Connecticut Tobacco Use Prevention and Control Program

Community Cessation Programs

2013-2015 FINAL REPORT

PREPARED FOR:

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DPH Keeping Connecticut Healthy

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1 EXECUTIVE SUMMARY

Evaluation data show that the 2013-2015 Connecticut community-based tobacco cessation programs reached tobacco users from populations that experience disparities in tobacco use and related illness, particularly those with low socioeconomic status and/or a history of treatment for mental illness, at rates higher than their proportion of Connecticut adult smokers. Ninety percent of clients had no prior experience with cessation counseling and nearly half reported smoking one or more pack of cigarettes per day, indicating that these programs provided access to evidence-based services for a high risk population of tobacco users who may not have engaged or received cessation support through other venues. Client utilization of counseling sessions and cessation medication was high, and greater utilization of services was associated with higher likelihood of quitting. The programs appear to have been well implemented, reached more than 1,000 high-risk tobacco users, and achieved quit rates comparable to the Connecticut Quitline. Continuing to provide free nicotine replacement therapy (NRT) and incentivizing session completion, restructuring long term follow-up strategies, and incorporating additional outcome measures to better capture changes in client tobacco use should be considered for future community-based tobacco cessation programming.

In 2009, the Connecticut (CT) Department of Public Health (DPH) Tobacco Use Prevention and Control Program incorporated community-based tobacco cessation programs as a key component of CT's comprehensive tobacco control efforts. This report provides final evaluation findings for eight agencies funded from 2013 – 2015 (November 1, 2013 – June 30, 2015). All programs were based in health or mental health agencies and provided face-to-face counseling in individual and group settings and up to 12 weeks of free nicotine replacement therapy (NRT). The programs provided evidence-based cessation treatment to over 1,100 tobacco users, with six agencies meeting or exceeding their target enrollment goals. Agencies served high-risk clients (i.e., high addiction, challenging social circumstances) from populations that experience disparities in tobacco use and related health conditions at rates higher than the proportion of adult smokers in CT. Client quit rates were between 14% and 25% at program completion or dropout, and between 8% and 26% at four month follow-up, comparable to CT Quitline rates.

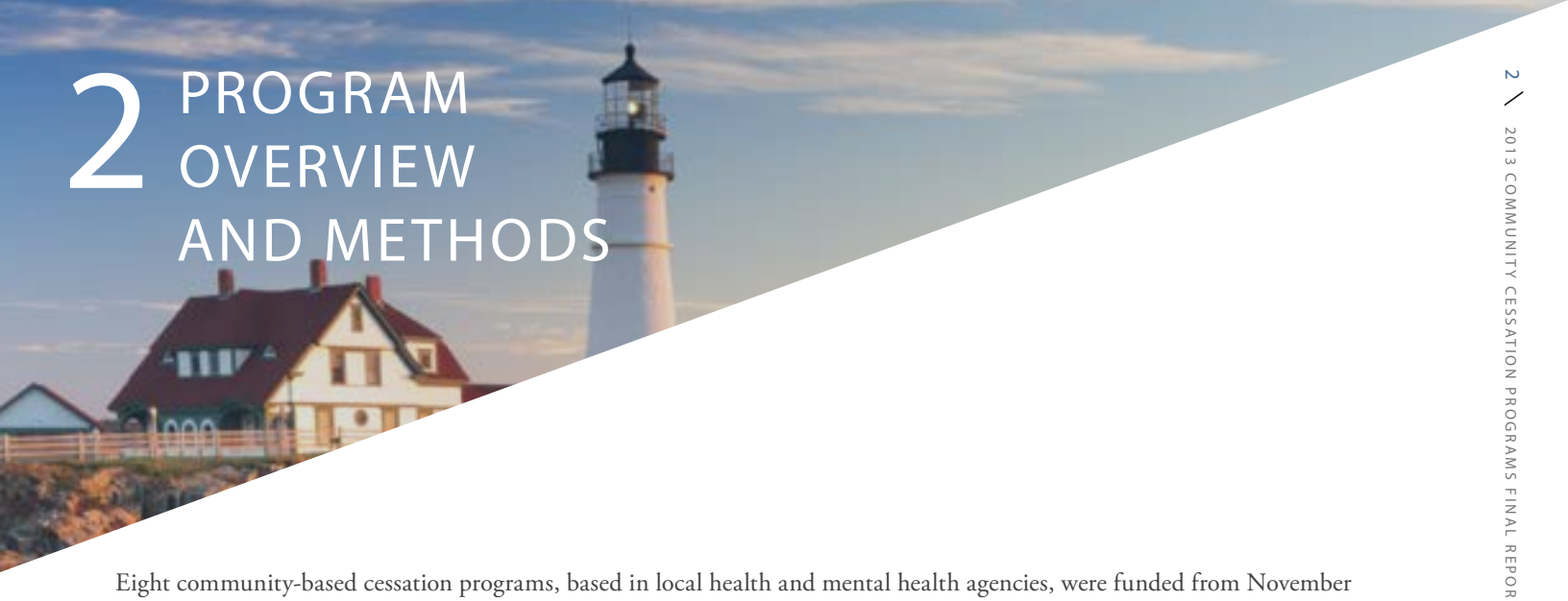
Program staff reported minimal program level barriers to implementing services in their agencies, with only two staff describing some difficulty getting buy-in from providers and staff with their agencies. All staff described the importance of using a variety of outreach and marketing techniques to engage and secure buy in from providers within their own agencies and in their communities as a key factor for successful program implementation. While almost all programs met or exceeded enrollment goals, staff reported that the challenging life circumstances experienced by many clients, especially clients with co-occurring mental health, substance abuse, and/or physical conditions, presented significant barriers to keeping clients engaged in services through program completion. Providing free NRT, offering incentives for session completion, and providing flexibility in session scheduling and communication modalities were identified as key strategies for keeping clients engaged in the program. Attending more counseling sessions was associated with greater likelihood of quitting.

Future community-based tobacco cessation programming should consider:

1. Incorporating outcome measures in data reporting systems to capture additional outcomes related to changes in clients' tobacco use (e.g., 7 day quit rates, length of longest quit).

2. Incentivizing follow-up sessions and/or conducting shorter term follow-up (e.g., 3 and 5 months post program enrollment) to assess longer term outcomes and facilitate higher response rates than those achieved with 4 and 7-month follow-up sessions.

3. Continuing to provide free cessation medication and encourage programs to incentivize session attendance to increase client engagement and program completion.



2 PROGRAM OVERVIEW AND METHODS

Eight community-based cessation programs, based in local health and mental health agencies, were funded from November 1, 2013 – June 30, 2015. Programs were designed to provide tobacco users with face-to-face tobacco cessation counseling in individual and group settings. At enrollment, each client received an intensive one-on-one counseling session. Clients could then opt to continue with individual sessions, group sessions, or a combination of individual and group support. Clients were eligible to receive up to 12 weeks of free nicotine replacement therapy (NRT) or other cessation medication (as medically appropriate) and were allowed to re-enroll in the program as desired. Agencies were contracted to report client enrollment and program utilization data via a CT DPH maintained database.

Each agency targeted outreach and services to tobacco users from populations that experience disparities in tobacco use and tobacco-related disease (e.g., people with low socioeconomic resources or mental illness). All agency contracts specified program enrollment goals and target outcomes of reduced tobacco use in 70% of clients and environmental changes (e.g., no longer smoke inside house) in 75% of clients. The CT DPH contracted with the Tobacco Prevention and Evaluation Program at the University of North Carolina at Chapel Hill (TPEP) to evaluate cessation programs funded from 2013 - 2015. The evaluation is based on a logic model developed with CT DPH.

This report provides final evaluation findings for the eight cessation programs. All data reported are drawn from participant data entered into the CT DPH database and telephone interviews with agency staff conducted by TPEP (n=7, Agency C did not complete a telephone interview). Evaluation timelines for each agency varied slightly, based on differences in contract execution and end dates as shown in Table 1. The main body of this report focuses on cumulative program indicators and outcomes, with select agency-specific data points highlighted. Agency-specific snapshots are provided as appendices. This report does not include agency names in an effort to protect the identity of agency staff who completed interviews.

TABLE 1. AGENCY TIMELINES

Agency	Evaluation Period
A	Nov 1, 2013 – April 30, 2015
B	April 21, 2014 – April 30, 2015
C	June 24, 2014 – June 30, 2015
D	April 2, 2014 – April 30, 2015
E	April 8, 2014 – June 30, 2015
F	March 26, 2014 – June 30, 2015
G	March 26, 2014 – June 30, 2015
H	April 11, 2014 – June 30, 2015

3 KEY FINDINGS & OUTCOMES: COMMUNITY-BASED AGENCIES

A. To what extent did programs meet their contracted enrollment goals?

All agencies met or exceeded target enrollment goals, with the exception of Agencies C and H, which reached just over half of their respective goals (Table 2). Agency staff reported that training health and behavioral health care providers in their agencies and communities on tobacco use assessment and referral was a particularly effective strategy for achieving high program enrollment. Access to free cessation medication was identified as another important factor in recruiting and enrolling clients.

TABLE 2. AGENCY ENROLLMENTS

Agency	Unique Client Enrollment Goal	Total Enrollments[1]	Unique Clients[1]	Clients Re-Enrolling	% Enrollment Goal Met
A	100	125	111	14	100%+
B	140	149	143	6	100%+
C	200	134	130	4	65%
D	100	104	104	0	100%+
E	100	119	108	10	100%+
F	300	310	293	14	98%
G	100	204	182	20	100%+
H	145	89	78	10	53.8%

[1]Includes only clients who attended at least 1 session

Over half of clients report being referred by a health care provider or counselor (Table 3), reflecting reports by several program staff on the importance of focusing outreach and promotional efforts on providers within and outside the host agency. Specific successful outreach strategies included providing counselors at other agencies with desk cards outlining the 5 A's of tobacco cessation intervention and building partnerships with social service agencies and specialty hospital-based programs. Substantial numbers of referrals via social networks, community outreach, and online (e.g., in response to Craigslist postings) suggest that agencies successfully promoted the program across multiple venues.

