



North Carolina Health and Wellness Trust Fund



QuitlineNC

QuitlineNC Year 5 Annual Report July 2009 — June 2010

Prepared for:
North Carolina Health and Wellness Trust Fund



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A. EXECUTIVE SUMMARY

A.1. Overview

The North Carolina (NC) Tobacco Quitline (QuitlineNC) is a telephone-based, tobacco cessation service that provides free support to all NC residents who want to quit tobacco. Research shows that Quitlines are an effective and evidence-based approach to tobacco cessation. Proactive Quitlines, like QuitlineNC, significantly increase quit rates even further.¹

Fiscal year 2009-2010 constitutes QuitlineNC Year 5. From its launch in late 2005 through June 2009, QuitlineNC was jointly funded by the North Carolina Health and Wellness Trust Fund (HWTF) and the Tobacco Prevention and Control Branch (TPCB) in the NC Department of Health and Human Services. The HWTF provided funding for all QuitlineNC callers for the first six months of fiscal year 2009-2010; during the second six months the North Carolina State Health Plan (SHP) funded all calls from SHP members and, beginning in April, 2010, an American Recovery and Reinvestment Act (ARRA) grant to the TPCB funded all callers who had no health insurance or were covered by Medicaid.

The University of North Carolina School of Medicine Tobacco Prevention and Evaluation Program (UNC TPEP) evaluates the HWTF-funded portion of QuitlineNC. Given the fluctuations in funding structure during Year 5, this evaluation provides data and analysis on 2009-2010 QuitlineNC callers as a whole, with a special focus on callers who meet definitions of HWTF's traditional target populations: youth ages 17 and younger; young adults ages 18 through 24; school and childcare employees and adults who are the primary caregiver of youth; and women who are pregnant, planning a pregnancy, or have given birth in the last year.

The Centers for Disease Control and Prevention (CDC) recommends that minimum funding for state Quitlines be sufficient to fund call services for at least 2% of the state's smoking population.² In North Carolina, this translates to a minimum Quitline budget of \$3.75 million. In Year 5, QuitlineNC funding totaled \$2.95 million. Total HWTF Quitline funding allocated in Year 5 was \$2.34 million (\$1.2 million for program services and \$1.14 million for promotion). The SHP invested \$456,963 to cover call services and NRT for their members beginning in January. \$92,677 was spent from the ARRA grant awarded to the TPCB to cover services for callers who were uninsured or had Medicaid, beginning in April.

Data show that 8,539 tobacco users from all counties in North Carolina called QuitlineNC in Year 5, including 3,822 (45%) tobacco users who came from a HWTF target group. Using estimates from a seven month follow-up survey conducted by the Quitline vendor, in Year 5 between 742 and 2,322 callers were successfully quit for at least 30 consecutive days at the time of the survey. No wide scale HWTF-funded promotional efforts or media occurred during the first eight months of Year 5. As a result, during the first six months, caller volumes were dramatically lower than observed in the same months during Year 4. TV and radio ads from phase two of the Call it Quits campaign, first launched in March, 2009, were put back on the air in March, 2010, contributing to higher monthly caller volumes. While overall caller volume increased 18% over Year 4, youth and young adult caller volumes decreased substantially compared to all previous years.

The State Health Plan (SHP) comprehensive wellness initiative's new premium structure for tobacco users and provision of Nicotine Replacement Therapy (NRT) via the Quitline was the primary driver of increased caller volume during Year 5. Caller volume spiked most dramatically during the SHP plan enrollment period in March and April, during which time SHP members

accounted for 60% -70% of all callers and of HWTF-group callers. Over one-third of all QuitlineNC callers were SHP member in Year 5, compared to only 5.8% in Year 4.

Data from the NC BRFSS indicate that QuitlineNC awareness reached a high of 57% in 2009, a significant 21% increase over 2008 QuitlineNC awareness, and the first time awareness has reached over 50%. Statewide surveillance data indicate that even as smoking prevalence decreases, the percentage of NC smokers who make quit attempts each year is increasing. Though the increase is not significant, it indicates that changes to the tobacco control landscape and the availability of cessation supports such as the Quitline may be contributing to a positive trend.

Evaluation data indicate that QuitlineNC remains a highly valuable and needed statewide service. For many tobacco users, QuitlineNC is the only accessible resource to help them quit. Currently, QuitlineNC is an underutilized resource for helping North Carolinians quit using tobacco. Based on Year 5 data, UNC TPEP recommends that HWTF establish annual objectives for caller volume, that Quitline promotions occur on a continuous basis and leverage multiple forms of communication channels, that availability of free NRT through the Quitline is expanded, and that HWTF evaluate the cost effectiveness of QuitlineNC. Most of these recommendations are similar to those made by TPEP in the Year 4 Quitline Evaluation report.

A.2. Summary of Key Findings and Outcomes

QuitlineNC Caller Volume

- 8,539 tobacco users called QuitlineNC in Year 5. Among these, 45% (3,822) came from target HWTF caller groups:
 - 98 youth ages 17 and younger;
 - 745 young adults ages 18-24;
 - 2,660 adults who are primary caregivers, teachers, or childcare providers to youth;
 - 319 women who are pregnant, planning a pregnancy, or within 12 months post-partum.
- Overall caller volume increased 18% from Year 4; caller volume for HWTF groups increased 8%.
- Substantially fewer youth and young adults called QuitlineNC in Year 5 compared to all previous years.
- In Year 5, 0.46% of North Carolina's adult smokers called QuitlineNC and 0.45% completed at least one coaching call.
- Year 5 reach for youth and young adult callers was lower, with 0.12% of all North Carolina youth smokers and 0.34% of all young adult smokers calling QuitlineNC.

Promotion and Monthly Caller Volume

- No large scale promotional activities were conducted from July through November; monthly caller volumes during those months were substantially lower than during the same months in Year 4.
- The State Health Plan (SHP) comprehensive wellness initiative's new premium structure for tobacco users and provision of NRT via the Quitline was the primary driver of caller volumes during Year 5:
 - Caller volume spiked dramatically in March and April, during SHP annual enrollment. SHP member accounted for 60%-70% of all callers and of HWTF-group callers during these months.
 - SHP plan changes also appeared to influence higher caller volumes in January, February and June, with approximately 29% of all QL callers and 31% of HWTF-group callers belonging to the SHP during those months.
 - Overall, 36% of QuitlineNC Year 5 callers were SHP members during Year 5, compared to only 5.8% in Year 4.
- TV and radio ads from the "Call it Quits" campaign, targeted to young adults, aired for only four months in Year 5, from March through June.
 - Caller volumes for young adults were higher in March through June and between 43% and 63% of young adult callers reported hearing about QuitlineNC during these months, suggesting the campaign reached its target audience.
 - The media campaign appears to have reached adult callers and substantially impacted increased adult caller volumes, with 38.5% of adult callers not covered by the SHP citing TV or radio as the source for hearing about the Quitline in March through June.
- Among all callers to QuitlineNC, the five most frequently cited sources of information about the Quitline were health professionals, health insurance, employer or worksite, TV commercial, and family or friend. The "top five" list clearly reflects the influence of the SHP benefit change and the lack of a media campaign presence for much of the year. During Year 4 health insurance and employer/worksites were listed by only 3.7% of all Quitline callers and TV ads were listed by 33.7% of callers.
- The HWTF piloted two promotional efforts in Year 5 that resulted in limited numbers of calls to the Quitline.
 - Beginning in October, full time students ages 18-29 at five NC college campuses could receive free NRT through the Quitline; 34 students enrolled from October through March. Eligibility was expanded to all college students ages 18-29 at the end of March, slightly increasing utilization to 145 callers.
 - In June, a mobile text promotion was piloted in one media market. Radio ads promoted the Quitline and encouraged people to sign up for free text messages with support and tips for quitting. While 740 people signed up for the text messages; only 10 of those called the Quitline within one month of the promotion's end.

Caller Demographics and Characteristics

- QuitlineNC had less success reaching populations who experience disparities in tobacco use, effects of tobacco-related diseases, and limited access to healthcare and other cessation resources, compared to Year 4. Black smokers are the only disparity caller group utilizing the Quitline in numbers equal to or higher than their proportion of adults NC smokers. Among all callers:
 - 10% of all callers were ages 18-24, compared to 20.1% in Year 4.
 - 24.5% of all callers identified as Black or African-American, compared to 27.7% in Year 4.
 - 20.5% had no insurance and 12% were insured through Medicaid, compared to 30% and 17.3% in Year 4.
 - 24% had a high school diploma or GED and 13% had less than a high school education, compared to 24.2% and 14.6% in Year 4.
- Among all female callers, 319 (6.4%) were planning a pregnancy, pregnant, or within one year postpartum, slightly fewer than in Year 4 (356, 8.9%).
- Most callers used cigarettes exclusively (90%); 4% used smokeless tobacco exclusively; 4.5% used multiple forms of tobacco. Youth and young adult callers were more likely to use multiple forms of tobacco (20% and 11% respectively).
- Eighty percent of callers reported being in the preparation stage of quitting, indicating that QuitlineNC is successfully reaching tobacco users who are ready to quit in the next 30 days. Eight percent reported being in the action stage, indicating they were working to maintain a quit of between 24 hours and 6 months.
- QuitlineNC callers came from all 100 counties in North Carolina.

Fax Referral Service

- Twelve percent of all callers entered the Quitline via fax referral in Year 5, slightly higher than Year 4 (10%).
- Among HWTF group callers, 10% entered via fax referral, a slightly greater percentage than Year 4 (7.4%).
- Pregnancy group callers were more likely than other groups to enter via fax referral.
- In Year 5, a variety of providers from across the state sent nearly 2,300 fax referrals, which resulted in 1,011 callers registering with QuitlineNC. Fax referrals in Year 4 resulted in 725 callers registering with QuitlineNC.

Quit Rates and Satisfaction

- Analysis by QuitlineNC vendor, Free & Clear, Inc. shows an intent-to-treat 30-day quit rate (quit for at least 30 consecutive days at the time of the 7 month follow-up survey) of 8.7% for all callers, unchanged from the 8.6% rate reported in Year 4. Intent-to-treat quit rates assume that all survey non-respondents are continued smokers, and thus underestimates the true quit rate among all QuitlineNC callers.
- The respondent 30-day quit rate (quit for at least 30 consecutive days at the time of the 7 month follow-up survey) was 27.2%, comparable to the 25.9% rate observed in Year 4. (The respondent rate does not account for the smoking status of survey non-respondents and thus overestimates the true quit rate among all QuitlineNC callers.)
- The true seven month quit rate for QuitlineNC callers lies between the 8.7% intent-to-treat estimate and the 27.2% respondent estimate. Using these estimates, in Year 5 between 724 and 2,322 callers succeeded in quitting tobacco for at least 30 consecutive days by seven months after QuitlineNC registration.
- 30-day intent-to-treat quit rate estimates were significantly higher among adult callers compared to youth or young adults, among callers with insurance compared to uninsured, and among callers who completed three or more coaching calls.
- Seventy-eight percent of all QuitlineNC follow-up survey respondents reported being very or mostly satisfied with QuitlineNC services, similar to satisfaction in Year 4 (75.6%).

Call Center Performance Metrics

- In Year 5, QuitlineNC performance metrics were set in collaboration between Free & Clear and the QuitlineNC leadership team and focused on caller services (e.g. the number of tobacco users who are transferred to a coach at the time of their first call). Metrics were measured and reported by Free & Clear on a quarterly basis. Quarterly data show that Free & Clear consistently met or exceeded performance targets.

