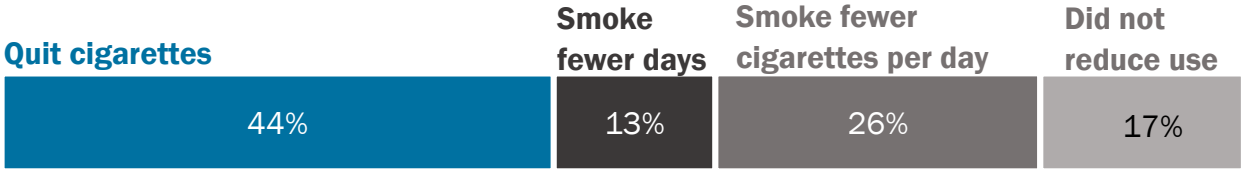
83% of 802Quits enrollees reported high levels of satisfaction with the services received.

802Quits services are cost-effective.

For every $1 spent on 802Quits, Vermont saves $5.59 - $6.00 in health care costs and productivity under the current cigarette tax rate.

802Quits services help people quit.

Overall, 43% of enrollees reported 30-day abstinence from conventional tobacco (cigarettes, cigars, pipe tobacco, smokeless tobacco, or other tobacco such as hookah). More than 80% of enrollees who smoked cigarettes quit or reduced their tobacco use after using 802Quits services.



About This Report

Background

802Quits is an evidence-based tobacco and nicotine treatment program accessible by phone, online, or text for Vermont residents. The state's quitline, implemented by the Vermont Department of Health, follows all Centers for Disease Control and Prevention and North American Quitline Consortium protocols, providing support including over-the-phone cessation counseling with a quitline coach, printed materials, text messaging, access to online cessation information, quit progress tracking tools, and peer support, depending on enrollment type. Nicotine replacement therapy, or NRT, is the most commonly used family of quit smoking medication, including patches, gum, and lozenges, and is provided to enrollees free of charge.

The quitline also provides tailored protocols and incentives for priority populations, including Medicaid members, uninsured adults, adults who use menthol products, adults with mental health conditions, pregnant and post-partum adults, and members of the Abenaki or other American Indian or Alaska Native tribes.

802Quits is available free of charge to adult enrollees 18 and older, with services from My Life, My Quit available for youth aged 14 – 17 years. Consistent funding is a key consideration for the effectiveness of state quitlines to ensure this evidence-based service is available for all.

Purpose

This report was commissioned by the Vermont Department of Health and provides a detailed summary of 802Quits nicotine and tobacco treatment services in Vermont, including enrollment, usage, and outcomes. The results may be used to identify successes, opportunities for growth, and opportunities for program improvement.

This report uses data from several sources to answer the following questions:

1. How many people does 802Quits serve?
2. How many referrals does 802Quits receive?
3. Who is using 802Quits?
4. What 802Quits services did enrollees use?
5. What were the program quit outcomes?
6. To what extent were enrollees satisfied with 802Quits?
7. What is the cost benefit of the 802Quits program?

Overview of Methods

Data in this report come from several data sources: 802Quits referral, registration, and utilization data from the contracted quitline vendor, National Jewish Health. The outcomes data is from a seven-month follow-up survey designed and conducted by Professional Data Analysts, the contracted external evaluator for the Vermont Tobacco Control Program. Data included in this report were from:

1. Referrals opened between 9/16/2023 – 9/15/2024.
2. Enrollment data from adult enrollees who completed registration between 9/16/2023 – 9/15/2024.
3. Utilization data up to 210 days after registration, including counseling calls, nicotine replacement therapy, web usage, and text messages.
4. Seven-month follow-up survey data for adult enrollees who completed registration between 9/16/2023 – 9/15/2024 and consented to follow-up. Surveys were conducted between 4/28/2024 – 5/06/2025. Analyses with follow-up surveys were weighted to account for nonresponse.

Data acquisition, analysis, and reporting were conducted by Professional Data Analysts. Full data, survey, and analysis methods can be found in Appendix A.

Enrollment in 802Quits Services

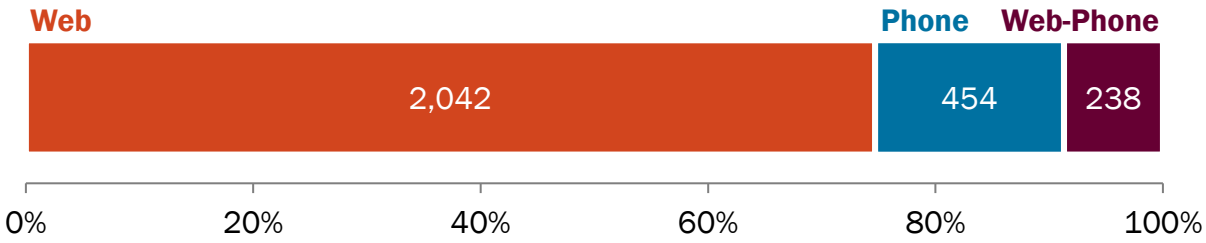
Section Highlights

- 802Quits engages well with many populations that have high tobacco use and lack accessibility to other treatment options (e.g., Medicaid members, uninsured adults, and adults with chronic conditions or disabilities).
- 802Quits reaches a higher percentage of tobacco users in Vermont than the national average for state quitlines.
- Compared to tobacco users in Vermont, 802Quits enrollees tended to be younger and have higher levels of education. There were also higher percentages of uninsured adults and women enrolled in 802Quits compared to tobacco users statewide.

How many people does 802Quits serve?

Between 9/16/2023 and 9/15/2024, 2,734 unique enrollees registered for 802Quits services. The majority of registrations were for the Web program.

Almost 75% of 802Quits enrollees registered for the Web program.



How many referrals does 802Quits receive?

Health care providers can provide referrals to their patients for cessation resources from 802Quits through the phone, online, or via fax. Referrals to 802Quits can come from a variety of health care professionals, including doctors, dentists, and pharmacists.

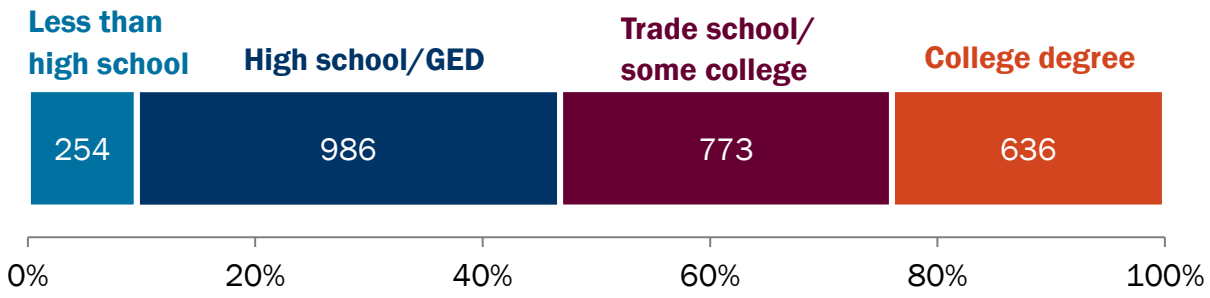
Between 9/16/2023 and 9/15/2024, there were 129 referrals for unique individuals from health care providers to 802Quits, resulting in 32 registrations (25% of referrals enrolled). Referrals were evenly split between fax referrals (63 referrals, 49%) and provider web referrals (66 referrals, 51%).

Who is using 802Quits?

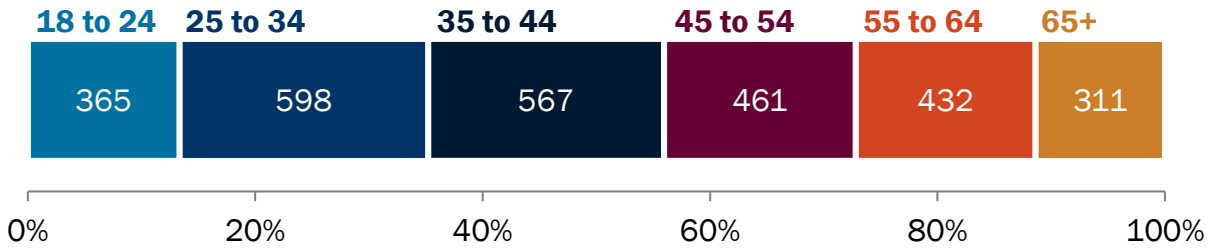
Upon intake, enrollees voluntarily report sociodemographic characteristics, including age, gender, educational attainment, health status, and health insurance status. They also report their geographic location and types of tobacco used, among other tobacco use indicators.

Sociodemographic characteristics

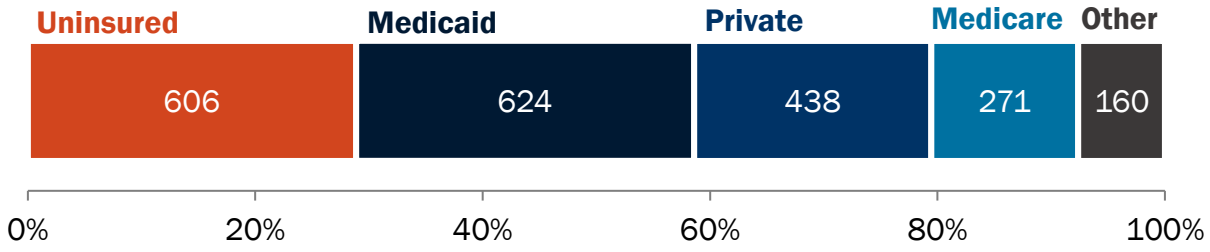
Almost all enrollees had a high school education or higher.



Over half of 802Quits enrollees were under the age of 45.



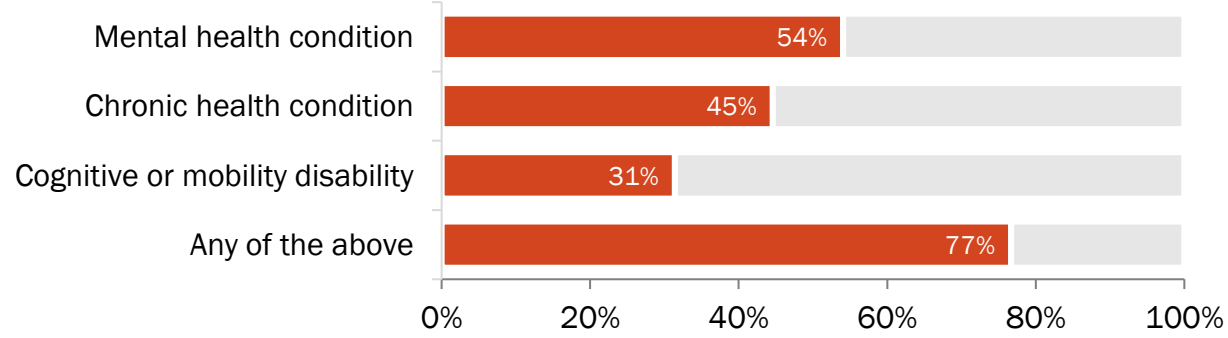
For health insurance status, almost three out of every four 802Quits enrollees were insured by Medicaid or Medicare or were uninsured.



Note: "Other" includes Children's Health Insurance Program, military, Indian Health Service, state-sponsored, and other government programs

In the one-year time period used for this report, 36 enrollees reported they were pregnant at time of intake, representing 1.3% of all enrollees. Enrollment from populations with other self-reported health conditions, including mental health conditions, chronic health conditions, and cognitive or mobility disabilities, are shown below. See Appendix A for full definitions of each of these categories.