TABLE 3. REFERRAL SOURCES (N=1,149)

Referral Source	#	%
Health care provider/counselor	606	52.7%
Ad/outreach/online	136	11.8%
Friend/family/other client	136	11.8%
Rehabilitation/wellness center	108	9.4%
Other	86	7.5%
Unknown	44	3.8%
Self/returning client	33	2.9%

B. What are the characteristics of clients served by the programs?

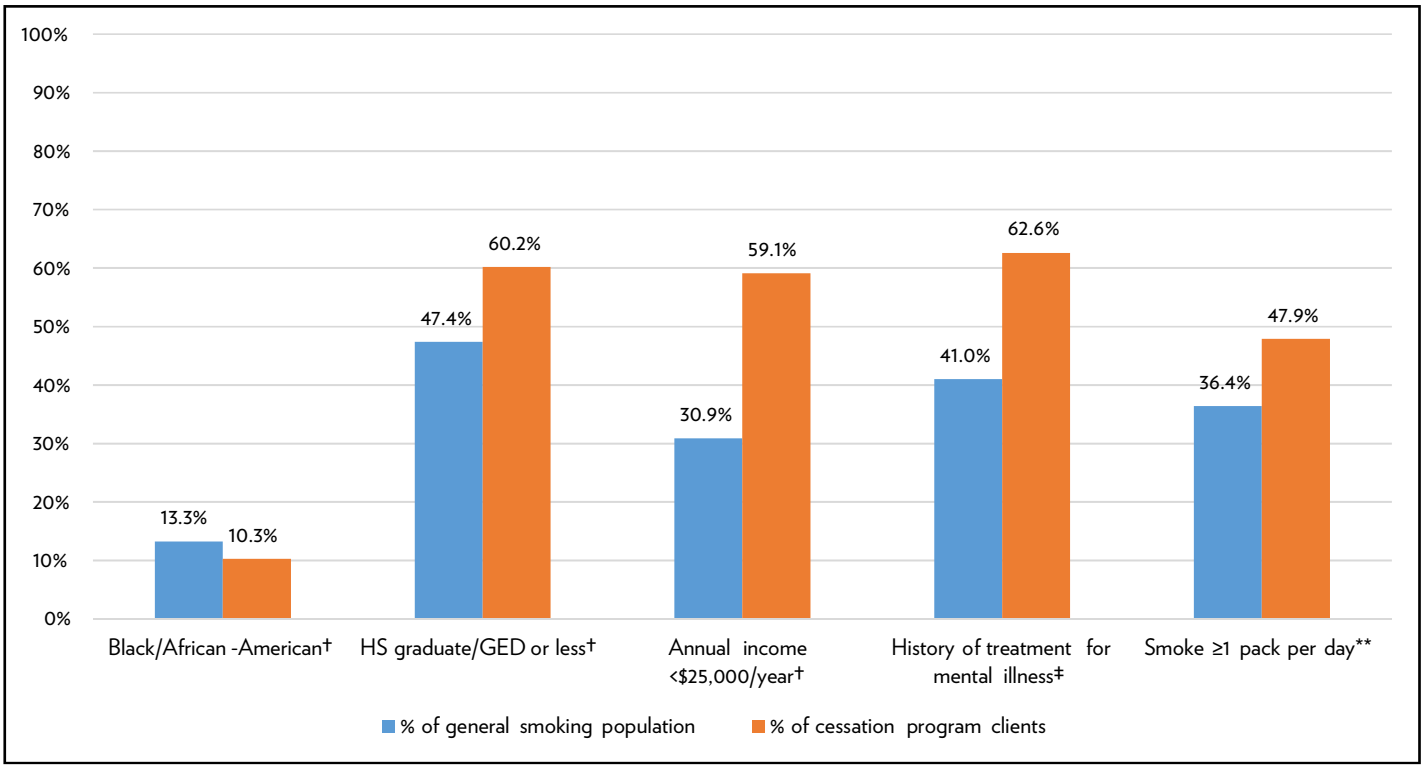
Overall client demographics are presented in Table 4. Clients were predominately aged 35 or older (75%), and white (75%). Most (77%) reported smoking cigarettes only; 16.5% reported using multiple tobacco products, and 6.6% were dual users of cigarettes and e-cigarettes. Many (40%) lived with someone who smokes and/or had a tobacco-related health condition such as COPD (47%). Most (83.5%) reported previous quit attempts; of those, 65% reported previous experience using NRT or prescription cessation medication, and 9% reported using e-cigarettes as a cessation aid. Only 10% reported previous cessation counseling.

TABLE 4. CLIENT DEMOGRAPHICS (N=1,149)

Demographic Characteristic		#	%
Gender	Female	562	48.9%
	Male	568	49.4%
	Unknown	19	1.7%
Age	18 – 24	70	6.1%
	25 – 34	196	17.1%
	35 – 64	774	67.4%
	65+	93	8.1%
	Unknown	16	1.4%
Race	White	860	74.9%
	Black/African-American	118	10.3%
	Other	128	11.1%
	Unknown	43	3.7%
Ethnicity	Hispanic	226	19.7%
	Non-Hispanic	879	76.5%
	Unknown	44	3.8%
Primary Language	English	1009	87.8%
	Spanish	85	7.4%
	Other	12	1.0%
	Unknown	43	3.7%
Sexual Orientation	Heterosexual/Straight	984	85.6%
	LGBT	53	4.6%
	Other	2	0.2%
	Unknown	110	9.6%
Health Insurance Status	Private Insurance	211	18.4%
	Medicaid	629	54.7%
	Medicare	149	13.0%
	No Insurance	75	6.5%
	Unknown	85	7.4%
Education Level	Less than High School	256	22.3%
	High School/GED	436	38.0%
	Some College/College or more	416	36.2%
	Unknown	41	3.6%
Annual Household Income	< $25,000	679	59.1%
	$25,000 - $34,999	86	7.5%
	$35,000 - $74,999	125	10.9%
	≥ $75,000	48	4.2%
	Unknown	211	18.4%

These programs successfully reached clients from groups with disparities in tobacco use and related health outcomes, serving clients with low educational attainment, low income, and history of treatment for mental illness at rates higher than their proportion of CT adult smokers (Figure 1). Among clients who smoked cigarettes, 48% reported smoking 20 or more cigarettes per day (i.e., one pack or more per day), higher than the national rate of 36%.

FIGURE 1. CLIENTS FROM DISPARATE POPULATIONS



† Estimates based on 2013 Connecticut Behavioral Risk Factor Surveillance Survey
‡ Estimate based on 2009-2011 National Survey on Drug Use and Health
** Estimate based on 2013 National Health Interview Survey

C. To what extent did clients utilize cessation services provided by the funded programs?

Overall, individual counseling sessions, either by themselves or in combination with group sessions, were utilized by most (97%) clients (Table 5). Agency staff described the importance of offering both types of sessions, as some clients were interested in individualized counseling because they were enrolled in other groups for behavioral health and/or substance use programs, while other clients showed high engagement with group sessions and the opportunity to connect and be supported by other group members.

Program completion was contractually defined as completing five individual sessions or eight group sessions. Nearly half of clients attended five or more sessions during their enrollment, though 22% attended only one session (Table 5). Agency staff attributed program dropout primarily to challenging life circumstances experienced by many clients, which created barriers to staying engaged with the program, including lack of transportation and communication resources and co-occurring conditions including mental illness, substance use disorders, and tobacco-related illnesses such as cancer.

Despite these barriers, nearly half of clients attended at least five sessions. Providing small incentives for attending sessions (e.g., $5 gift cards, bus passes, snacks) was identified as an important strategy for keeping clients engaged in services. Several program staff described the importance of developing good relationships with clients and providing flexibility in scheduling and communication modalities to accommodate clients' individual needs (e.g., using a mix of in person, phone, and email to stay in contact with a client), saying that these less tangible things were important to keeping clients enrolled and engaged.

Offering free NRT or prescription cessation medications was identified by all programs as an important factor in recruiting clients and keeping them engaged in the program. Free NRT or prescription cessation medications were provided to 75% of clients, and 86% of clients who reported a quit attempt had documented use of NRT or prescription cessation medication. Programs' efforts to make medication available onsite and/or to facilitate easy access via a pharmacy likely contributed to the high utilization of medication.

TABLE 5. PROGRAM UTILIZATION INDICATORS (n=1,149)

		n	%
Type of session	Individual Only	723	62.9%
	Group Only	36	3.1%
	Combination	390	33.9%
Number of sessions attended	1	257	22.4%
	2	164	14.3%
	3	121	10.5%
	4	78	6.8%
	5+	529	46.0%
Tobacco cessation medication prescribed/ provided	Yes	858	74.7%
	No	198	17.2%
	Unknown	105	9.1%

Programs were contracted to provide relapse-prevention follow-up care via individual or group sessions for those clients who successfully quit during program enrollment. Relapse prevention sessions were reported for only 23% of clients who quit. Some program staff reported difficulty understanding and distinguishing what constituted a relapse prevention session versus a regular follow-up session. Staff described conducting follow-up sessions intended to provide ongoing support for clients who had qiut, but indicated that they did not always record such follow-up as relapse prevention sessions. However, many program staff indicated that providing ongoing follow-up in person or via telephone was helpful both for clients who had quit and for clients who had reduced their tobacco use but not yet achieved a quit at the end of their program enrollment.