Statewide Surveillance Data

- Data from the NC BRFSS indicate that QuitlineNC awareness reached a record high of 57% in 2009, a significant 21% increase over 2008 awareness, and the first time awareness has reached over 50%.
- Statewide surveillance data indicate that even as smoking prevalence decreases, the percentage of NC smokers who make quit attempts each year is increasing. Among adult smokers, 59.3% reported attempting to quit in the last year; 44.5% of high school smokers and 67.9% of middle school smokers reported a quit attempt.

A.3. Recommendations

Program Services

- Establish annual objectives for the target number of callers and fax referrals to better link call volumes, promotional strategies, and program budgets.

Promotion

- Ensure continuous presence of promotional media to maintain steady call volumes from month to month and avoid periods of very low call volume as were observed in the first months of Year 5.
- Expand the “Call it Quits” media buy to more adult oriented outlets to broaden the reach of promotional activities.
- Leverage hard hitting emotional ads currently used for the TRU campaign by tagging ads likely to be seen by young adult and adult audiences with QuitlineNC number.
- Partner with health plans, employers, and worksites to link with health promotion activities and promote QuitlineNC.
- Identify and advocate for or implement strategies to increase the number of North Carolinians ready to make a quit attempt with support from QuitlineNC.

Evaluation and Program Planning

- Assess factors contributing to gap between awareness and use of the Quitline among NC smokers and explore strategies for overcoming these barriers.
- Examine evaluation results from the HWTF Colleges NRT pilot and the State Health Plan NRT project to inform potential expansion of free NRT distribution through the Quitline.
- Ensure that follow-up survey responses achieved by Free & Clear and TPEP reach at least 50% to improve data accuracy and quality.
- Determine ways to assess cost-effectiveness of QuitlineNC and explore potential means of comparing to other states.
- Use North American Quitline Consortium resources to connect with other states that have used cost effective strategies to improve Quitline reach.

B. BACKGROUND

Tobacco use continues to be the leading cause of preventable death and disability in North Carolina. Approximately 12,000 North Carolina adults die from smoking each year, and an estimated 193,000 youth currently under age 18 will die prematurely from smoking. Thousands more survive with chronic, tobacco-related illnesses. Each year, North Carolina spends \$2.5 billion in health care costs directly related to smoking and loses an estimated \$3.5 billion in smoking-related productivity losses.²

In North Carolina, approximately 1.4 million (20.3%) adults over age 18 smoke;³ 16.7% of NC high school students smoke, and 4.3% of NC middle school students smoke.⁴ Smoking rates are highest among young adults, ages 18-24 years old, at 24.1%.³ The need for policies and programs that encourage quitting and improve access to proven cessation resources has increased as declines in smoking rates have slowed in the past decade.

Helping tobacco users quit is a critical step to improving public health and reducing tobacco-related morbidity and mortality in North Carolina. While studies show that most tobacco users want to quit, many make multiple attempts before succeeding and many are unable to successfully quit without support.

Changes in the tobacco control policy environment nationally and in North Carolina, including an increase in the cigarette excise tax and the implementation of legislation prohibiting smoking in restaurants and bars, may encourage cessation attempts for more North Carolina smokers and make the need for access to cessation resources increasingly critical. BRFSS results indicate that the percentage of smokers who report a quit attempt in the past year has steadily increased from 55% in 2005, when the Quitline launched, to 59.3% in 2009 (Table 1). Though the increase is not significant, it indicates that these environmental changes and the availability of cessation supports such as the Quitline may be contributing to a positive trend.

As the smoking prevalence among NC adults steadily declines, concurrent increases in reported quit attempts indicate that progress is being made even among a group of smokers who may face more challenges in quitting. Significant increases in reported quit attempts have occurred among middle school student smokers. A smaller percentage of high school student smokers reported quit attempts in 2009 compared with 2005; however, dramatic declines in smoking prevalence during that time suggest that the students who smoke in 2009 may be a more difficult audience to reach.

Table 1. Reported quit attempts in past year among NC smokers

Year	Adult (18 and over) ⁴		High School Youth ^{5*}		Middle School Youth ^{5*}	
	% Current Smoker	% Reporting Quit Attempt	% Current Smoker	% Reporting Quit Attempt	% Current Smoker	% Reporting Quit Attempt
2009	20.3 (19.0-21.6)	59.3 (55.8-62.7)	16.7 (14.0-19.4)	44.5 (38.9-50.1)	4.3 (3.2-5.4)	67.9 (59.9-75.9)
2008	20.9 (19.9-21.9)	58.3 (55.5-61.1)				
2007	22.9 (21.7-24.1)	56.8 (53.9-59.6)	19.0 (15.9-22.0)	53.2 (46.2-60.2)	4.5 (3.4-5.6)	57 (48.0-66.0)
2006	22.1 (21.1-23.1)	57.3 (54.8-59.8)				
2005	22.6 (21.7-23.5)	54.9 (52.5-57.2)	20.3 (17.5-23.0)	55.5 (49.2-61.8)	5.8 (4.4-7.3)	56.5 (44.9-68.1)

*The NC Youth Tobacco Survey is administered every two years.

B.1. The North Carolina Tobacco Quitline (QuitlineNC)

In October 2005, the NC Health and Wellness Trust Fund and the NC Department of Health and Human Services, Tobacco Prevention and Control Branch jointly funded the NC Tobacco Quitline, or QuitlineNC (1-800-QUIT-NOW). QuitlineNC is a proactive telephone service that helps tobacco users quit their tobacco use by offering callers coaching, support, and referrals to local cessation resources.

Research has shown that Quitlines are an effective and evidence-based approach to tobacco cessation. A meta-analysis of 13 studies reported that proactive Quitlines increase quit rates by 56% compared to quitting with no support.¹ Studies show that providing free nicotine replacement therapy through the Quitline, along with Quitline cessation coaching, is an effective strategy for increasing caller volume, caller satisfaction, and quit rates.⁶⁻⁹ In Year 5, QuitlineNC began providing nicotine replacement therapy as part of its cessation support services to three select populations: full time college students ages 18-29 (October-June), members of the State Health Plan (January through June), and patients at Walter B. Jones Alcohol and Drug Abuse Treatment Center (May through June).

Research has also shown that marketing campaigns promoting Quitlines effectively increase utilization.^{6,10,11} One study reported that young adults respond to mass media Quitline promotion, even when it does not target them.¹¹ Recently updated clinical guidelines from the US Department of Health and Human Services highlight Quitlines as an effective support in quitting.¹³

Call volume varies widely among state Quitlines. The expected number of unique callers who complete an intake with a Quitline, referred to as the promotional reach of a Quitline, is associated with several factors, including state population, tobacco prevalence rates, Quitline resources, years in operation, and level of promotion. Data collected by researchers at the North American Quitline Consortium (NAQC) showed that the median promotional reach of Quitlines to adult smokers was 1.2% in the United States in 2009, with a range among Quitlines

from 0.16% to 9.84%.¹⁴ The CDC estimates that with sufficient funding, promotion, and referral from healthcare professionals, along with availability of NRT through the Quitline, state Quitlines could reach 8% of adult tobacco users annually.¹⁵

According to a 2007 study published in the *American Journal of Public Health*, Quitlines are a viable means of reaching young adult smokers.¹² The study showed that young adult smokers used the California Smoker's Helpline (one of the most established Quitlines in the U.S.) in proportion to their numbers in the state. Young adults from populations that experience disparities in tobacco use, the effects of tobacco-related disease, and access to healthcare resources (e.g. racial and ethnic minorities, low income groups) were also well represented among young adult callers.

Although there is limited research on the effectiveness of Quitlines for youth populations, empirical studies on youth-focused Quitlines in Utah and California have shown promising results. An evaluation of the Utah Youth Tobacco Quitline demonstrated a 43%, 30-day respondent-quit rate for youth callers ages 14-19; intent-to-treat quit rate was not included in the report but is estimated at 25.2%.¹⁶ The 2008 Clinical Practice Guidelines identify the kind of support provided through Quitlines as an appropriate resource for assisting youth smokers in quitting.¹³

QuitlineNC is the first state-funded Quitline in North Carolina. Prior to the launch of QuitlineNC in November 2005, North Carolina residents could access a national tobacco cessation Quitline provided through the National Cancer Institute (NCI) at 1-800-44U-QUIT. Callers to QuitlineNC are routed to Seattle-based Quitline vendor, Free & Clear, Inc. for services. Free & Clear was selected through a national Request for Applications (RFA) process in the spring of 2005 to provide services for QuitlineNC. The contract was officially awarded in July 2005.

Free & Clear is a national leader in phone-based tobacco dependence treatment. The company currently operates several state Quitlines in the U.S. including Utah, Oregon, and South Carolina. Free & Clear has experience providing Quitline services to youth and helping states build public-private partnerships. Free & Clear reports a 45% 30-day respondent quit rate for their employer based cessation program (the respondent quit rate calculation provides overestimates of the actual quit rate; intent-to-treat quit rates are not provided in Free & Clear materials). Average quit rates for the state Quitlines operated by Free & Clear are not available.¹⁷ Quit rates for commercial Quitlines (i.e. those sponsored by an employer) are typically higher than state Quitlines due to differences in the types of callers and available services (i.e. nicotine replacement therapy).

The HWTF funds two statewide prevention and cessation initiatives targeting teens and college students in North Carolina: the Teen Tobacco Use Prevention and Cessation Initiative (begun in 2003) and the Tobacco-Free Colleges Initiative (begun in 2006). In an effort to supplement these initiatives, the HWTF focuses QuitlineNC promotion and special projects work on:

- 1) Youth ages 17 and younger;
- 2) Young adults ages 18-24;
- 3) School and childcare employees and adults who are the primary caregiver of youth under age 18;
- 4) women who are planning a pregnancy, pregnant, or have given birth in the last year (beginning in January, 2009).

The Centers for Disease Control and Prevention (CDC) recommends that minimum funding for state Quitlines be sufficient to fund call services for at least 2% of the state’s smoking population.² In North Carolina, this translates to a minimum Quitline budget of \$3.75 million. In Year 5, QuitlineNC funding totaled \$2.95 million. Total HWTF Quitline funding in Year 5 was \$2.35 million, for promotion and program services. An additional \$94,000 was available for the colleges NRT pilot project. The SHP invested \$456,963 to cover call services and NRT for their members beginning in January. \$92,677 was spent from the ARRA grant awarded to the TPCB to cover services for callers who were uninsured or had Medicaid, beginning in April. HWTF allocated fewer funds to the Quitline in Year 5 compared with Year 4. (Table 2)

Table 2. HWTF Allocated funding over time

Quitline Year	HWTF Total Allocation	Services	Promotion
1 & 2	\$2.03 million	\$1.6 million	\$430,000
3	\$3.02 million	\$829,000	\$2.2 million
4	\$3.02 million	\$1.2 million	\$1.61 million
5	\$2.34 million	\$1.2 million	\$1.14 million
Total	\$10.41 million		

B.2. QuitlineNC Services

QuitlineNC was officially launched on November 1, 2005. All interested tobacco users, providers, and proxies (e.g. family members) are eligible for free telephone assistance from one of Free & Clear’s expert tobacco treatment specialists, or quit coaches. Services are provided in English and Spanish (as well as many other languages), seven days a week between 8:00 am and 3:00 am.

Callers may request information about quitting for themselves, a friend, or a family member. Tobacco users may choose to participate in One-Call or Multi-Call Programs, ask general questions, and/or receive self help materials. All interested callers receive printed cessation support materials and a referral to local programs.

QuitlineNC is a proactive Quitline service. As a proactive service, quit coaches can initiate calls to tobacco users to answer questions and offer program services. Following the first call of the *Multi-Call Program*, tobacco users are offered an additional three proactive calls. Research has demonstrated that Quitline callers who participate in multi-call interventions are more likely to succeed at quitting than callers who participate in single-call interventions.¹

QuitlineNC offers a *customized youth program* to serve callers 17 years of age and younger. Free & Clear’s youth program involves specialized youth protocols including specialized call timing, “Youth Coaches,” program incentives, and materials designed and tested for youth by the California Smokers’ Helpline.