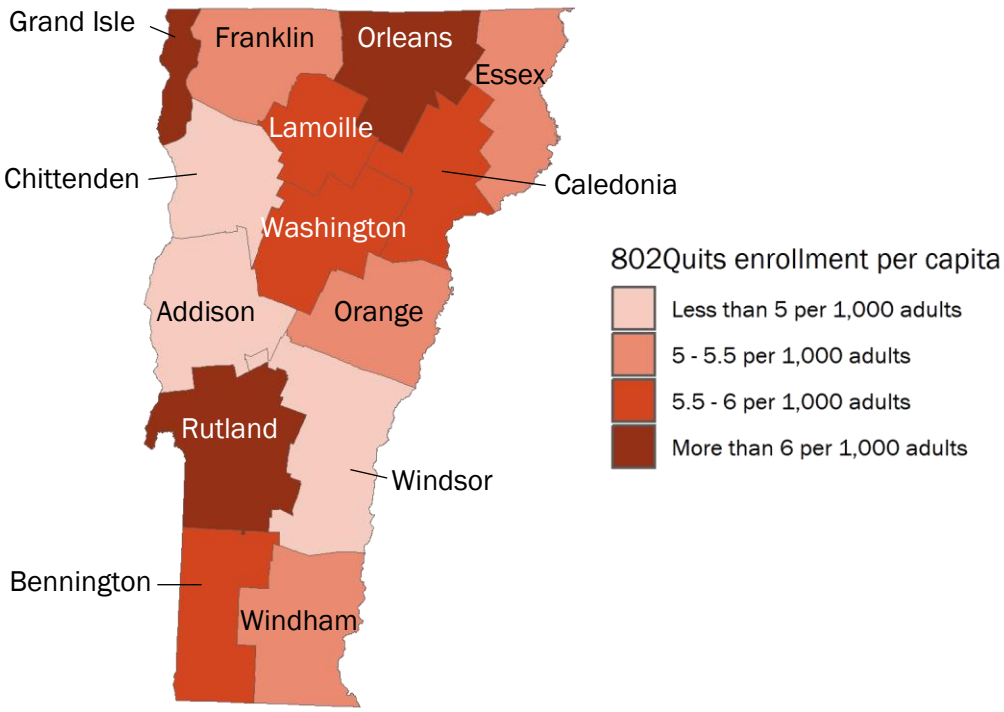
Over three-quarters of 802Quits enrollees had a physical or mental health condition or a disability.



Geographic distribution

The average enrollment per capita in 802Quits services in Vermont was 5.1 enrollments per 1,000 adults aged 18 or older, using 2023 Census population estimates. Orleans (6.1 enrollments per 1,000 adults), Grand Isle (6.3 enrollments per 1,000 adults), and Rutland (6.4 enrollments per 1,000 adults) counties had the highest 802Quits enrollment per capita. Windsor (4.5 enrollments per 1,000 adults), Chittenden (4.3 enrollments per 1,000 adults), and Addison (4.1 enrollments per 1,000 adults) had the lowest enrollment per capita in the state. The map below shows the geographic distribution of enrollments. To compare to smoking rates using the same geographic distribution, visit Vermont Department of Health Tobacco Data.

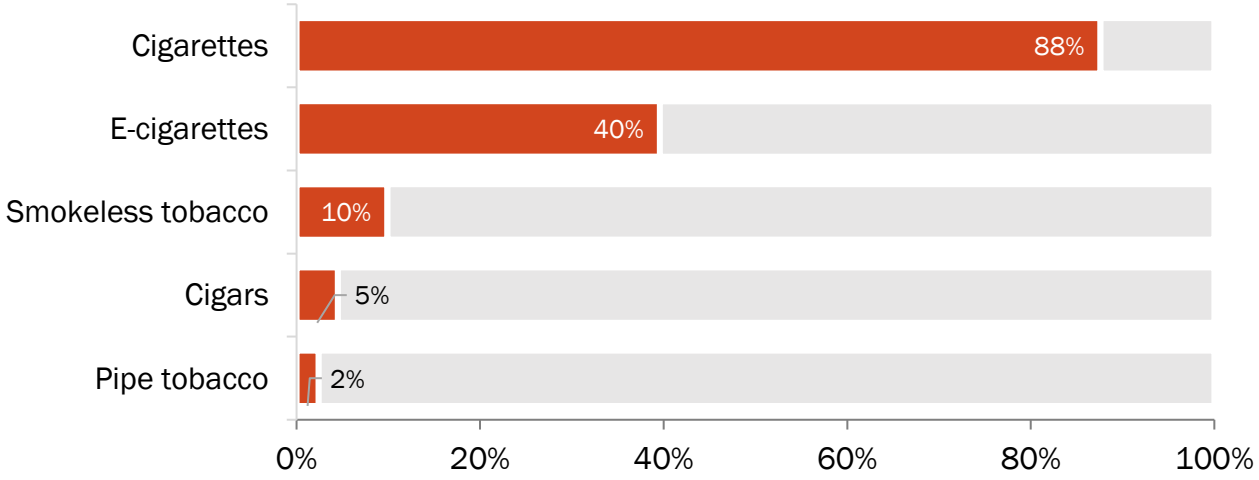
802Quits enrollment per capita varied across the state.



Tobacco use at intake

Enrollees were asked what kinds of tobacco and nicotine products they used at intake. The majority smoked cigarettes. While 40% of enrollees reported e-cigarette use, only 3% reported exclusive e-cigarette use, indicating significant dual usage of tobacco products among those who used e-cigarettes. Nicotine pouches were not specifically asked about during the intake process, so that tobacco product type is not detailed here.

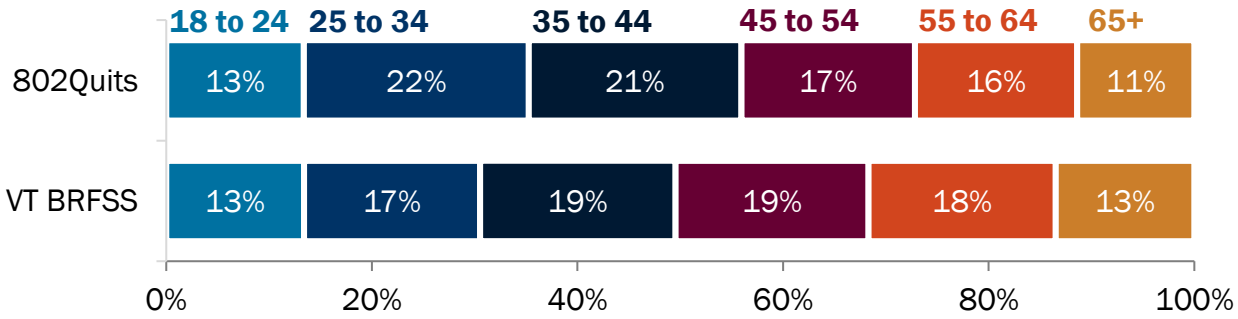
Cigarettes were the most commonly used tobacco and nicotine product among 802Quits enrollees.



How do the characteristics of 802Quits enrollees compare to Vermont tobacco users overall?

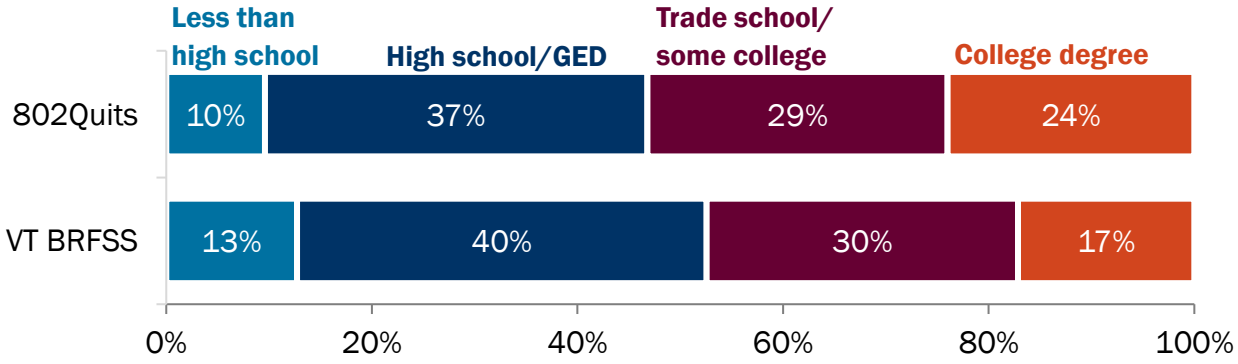
To understand how 802Quits enrollees compared to tobacco users as a whole in Vermont, the characteristics of enrollees were compared to data from the 2023 Vermont Behavioral Risk Factor Surveillance System, BRFSS, for adults who use tobacco.[1,2]

The age distribution of 802Quits enrollees was slightly younger compared to Vermont adults who use tobacco overall.



Note: p<0.001, Cramer's V = 0.02

802Quits enrollees had higher levels of education than Vermont adults who use tobacco overall.

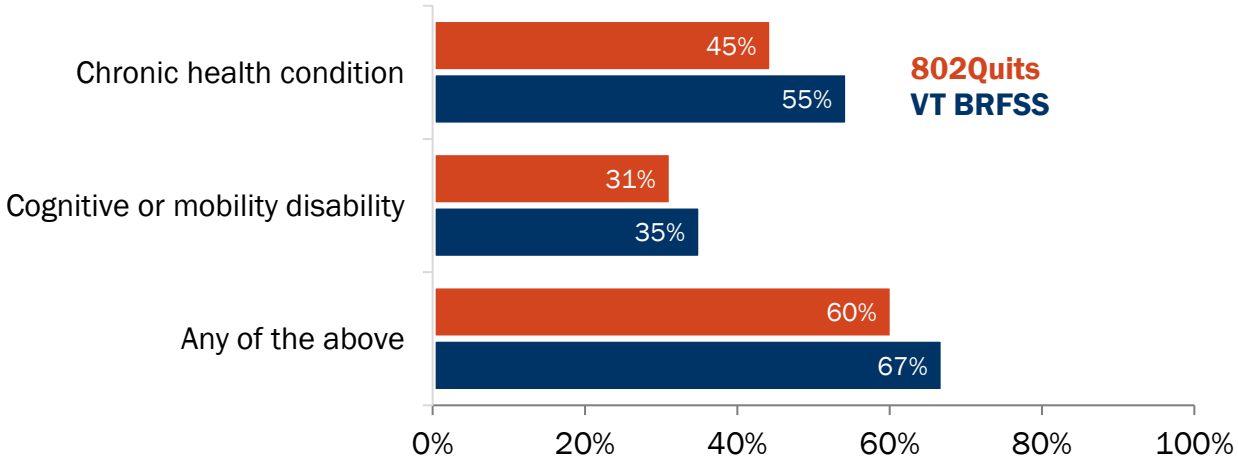


Note: p<0.001, Cramer's V = 0.03

[1] Vermont Department of Health, Behavioral Risk Factor Surveillance System: 2023 Report. https://www.healthvermont.gov/sites/default/files/document/hsi-brfss-2023-datasummary.pdf

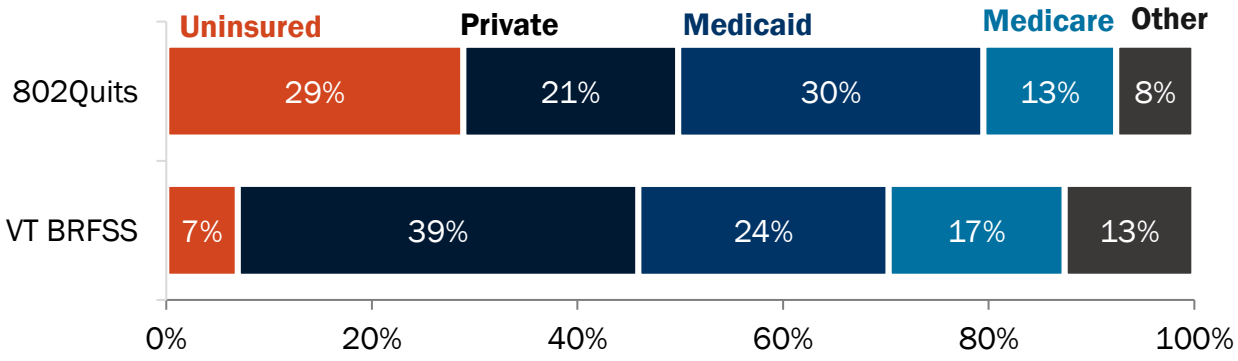
[2] Differences between 802Quits enrollees and tobacco users in Vermont were assessed using Chi-squared tests of independence, using p<0.05 as a significance level.