Programs were also contracted to refer clients to the CT Quitline for additional cessation support or relapse prevention. Utilization of CT Quitline referrals was moderate, with 62% of clients who quit during program enrollment and 32% of all clients, regardless of quit status, having documented Quitline referrals. Agency H reported that while many clients expressed interest in continued support through the Quitline, some clients did not respond to Quitline outreach calls out of concern about using cell phone minutes, a significant barrier for clients with low socioeconomic status.

D. What are tobacco abstinence rates?

Agencies were contracted to collect client tobacco use status at the time of program completion or dropout and at four and seven months after a client's enrollment date. Tobacco use data are self-reported, with an unknown number completing carbon monoxide verification. Some program staff reported difficulty reaching clients at these distant points in time, saying that contact information may have changed or that clients who are still using tobacco may be hesitant to talk with the program. However, some staff indicated that requiring longer term follow-up attempts provided opportunities to support clients in staying quit or to help clients get started with another quit attempt.

Table 6 presents 30-day point prevalence (i.e., no tobacco use in past 30 days) responder and intent-to-treat quit rates as recorded at time of program completion or dropout and at four month follow-up. Follow-up response rates varied widely by agency; Agency D provided $25 incentives for completing a follow-up session and achieved substantially higher response rates compared to other agencies (87.5% at four months and 78% at seven months). As overall response rates for seven month follow-up were low (23%), quit rates at that time period are not reliable and are not reported here. Responder rates do not account for the tobacco use status of clients with missing data and are an overestimate of the actual quit rate. Intent-to-treat rates assume that all clients with missing data continue to use tobacco and are an underestimate of the actual quit rate. The true quit rate lies somewhere between these two measures.

TABLE 6. TOBACCO USE AT FOLLOW-UP (n=1,149)

30-Day point prevalence quit rate				
	Program Completion/Dropout		4 Month Follow-Up	
	n	% (95% CI)	n	% (95% CI)
Response Rate	663	57.7%	369	32.1%
Responder Quit Rate	163	24.6% (21.3% - 27.9%)	95	25.7% (21.2% - 30.2%)
Intent-to-treat Quit Rate	163	14.2% (12.2% - 16.2%)	95	8.3% (6.7% - 9.9%)
Quit attempts & behavior changes				
	Program Completion/Dropout		4 Month Follow-Up	
	n	%	n	%
Quit attempt made[1]	587	51.1%	311	27.1%
Reduced use or made other changes[2]	515	44.8%	283	24.6%

[1]Data missing for 42.9% of clients at program completion/dropout and 69.1% of clients at 4 month follow-up; this is likely an underestimate
[2]Includes reducing/stopping smoking at home, in public, at work, in the car, or smoking only outside. Data missing for 40.9% of clients at program completion/dropout and 67.4% of clients at 4 month follow-up; this is likely an underestimate.

With a true quit rate of between 14.2% and 24.6% at program completion or dropout, and between 8.3% and 25.7% at four month follow-up, quit rates at program completion or dropout are comparable with quit rates observed for CT Quitline in Fiscal Year 2015 (11.4% [ITT] – 30.5% [RR]). Importantly, many clients reported making a quit attempt, reducing daily use, or making other changes to their smoking behaviors (e.g., smoking only outside their homes) that indicate progress towards quitting.

Multivariable logistic regression models were used to identify factors associated with quit status (Table 7). Clients who had previously attempted to quit smoking before program enrollment were more likely to be quit at program completion/dropout and at four month follow-up; those who attended more counseling sessions and those who used NRT or prescription medication during the program were more likely to be quit at program completion/dropout. The likelihood of being quit at program completion/dropout and at four month follow-up was significantly lower for clients who reported smoking at least one pack of cigarettes per day at the time of enrollment. Female clients were also less likely to be quit at four month follow-up. These results demonstrate the importance of making multiple quit attempts and utilizing a combination of behavioral and pharmacological interventions to increase the likelihood of becoming tobacco-free.

TABLE 7. PREDICTORS OF QUIT

Adjusted odds ratios[1] for multivariable logistic regression model of 30-day point prevalence smoking abstinence at program completion/dropout (n=474)[2]		
	Adjusted Odds Ratio (95% CI)	p-value
Smoked≥20 cigarettes (1 pack) per day (vs. 1-10 cpd) at time of enrollment	0.49 (0.29, 0.80)	<.01
Previous quit attempt	2.4 (1.1, 5.1)	.02
# sessions attended	1.13 (1.06, 1.21)	<.001
Used NRT or prescription medication during program	2.05 (1.1, 3.8)	.02
Adjusted odds ratios for multivariable logistic regression model of 30-day point prevalence smoking abstinence at 4 month follow-up (n=212)[2]		
	Adjusted Odds Ratio (95% CI)	p-value
Female	0.41 (0.21, 0.82)	.01
Smoked≥20 cigarettes (1 pack) per day (vs. 1-10 cpd) at time of enrollment	0.49 (0.24, 1.0)	.06
Previous quit attempt	4.0 (1.1, 14.9)	.04

cpd: cigarettes per day

[1]Model is adjusted for all listed variables, as well as gender, age, race, ethnicity, education, insurance status, living with a smoker, and history of substance abuse or mental health treatment

[2]Includes only clients who had smoked in the 30 days prior to enrollment and had a recorded smoking status at follow-up and excludes observations with missing predictor variables

Due to missing data for tobacco reduction and quit rates, it is likely that the numbers presented here underestimate the extent to which programs met their contractual goals related to client tobacco use reduction and behavior changes. Some program staff expressed concern that the progress clients made in reducing their tobacco use and making meaningful progress towards quitting was not adequately captured in the measures used to record tobacco reduction and/or quit status. For example, the 30-day quit rate measure cannot capture the experience of a client who had been quit for the final three weeks of the program or clients who quit for a certain amount of time but briefly relapsed at some point in the previous 30 days. Additional outcome measures (e.g., 7-day quit rate, longest quit during program) should be included in future program data collection to more robustly quantify the progress and success achieved by clients.

E. What was the cost per enrollment across agencies?

Cost per enrollment calculations are based on total program expenditures as reported by CT DPH for the time period November 1, 2013 – June 30, 2015 (Table 8). Expenditures reflect all program costs (e.g., agency staff time, promotional materials, NRT) but do not reflect CT DPH administrative and staff costs, which are not paid with Trust Fund dollars. However, comparisons between agencies are problematic, as agencies operated with different funding mechanisms (i.e., some agencies were funded on a fee for service model and others received funding in predetermined amounts based on completion of other deliverables) and provided different amounts and combinations of cessation medication. For example, Agency C's low cost per enrollment figures reflect its fee for service model and low number of clients completing multiple sessions.

TABLE 8. COST PER ENROLLMENT BY AGENCY

Agency	Total expenditures	Total expenditures without NRT	# Total Enrollments	Cost per enrollment with NRT costs	Cost per enrollment without NRT costs
A	$61,509	$51,316	125	$492	$411
B	$103,132	$100,664	149	$692	$676
C	$14,260	$13,129	134	$106	$98
D	$117,422	$105,552	104	$1,129	$1,015
E	$63,276	$41,654	119	$532	$350
F	$141,663	$110,885	310	$457	$358
G	$102,392	$69,489	204	$502	$341
H	$92,376	$61,280	89	$1,038	$689

F. What was the cost per quit across agencies?

Cost per quit calculations are based on total program expenditures as above and use both responder and intent-to-treat quit rates at program completion or dropout. As such, the true cost per quit lies somewhere within the ranges presented here (Table 8). While cost per quit standards for similar community based programs have not been established in the literature, cost per quit for agencies A and C compare favorably with cost per quit estimates for state Quitlines, which typically range between $1,000 and $2,000 with NRT costs. The higher cost per quit observed for these programs likely reflects the greater amounts of resources needed to treat this high-risk population of tobacco users.

TABLE 9. COST PER QUIT BY AGENCY

Agency	Quit rate estimate	# Clients Quit	Cost per quit with NRT costs	Cost per quit with-out NRT costs
A	22.5% - 34.7%	25-39	$1,597 - $2,463	$1,332 - $2,055
B	11.2% - 11.8%	16-17	$6,112 - $6,439	$5,966 - $6,285
C	7.7% - 29.4%	10-38	$373 - $1,425	$344 - $1,312
D	25.0% - 32.1%	26-33	$3,517 - $4,516	$3,162 - $4,060
E	13.0% - 21.9%	14-24	$2,675 - $4,507	$1,761 - $2,967
F	10.2% - 21.7%	30-64	$2,228 - $4,740	$1,744 - $3,710
G	17.6% - 33.0%	32-60	$1,705 - $3,197	$1,157 - $2,169
H	12.8% - 24.4%	10-19	$4,854 - $9,252	$3,220 - $6,138

4 LIMITATIONS

Several limitations to the data exist. Agency C, one of two agencies not reaching their enrollment goals, did not complete a telephone interview, limiting conclusions about barriers to successful program implementation. Across all agencies, inconsistency with reporting relapse prevention sessions precluded full conclusions about the extent to which this aspect of the program was implemented as intended. Due to low response rates at seven month follow-up, which likely reflect practical difficulties in reaching clients at these time points, longer term program quit rates and impact cannot be determined.