QuitlineNC also offers a *fax referral service*. This service is designed to assist health professionals in connecting their patients to QuitlineNC using a special fax referral form. When QuitlineNC receives the fax referral, a quit coach initiates a call to the patient to assist them with their cessation needs. Information about QuitlineNC and its fax referral service is accessible to the public via the internet at www.Quitlinenc.com.

B.3. Evaluation

The UNC School of Medicine Tobacco Prevention and Evaluation Program (TPEP) conducts the outcomes evaluation for the HWTF, providing evaluation data for the QuitlineNC as a whole with a special focus on HWTF populations of interest. UNC TPEP responsibilities include logic model development and evaluation planning, analyzing QuitlineNC data, providing recommendations, and disseminating results. A framework for this evaluation is outlined in the HWTF Quitline logic model developed by UNC TPEP in collaboration with the HWTF and DHHS and updated yearly as appropriate (Appendix A). Prior evaluation reports are available at http://www.tpep.unc.edu/Quitline_eval.htm.

C. METHODS

In January 2006, UNC TPEP, in cooperation with the HWTF and TPCB, developed a logic model to guide the outcomes evaluation for the HWTF-funded portion of QuitlineNC (Appendix A). This model outlines the resources, activities, outputs, and short-term, intermediate, and long-term outcomes for the HWTF-funded portion of QuitlineNC, and is updated yearly as appropriate.

The QuitlineNC vendor, Free & Clear, collects, cleans, and manages all QuitlineNC caller intake data, call utilization data, and end-of-program survey data. Intake data collection includes Minimal Data Set (MDS) questions outlined by the North American Quitline Consortium. Additional custom questions were added based on recommendation of the HWTF, DHHS, and UNC TPEP to ensure that all data necessary for the evaluation are collected.

Free & Clear sends raw data extracts for each month to UNC TPEP. The extracts include data on callers, demographic information, tobacco use, and use of various Quitline services. The data sets sent by Free & Clear contain information on every call made to the Quitline; TPEP extracts records for each unique caller for analysis for this evaluation. TPEP analyzes data using SPSS with a specific focus on data for callers who use tobacco from HWTF populations of interest (i.e. youth, young adults, primary caregivers, school/childcare employees, and women who are planning a pregnancy, pregnant, or within 12 months of giving birth). Limited analysis of program treatment data (i.e. how many callers who registered with QuitlineNC complete at least one coaching call) is also conducted.

QuitlineNC completed its first year of operation in October 2006. Due to changes in the HWTF's fiscal year for QuitlineNC, the eight month period between November 2006 and June 2007 constituted Year 2. Data from the 20 month period start up period of Years 1 and 2 are combined for evaluation purposes. Beginning in Year 5 (FY 09-10), callers who registered for Quitline services more than once during the fiscal year are counted only once; previous year reports did not account for multiple registrations per caller and may thus provide slight overestimates of caller volume.

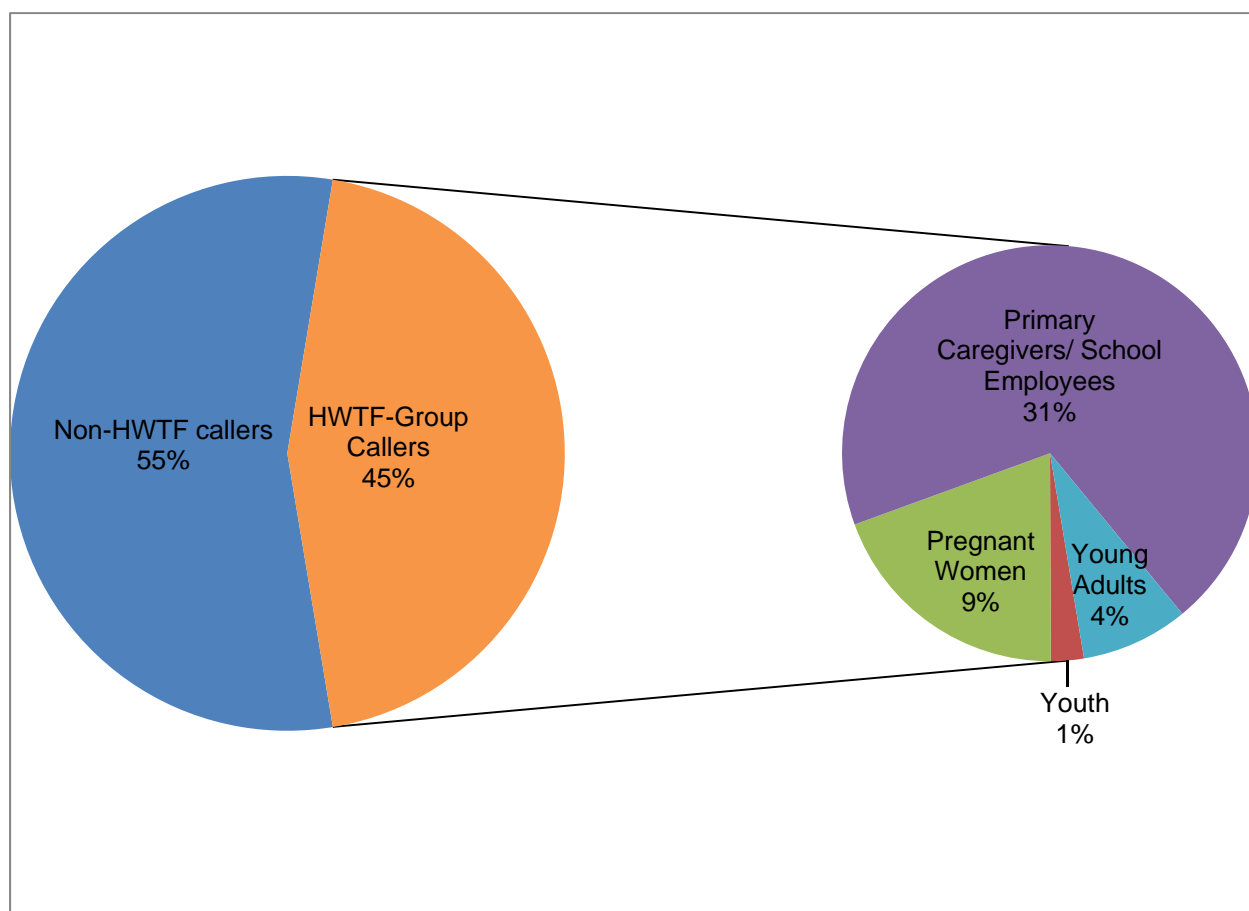
D. SUMMARY OF FINDINGS

D.1. Caller Volume and Promotional Efforts

A total of 9,663 North Carolinians called QuitlineNC during Year 5. Of these callers, 8,539 (88%) were active tobacco users. Among all tobacco using callers, 45% (3,822) were from target HWTF caller groups (Figure 1):

- 98 youth ages 17 and younger;
- 745 young adults ages 18-24;
- 2,660 adults who are primary caregivers, teachers, or childcare providers to youth;
- 319 women who are pregnant, planning a pregnancy, or within 12 months post-partum.

Figure 1: Year 5 Caller Volume by Group (Tobacco users only, n=8,539)

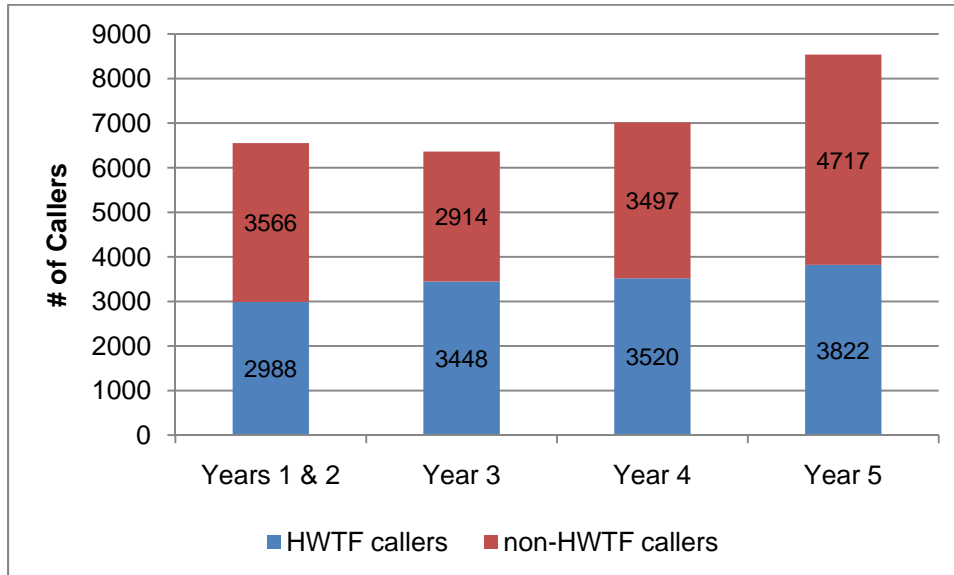


Unless otherwise specified, all data reported reflect only those Quitline callers who use tobacco. For reporting purposes, youth and young adults who fell into a pregnancy group category are categorized as a pregnancy group caller rather than a youth or young adult caller. Among pregnancy-group callers, 8 were ages 17 and under and 131 were ages 18 to 24; youth and young adult callers in the pregnancy group are included in age group analyses for calculating QuitlineNC reach and overall volume trends.

QuitlineNC Caller Volume Over Time

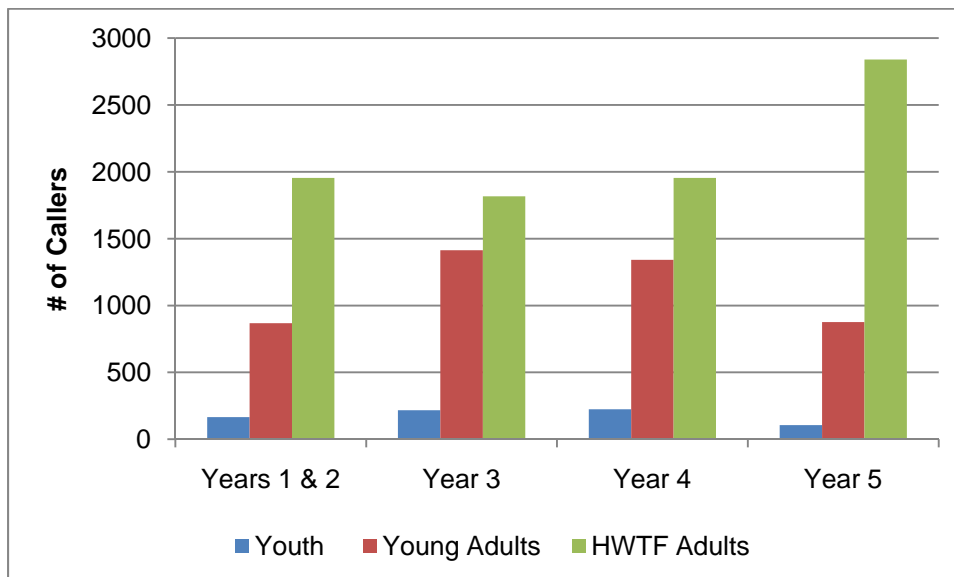
Overall QuitlineNC caller volume has slowly increased since the Quitline launched in 2005, with the first major increase of 18%, occurring in Year 5. Callers from HWTF target groups have consistently represented between 45% and 54% of overall QuitlineNC callers. (Figure 2)

Figure 2: Overall Caller Volume, 2005-2010



The number of HWTF group callers increased 8% between Years 4 and 5. However, caller volumes for both youth and young adults dramatically declined in Year 5, reaching volumes as low or lower than those observed during Years 1 and 2. (Figure 3)

Figure 3: HWTF Group Caller Volume 2005-2010



QuitlineNC Awareness

Data from the NC BRFSS indicate that QuitlineNC awareness among adult smokers reached a high of 57% in 2009, a significant 21% increase over 2008 awareness, and the first time awareness has reached over 50% (Table 3).⁴ Thirty-nine percent of all North Carolina adults are aware of QuitlineNC in 2009, suggesting a moderate level of awareness among adults who may be sources of support for tobacco users who are ready to quit. (This question was new to the BRFSS in 2009 and data over time are not available.) Awareness of QuitlineNC among youth is on par with adult awareness, with results from the 2009 YTS showing that 37% of high school students and 40% of middle school students reporting they have heard of QuitlineNC.