There were lower percentages of 802Quits enrollees with a cognitive or mobility disability and chronic health conditions compared to Vermont adults who use tobacco overall.



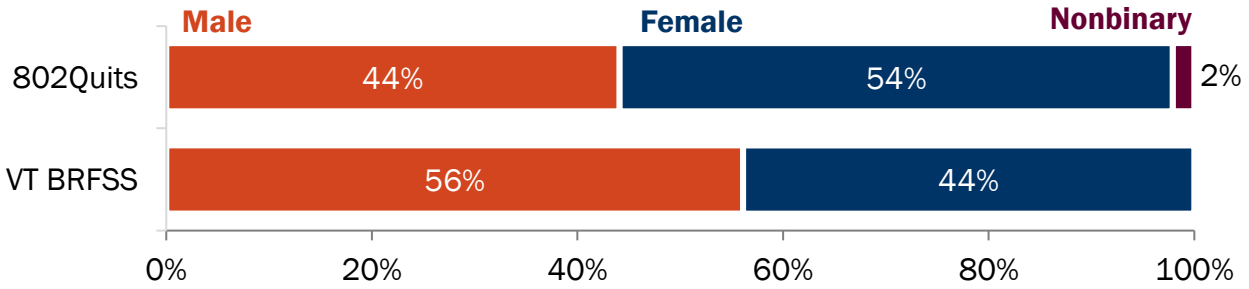
Note: Chronic health conditions include asthma, cancer, chronic obstructive pulmonary disease, diabetes, heart attack, heart disease, high blood pressure, seizures, or stroke
Chronic health condition, p<0.001, Cramer's V=0.04
Cognitive or mobility disability, p<0.01, Cramer's V=0.01
Any of the above, p<0.001, Cramer's V=0.02

A higher percentage of 802Quits enrollees did not have health insurance compared to Vermont adults who use tobacco overall.



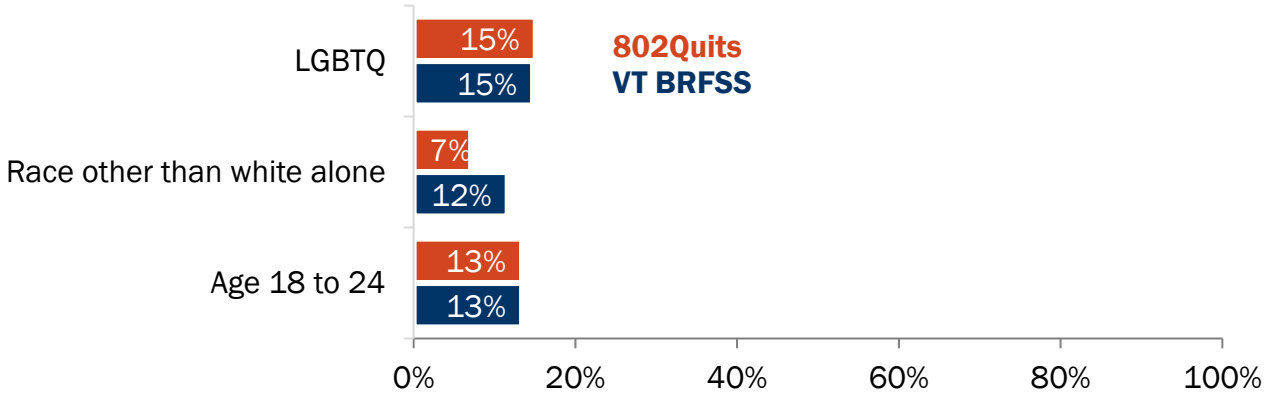
Note: "Other" includes Children's Health Insurance Program, military, Indian Health Service, state-sponsored, and other government programs
p<0.001, Cramer's V = 0.014

More 802Quits enrollees were female compared to Vermont adults who use tobacco overall.



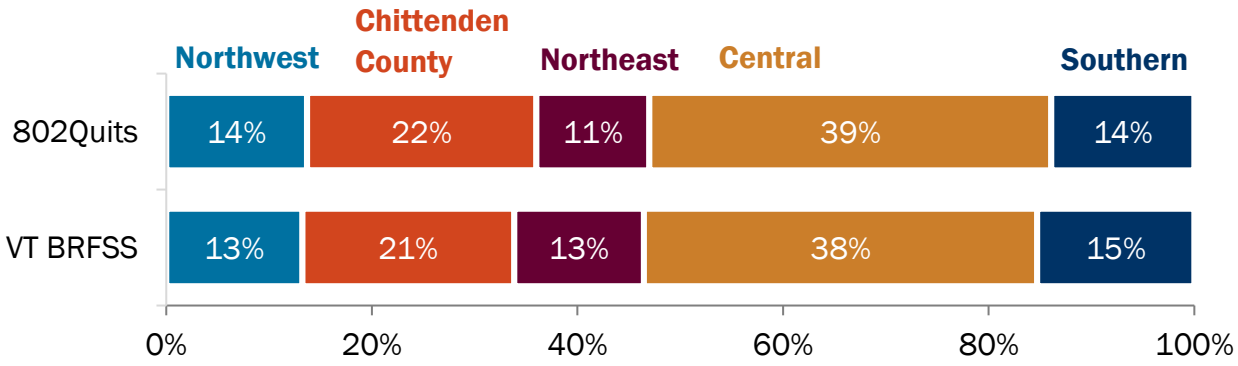
Note: VT BRFSS data present distribution of binary sex, not gender.
p<0.001, Cramer's V=0.04

Priority populations of young adults and LGBTQ adults were well represented in 802Quits. There were lower percentages of adults who were a race other than white alone in 802Quits compared to tobacco users in Vermont overall.



Note: LGBTQ, p=0.67
Race, p<0.001, Cramer's V=0.40
Age 18-24, p=0.14

There was a lower percentage of 802Quits enrollees from the Northeast compared to that of Vermont adults who use tobacco overall.*



* From 2023 Vermont BRFSS cigarette smoking rate and 2023 Census population estimates.
Note: Central includes Addison, Washington, Orange, Rutland, and Windsor counties; Northeast includes Essex, Orleans, and Caledonia counties; Northwest includes Grand Isle, Franklin, and Lamoille counties; Southern includes Bennington and Windham counties
p-value<0.01, Cramer's V=0.01

Use of 802Quits Services

Section Highlights

- A majority of enrollees received evidence-based treatment, which is having received at least one telephone counseling call or having been sent NRT, from 802Quits (64%).
- NRT was commonly received by 802Quits enrollees, and 30% received multiple forms of NRT, known as combo NRT.
- Of all enrollees using the phone program, 12% received incentives for completing counseling calls.

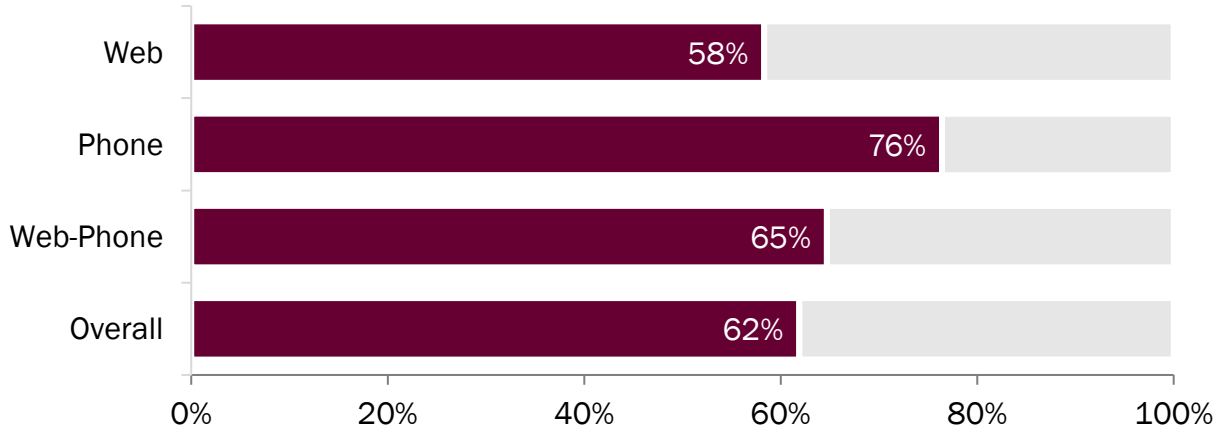
What services did 802Quits enrollees use?

Enrollees in 802Quits can receive several types of treatment to support quitting tobacco and nicotine use, including medications like NRT and counseling calls. Web engagement and text messages are also provided, though they are not included in the North American Quitline Consortium definition of evidence-based treatment at this time.

Nicotine Replacement Therapy

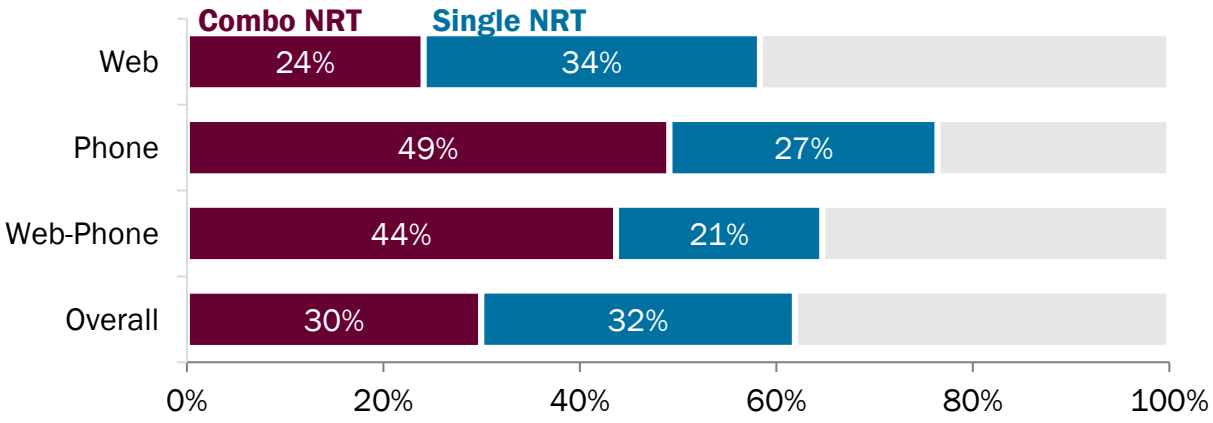
802Quits enrollees could receive NRT in the form of patches, gum, or lozenges, whether separately or together. Enrollees were also able to combine NRT by using two forms simultaneously, such as by combining long-acting (patch) and faster-acting (gum or lozenge) NRT. Using multiple forms of NRT can increases the chances of successfully quitting.[3] Among enrollees who received NRT (n=1,684), 10 (0.6%) used text messages to order NRT.

A high percentage of Phone program enrollees received NRT.



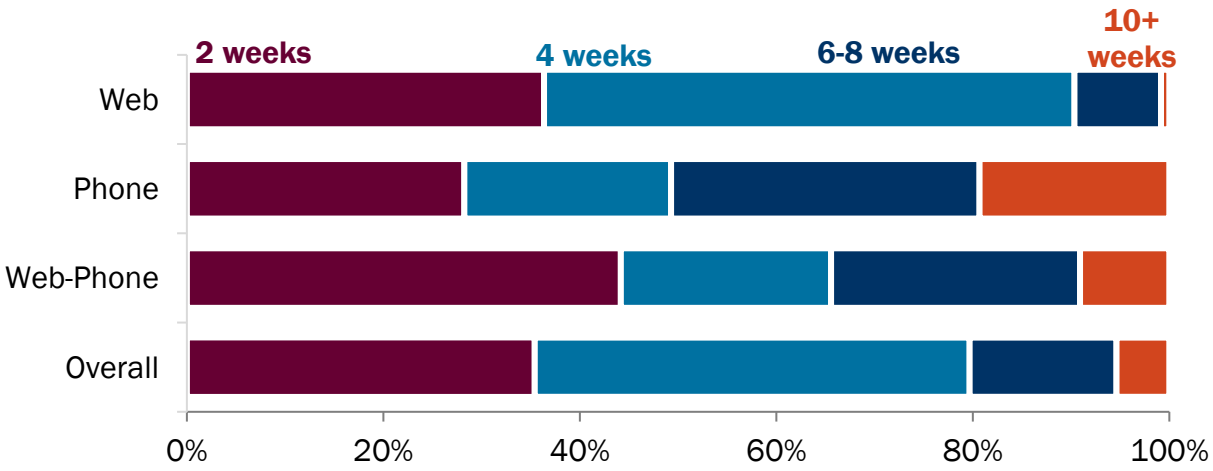
[3] Lindson, N., Chepkin, S. C., Ye, W., Fanshawe, T. R., Bullen, C., & Hartmann-Boyce, J. (2019). Different doses, durations and modes of delivery of nicotine replacement therapy for smoking cessation. *The Cochrane database of systematic reviews*, 2019(4), CD013308.