5 CONCLUSIONS

Final evaluation data show that the 2013 Connecticut community-based tobacco cessation programs achieved high enrollment rates and reached tobacco users from disparate populations (e.g., low socioeconomic status, history of mental illness), most of whom reported no previous experience with evidence-based cessation counseling. Client utilization of counseling sessions and cessation medication was high, with greater utilization of resources associated with a higher likelihood of quitting. Quit rates were comparable to those observed for the CT Quitline, an impressive accomplishment given that these programs served a high-risk group of clients. Program staff described significant progress achieved by clients in reducing tobacco use and quitting that was not captured by the 30-day quit rate measure (e.g., clients who quit within the last three weeks of the program or clients who quit for extended periods but had brief relapses that excluded them from the 30 day quit measure).

Importantly, program staff reported a number of systems-level changes attributed to the cessation program, including implementation of tobacco-free campus policies, integration of tobacco use assessment into the intake processes of health and behavioral care providers, and establishment of partnerships with external agencies.

Program staff identified outreach and training of other health and behavioral health providers as key facilitators for generating referrals and supporting high program enrollment. Staff identified some barriers to keeping clients engaged in the program related to clients' challenging life circumstances. Strategies to support effective provider outreach (e.g., provision of materials, training program staff on effective outreach techniques) and to mitigate client level barriers (e.g., providing adequate program resources for transportation vouchers, phone cards, incentives for completing sessions) should be incorporated into future programming.

Based on program data and qualitative findings from program staff interviews, the following recommendations are offered for future community based cessation programs:

1. Incorporate outcome measures in data reporting systems to capture additional outcomes related to changes in clients' tobacco use (e.g., 7 day quit rates, length of longest quit during program).

2. Incentivize follow-up sessions and/or conduct shorter term follow-up (e.g., 1 and 3 months post program enrollment) to assess longer term outcomes and facilitate higher response rates than those achieved with 4 and 7-month follow-up sessions.

3. Continue to provide free cessation medication and encourage programs to incentivize session attendance to increase client engagement and program completion.

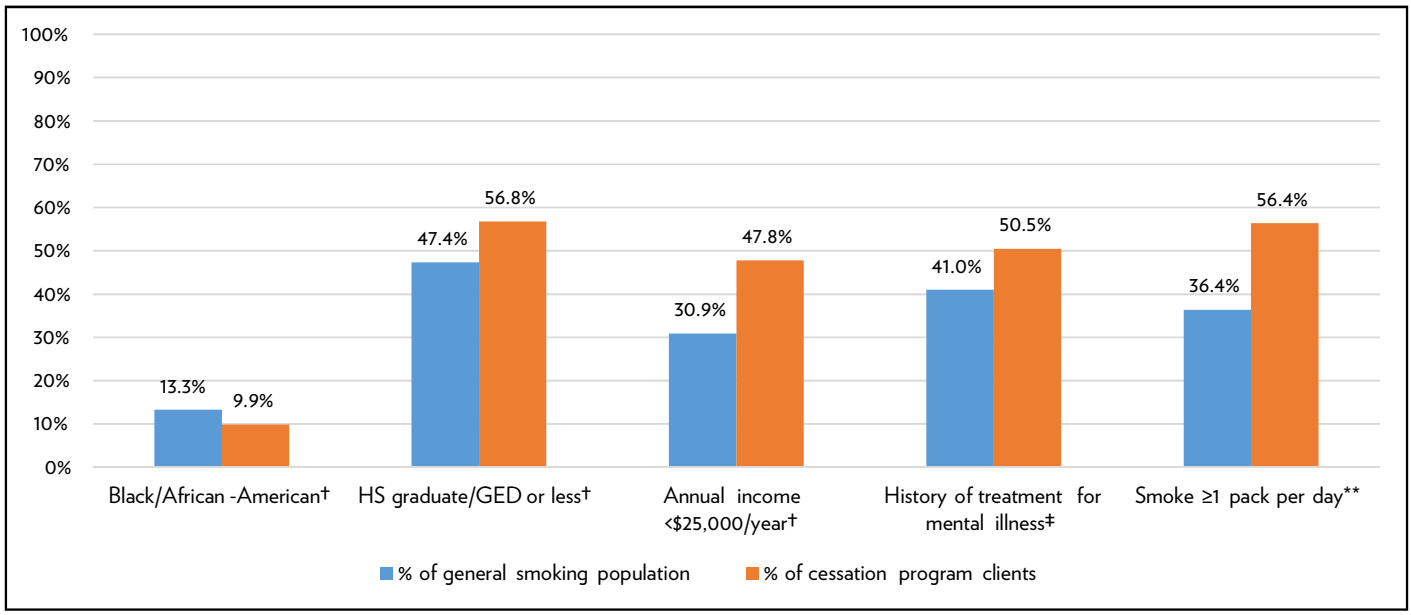
APPENDIX

A

AGENCY A SNAPSHOT

Client Characteristics: Agency A enrolled 111 unique clients, surpassing its total contracted goal of 100 clients. Agency A served clients from populations that experience disparities in tobacco use and tobacco-related disease at rates similar to or greater than their proportion of adult smokers in Connecticut, particularly low-income clients, who were defined as a target population in Agency A's contract (Figure 1).

FIGURE 1. CLIENTS FROM TARGET POPULATIONS



† Estimates based on 2013 Connecticut Behavioral Risk Factor Surveillance Survey
‡ Estimate based on 2009-2011 National Survey on Drug Use and Health
** Estimate based on 2013 National Health Interview Survey

Program Utilization and Outcomes: Nearly 90% of Agency A clients attended more than one counseling session, with 40.5% attending at least five sessions (Figure 2). Quit rates at four month follow-up were high, with clients quitting any tobacco use at a rate between 18.0% (intent-to-treat rate [ITT]) and 39.2% (responder rate [RR]) (Figure 3). Quit rates at seven month follow-up (response rate 38%) remained strong, at 14.4% (ITT) and 38% (RR). At the time of program completion/dropout 40% of clients were referred to the Quitline.

FIGURE 2. NUMBER OF SESSIONS ATTENDED

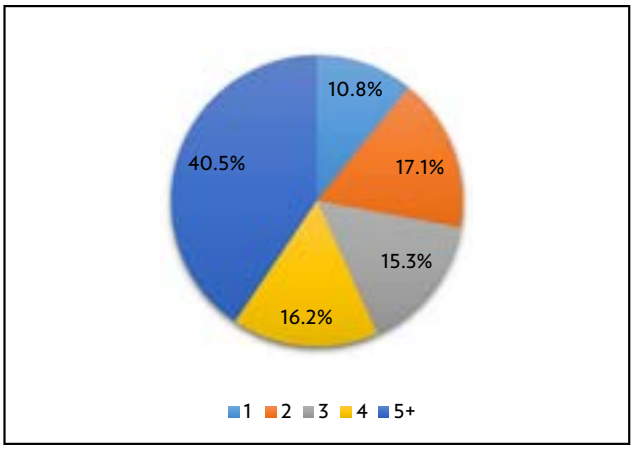
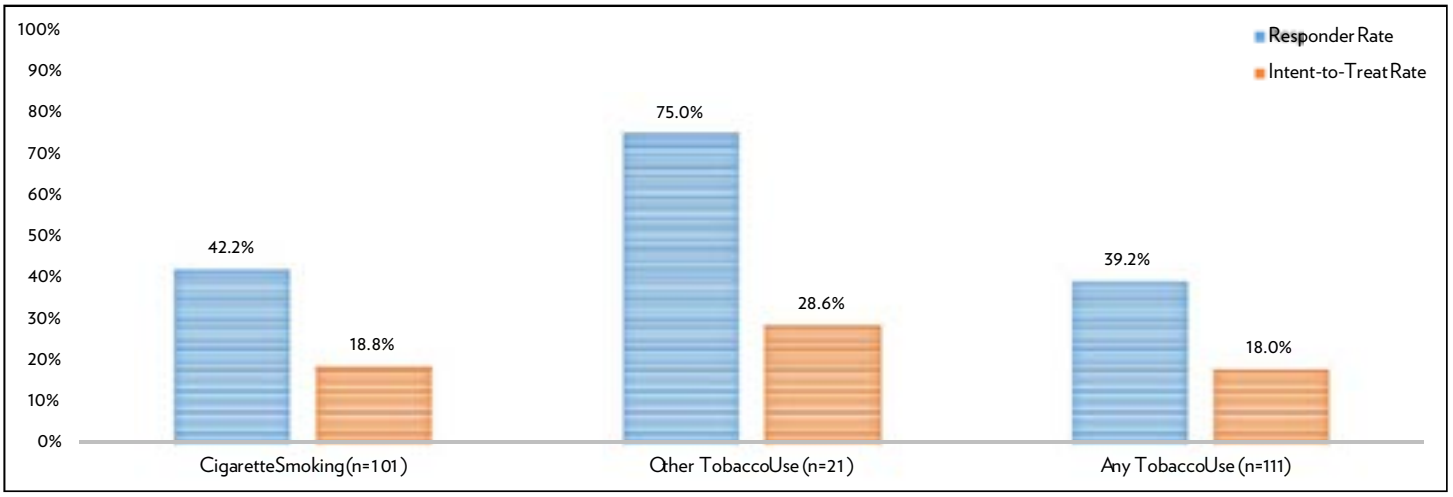


FIGURE 3. 30-DAY POINT-PREVALENCE QUIT RATES AT 4 MONTH FOLLOW-UP



*Response rates: cigarette smoking=44.6%; other tobacco use=38.1%; any tobacco use=45.9%

PROGRAM COST

Total expenditures	Total expenditures without NRT	Cost per enrollment with NRT costs	Cost per enrollment without NRT costs	Cost per quit with NRT costs	Cost per quit without NRT costs
$61,509	$51,316	$492	$411	$1,597 - $2,463	$1,332 - $2,055

Summary: Agency A exceeded its enrollment goal, and reached clients from disparate populations, including clients who were low income and heavy smokers. Program utilization was high, and quit rates were higher than those observed for the program as a whole.