Table 3: Awareness of QuitlineNC among NC adult smokers (BRFSS)

Year	% NC Adults Smokers Aware of QuitlineNC	95% CI
2004	25.2	23.7-27.5
2005	29.2	27.1-31.4
2006	38.8	36.3-41.3
2007	48.7	45.7-51.7
2008	45.1	42.1-48.0
2009	57.0	53.3-60.7

While increases of awareness have occurred concurrently with increases in utilization of QuitlineNC among adult smokers, utilization does not appear to be as high as should be expected given that over half of NC smokers are aware of the Quitline service. In order to increase QuitlineNC utilization, more information is also needed about what factors contribute to the apparent disconnect between awareness and use of the Quitline.

QuitlineNC Year 5 Reach

CDC guidelines for minimum Quitline funding levels assume that 2% of a state's adult tobacco users will call the Quitline each year.⁶ Based on the CDC formula, QuitlineNC should be funded at a minimum of \$3.75 million per year, which translates to investing \$2.60 per adult smoker in North Carolina. The most recent data in the literature indicate that, on average, adequately promoted Quitlines result in between 1% - 2% of tobacco users calling their state Quitlines for help.¹⁰ The 2009 NAQC survey of Quitlines reported that median promotion reach of US Quitlines is 1.2%.¹⁴ Estimates from the CDC suggest that Quitlines could serve 8% of adult tobacco users with sufficient promotion and referral from healthcare providers and the provision of NRT via the Quitline.¹⁵ Achieving 8% QuitlineNC reach would allow over 115,000 adult smokers in North Carolina to get support in quitting each year.

QuitlineNC reach can be measured in two ways. The first, "promotion reach," provides a measure of the proportion of NC smokers who call the Quitline for any reason (e.g. to get self help materials, receiving coaching, etc). The second, "treatment reach," provides a measure of the proportion of NC smokers who receive evidence based cessation treatment in the form of a completed cessation coaching call. Each measure provides information related to short-term outcomes for QuitlineNC (see logic model in Appendix) and is calculated per recommendations from the North American Quitline Consortium (NAQC).¹⁸ Smoking data are used for calculations of both promotion and treatment reach as overall tobacco-use prevalence rates are not available.

The promotion reach for QuitlineNC is calculated based on the number of unique callers to QuitlineNC who smoke cigarettes as a percentage of the total smoking population of North Carolina. In Year 5, approximately 0.46% of North Carolina's adult smokers, 0.34% of NC young adult smokers, and 0.12% of NC youth smokers called QuitlineNC to receive coaching, self-help materials, or ask general questions. (Table 4) Promotion reach rates in Year 5 are comparable to those observed in Year 4 for adults (0.45%). Given the decreased caller volumes for youth and young adults, utilization reach decreased for these populations as well (from 0.48% for young adults in Year 4 and 0.21% for youth).

Table 4. Utilization Reach for QuitlineNC, Year 5.

NC Population ¹⁹	Prevalence of Current Smoking ^{4,5}	# of Callers Who Smoke Cigarettes	% Annual Promotion Reach	Median Promotion Reach for US state Quitlines
Adults, 18 & older (7,107,276)	20.3% (1,442,777)	6,692	0.46	1.2%
Young Adults, 18-24 (957,029)	24.1% (230,643)	805	0.34	--
High School Aged Youth, 15-17 (370,792)	16.7% (63,592)	75	0.12	--

* Measures for youth and young adult smokers are not available.

The treatment reach for QuitlineNC is calculated based on the number of unique smokers who call QuitlineNC and who complete at least one coaching call as a percentage of the total smoking population of North Carolina. In Year 5, approximately 0.45% of North Carolina's adult smoking population completed at least one coaching call, an increase over Year 4 (0.32%). As expected given lower caller volume, treatment reach for young adult smokers was lower in Year 5, at 0.27%, compared to 0.34% in Year 4; treatment reach for you smokers was 0.09% in Year 5, compared with 0.17% of in year 4. (Table 5) The numbers of callers used in these calculations are based on a conservative method for determining if a caller completed a coaching session (some callers who completed a coaching call may be missed using this method due to the structure of caller data collection); actual cumulative treatment reach may be slightly higher.

Table 5. Treatment Reach for QuitlineNC, Year 5.

NC Population ¹⁹	Prevalence of Current Smoking ^{4,5}	# of Callers Who Smoke & Complete Coaching Call	% Annual Treatment Reach	Median Treatment Reach for US state Quitlines
Adults, 18 & older (7,107,276)	20.3% (1,442,777)	6,475	0.45	0.68%
Young Adults, 18-24 (957,029)	24.1% (230,643)	639	0.27	--
High School Aged Youth, 15-17 (370,792)	16.7% (63,592)	60	0.09	--

* Measures for youth and young adult smokers are not available.

QuitlineNC Promotional Efforts and Monthly Caller Volume

The first eight months of Year 5 were marked by an absence of large scale promotional activities, largely due to the lack of funds allocated for television and radio ads during that time. The lack of promotional efforts corresponded with substantially lower caller volumes from July through November than those observed during the same months in Year 4. In December, coasters with the QuitlineNC number and information about the upcoming implementation of the smoke-free bars and restaurants law were distributed to venues across the state. Caller volumes began to increase in December and remained higher through January and February as media attention was given to the smoke-free law implementation and impending changes to the State Health Plan (SHP) premium structure for smokers. Figure 4 shows monthly caller volume for HWTF-group callers only; Figure 5 shows monthly caller volume for all QuitlineNC callers.

Figure 4: HWTF-Group Caller Volume Year 5 (n=3,822)

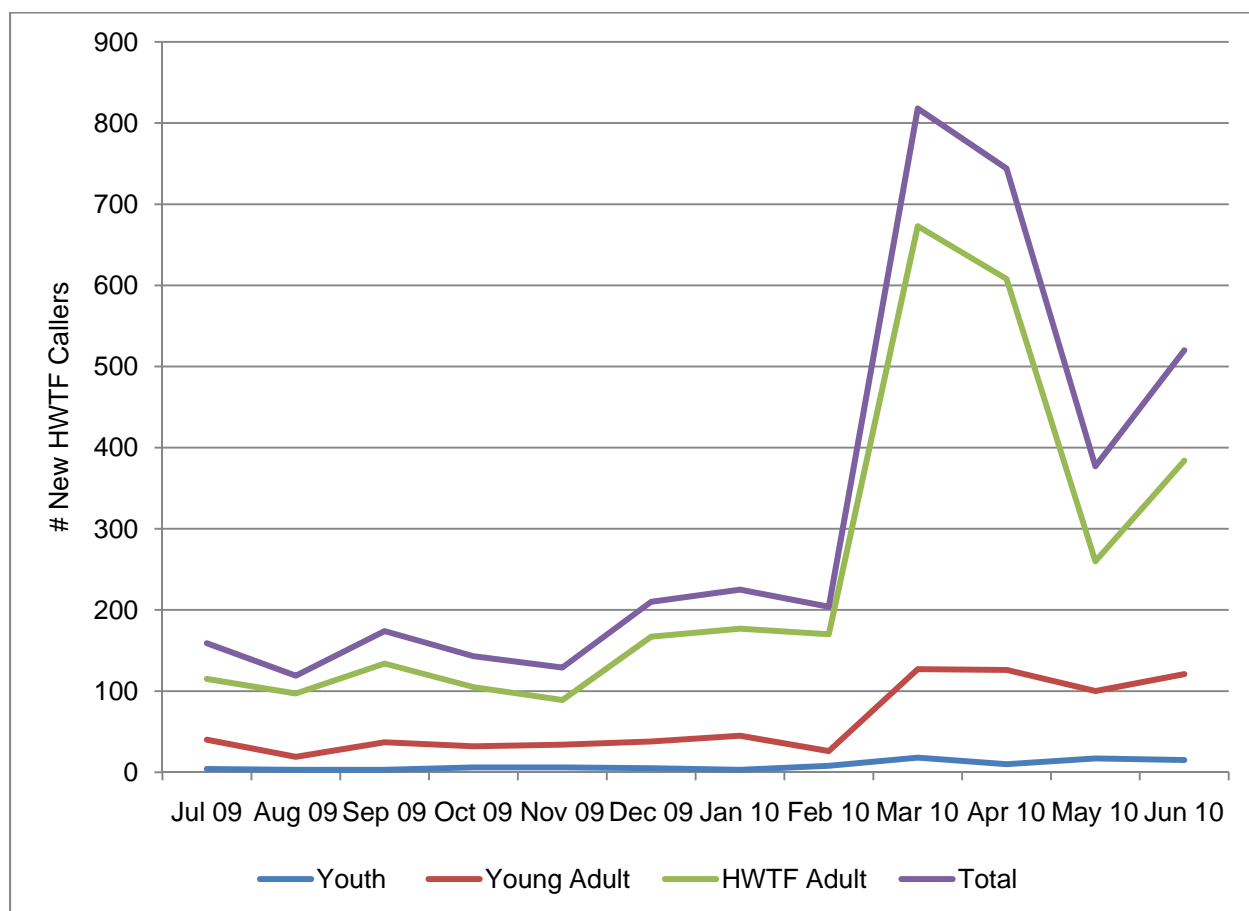
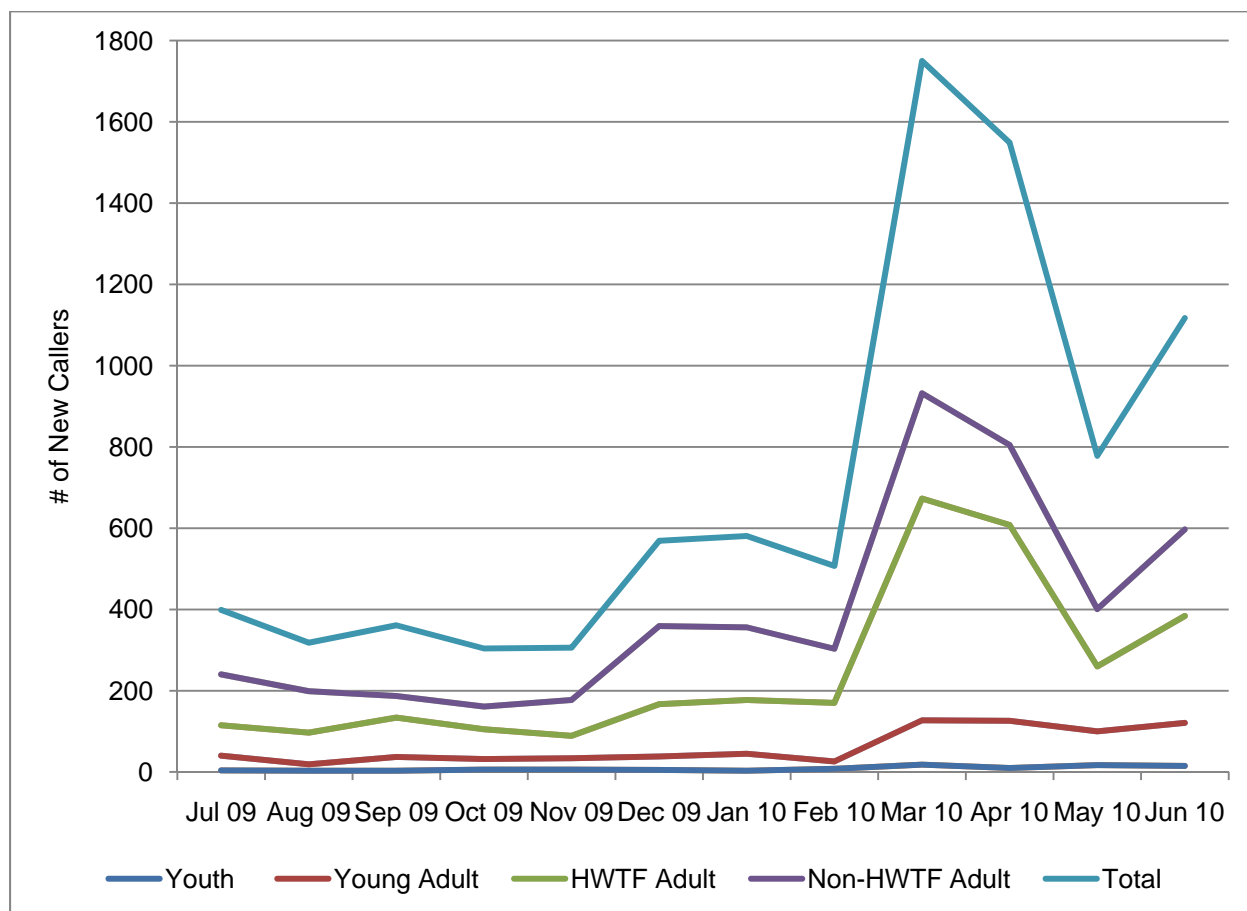