Almost half of Phone program enrollees received combination NRT.



802Quits enrollees can receive multiple weeks of NRT, and among those who received it, the average was 4.2 weeks of NRT.

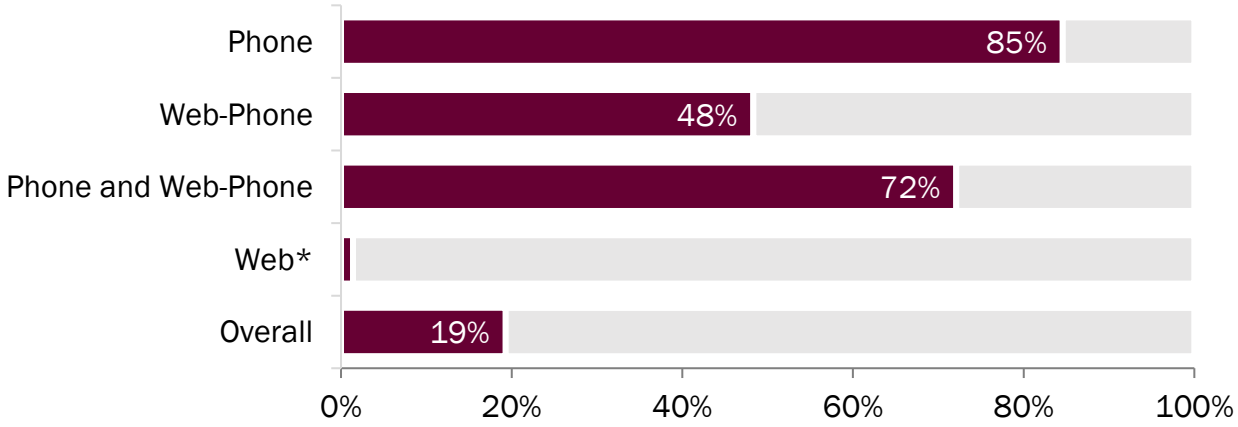
Among enrollees who received NRT, about half of Phone program enrollees received at least four weeks of medication.



Counseling Calls

802Quits enrollees could complete one-on-one counseling calls with quitline coaches. Overall, about one in five 802Quits enrollees (19%) completed at least one counseling call. The majority (85%) of enrollees who registered for the Phone program completed at least one counseling call.

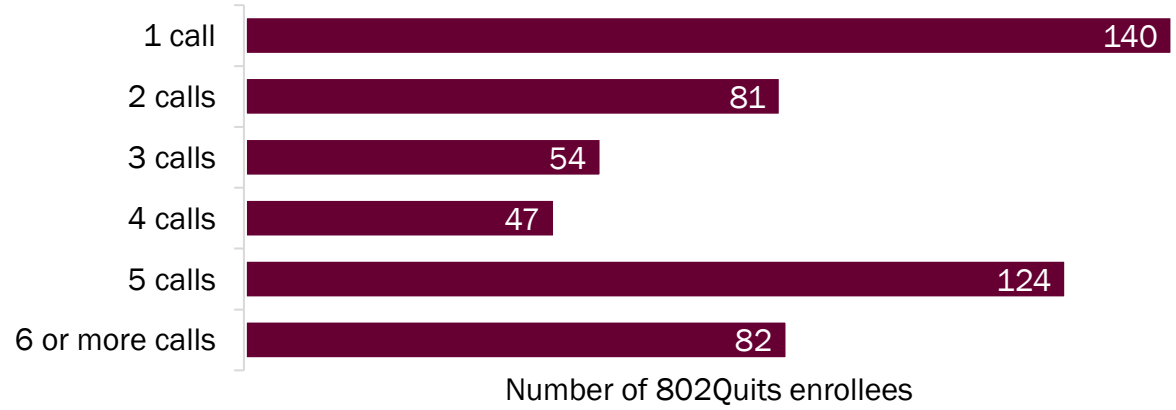
A high percentage of Phone program enrollees received at least one counseling call.



* Web program enrollees only rarely receive counseling calls and incentives – typically, these are enrollees who switched from the Phone or Web-Phone program into the Web program after receiving a counseling call.

Among enrollees who completed at least one counseling call (n=528), 27% completed one counseling call and 24% completed five counseling calls. For certain groups (adults with Medicaid insurance or no insurance, adults with mental health issues, adults who use menthol tobacco products, members of the Abenaki or other American Indian tribes, and pregnant or post-partum adults), there are incentives available for completing up to five counseling calls, explaining the high percentage of enrollees who completed five calls.

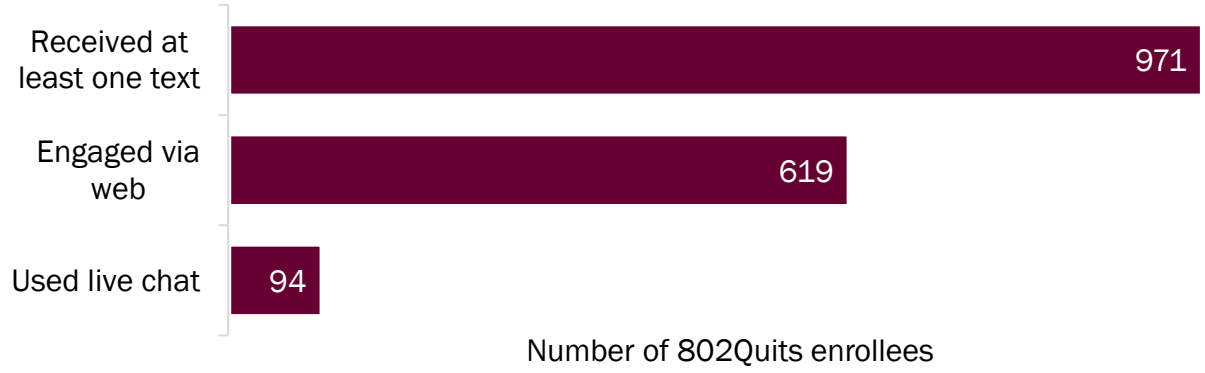
Among enrollees who received a counseling call, there was variety in the number of calls completed.



Web Engagement and Text Messages

Enrollees in 802Quits can also engage with the program through the web and by text messages. **Overall, 36% of enrollees received at least one text message, and 23% engaged with 802Quits via the web.** For those who received text messages, the average number of texts received was 35 (range = 1 – 187). For those with web activity, the average number of days with engagement via the web was 1.7 (range: 1–40).

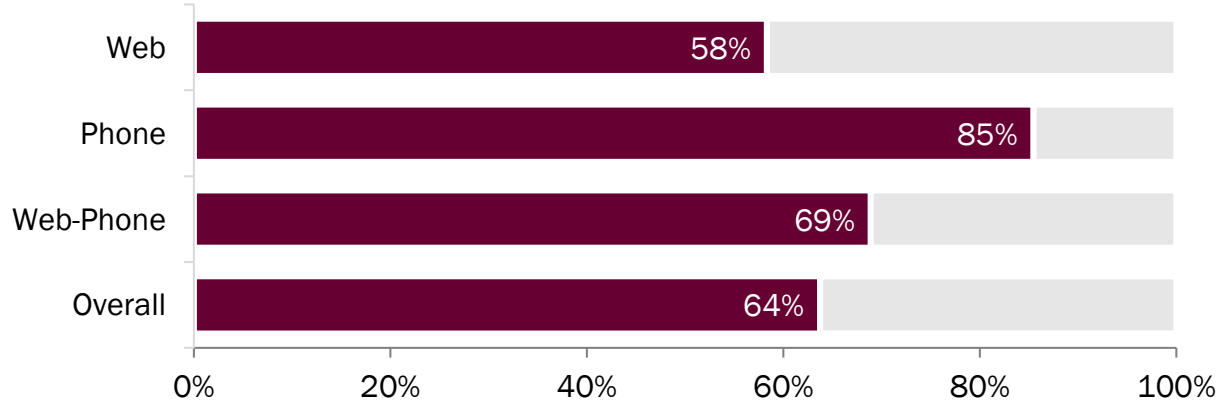
For web and text activity, receiving text messages was the most common form of engagement for 802Quits enrollees.



Evidence-Based Treatment

Evidence-based treatment is defined as having received at least one telephone counseling call or having been sent NRT,[4] as both services have been proven to help people quit. Overall, **a majority of enrollees in 802Quits services (64%, n=1,743) received evidence-based treatment.**

Over half of enrollees across all programs received evidence-based treatment (NRT or a counseling call) from 802Quits.



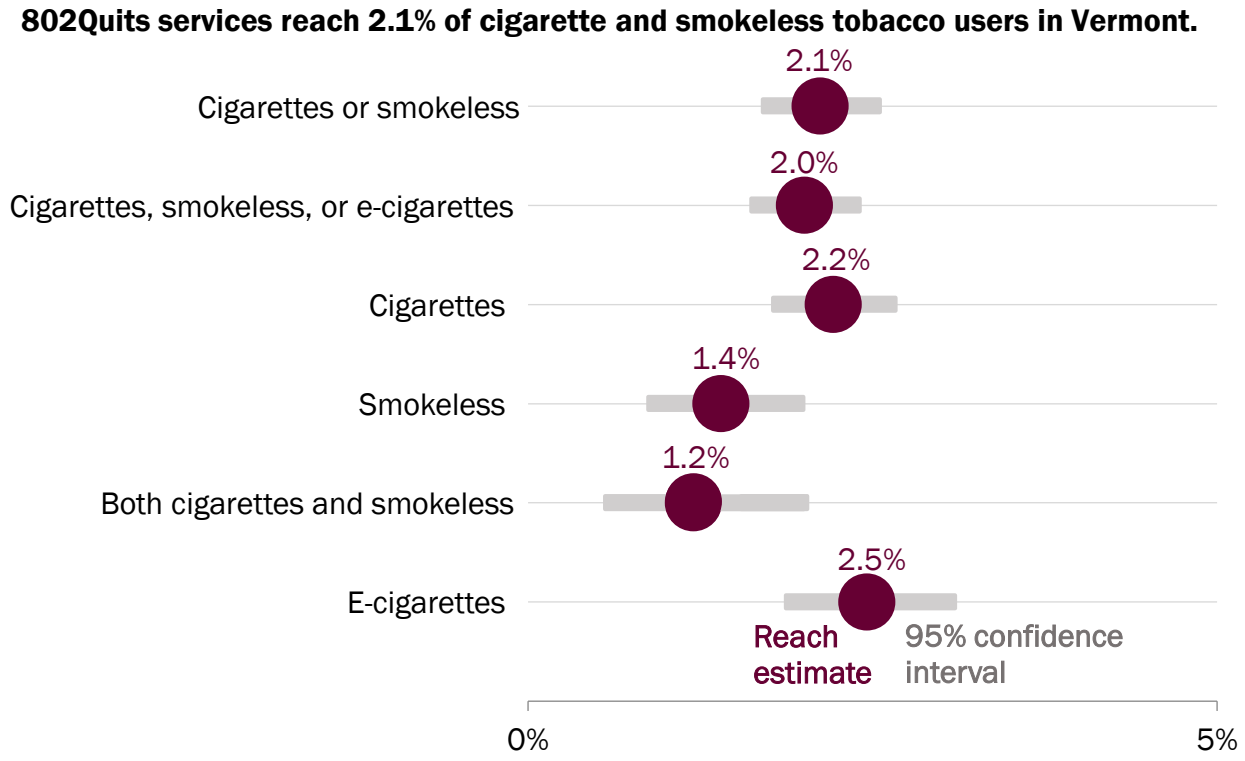
[4] https://cdn.ymaws.com/www.naquitline.org/resource/resmgr/Issue_Papers/WhitePaper2015QRUpdate.pdf

Treatment Reach

Treatment reach is the proportion of tobacco users who received evidence-based treatment from the quitline.