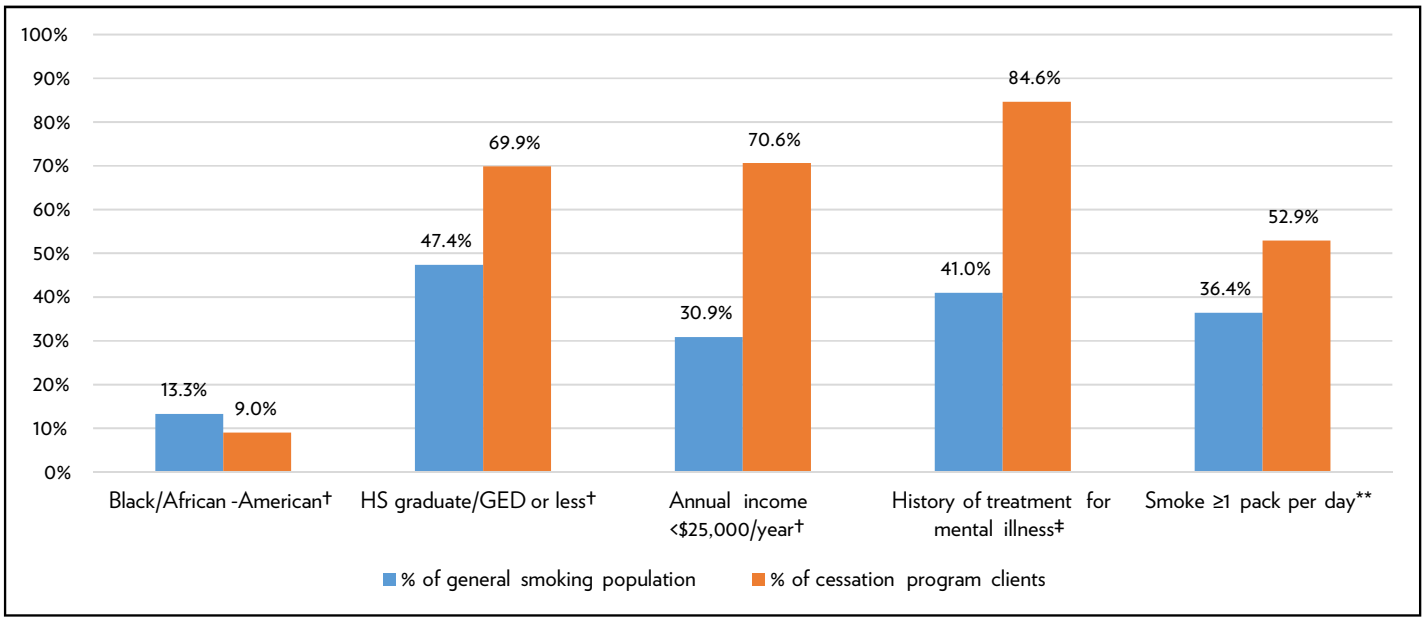
APPENDIX

B

AGENCY B SNAPSHOT

Client Characteristics: Agency B enrolled 143 unique clients, achieving its contracted goal of 140 clients. Agency B successfully enrolled many clients from groups that experience disparities in tobacco use and tobacco-related disease—including clients with low socio-economic status and mental illness and clients who smoke heavily—with proportions greatly exceeding the proportions estimated in the Connecticut adult smoking population (Figure 1).

FIGURE 1. CLIENTS FROM TARGET POPULATIONS



† Estimates based on 2013 Connecticut Behavioral Risk Factor Surveillance Survey
‡ Estimate based on 2009-2011 National Survey on Drug Use and Health
** Estimate based on 2013 National Health Interview Survey

Program Utilization and Outcomes: Most clients (78%) attended more than one counseling session, with 51% attending at least five sessions (Figure 2). While overall quit rates at four month follow-up were low, between 3.5% (intent-to-treat rate [ITT]) and 10.2% (responder rate [RR]), quit rates among clients who used other tobacco products were quite high (Figure 3). Quit rates for any tobacco use at time of program completion or dropout were somewhat higher, between 11.2% (intent-to-treat rate [ITT]) and 11.8% (responder rate [RR]). Due to low response rates, seven month follow-up quit rate estimates are not reliable and are not reported here. At the time of program completion/dropout 17.5% of clients were referred to the Quitline.

FIGURE 2. NUMBER OF SESSIONS ATTENDED

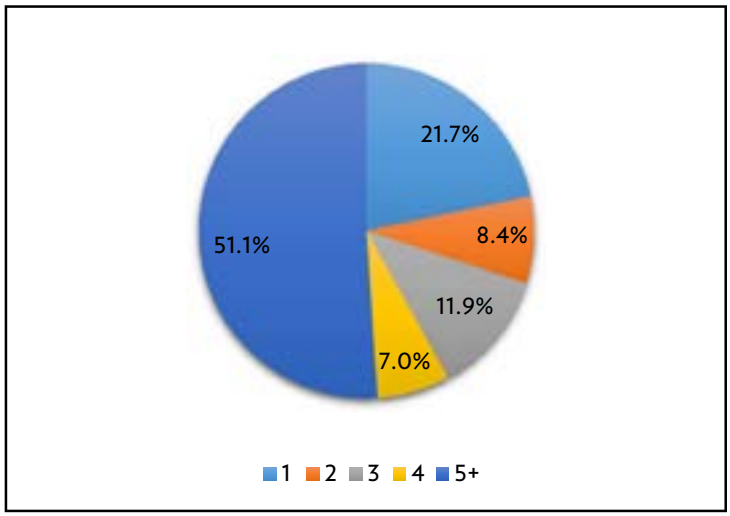
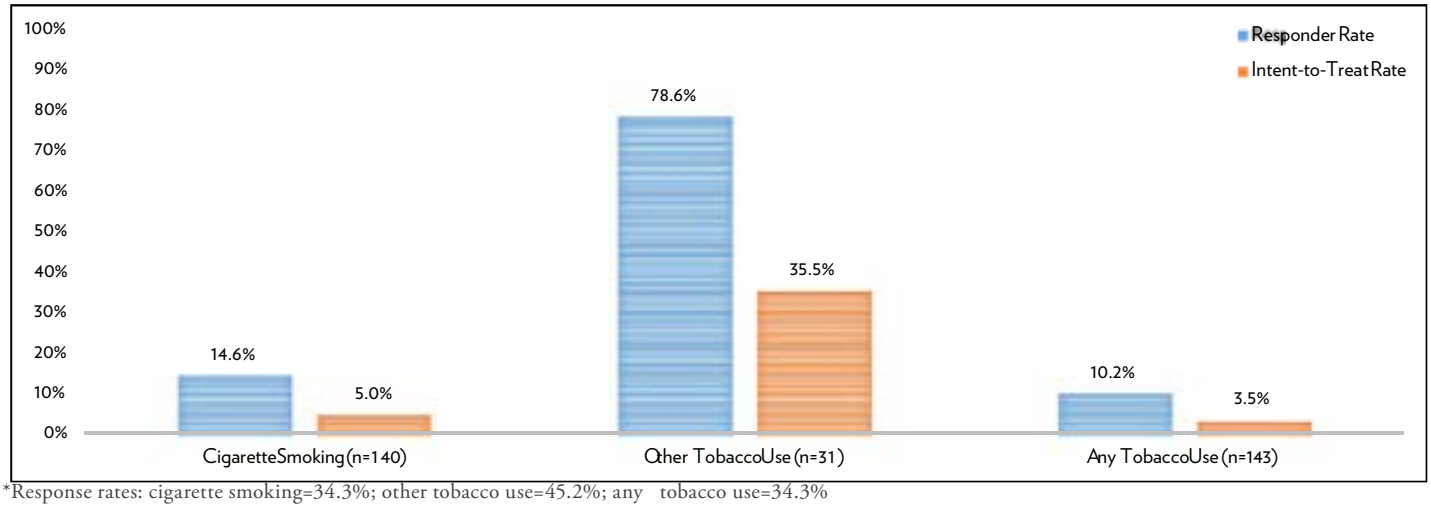


FIGURE 3. 30-DAY POINT-PREVALENCE QUIT RATES AT 4 MONTH FOLLOW-UP



*Response rates: cigarette smoking=34.3%; other tobacco use=45.2%; any tobacco use=34.3%

PROGRAM COST

Total expenditures	Total expenditures without NRT	Cost per enrollment with NRT costs	Cost per enrollment without NRT costs	Cost per quit with NRT costs	Cost per quit without NRT costs
$103,132	$100,664	$692	$676	$6,112 - $6,439	$5,966 - $6,285

Summary: Agency B has successfully enrolled clients from disparate populations and reached its overall enrollment goal. Client engagement was high, with over half of clients attending five or more sessions. Lower overall quit rates may reflect large number of clients with heavy smoking and mental illness, factors that can present barriers to quitting.