Figure 5: Overall QuitlineNC Caller Volume, Year 5 (n= 8,539)



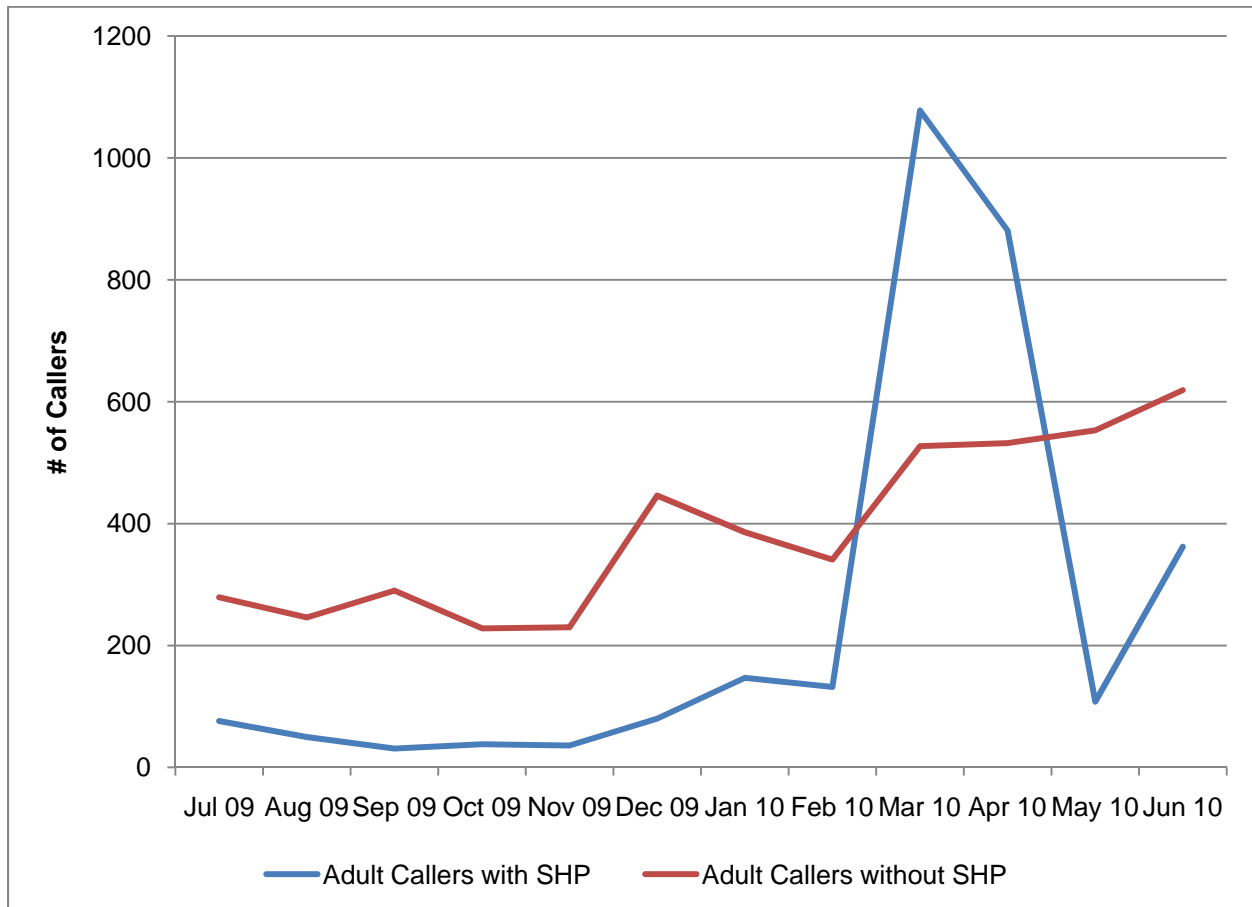
State Health Plan Wellness Initiative

A new “comprehensive wellness initiative” for SHP members mandated higher premiums for tobacco users beginning July 1, 2010. SHP members who used tobacco could avoid higher premiums by enrolling in the Quitline and, beginning in January 2010, could receive free nicotine replacement therapy through the Quitline. These changes drove much of the increased caller volume observed from January through June. SHP callers increased from 317 for the first six months to 2,783 for the last six months. Among the 2,783 SHP members who called from January through June, 82% (2,287) enrolled in the multi-call program and accepted the NRT benefit. The high number of callers accepting NRT suggests that the free NRT benefit was the primary driver of call volume. Because the free NRT was provided in the context of potentially punitive changes to the SHP benefit structure for smokers, closer examination is needed to more fully understand callers’ motives for calling QuitlineNC. Data from an ongoing study of the SHP program will inform these questions and future directions for using NRT as part of QuitlineNC services.

Caller volume spiked most dramatically during March, when the annual enrollment period opened for many SHP members. (Figure 6) The SHP wellness initiative was the primary driver of overall caller volume as well as HWTF-group caller volume during March and April. SHP members accounted for 63.5% of all adult callers in March and 59% in April. During those months, nearly half of all callers cited one of three sources likely related to the SHP benefit change for hearing about the Quitline: SHP benefit change, employer/workplace, or health insurance. Overall, 36% of QuitlineNC Year 5 callers had health insurance through the State Health Plan, compared to only 5.8% in Year 4.

The SHP benefit change was also the primary influence on higher caller volumes among HWTF-group callers during March and April. Among HWTF-group callers, 66% were SHP members in March and 62.5% in April; employer/worksite and health insurance plan were the most frequently cited sources for hearing about the Quitline during those months. The SHP wellness initiative appears to have substantially influenced caller volume during January, February and June as well, with 29% of all callers and 31% of HWTF-group callers belonging to the SHP during those months.

Figure 6. Adult (25 and over) Caller Volume by SHP Group, Year 5 (n=7,696)



QuitlineNC Promotional Media

Research indicates that targeted Quitline promotional campaigns are effective at driving callers to the Quitline,^{6,10,11} and previous evaluations demonstrated that television and radio ads promoting QuitlineNC have consistently succeeded in increasing HWTF-group caller volumes. No ads were aired for the first eight months of Year 5, during which time caller volumes were very low. TV and radio ad from the HWTF “Call It Quits” media promotional campaign, first used during Year 4, began airing in March and continued through the end of the fiscal year.

While the “Call it Quits” campaign was targeted to young adults, the media buy emphasized ad placements that would reach both young adults and adults when possible. In the months of March through June, 53.6% of young adult callers reported hearing about QuitlineNC via radio or television ads, suggesting that the “Call It Quits” campaign continued to reach its target audience. In total, 254 young adult callers reported they heard about the Quitline via TV or radio ads in March through June. While it is likely that the campaign resulted in additional young adult callers during this time, an overall higher number of young adult callers during the last four months of Year 5 might be expected given the \$1.14 million investment in TV and radio promotion concentrated during that period.

In past years, the “Call it Quits” campaign has had substantial spill over to adult callers, with monthly adult caller volume increases coinciding with the presence of TV and radio ads. As the ads began airing in the same month as SHP enrollment opened, it is difficult to determine the relative influence of the media campaign and the SHP premium changes on the dramatically increased caller volumes observed from March through June. Data on how adult callers heard about the Quitline suggest that the SHP premium changes more strongly influenced overall adult caller volume in March and April, with 48% of all adult callers in March and 46% in April citing their employer, health insurance, or “SHP Benefit Change” as the source for hearing about the Quitline. However, among adults without SHP insurance, 38.5% reported hearing about the Quitline via TV or radio, suggesting that the “Call It Quits” campaign had substantial influence on caller volume among these adult callers.

The HWTF piloted a mobile texting promotion in the Raleigh-Durham-Chapel Hill market during June. The pilot was promoted via radio ads promoting the Quitline and encouraging tobacco users to sign up for a series of free text messages with supportive messages about quitting. Each text included a supportive message or a tip followed by encouragement to call the Quitline for more support or information. A total of 740 people signed up for the text messages and 10 of those called the Quitline (numbers were tracked through one month following the end of the text pilot period). Insufficient information about the text pilot participants is available to fully understand the low rate of Quitline utilization. It is possible that people viewed the text messages as a starting point but were not ready to quit, or that people who were open to the idea of receiving support via a text message are unlikely to use a more directly engaged support strategy like a personal phone call.

HWTF Colleges NRT Promotion

From October, 2009 through March, 2010, the HWTF led a demonstration project on five NC college campuses that provided free NRT through the Quitline for any full time student ages 18 to 29 from one of the five campuses. The project was promoted primarily through email and brochures distributed by campus staff; no media or other large scale promotions were conducted. A small but significant increase in callers occurred on the five campuses; no

increases in the control group (other NC campuses) occurred during the same period. However, only 34 students eligible for free NRT called the Quitline during the six month project. The free NRT benefit was extended to full time students ages 18-29 enrolled in all colleges in NC on March 24, 2010. Following the expansion, caller volume among this target group increased, but only slightly. As minimal promotion specific to the college NRT benefit occurred, it is likely that the reinstatement of the “Call it Quits” campaign contributed heavily to the uptake of callers eligible for free NRT observed after March. From March 24 through the end of the fiscal year, 145 students accepted the NRT benefit; a total of 189 students received NRT through this project in Year 5. While utilization of the NRT benefit increased when open to students across the state, the project’s overall low number of callers indicate that the strategies used to promote the project were not effective for driving the kind of caller volume observed in states that have successfully used widespread earned media to promote free NRT to large numbers callers.⁹

Callers “How Heard About” Summary

Figure 7 shows the five most frequently reported ways all QuitlineNC callers heard about the Quitline. The “top five” list clearly reflects the influence of the SHP benefit change and the lack of a media campaign presence for much of the year. During Year 4 health insurance and employer/worksite were listed by only 3.7% of all Quitline callers and TV ads were listed by 33.7% of callers.