Treatment reach is calculated by dividing the number of individuals receiving evidence-based services from the quitline (counseling call and/or medications) by an estimate of the total number of adults who smoke. The denominator was calculated using 2023 Vermont BRFSS tobacco and nicotine prevalence data and 2023 American Community Survey population data.

The treatment reach for 802Quits services **ranged from 1.4% – 2.5%, depending on the type of tobacco used at intake, above the national average of 0.9%.**[5]



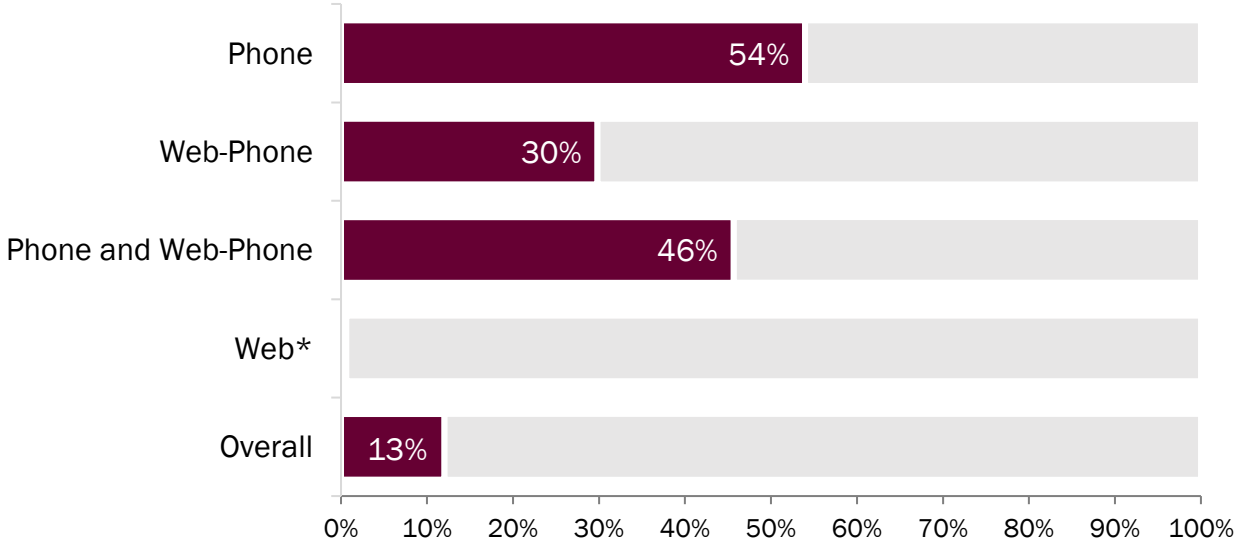
[5] North American Quitline Consortium FY24 Annual Survey https://cdn.ymaws.com/www.naquitline.org/resource/resmgr/2024_survey/FY24_Annual_Survey_Slides_Fi.pdf

Incentives

802Quits offers financial incentives in the form of gift cards for completing counseling calls to priority populations, including Medicaid members, uninsured adults, adults who use menthol products, adults with mental health conditions, pregnant and post-partum adults, and members of the Abenaki or other American Indian or Alaska Native tribes.

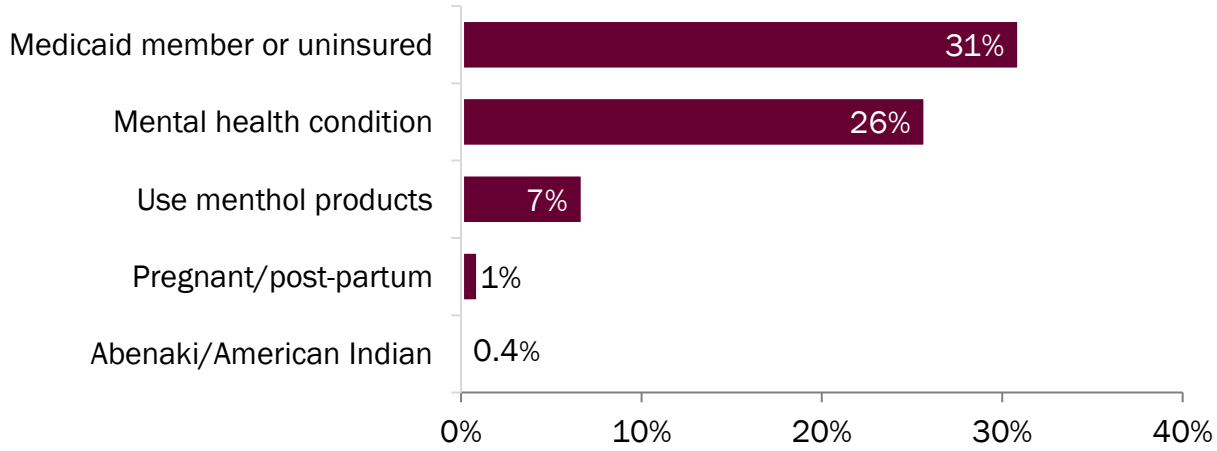
Overall, 13% (n=329) of the total 802Quits enrollees received at least one incentive. Among enrollees who received at least one counseling call, 62% received at least one incentive, indicating that the majority of enrollees with a counseling call received an incentive. The average number of incentives received was 3.5, and the average dollar amount of incentives received was $92, with a range of $20 - $350.

Over half of Phone program enrollees and almost one-third of Web-Phone program enrollees received an incentive from 802Quits.



* Web program enrollees only rarely receive counseling calls and incentives (n=13) – typically, these are enrollees who switched from the Phone or Web-Phone program into the Web program after receiving a counseling call.

Among participants with at least one phone call, the most common incentives were designated for Medicaid members or those without health insurance.



n=528 enrollees with at least one counseling call

Not every enrollee who was in a priority population received an incentive, likely due to enrollment in the Web program (incentives are only provided to enrollees in priority populations who complete a counseling call). Enrollees could be members of several priority populations but would only receive one type of incentive, with the Medicaid/uninsured incentive being distributed first before other types of incentive. Out of the 606 enrollees who were uninsured and 624 enrollees with Medicaid insurance, 166 enrollees received at least one Medicaid member/uninsured incentive. Out of the 1,451 enrollees who self-reported a mental health condition, 181 were enrolled in the mental health protocol and 128 received at least one mental health incentive. Out of the 98 enrollees who reported menthol use at intake, 34 received at least one menthol incentive.[6] Out of the 36 enrollees who reported pregnancy at time of intake, nine enrolled in the pregnancy protocol and six received at least one pregnancy incentive.

[6] Note: the menthol variable at intake had a very high prevalence (82.3%) of missing data.

Use of 802Quits Services Among Enrollees Who Received Incentives

Among enrollees who completed at least one counseling call (n=528), the number of calls completed did not differ between those who received incentives and those who did not.[7]

Among 802Quits enrollees who received at least one counseling call, the total number of calls was similar for those who received incentives and those who did not.

n=528 enrollees with at least one counseling call

[7] Difference in calls completed was assessed using a Wilcoxon rank sum test (p-value = 0.057) and significance set at $p<0.05$ level.

Outcomes from 802Quits Services

Section Highlights

- Over four of every 10 enrollees had not used any cigarettes, cigars, pipe tobacco, smokeless tobacco or hookah for the past 30 days, seven months after enrolling. These quit rates remained high for Medicaid members and those reporting mental health conditions.
- Across all program types, 802Quits enrollees reported high levels of satisfaction with the services they received.
- For every $1 spent on 802Quits, Vermont saves $5.59 - $6.00 in health care costs and productivity under the current tax rate, as quitting tobacco use leads to lower tax revenue from fewer packs of cigarettes being sold.

What were 802Quits quit outcomes?

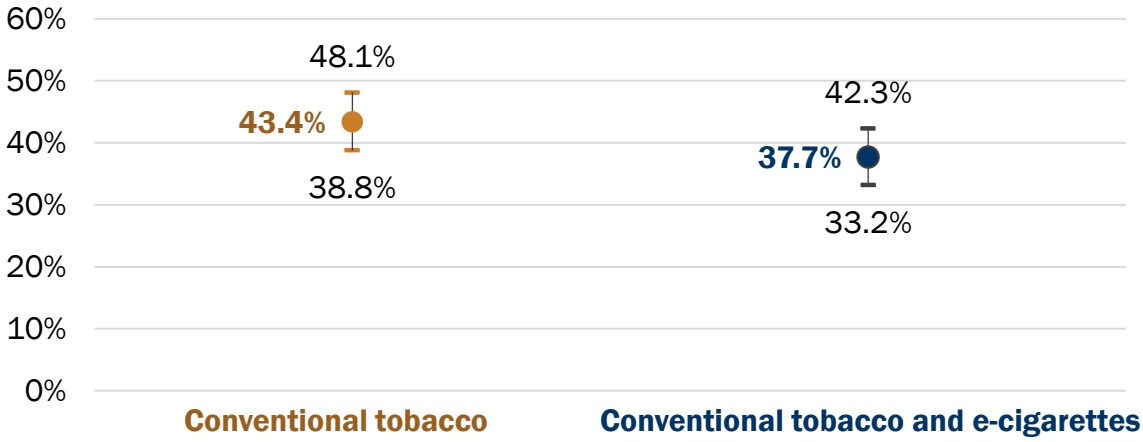
To understand the outcomes of using 802Quits services, weighted data from the seven-month follow-up survey were used to understand what percentage of enrollees quit using tobacco after receiving 802Quits services. To calculate quit rates among 802Quits enrollees, the North American Quitline Consortium, or NAQC, guidelines were used. Therefore, only enrollees who used conventional tobacco (cigarettes, cigars, pipe tobacco, smokeless tobacco, or other tobacco such as hookah) at intake and received minimum treatment (completed a counseling call or received NRT) were included in these quit rates. Enrollees who used only e-cigarettes at intake were excluded.

Among 802Quits enrollees, 88% reported having quit for at least 24 hours during the seven-month follow-up timeframe, indicating a serious quit attempt. Overall, 43% of enrollees reported 30-day abstinence from conventional tobacco, which exceeds the NAQC goal for the conventional tobacco quit rate of at least 30% and the FY24 national average of state quitlines of 35%.[8] The charts below display the quit rates and 95% confidence intervals for both enrollees who used just conventional tobacco at intake and those who were dual users of conventional tobacco and e-cigarettes at intake. The quit rate refers to 30-day abstinence from conventional tobacco.