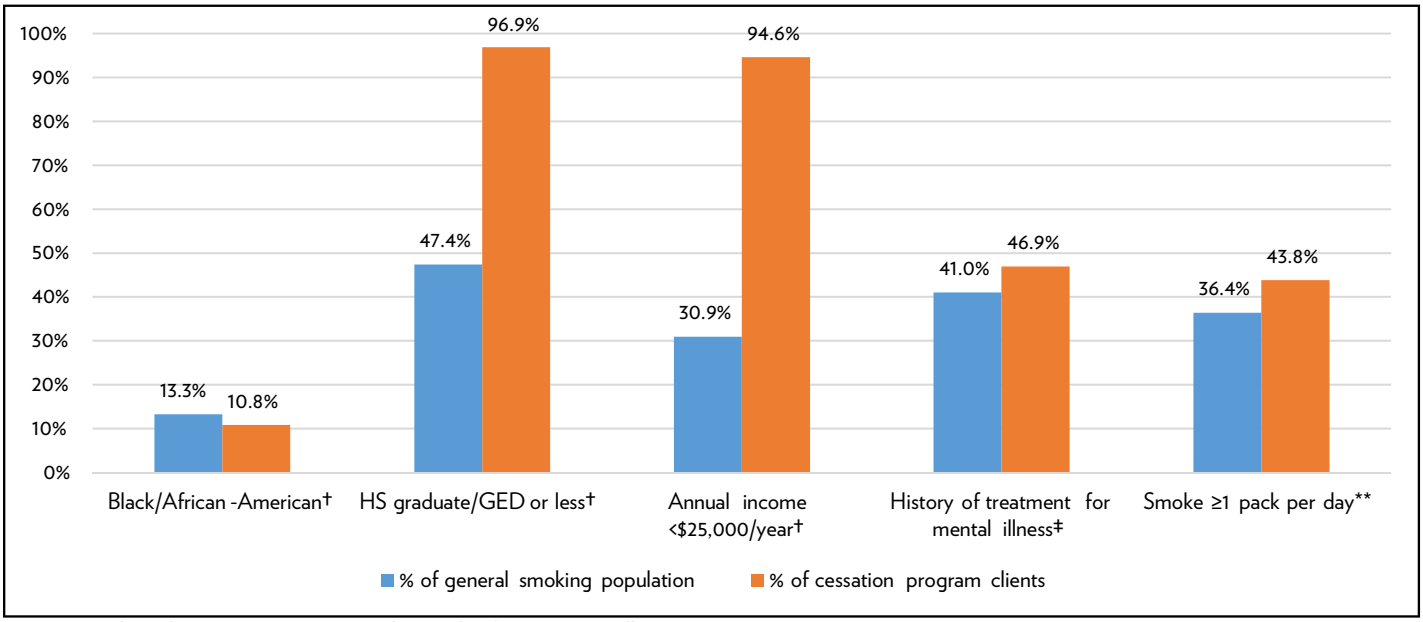
APPENDIX

C

AGENCY C SNAPSHOT

Client Characteristics: Agency C enrolled 130 unique clients, reaching 65% of its contracted goal of 200 clients. Agency C served clients from populations that experience disparities in tobacco use and tobacco-related disease at rates greater than their proportion of adult smokers in Connecticut (Figure 1), especially clients with low socioeconomic status, who make up the majority of the agency's primary clients.

FIGURE 1. CLIENTS FROM TARGET POPULATIONS



† Estimates based on 2013 Connecticut Behavioral Risk Factor Surveillance Survey
‡ Estimate based on 2009-2011 National Survey on Drug Use and Health
** Estimate based on 2013 National Health Interview Survey

Program Utilization and Outcomes: The majority of clients (56%) attended only one counseling session, with only 8% attending four or more sessions (Figure 2). The 30-day quit rate for any tobacco use at time of program completion/dropout was between 7.7% (intent-to-treat rate [ITT]) and 29.4% (responder rate [RR]) (Figure 3), though low response rates make these estimates unreliable. Due to low response rates, four and seven month follow-up quit rate estimates are not reliable and are not reported here. At the time of program completion/dropout, 29% of clients were referred to the Quitline.

FIGURE 2. NUMBER OF SESSIONS ATTENDED

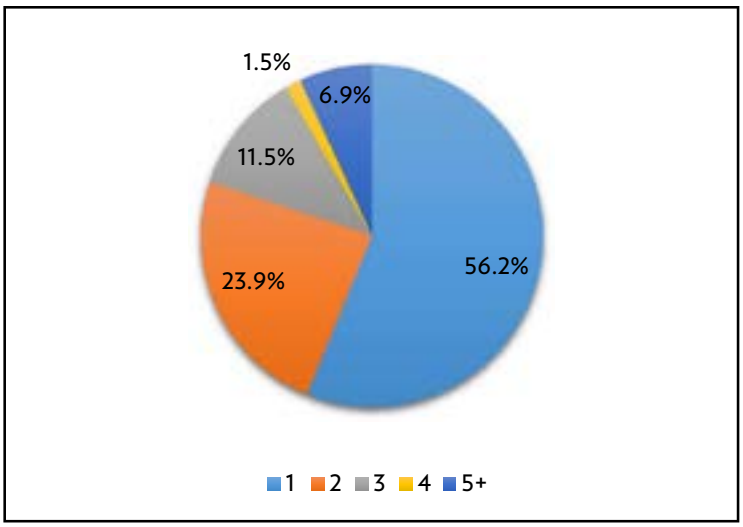
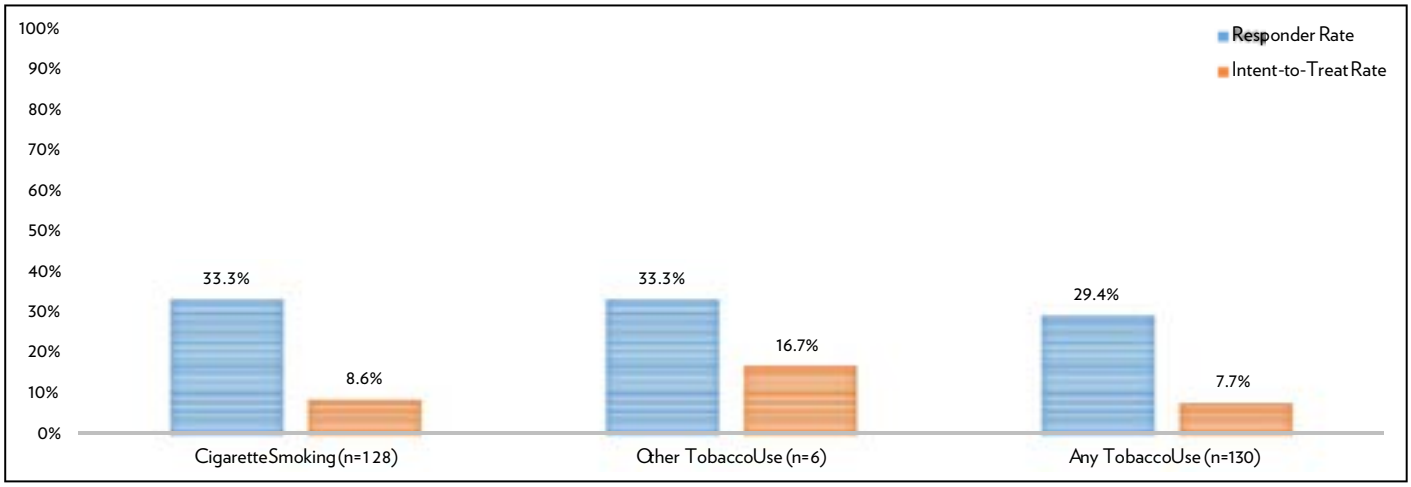


FIGURE 3. 30-DAY POINT-PREVALENCE QUIT RATES AT PROGRAM COMPLETION/DROPOUT



*Response rates: cigarette smoking=25.8%; other tobacco use=50%; any tobacco use=26.2%

PROGRAM COST

Total expenditures	Total expenditures without NRT	Cost per enrollment with NRT costs	Cost per enrollment without NRT costs	Cost per quit with NRT costs	Cost per quit without NRT costs
$14,260	$13,129	$106	$98	$373 - $1,425	$344 - $1,312

Summary: Agency C was very successful at reaching clients with low socioeconomic status, though it did not reach its targeted number of enrolled clients. Program utilization was low, with half of clients attending only one session. Quit rates at program completion/dropout and 4 month follow-up are unreliable due to low response rates.

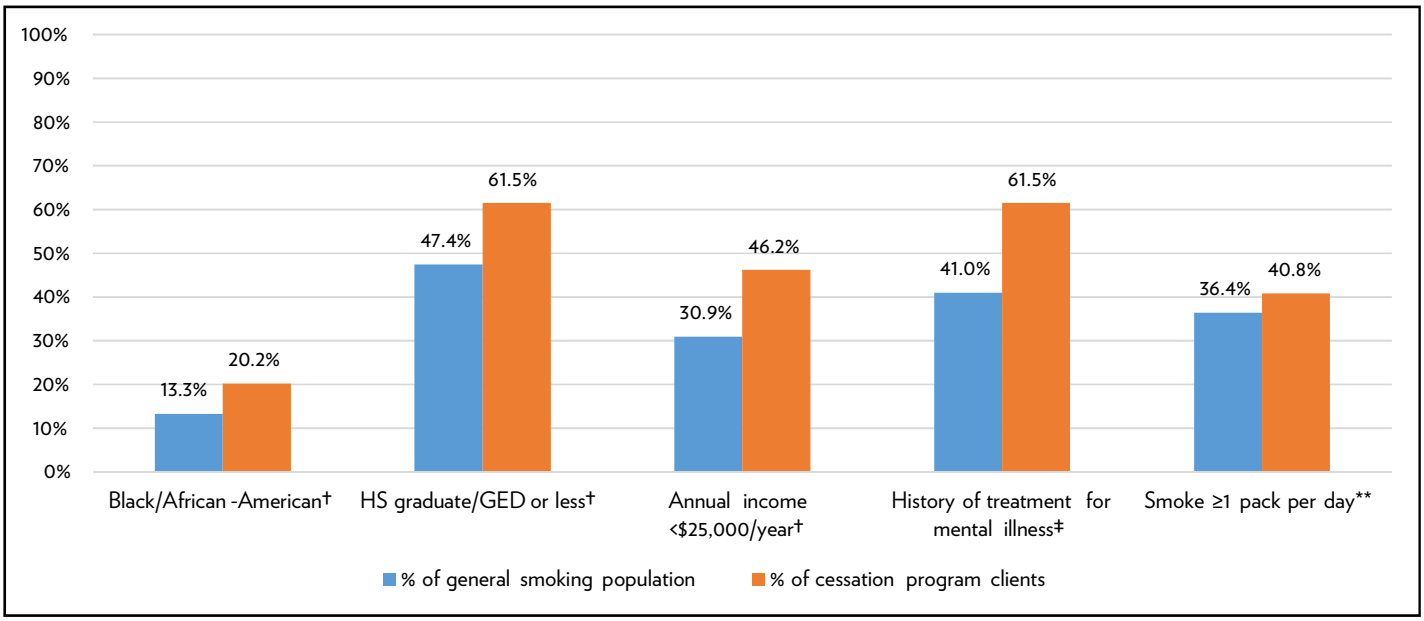
APPENDIX

D

AGENCY D SNAPSHOT

Client Characteristics: Agency D enrolled 104 unique clients, exceeding its contracted goal of 100 clients. Agency D served clients from populations that experience disparities in tobacco use and tobacco-related disease at rates greater than their proportion of adult smokers in Connecticut (Figure 1), and successfully reached its contracted target population of low-income clients.