Figure 7. All QuitlineNC Callers, Top 5 “How Heard About,” Years 4 & 5

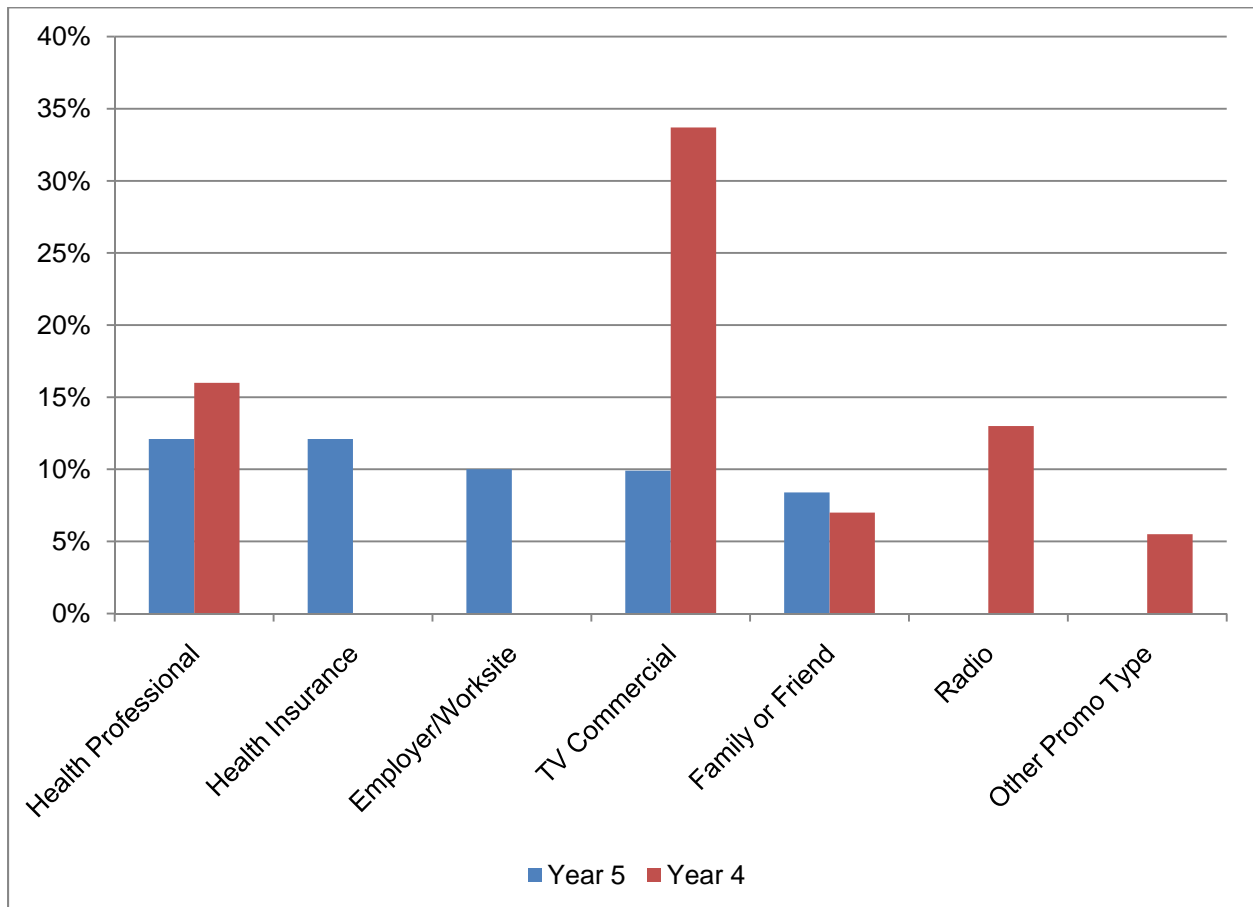
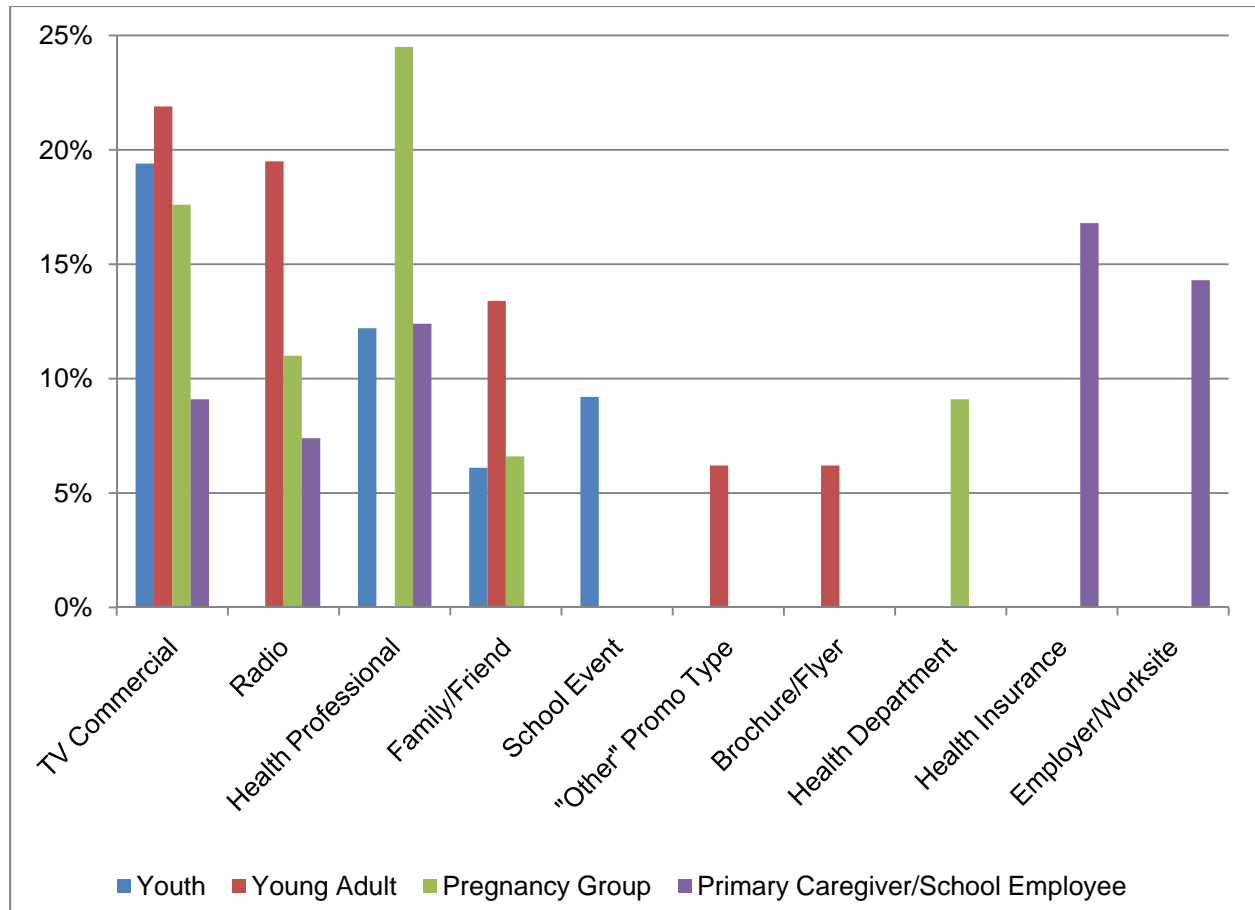


Figure 8 shows the top five “how heard about” categories for each HWTF caller group. A higher percentage of youth and young adult callers heard about the Quitline via TV and radio, highlighting the critical importance of sustaining a consistent media promotion presence if these groups continue to be target groups for the HWTF. Compared to other caller groups, young adults were more likely to hear about the Quitline from a family member or friend and less likely to hear about it from a health professional. Novel strategies to reach young adults may be needed, especially during times of low media promotion activity.

Figure 8. HWTF-Group Callers, Top 5 “How Heard About,” Year 5



D.2. QuitlineNC Caller Demographics and Call Characteristics

Caller Demographics

Demographics for all QuitlineNC callers, young adult callers, and youth callers are presented in Table 5. A higher proportion of young adult (56%) and youth (53%) callers were male compared to the overall caller population (37%). Young adult callers were also more likely to be uninsured (43%) compared to the overall QuitlineNC population (20.5%).

Table 5: QuitlineNC Caller Demographic Characteristics (Tobacco users only, n = 8,539)

Demographic Characteristic	ALL QuitlineNC Callers (n=8,539)		Young Adult Callers (n=745)		Youth Callers (n=98)	
	#	%	#	%	#	%
Gender*						
Female	4963	58.1	325	43.6	46	46.9
Male	2867	37.3	419	56.3	52	53.1
Age Group[†]						
17 and under	106	1.3	-	-	98	100
18 to 24	877	10.9	745	100.0	-	-
25 to 34	1,334	16.5	-	-	-	-
35 to 44	1,474	18.2	-	-	-	-
45 to 54	2,154	26.7	-	-	-	-
55 to 64	1,691	20.9	-	-	-	-
65 and older	441	5.5	-	-	-	-
Race[‡]						
White	4979	58.3	471	63.2	61	62.2
Black or African American	2096	24.5	149	20.0	12	12.2
American Indian or Native Alaskan	151	1.8	12	1.6	5	5.1
Other Race	332	3.9	54	7.2	8	8.2
Not Collected	981	11.5	59	7.9	12	12.2
Health Insurance						
State Health Plan	3103	36.3	81	10.9	-	-
Other Private Insurance	1,401	16.4	125	16.8	-	-
Medicare	562	6.6	6	0.8	-	-
Medicaid	1023	12	88	11.8	-	-
Uninsured	1747	20.5	327	43.9	-	-
Missing/Not Collected/Refused	703	8.2	23	3.1	98	100.0
Pregnancy Status (female callers only, n = 4,963)*						
Planning Pregnancy, Pregnant or within 12 months post-partum	319	6.4				
Not in a Pregnancy Group	4,644	93.6				

*238 (2.8%) of callers were missing data on gender

†All youth and young adult callers who fell into a pregnancy group are classified as a pregnancy-group caller. Among pregnancy group callers, 8 were ages 17 and under and 131 were ages 18-24.