[8] https://cdn.ymaws.com/www.naquitline.org/resource/resmgr/2024_survey/QuitlineSustainability2025_2.pdf

Weighted 30-day quit rates

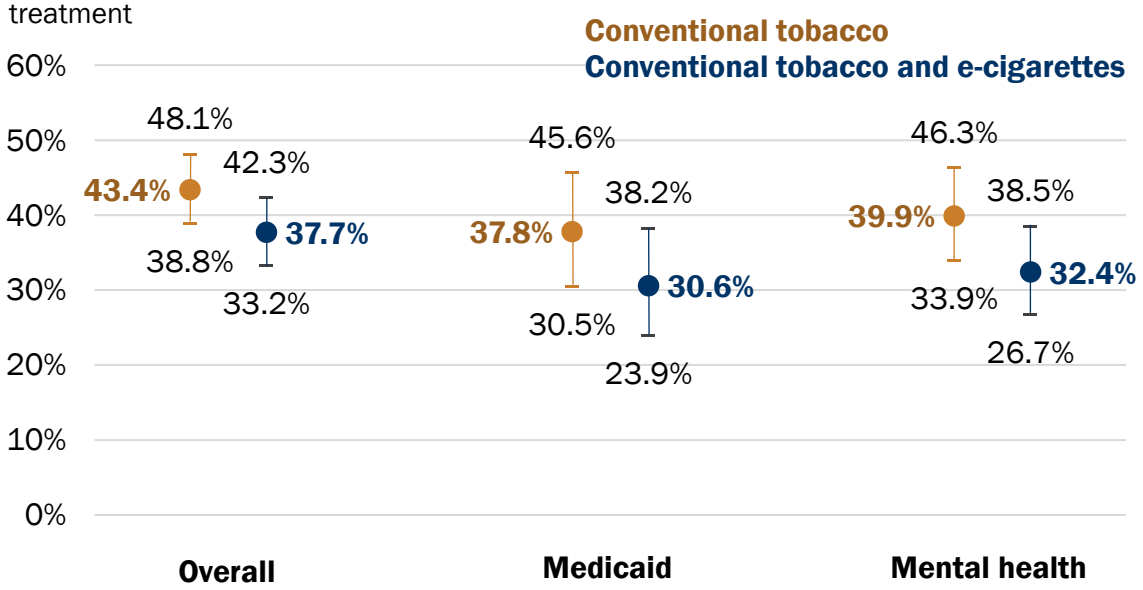
Among enrollees who used conventional tobacco at intake and received minimum treatment



Quit rates were also calculated for priority populations for which there was sufficient sample size in the seven-month follow-up survey (n>75). Among Medicaid members, the 30-day quit rate for conventional tobacco was 37.8%, and among enrollees who reported mental health conditions, the quit rate was 39.9%.

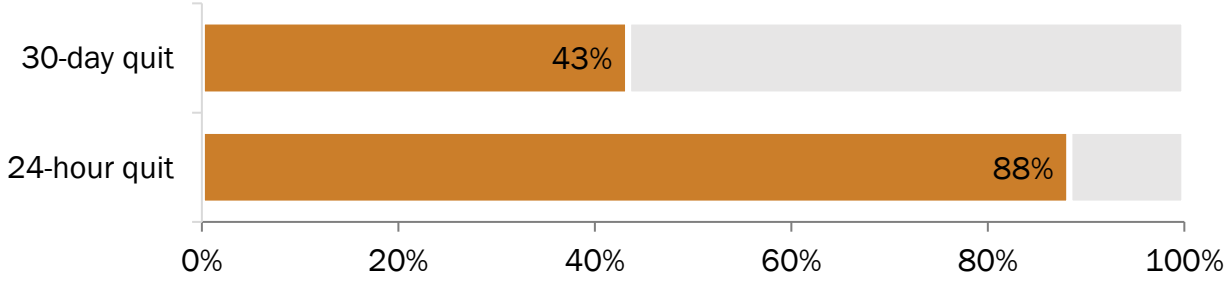
Weighted 30-day quit rates

Among enrollees who used conventional tobacco at intake and received minimum treatment



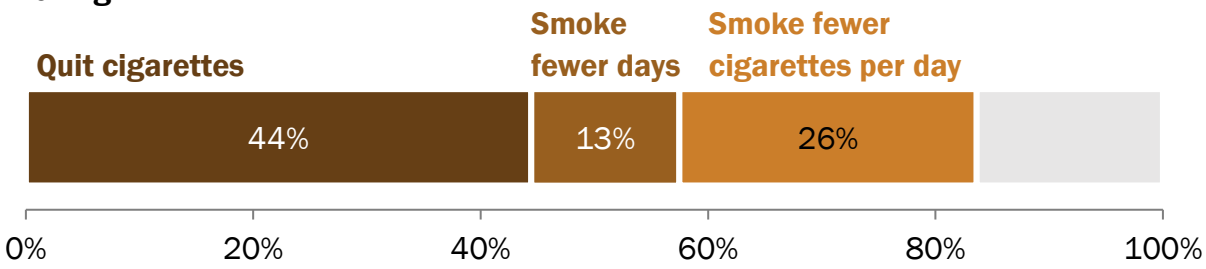
For 24-hour quit rates among enrollees who used conventional tobacco and received minimum treatment from 802Quits, 88.3% (95% CI = 84.9%, 90.9%) reported having quit for at least 24 hours in the seven months since receiving 802Quits services, indicating a serious quit attempt.

Almost nine out of 10 802Quits enrollees made a serious quit attempt of conventional tobacco in the seven months after enrolling.



Tobacco Use Outcomes

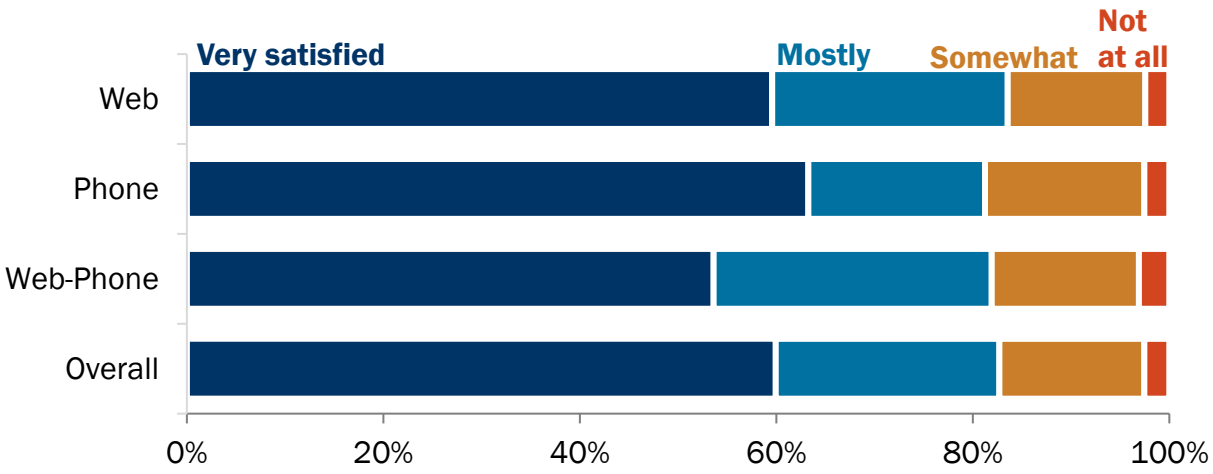
More than 80% of 802Quits enrollees who smoked cigarettes at intake quit or reduced their smoking in the seven months after enrolling.



To what extent were enrollees satisfied with 802Quits?

During the follow-up survey, survey participants were asked about their level of satisfaction with the 802Quits services they received. Overall, 83% of survey participants reported being mostly or very satisfied with the program and 93% of survey participants would recommend the program.

Satisfaction was very high among enrollees in all three programs.

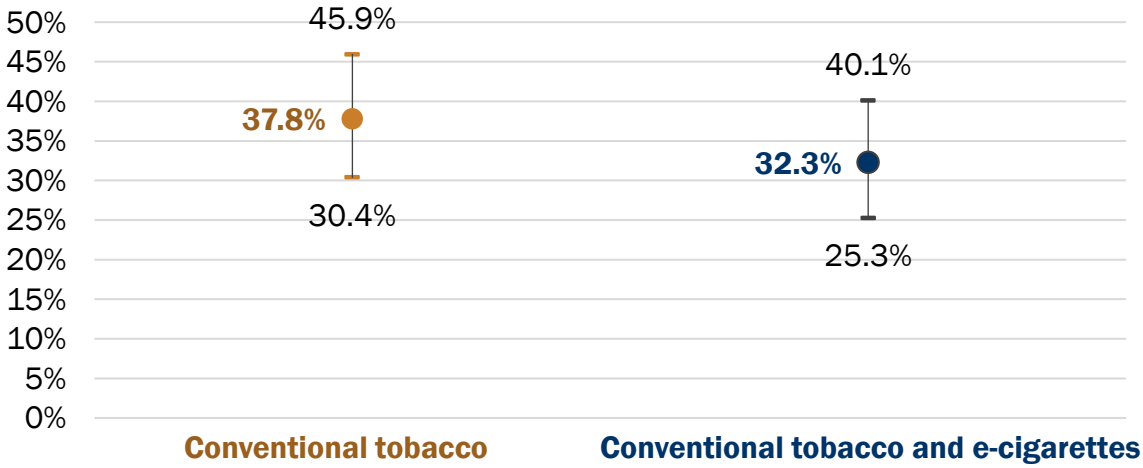


Outcomes among enrollees who received incentives

Quit rates were also calculated for enrollees who received at least one incentive for completing a counseling call. Among enrollees who received an incentive, the 30-day quit rate for conventional tobacco was 37.8% and the 30-day quit rate for both conventional tobacco and e-cigarettes was 32.3%.

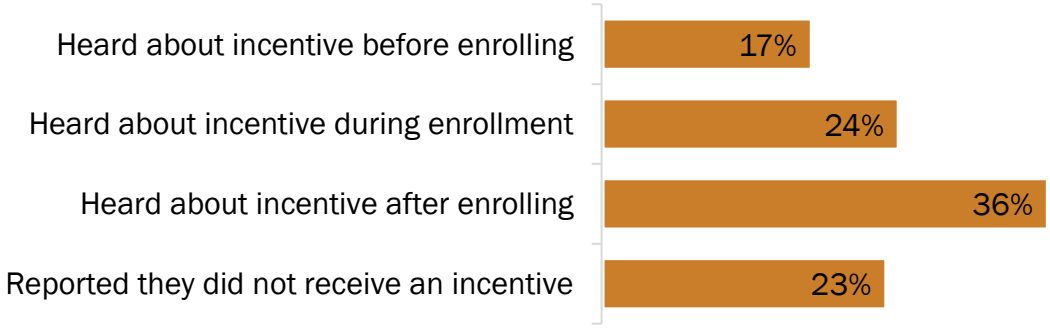
Weighted 30-day quit rates

Among enrollees who used conventional tobacco at intake and received an incentive



For 24-hour quit rates among enrollees who received an incentive, 92.8% (95% CI = 88.1%, 95.8%) reported having quit for at least 24 hours in the seven months since receiving 802Quits services, indicating a serious quit attempt.

Over one-third of enrollees who received an incentive heard about the incentive after the enrollment process.



Weighted n=143 enrollees who received an incentive

When asked about whether the incentives motivated enrollees to engage in higher levels of service from 802Quits, 69% of respondents said that the incentives had motivated them to complete more counseling calls. Among survey participants who received an incentive for completing counseling calls, 81% reported being mostly or very satisfied with the services they received from 802Quits.

What is the cost-benefit of the 802Quits program?

Using data from the follow-up survey, a cost-benefit analysis was conducted to examine the financial benefits of 802Quits in relation to the costs. The cost-benefit analysis considers the following, and full methods and data sources can be found in Appendix A:

- The benefits of cessation, including health care expenditures and productivity,
- The cost of 802Quits, including vendor, media, and evaluation budgets, and
- The lost tax revenue from fewer packs of cigarettes being sold.

Overall, 802Quits is a cost-effective program. For every $1 spent on 802Quits, Vermont saves $5.59 - $6.00 under the current tax rate.