FIGURE 1. CLIENTS FROM TARGET POPULATIONS



† Estimates based on 2013 Connecticut Behavioral Risk Factor Surveillance Survey
‡ Estimate based on 2009-2011 National Survey on Drug Use and Health
** Estimate based on 2013 National Health Interview Survey

Program Utilization and Outcomes: Most clients (94%) attended more than one counseling session, and 76% of clients attended at least five sessions (Figure 2). The 30-day quit rate for any tobacco use at four month follow-up was between 18.3% (intent-to-treat rate [ITT]) and 20.9% (responder rate [RR]) (Figure 3). Quit rates at seven month follow-up (response rate 78%) remained strong, at 23.1% (ITT) and 29.6% (RR). At the time of program completion/dropout, 83% of clients were referred to the Quitline.

FIGURE 2. NUMBER OF SESSIONS ATTENDED

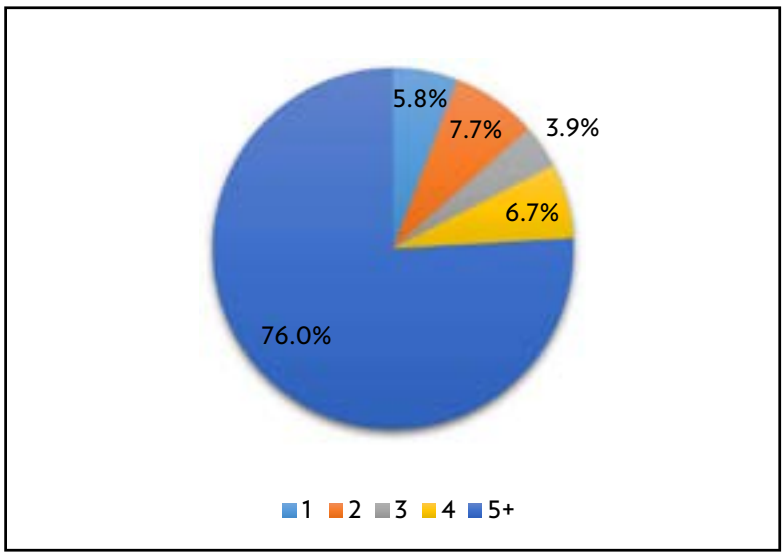
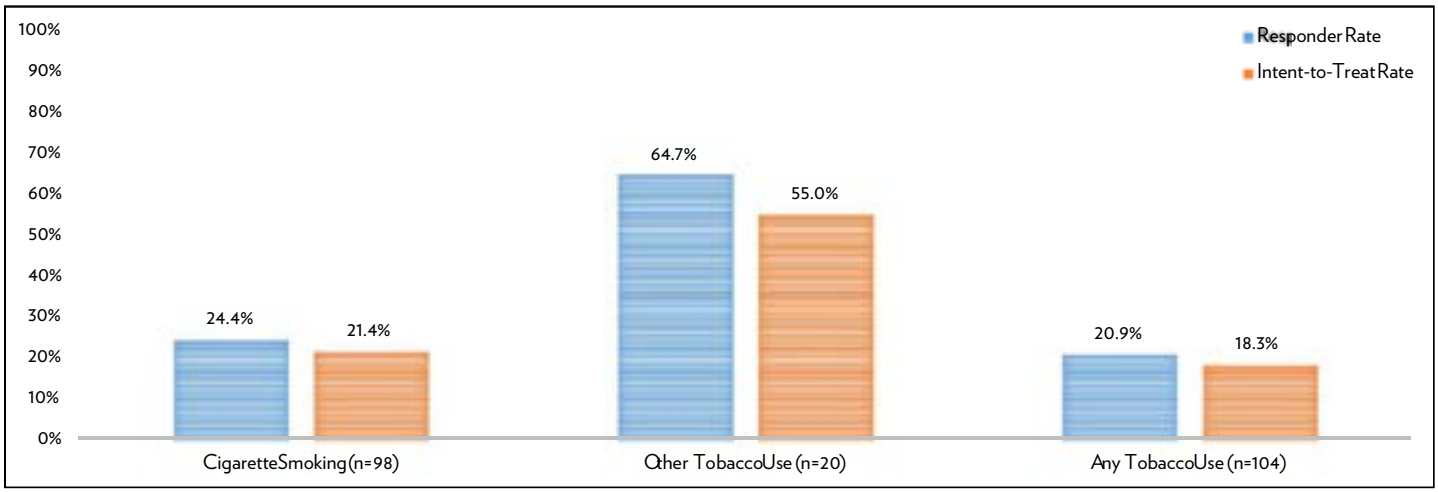


FIGURE 3. 30-DAY POINT-PREVALENCE QUIT RATES AT 4 MONTH FOLLOW-UP



*Response rates: cigarette smoking=87.8%; other tobacco use=85.0%; any tobacco use=87.5%

PROGRAM COST

Total expenditures	Total expenditures without NRT	Cost per enrollment with NRT costs	Cost per enrollment without NRT costs	Cost per quit with NRT costs	Cost per quit without NRT costs
$117,422	$105,552	$1,129	$1,015	$3,517 - $4,516	$3,162 - $4,060

Summary: Agency D met its enrollment goal, successfully enrolled clients from its target population, and reached clients from other disparate populations. Program utilization was high, with three-fourths of clients attending at least five sessions. Quit rates were higher than those observed for the overall program, and the high rate of referral to the Quitline at the end of the program may help bolster longer term quit outcomes.

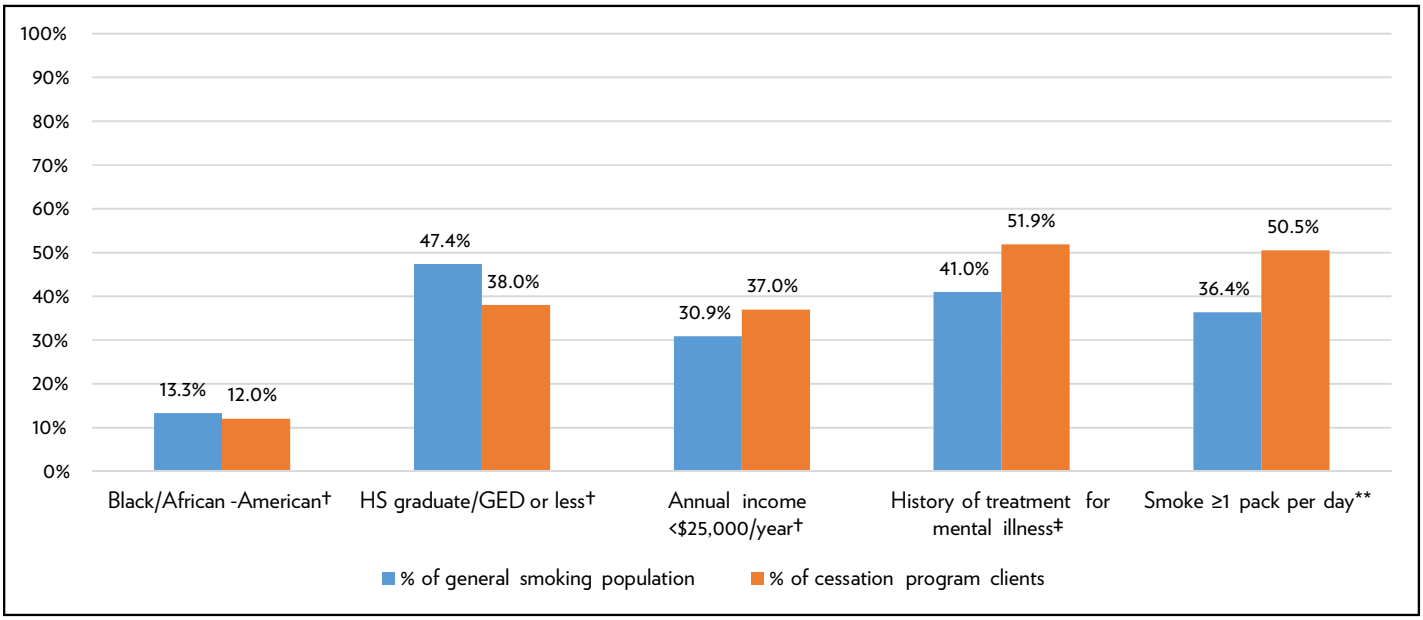
APPENDIX

E

AGENCY E SNAPSHOT

Client Characteristics: Agency E enrolled 108 unique clients, exceeding its contracted goal of 100 clients. The agency reached clients from its contracted target population of smokers with low socioeconomic status, as well as other populations with disparities in tobacco use and related disease at rates similar to or higher than proportions in the Connecticut adult smoking population (Figure 1).