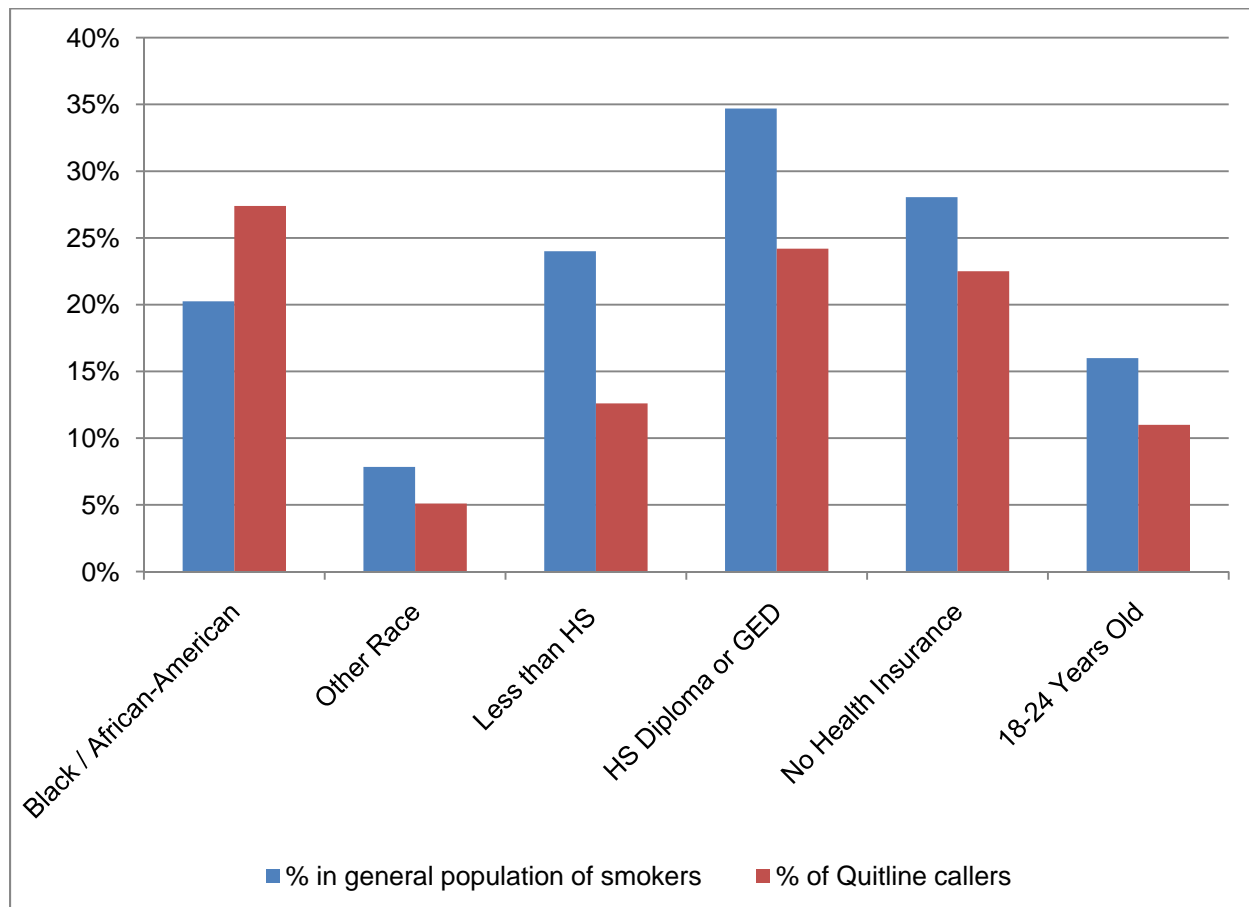
‡ "Other" includes callers who reported race as Asian, Arab or Arab American, or Native Hawaiian/Other Pacific Islander; each category equaled less than 1% of the total callers

In Year 5, QuitlineNC had less success reaching callers from populations who experience disparities in tobacco use, effects of tobacco-related diseases, and limited access to healthcare or other cessation resources (e.g., racial and ethnic minority groups and people with low socioeconomic status), compared to Year 4. These groups include smokers who: identify their race as Black/African American or who are categorized as “other race;” are ages 18-24; have no health insurance; or have lower levels of educational attainment. Among all callers:

- 10% of all callers were ages 18-24, compared to 20.1% in Year 4.
- 24.5% of all callers identified as Black or African-American, compared to 27.7% in Year 4.
- 20.5% had no insurance and 12% were insured through Medicaid, compared to 30% and 17.3% in Year 4.
- 24% had a high school diploma or GED and 13% had less than a high school education, compared to 24.2% and 14.6% in Year 4.

To ensure that the Quitline is being promoted and utilized by callers from these groups, it is helpful to examine if smokers are calling from each group in proportion to their representation in the population of adult smokers in NC. In Year 5, Black smokers are the only disparity caller group utilizing the Quitline in numbers equal to or higher than their proportion of adult NC smokers (Figure 9). As the only statewide, free cessation resource, QuitlineNC is an important tool in reducing disparities for these groups. More work is needed to ensure that smokers from these groups are aware of and motivated to use the Quitline.

Figure 9: QuitlineNC Callers From Disparate Populations, Year 5



Caller Characteristics

Mode of Entry

Most QuitlineNC callers (88%) entered the Quitline via a caller initiated phone call to the Quitline; 1.5% of these callers completed a registration call in Spanish. Overall, 12% of callers entered the Quitline via fax referral. Pregnancy-group callers were more likely than other groups to enter via a fax referral. More details about fax referrals are in section D.3.

Tobacco Use

Most QuitlineNC callers (90%) smoked cigarettes exclusively; about 4% of all callers used smokeless tobacco exclusively and 4.5% used multiple forms of tobacco. Compared to other caller groups, youth and young adult callers were more likely to use multiple forms of tobacco (20% and 11%, respectively). Among callers who smoked cigarettes, 86% smoked every day.

Stage of Change

Eighty percent of callers reported being in the preparation stage of quitting, indicating that QuitlineNC is successfully reaching tobacco users who are ready to quit in the next 30 days. Eight percent of all callers reported being in the action stage, indicating they were working to maintain a quit of between 24 hours and 6 months. Compared to other caller groups, pregnant women and primary caregiver/school employees were more likely to be in the preparation stage (87.5% and 86% respectively).

Services Requested

At registration, over 90% of tobacco using callers requested a cessation counseling intervention from a quit coach; 75% of those callers requested a multi-call service and 25% requested a single call service.

Counties Reached

QuitlineNC callers came from all 100 counties in North Carolina. Mecklenburg, Wake, Guilford, Forsyth, and Durham counties had the highest numbers of callers and accounted for 28% of all QuitlineNC callers.

D.3. Fax Referral Service

QuitlineNC's fax referral service allows health professionals to connect their patients to the Quitline. In Year 5, no large scale fax referral specific promotions were conducted by the HWTF. HWTF grantees engage in varying levels of outreach to healthcare providers to promote the fax referral service. Other organizations in the state work on an ongoing basis to promote and provide education about the fax referral service to healthcare providers. The NC Tobacco Prevention and Control Branch conducts outreach and educational efforts related to the fax referral with healthcare providers around the state. NC Prevention Partners encourages hospital-based healthcare providers to use the fax referral service through ongoing outreach and recognition of high performing hospitals as part of their ongoing "Fax Referral Challenge." In addition to the Fax Referral Challenge, which runs throughout the year, Prevention Partners coordinates a series of monthly or bi-monthly "mini-challenges."

In Year 5, a variety of providers from across the state sent nearly 2,300 fax referrals, which resulted in 1,011 callers registering with QuitlineNC. The high number of fax referrals not resulting in Quitline registration highlights the challenges involved in training providers to use the fax referral service in an optimal way (i.e. providing sufficient information and support to patients and ensuring that patients are motivated to quit) as well as in reaching fax-referred callers who are highly mobile and may not answer initial Quitline calls for a number of reasons.

The number of callers entering the Quitline via fax referral has steadily increased over the last three years. (Figure 10) Overall, 12% of QuitlineNC callers entered via a fax referral in Year 5, a slight increase from Year 4 (10%). Among HWTF-group callers, 10% entered via fax referral, also a slightly greater percentage than Year 4. Monthly fax referral patterns for adult callers were similar to patterns in caller volume, with higher number of referrals occurring during the second half of the fiscal year (Figure 11); it is likely that the SHP changes heavily contributed to this increase. Among all fax referred callers, 73% indicated they were in the preparation stage of quitting (ready to quit in the next 30 days) and 16% indicated they were in the action stage (working to maintain a current quit of between 24 hours and 6 months).

Figure 10. Callers Entering QuitlineNC via Fax Referral, All Years (n= 2,406)

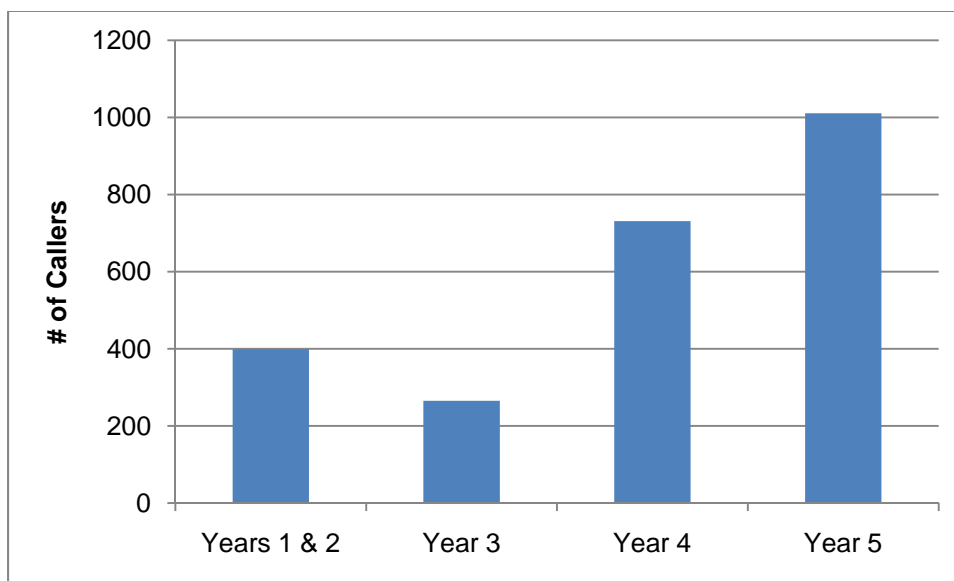
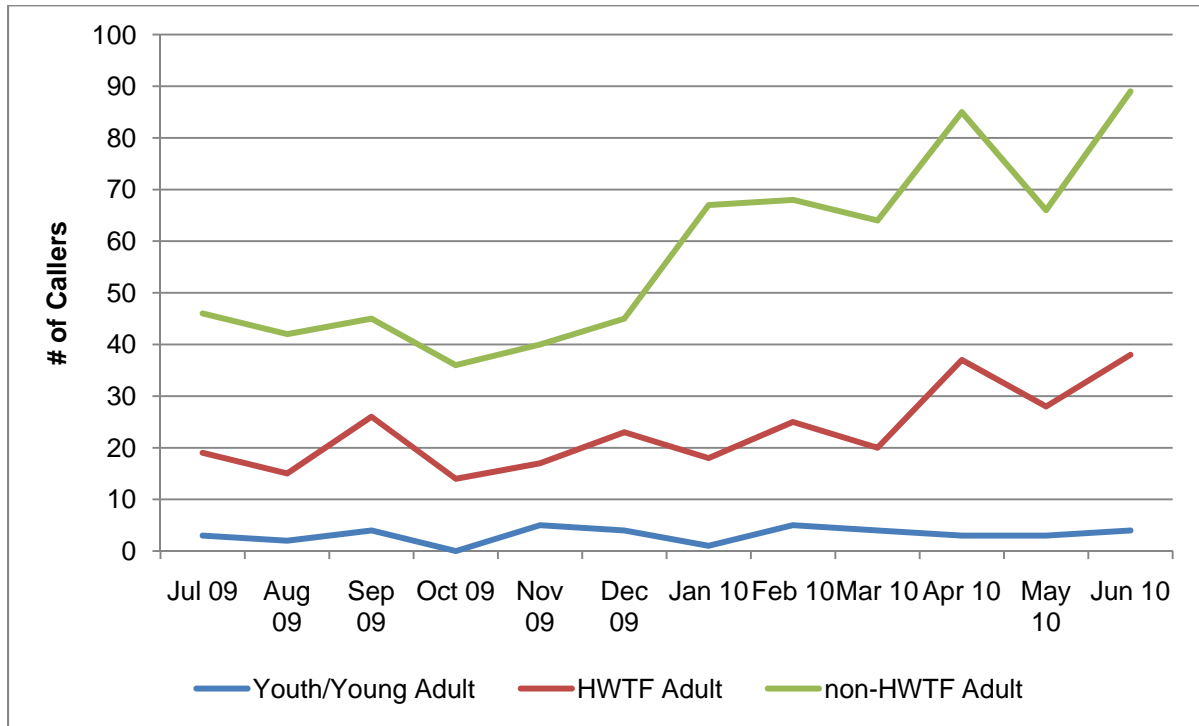


Figure 11. Monthly Callers Entering QuitlineNC via Fax Referral, Year 5 (n=1,011)



D.4. Satisfaction and Quit Rates

The QuitlineNC vendor, Free & Clear, assesses QuitlineNC callers' success with quitting and satisfaction with Quitline services through an End-Of-Program (EOP) survey administered to a group of callers seven months post-registration. The survey is administered via telephone to a randomly selected sample of QuitlineNC callers. Callers are considered successfully quit tobacco use if they report being quit for at least 30 consecutive days at the time of the seven month follow-up survey.