Component	Conservative quit rate among cigarette users (38.8%)	Quit rate among cigarette users (43.4%)
Benefits of cessation	**$11,282,883.50**	**$12,620,544.95**
Total cost of cessation	**$2,019,404.95**	**$2,103,315.35**
Cessation program cost	$1,311,639.00	$1,311,639.00
Lost tax revenue	$707,765.95	$791,676.35
Cost-benefit ratio	**$5.59**	**$6.00**

Conclusions and Implications for 802Quits Services

Key takeaways from this report on enrollment, usage, and outcomes of 802Quits services include the following:

- 802Quits successfully engages with many populations that typically face barriers to treatment, including individuals with low income, those with Medicaid insurance, those without health insurance, and those with cognitive or mobility disabilities.
- 802Quits provides the majority of enrollees (62%) with evidence-based treatment services, including a counseling call or NRT.
- 802Quits reaches a higher percentage of adults who smoke cigarettes or use smokeless tobacco in Vermont (2.1%) than the national average for state quitlines (0.9%).
- More than 80% of 802Quits enrollees who used conventional tobacco at intake quit or reduced their tobacco use seven months after enrollment.
- Over four out of every 10 enrollees quit conventional tobacco use after receiving treatment from 802Quits.
- 802Quits enrollees reported high levels of satisfaction with the services they received, with 83% being mostly or very satisfied with the program.
- 802Quits is a cost-effective program. For every $1 spent on 802Quits, Vermont saves $5.59 - $6.00 under the current cigarette tax rate.

The engagement, reach, and outcomes from tobacco and nicotine treatment through quitlines reflect their funding support. Research shows that when funding increases for quitlines, call volume and quitline use increase too.[9,10]

802Quits could consider the following to maximize the available funding for the quitline:

- Increase engagement with tobacco users with chronic health conditions and tobacco users who are a race other than white alone.
- Continue offering a variety of services, including combination NRT.
- Weigh the cost of providing 802Quits incentives with the outcome presented data in this report.

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[9] Swartz, S. H., Cowan, T. M., Klayman, J. E., Welton, M. T., & Leonard, B. A. (2005). Use and effectiveness of tobacco telephone counseling and nicotine therapy in Maine. *American journal of preventive medicine*, *29*(4), 288-294.

[10] Mann, N., Nonnemaker, J., Chapman, L., Shaikh, A., Thompson, J., & Juster, H. (2018). Comparing the New York State smokers' quitline reach, services offered, and quit outcomes to 44 other state quitlines, 2010 to 2015. *American Journal of Health Promotion*, *32*(5), 1264-1272.

Appendix A: Full Methodology

Data in this report primarily comes from five datasets:

- 802Quits Referral
- 802Quits Registration/intake
- 802Quits Utilization
- 802Quits Follow-up survey
- Statewide tobacco use prevalence: BRFSS

Referral

National Jewish Health tracks all incoming referrals of tobacco users by providers (through fax, e-referral, or provider web referral) to 802Quits in the Referral Detail Extracts. Data in this report refer to referrals opened from September 16, 2023, through September 15, 2024 to allow the calculation of conversion rates (analyzing what percentage of referrals go on to enroll in 802Quits) using enrollments for 9/16/2023 through 3/31/2025.

Registration

Registration data (sometimes called intake data) are collected when someone registers for 802Quits, either via web or phone. The data are collected by National Jewish Health. Records in this report were limited to adults who completed registration between 9/16/2023 – 9/15/2024 and were not test records. Data were de-duplicated by participant ID number, name, and date of birth; if enrollees had multiple registrations within the timeframe, then registrations were kept based on the following criteria, in order:

- earliest registration,
- highest level of service (NRT, counseling call),
- fewer missing data, and then
- program (Phone preferred over Web, and Web over Web-Phone).

Some participant demographics were not collected in the 802Quits registration process or were not captured consistently, and therefore, are not included in this report. Enrollees were asked about Hispanic ethnicity when completing registration over the phone, but not when completing registration online; as a result, the level of missing data was too high to include the proportion of quitline enrollees who were Hispanic.

Enrollees were asked specifically about two types of disabilities:

- Cognitive (“Because of a physical, mental, or emotional condition, do you have serious difficulty concentrating, remembering, or making decisions?”)
- Mobility (“Do you have serious difficulty walking or climbing stairs?”)

Enrollees were not asked about other types of disabilities (such as hearing impairments, epilepsy, speech impediments, etc.), so the proportion of participants with disabilities overall is not reported.

Enrollees were also asked about chronic health conditions, which included asthma, cancer, chronic obstructive pulmonary disease, diabetes, heart attack, heart disease, high blood pressure, seizures, or stroke in the previous 12 months.

Utilization

Utilization data are recorded by National Jewish Health on an ongoing basis when someone uses a particular aspect of the program. This report includes utilization data up to 210 days after registration (September 16, 2023 – April 13, 2025).

Surveillance: BRFSS

Enrollment data in 802Quits were compared to 2023 Vermont Behavioral Risk Factor Surveillance System data to understand the differences between nicotine and tobacco users who enrolled in 802Quits and nicotine and tobacco users overall in the state. Current nicotine and tobacco users in BRFSS were considered those who use cigarettes, e-cigarettes, or smokeless tobacco. The BRFSS sample of tobacco users was compared to the population of all unique adult 802Quits participants, including those who had quit using tobacco at intake or were exclusively using tobacco products that were not included in the BRFSS, such as cigars or pipe tobacco.

For demographics, several limitations and data considerations are worth noting. The 802Quits registration form includes seizures as a chronic disease, and BRFSS does not ask about seizures. For race and ethnicity, race alone was used to calculate the distribution of nicotine and tobacco users at the state level, and Hispanic origin was calculated separately. County-level comparisons utilized population-adjusted estimates based on 2023 U.S. Census population data.

Seven-month follow-up survey

Survey methods

All enrollees who completed registration and consented to follow-up were included in the sample for the seven-month follow-up survey. The survey was multi-mode, allowing respondents to complete it online or by telephone with the assistance of a trained surveyor. Pre-notification letters were sent to all eligible respondents. Subsequently, up to 15 call attempts and five email reminders were made to contact eligible respondents. Incentives (a $10 e-gift card to Hannaford's) were provided to those who completed the survey.

Response rate and weighting methods

A total of 1,163 out of 2,734 enrollees (42.5%) consented and were eligible for the follow-up survey. The follow-up survey had an overall response rate of 49.1%, and a detailed attrition table is provided below.

	Eligible for follow-up (N=1,163) n (%)
Responded to the follow-up survey	571 (49.1%)
Survey completed by phone	380 (32.7%)
Survey completed online	191 (16.4%)
Refusal	123 (10.6%)
Unreachable	101 (8.7%)
Not reached	359 (30.9%)
Language barrier or miscellaneous	9 (0.8%)

Notes: Refusals include individual and household refusals as well as hang-ups. Those who are unreachable either had numbers that are no longer in service, are wrong, or no longer belong to the enrollees. Those who were not reached had working numbers, but by the time the period ended, the respondents had not completed surveys. Language barriers include household and respondent-level barriers. Miscellaneous includes partial completes, deceased individuals, and those who are not mentally or physically competent to complete the survey.

Two follow-up response bias analyses were conducted: a comparison between responders and non-responders for the overall sample and a comparison between responders and non-responders for the NAQC eligible sample. The NAQC eligible sample consisted of enrollees who consented to follow-up, used conventional tobacco at intake, and received minimum treatment, and this sample was used to calculate quit rates. Characteristics associated with nonresponse to the follow-up survey were assessed using Chi-squared tests of independence, and $p<0.05$ was used to determine significance.

For the full sample, responders and non-responders differed significantly on the characteristics below.

- **Program:** Responders were more likely than non-responders to be enrolled in the Phone program compared to the Web and Web-Phone programs.
- **Age:** Responders were older than non-responders.

- **Tobacco types used at intake:** Responders were more likely to use cigarettes along than non-responders.
- **Insurance type:** Responders were more likely to have Medicaid insurance and less likely to be uninsured than non-responders.
- **Education:** Responders were more likely to have higher levels of educational attainment than non-responders.
- **Gender:** There were a higher percentage of female respondents compared to non-respondents.
- **Chronic disease status:** Responders were more likely to have reported a chronic disease at intake than non-responders.
- **Receipt of NRT, a counseling call, or any text services**: Responders were more likely to have received NRT, a counseling call, or any text service than non-responders.

For the NAQC eligible sample, responders and non-responders differed significantly on the following characteristics:

- **Program:** Responders were more likely than non-responders to be enrolled in the Phone program compared to the Web and Web-Phone programs.
- **Age:** Responders were older than non-responders.
- **Tobacco types used at intake:** Responders were more likely to use cigarettes along than non-responders.
- **Insurance type:** Responders were more likely to be insured than non-responders.
- **Education:** Responders were more likely to have higher levels of educational attainment than non-responders.
- **Chronic disease status:** Responders were more likely to have reported a chronic disease at intake than non-responders.
- **Receipt of a counseling call**: Responders were more likely to have received a counseling call than non-responders.

Inverse probability weighting using a propensity score was used to account for nonresponse and develop weights for the full sample and for the NAQC eligible sample. Logistic regression models were used to predict the probability of response based on the variables identified as significantly different between responders and non-responders. Separate models were run for the full sample and for the NAQC eligible sample. The `survey` package was used in R to calculate weighted summary statistics.

Cost-benefit analysis methods

The purpose of this analysis is to examine the financial benefits of this program in relation to the costs. The following tables include details of the data sources and calculation methods for each component of the cost-benefit analysis.

Amount of cigarette use in Vermont

Metric	Amount	Data Source/Calculation Description
Total number of adults who smoke cigarette smokers	58,345	2023 Census population estimate of adults in Vermont (532,828) x BRFSS weighted smoking rate in Vermont (11.30%)[11]
Total number of packs of cigarettes sold	17,200,000	Campaign for Tobacco-Free Kids Cigarette Tax Fact Sheet, January 2025[12]
Average number of packs of cigarettes sold per consumer per year	294.80	Total number of packs of cigarettes sold / Total number of adult cigarette smokers
Number of people who quit using cigarettes with 802Quits		Number of 802Quits enollees in FY24 who used cigarettes at enrollment (2,009) x Percent of these participants who quit smoking
Estimate	871.91	Using responder quit rate
Conservative estimate	779.49	Using the lower bound of the 95% confidence interval on the responder quit rate

[11] Vermont Department of Health, Behavioral Risk Factor Surveillance System: 2023 Report. https://www.healthvermont.gov/sites/default/files/document/hsi-brfss-2023-datasummary.pdf

[12] Campaign for Tobacco Free Kids. State Cigarette Tax Rates & Rank, Date of Last Increase, Annual Pack Sales & Revenues, And Related Data https://assets.tobaccofreekids.org/factsheets/0099.pdf

Benefits gained from cessation

Benefit Component	Total	Per Pack	Per Smoker	Data Source/ Calculation Description
Total health care expenses	**$524,540,658.93**	**$30.50**	**$8,990.38**	Penn State "Potential Costs and Benefits of Smoking Cessation for Vermont"[13]
Adult healthcare expenses	**$523,877,380.82**	**$30.46**	**$8,979.01**	Smoking Attributable Mortality, Morbidity, and Economic Costs Centers for Disease Control and Prevention. 2009 data adjusted for inflation to 2024 dollars.[14]
Ambulatory	$63,641,623.23	$3.70	$1,090.79	
Hospital care	$319,562,193.24	$18.58	$5,477.14	
Prescription drugs	$74,775,145.97	$4.35	$1,281.61	
Nursing home	$37,462,799.49	$2.18	$642.09	
Other	$28,435,618.89	$1.65	$487.37	
Neonatal health care expenditures	**$663,278.11**	**$0.04**	**$11.37**	
Productivity losses	**$319,978,681.18**	**$18.60**	**$5,484.28**	Cost of Cigarette Smoking-Attributable Productivity Losses[15]
Total annual benefit	**$844,519,340.12**	**$49.10**	**$14,474.66**	Total health care expenses + productivity losses

[13] Rumberger, J. S., Hollenbeak, C. S., & Kline, D. (2010). Potential Costs and Benefits of Smoking Cessation: An Overview of the Approach in State Specific Analysis. https://www.lung.org/getmedia/aebd97aa-dc3b-4f62-8791-d6c891603d63/economic-benefits.pdf.pdf?ext=.pdf

[14] Centers for Disease Control and Prevention. (2008). Smoking-attributable mortality, morbidity, and economic costs (SAMMEC). *Atlanta: Centers for Disease Control and Prevention*. https://www.ncbi.nlm.nih.gov/books/NBK294316/

[15] Shrestha, S. S., Ghimire, R., Wang, X., Trivers, K. F., Homa, D. M., & Armour, B. S. (2022). Cost of cigarette smoking–attributable productivity losses, US, 2018. American journal of preventive medicine, 63(4), 478-485.