Quit rate and satisfaction results for Year 5 callers were summarized in the North Carolina Tobacco Use Quit Line Evaluation Report Year 5 published by Free & Clear in May 2010.²⁰ UNC TPEP did not complete any additional analyses on EOP survey data. The following section summarizes results for HWTF-group callers documented in Free & Clear's Report.

For this evaluation, Free & Clear attempted to survey 1,152 individuals who called QuitlineNC between January 1, 2009 and September 30, 2009, in order to obtain a sample of 392 completed surveys (196 youth and young adults and 196 adults age 25 and over). This number was estimated to provide satisfaction and abstinence rates with 95% confidence and 5% precision. Sampling methods were designed to achieve sufficient numbers to explore differences between several sub-groups of callers, including HWTF-group populations. The overall survey response rate was 32.6%.²⁰ Low response rates are reported to be a problem across states for which Free & Clear provides follow-up surveys, and efforts are being made to improve rates.

Table 4 summarizes satisfaction and quit rate data for HWTF-funded callers. Quit rates are reported in two ways:

- *Respondent quit rates* are calculated by dividing the number of respondents who report quitting by the total number of respondents to the EOP survey. Because the respondent quit rate does not account for the smoking status of survey non-respondents, it provides an overestimate of the actual quit rate.
- *Intent-to-treat quit rates* are calculated by dividing the number of respondents who reported quitting by the total number of survey respondents and non-respondents (i.e. those in the sample who did not complete the survey). Because intent-to-treat analysis treats all non-respondents as continued smokers, it provides an underestimate of the true quit rate among all QuitlineNC callers.

The accuracy of each quit rate measure depends on the survey response rate. NAQC recommends that follow-up surveys achieve at least a 50% survey response rate in order to support accurate quit rate measures.²¹ Because of the low survey response rate achieved in the Year 5 follow-up survey, we report both respondent and intent-to-treat quit rates, recognizing that the true quit rate for QuitlineNC callers lies somewhere between these two measures.

Table 6 shows estimated quit rates and satisfaction for Year 5. Among all QuitlineNC callers who responded to the survey (n=368), there was an estimated 8.7% intent-to-treat 30-day quit rate, unchanged from the 8.6% quit rate reported for Year 4. The estimated respondent rate was 27.2%, comparable to the 25.9% rate observed in Year 4.²² Using these estimates, between 742 and 2,322 QuitlineNC callers quit their tobacco use in Year 5.

Estimated intent-to-treat 30-day quit rates were somewhat varied across HWTF caller groups, while respondent rates were similar across HWTF groups and compared to the overall respondent rate. The intent-to-treat quit rate for primary caregivers/school employees was 9.9%, compared to 8.1% in Year 4. Estimated intent-to-treat 30-day quit rates were 6.3% for young adults and 6.7% for youth who responded to the follow up survey, compared to 4.3% and 7.7%, respectively, in Year 4. The very small sample sizes used in these samples, however, suggest that these results should be interpreted cautiously.

Both 7 and 30 day intent-to-treat quit rates were significantly higher among adult callers compared to youth or young adults, among callers with insurance compared to uninsured, and among callers who completed three or more calls. Small sample sizes for some of these groups suggest that these results should be interpreted cautiously.

Seventy-eight percent of all QuitlineNC respondents reported being very or mostly satisfied with QuitlineNC services, comparable with satisfaction in Year 4 (75.6%). Overall, 72% of primary caregivers/school employees, 76% of young adults and 69% of youth reported being very or mostly satisfied with QuitlineNC services.

Table 6. Summary of Satisfaction and Quit Rates for HWTF Callers from Free & Clear Report* (n=145)²⁰

	Overall QuitlineNC (n=368)		Youth (n=16)		Young Adults (n=108)		Primary Caregivers/ School Employees (n=115)	
	N	%	N	%	N	%	N	%
Satisfaction Rate								
Very Satisfied	173	50.7	6	37.5	54	51.9	55	53.4
Mostly Satisfied	75	22.0	5	31.3	25	24.0	19	18.4
Somewhat Satisfied	56	16.4	4	25.0	22	21.2	12	11.7
Not Satisfied	37	10.9	1	6.2	3	2.9	17	16.5
Number of Serious Quit Attempts Lasting >24 hours								
0 time	38	13.2	1	9.1	7	7.7	17	18.9
1 time	76	26.4	2	18.2	25	27.8	24	26.7
2 times	57	19.8	1	9.1	25	27.8	16	17.8
3 times	58	20.1	3	27.3	16	17.8	14	15.5
4 or more	59	20.5	4	36.3	17	18.9	19	21.1
7-Day Point Prevalence Tobacco Abstinence Rates (n: number reporting a quit of at least 7 days)								
Respondent 7-Day Quit Rate	117	31.8	5	31.3	35	33.3	33	28.9
Intent-to-treat 7-Day Quit Rate	117	10.2	5	8.3	35	7.6	33	10.9
30-Day Point Prevalence Tobacco Abstinence Rates (n: number reporting a quit of at least 30 days)								
Respondent 30-Day Quit Rate	100	27.2	4	25.0	29	27.6	30	26.3
Intent-to-treat 30-Day Quit Rate	100	8.7	4	6.7	29	6.3	30	9.9

* Some respondents did not answer all questions. Free & Clear reports percentages calculated based on the number of respondents to each question.

D.5. Call Center Performance Metrics

A 2010 Issue Paper produced by NAQC outlines a number of key performance indicators by which to assess Quitline efficiency and quality.²⁴ These are based on indicators used by call centers in other service industries and are heavily focused on call center operation metrics such as average on-hold time. Establishing standard performance measurements is a new area of discussion in the Quitline community and, at this time, no work has been done to establish benchmarks for these measurements. NAQC advises state Quitlines funders and service providers to jointly decide which measurements are best suited to their program goals and establish appropriate tracking mechanisms.

QuitlineNC stakeholders work with Free & Clear to establish performance measures and targets and track them on a quarterly basis. At this time, QuitlineNC performance measures are specific to caller services (e.g. the number of tobacco users who are transferred to a coach at the time of their first call or qualitative measures related to coaching call content), and do not focus on the call center operation measures laid out in the NAQC issue paper. QuitlineNC stakeholders should discuss whether tracking additional performance measures would help achieve program goals and should stay abreast of the ongoing national level discussion around performance metrics and benchmarks.

Quarterly data show that Free & Clear is consistently meeting or exceeding targets on each performance measure. All data collection and reporting on these metrics is performed by Free & Clear and results are discussed with the QuitlineNC contract administrator.

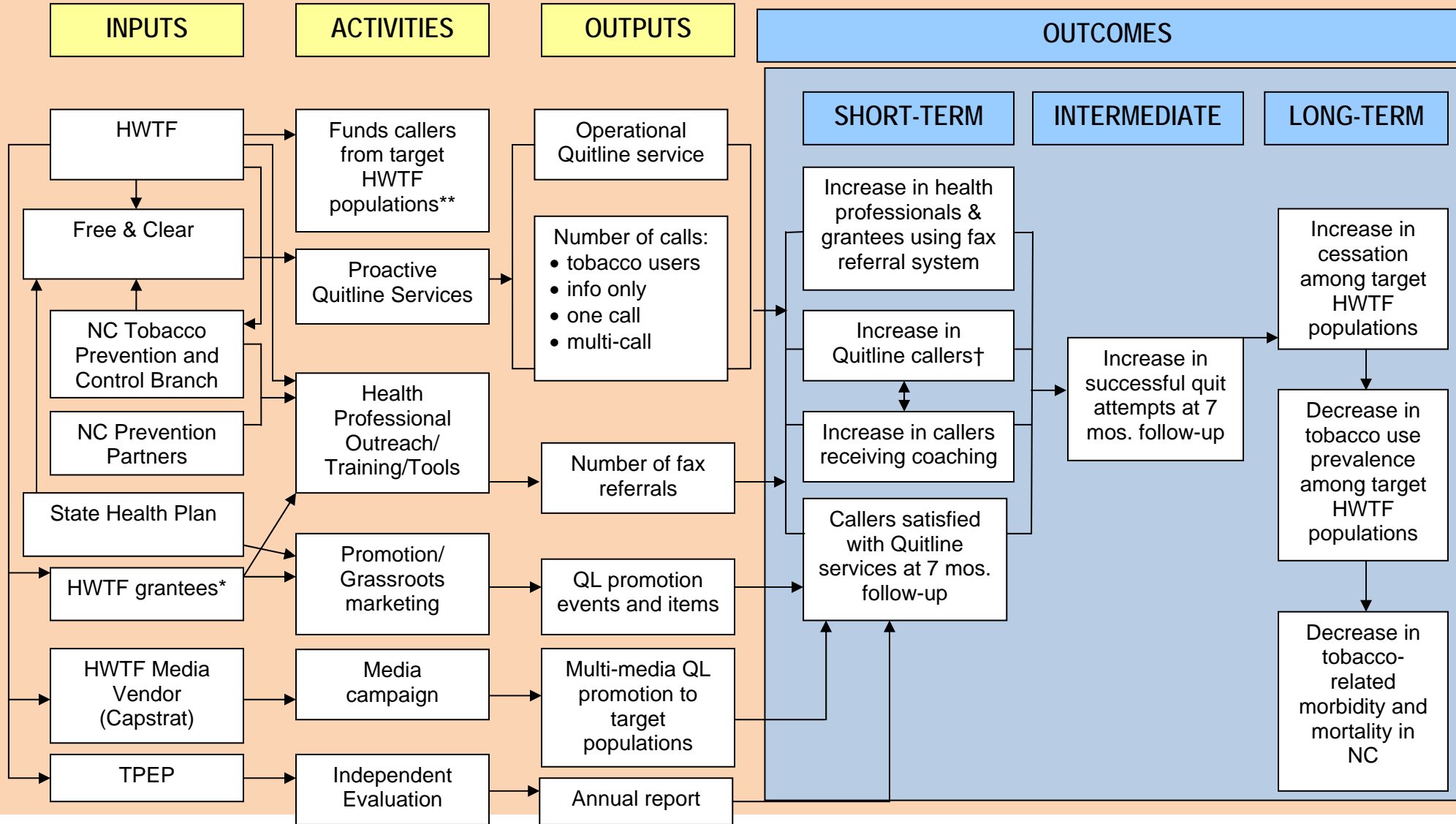
Appendix C QuitlineNC Evaluation Logic Model

FY 09-10 Evaluation Logic Model for HWTF-funded Portion of QuitlineNC

*Teens; Colleges; You Quit 2 Quit; Old North State

**Target Populations = Youth, Young Adults, Primary Caregivers/School Employees, Pregnant Women, Adults with private health insurance or Medicare (HWTF funding groups change throughout year)

† Assumption that increased callers = increased callers at later stages of change who are more ready to quit and thus more likely to succeed



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