Cost of cessation

Cost Component	Total	Data Source/Calculation Description
Cessation program costs	$1,311,639.00	802Quits quitline vendor, media, and evaluation budget, as reported from the Vermont Department of Health
Lost tax revenue (by quit rates below)		Tax rate per pack ($3.08) x Estimated number of 802Quits participants who quit x average number of packs sold per adult who smoked
38.8%	$685,844.00	
43.4%	$767,155.40	

Appendix B: Qualitative results from the seven-month follow-up survey

There were eight open-ended questions asked on the follow-up survey. All questions were optional, and for some questions, there was a limited number of responses. PDA analyzed each set of open-ended questions using thematic analysis. These included:

- **Level of satisfaction**: Individuals were asked to explain why they selected their level of satisfaction (very satisfied, mostly satisfied, somewhat satisfied, or not at all satisfied) from the forced choice options.
- **E-cigarettes**: Individuals were asked about how helpful the services they received from 802Quits were in supporting their efforts to quit using e-cigarettes or vaping products. This question was asked only of individuals who reported using these products while enrolling in 802Quits. For individuals who responded 802Quits was "mostly helpful," "somewhat helpful," or "not at all helpful," an open-ended item was asked about what would have been more helpful for quitting e-cigarettes or vaping products.
- **Program services**: For individuals who did not receive NRT, those who did not login to the web program, or those who did not receive a counseling call, an open-ended item was asked about why they did not receive that service.
- **Incentives and rewards**: For individuals who enrolled in any incentive program and indicated that the incentives did not motivate them to complete more counseling calls, they were asked to explain why the incentives were ineffective in motivating them to complete more counseling calls.
- **What additional support is needed**: For individuals who had used any tobacco or nicotine product at the time of the survey, they were asked if anything else would have helped them quit in the last seven months.
- **Anything else:** At the end of the survey, all individuals were asked to share anything else about their experience with 802Quits they would like to mention.

Details about each question, including high-level summaries of responses and exemplar quotes are provided below.

Level of Satisfaction

Analysis of satisfaction was stratified based on the individual's forced choice response to the overall level of satisfaction question on the follow-up survey. Individuals were asked their level of satisfaction with 802Quits and could select one of the following: Very satisfied, mostly satisfied, somewhat satisfied, or not at all satisfied. Next, they were asked why they selected this level of satisfaction. Out of the 532 open-ended responses captured, 60%

(n=320) indicated they were very satisfied, so the qualitative analysis of these responses was more nuanced.

Nearly three out of four individuals who were very satisfied with 802Quits reported being satisfied with the quitline services provided, including counseling, NRT, or both. Many individuals also noted that the services were quick, and the timing was helpful between their enrollment and getting the services requested. Two exemplar responses are:

> "I used the smoking cessation aids: patches and lozenges. It was easy to order, and they arrived quickly. I appreciate the service!"

> "Because it was a way for me to get the nicotine without damaging my body, and these days it is hard to find anything for free. Getting them for free to jump-start the changing of habits was a big plus."

Some individuals noted that the program was helpful, generally: "I think the state of Vermont has a very good support system for people quitting smoking." Approximately one of five who were very satisfied (n=62) indicated they were satisfied with 802Quits because the program supported them quitting or reducing their tobacco use. One individual noted this, even though they didn't quit until nearly seven months after enrollment: "802Quits was so helpful … I initially was not successful, and now I have gone two weeks without a cigarette!"

A small but notable set of respondents were very satisfied with 802Quits even though they did not quit or, in some cases, realized they were not quite ready to make a quit attempt. Some exemplar quotes are:

> "802Quits understood I had just gotten out of the hospital, and they did not turn me away. I didn't quit entirely, and I will sign back up in a little while. They were willing to work with me and my mental health."

> "I was grateful to have someone who could guide me through the ins and outs of quitting, even though I didn't manage to stick with it."

> "What 802Quits offers is incredible if I would have worked it. But I was not ready to quit yet."

It can be insightful to investigate the reasons given for lower levels of satisfaction. Across individuals who were either somewhat satisfied or not at all satisfied with 802Quits, the large majority of reasons given were related to not receiving the services requested (or as the individual understood them). Most responses focused on the counseling or NRT, and a small number mentioned not receiving anticipated incentives.

Much of the dissatisfaction within this subgroup came from issues with the counselor, or sometimes with just getting a hold of someone at the quitline. One individual shared, "It was impossible to reach someone when I was battling the urge to have a cigarette." Sometimes multiple challenges were shared:

> "The first time I used 802Quits, it was good. This time, the calls didn't come at the right time, and I didn't get the $70 (incentive). There were a couple of calls that didn't happen. I didn't get the call, and when I called to do them, 802Quits couldn't do it, I had to schedule a time. That happened two or three times."

Some individuals reported barriers with ordering NRT, including: not liking or having an adverse effect from the NRT type they tried, not receiving NRT that the individual had ordered, not receiving enough NRT, or needing a type of medication not offered by 802Quits (e.g., Chantix).

E-Cigarettes

The follow-up survey had seven items specifically asking about e-cigarettes and vaping. For individuals who had used these products in the 30 days prior to the follow-up survey, they were asked if they intended to quit using e-cigarettes. Just under half of the 38 individuals who had used an e-cigarette or vaping device in the past 30 days intended to quit e-cigarettes. Only five indicated they did not intend to quit these products (16 were missing data for this item).

Individuals who had vaped in the 30 days prior to the follow-up survey were also asked about whether they were using e-cigarettes to help quit tobacco; nearly 80% (n=30 of 38) said yes.

All 38 individuals were asked how helpful 802Quits was in supporting them to quit e-cigarette or vaping products. No individuals selected the option very helpful. About half selected mostly helpful (n=19), and the other half selected either mostly helpful (n=10) or not at all helpful (n=9). The most frequently given reason for the level of satisfaction was related to NRT. Exemplar quotes are below:

> "I needed a higher supply of nicotine gum or a mix of even lower to no-nicotine options."

> "I noticed four and a half months after quitting vaping that I still need to use nicotine lozenges. So, I wish I could have been sent a few more free nicotine lozenges since they are expensive."

> "To be able to get more nicotine replacement products and for another member of the household to also try to quit at the same time. Because we couldn't get two

products to the same address, one person continued to vape, making it harder to quit."

"Possibly more options like combining gum and lozenges. Also, it is very difficult to figure out the dosing of quit smoking medication with vaping products."

One individual requested more information on the harms of vapes "because it seems vapes may be worse for you than cigarettes, and it was this knowledge that made me quit vaping (I thought it was bad, but markedly better for you than cigarettes)."

Use of Program Services

Individuals who enrolled in a service but did not utilize it were asked why they did not use it. For NRT and phone calls, only a handful of individuals responded to this prompt, so it was not analyzed. There were 34 individuals who did not login to the web program and provided a response for why they did not login, and this was thematically coded.

The majority of respondents who did not login to the web program either didn't know why they did not login, or reported problems being able to do so. These problems included:

"I didn't understand how to log in."

"I only have phone for Internet."

"There were technical issues. I tried to log in, and it didn't work. So I had to call, and then I couldn't speak with anyone."

"I am not good with technology."

Some individuals noted they have a support group outside of 802Quits, so the additional services were not needed.

Incentives and Rewards

Individuals who had received any of the 802Quits incentives and rewards, based on the utilization dataset, were asked a series of three questions about incentives. First, these individuals were asked if they had heard about these before they enrolled, when they enrolled, or after they enrolled. Of the 116 individuals asked this question, 72% (n=84) heard about the rewards when or after enrolling in 802Quits, and 24% heard about rewards before enrolling. Four individuals were missing data for this question.

Next, these individuals were asked if the rewards or gift cards motivated them to complete more counseling calls. Overall, 68% of individuals agreed that the rewards motivated them to complete more calls. This was followed by an open-ended question asking about how the incentive did or did not motivate the individual to complete more calls. Some of the

responses indicated that the reward was a nice bonus, but that other things were driving their motivation to quit:

> "I mostly wanted to quit no matter if there were rewards or not. Freedom from smoking is my greatest reward."
>
> "Yes and no – I was on a mission to quit and had that mindset. The gift cards were just another bit of motivation."
>
> "I would have completed the calls anyway, but it was nice to have a little incentive."
>
> "My motivation came more from just wanting to quit."
>
> "My health was motivating me to quit."

Many individuals expressed a general sentiment that they "love rewards" or that they were generally appreciated, but did not specifically address whether the incentive motivated them to make more calls. There were a handful of individuals who indicated the rewards were motivating:

> "I used the gift cards to buy my own patches."
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> "I used the gift cards to get myself Life Savers and other things to distract me."
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> "The money incentive was huge, knowing that cost would normally be used on cigarettes and now could be used on something else more positive."
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> "I am financially tight right now so the incentives help emotionally."

Six individuals were unaware of or did not receive a gift card, despite utilization data indicating they were enrolled in an incentive program. Two additional individuals stated that they didn't complete any calls and, therefore, didn't receive the incentive. A few individuals did not know they would be receiving gift cards until they arrived in the mail: "I got gift cards two weeks after the counseling calls. I did not know I would be receiving them, but it was a pleasant surprise."

What additional support is needed?

Individuals who had not quit tobacco products seven months after enrolling in 802Quits were asked if there was anything else that would have helped them quit during that time. A total of 188 individuals responded to this question. Around one-quarter of those individuals were unsure or indicated that nothing else would have helped them quit. Some mentioned needing more willpower, motivation, or self-control. Some indicated the programs offered helpful support, and there was nothing more 802Quits could provide. For example:

> "802Quits offered all of the necessary support. My inability to quit was not because of anything the program didn't do."

About 25% of responses indicated they needed more or a different type of cessation medication. Many of these responses requested additional weeks of NRT. A few individuals requested prescription medication, including one who requested earlier coordination with Medicaid to receive Chantix.

Finally, some individuals noted things outside of the control of 802Quits, including having family members or others in the house who were still using tobacco and nicotine products, making it more difficult for the individual to quit.

Anything Else?

The final question asked individuals if there was anything else they wanted to share about their experience with 802Quits. There were 370 responses to this item, which spanned all aspects of the program. The overarching categories for responses to this question were:

- The program was helpful, would recommend 802Quits (n=216)
- Personal anecdote (n=43)
- Suggestion for improvement (n=73)
- Did not use 802Quits (n=1)
- Nothing to share (n=37)

Over half (58%) of the comments expressed sentiments of gratitude and recommendations for others who want to quit tobacco products to use the services.

> "For people who truly want to quit smoking, 802Quits is dedicated in every way to help them achieve quitting for good."

> "Having gone through the program, I highly recommend it to everyone I can without being annoying. Outstanding people and program, thank you."

> "I can say 802Quits helped me. My doctor recommended the program to me."

> "It is a really great program. NRT is so expensive, and getting into a doctor can be a pain, too. It's a nice resource to have available."

> "I was in a mental health hospital for awhile, and I am slowly getting my life organized. I do not have a lot of financial resources, so the products were very helpful."

The 43 individuals who shared a personal anecdote often highlighted specific details of their personal situation, life stressors, and challenges related to treating this addiction. Specific

stressors included mental health challenges, loss of loved ones, financial stressors, and personal health problems. Many of these individuals noted they planned to use 802Quits in the future, when they were ready to try to make another quit attempt.

Nearly 20% of individuals made suggestions or highlighted things that they would like to see improved with 802Quits. Many mentioned wanting a longer duration of NRT, or access to prescription cessation medications. Some individuals asked for more clarity around combo NRT options and how that impacts the total weeks of NRT you can receive through the program. Another suggestion was around the counseling calls, with individuals generally wanting it to be easier to schedule calls, and some asking for more calls. A few individuals asked for more information on specific topics, such as an increased focus on how to manage stress or more information on the dangers of vaping.