FIGURE 1. CLIENTS FROM TARGET POPULATIONS



† Estimates based on 2013 Connecticut Behavioral Risk Factor Surveillance Survey
‡ Estimate based on 2009-2011 National Survey on Drug Use and Health
** Estimate based on 2013 National Health Interview Survey

Program Utilization and Outcomes: Nearly 55% of clients attended five or more sessions (Figure 2). Quit rates (30-day abstinence) for any tobacco use at four month follow-up were between 11.1% (intent-to-treat rate [ITT]) and 24.0% (responder rate [RR]) (Figure 3). Due to low response rates, seven month follow-up quit rate estimates are not reliable and are not reported here. At the time of program completion/dropout, 46% of clients were referred to the Quitline.

FIGURE 2. NUMBER OF SESSIONS ATTENDED

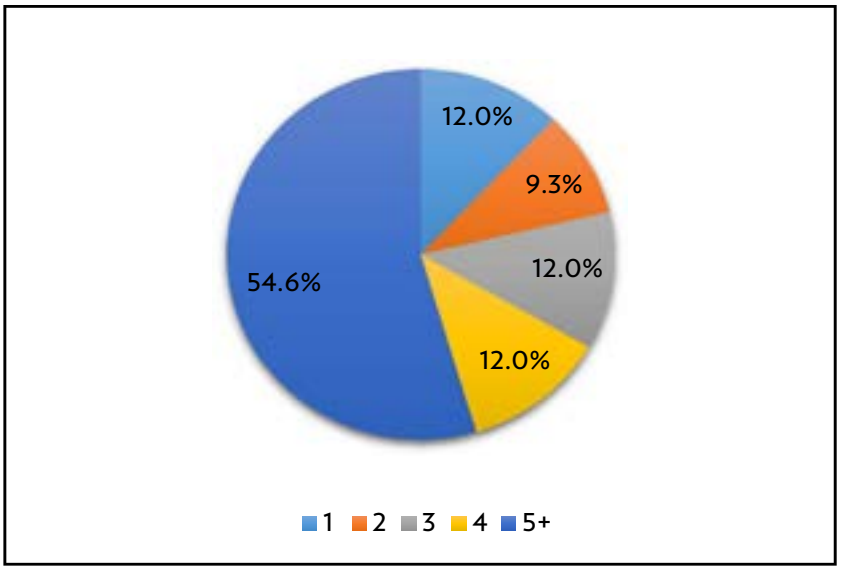
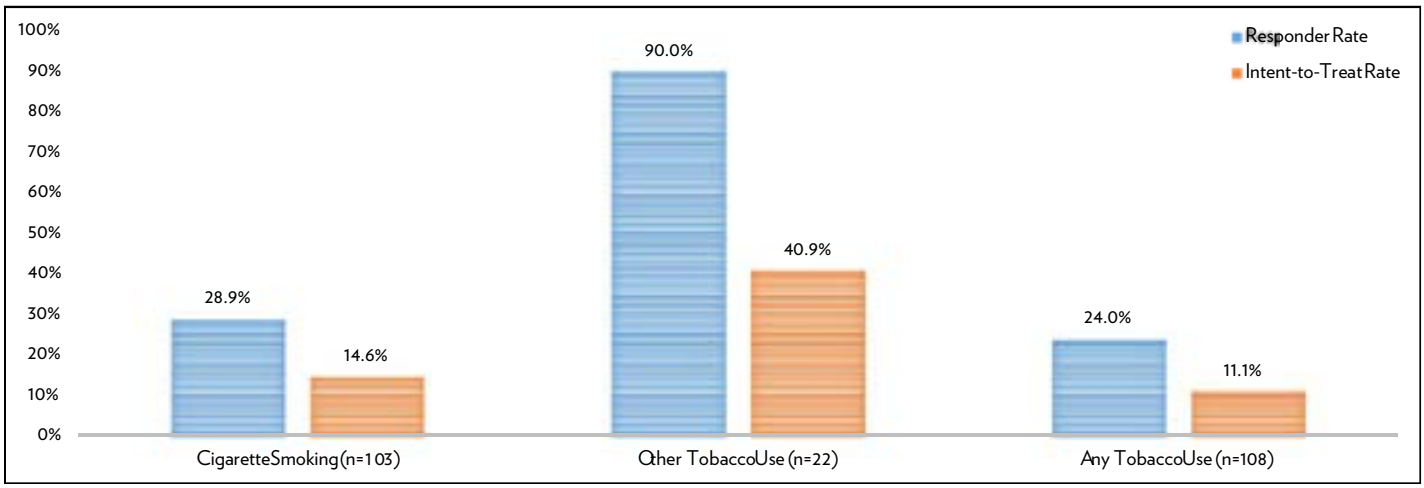


FIGURE 3. 30-DAY POINT-PREVALENCE QUIT RATES AT 4 MONTH FOLLOW-UP



*Response rates: cigarette smoking=50.5%; other tobacco use=45.5%; any tobacco use=46.3%

PROGRAM COST

Total expenditures	Total expenditures without NRT	Cost per enrollment with NRT costs	Cost per enrollment without NRT costs	Cost per quit with NRT costs	Cost per quit without NRT costs
$63,276	$41,654	$532	$350	$2,675 - $4,507	$1,761 - $2,967

Summary: Agency E exceeded its target enrollment goal, successfully enrolled clients from its target population, and reached clients from other disparate populations. Program utilization was high for most clients and overall quit rates were comparable to those observed for the program as a whole.

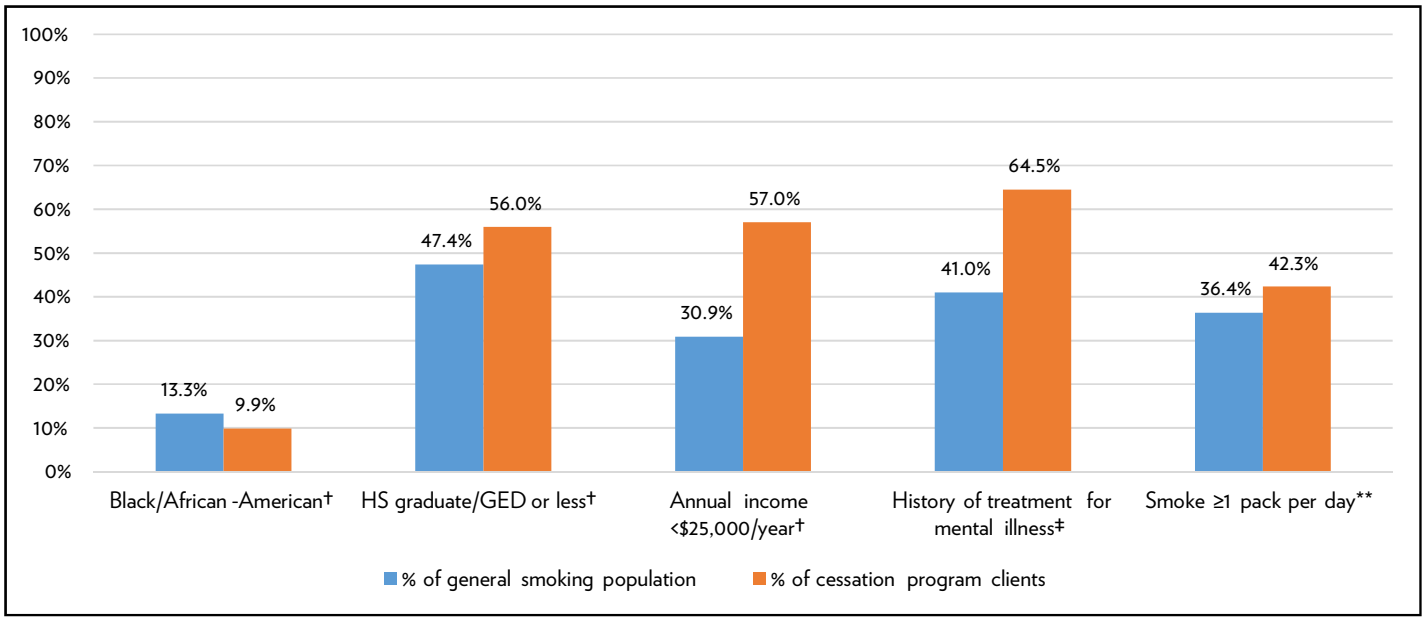
APPENDIX

F

AGENCY F SNAPSHOT

Client Characteristics: Agency F enrolled 293 unique clients, nearly meeting its contracted goal of 300 clients. The agency was successful at enrolling clients from many populations with disparities in tobacco use and related disease at rates similar to or greater than their proportion of adult smokers in Connecticut, including its contracted target population of smokers with history of mental illness or other substance addiction (Figure 1).

FIGURE 1. CLIENTS FROM TARGET POPULATIONS



† Estimates based on 2013 Connecticut Behavioral Risk Factor Surveillance Survey
‡ Estimate based on 2009-2011 National Survey on Drug Use and Health
** Estimate based on 2013 National Health Interview Survey

Program Utilization and Outcomes: Nearly three-fourths of clients attended more than one session and roughly 40% attended at least five sessions (Figure 2). Quit rates (30-day abstinence) for any tobacco use at time of program completion/dropout were between 10.2% (intent-to-treat rate [ITT]) and 21.7% (responder rate [RR]) (Figure 3). Due to low response rates, four and seven month follow-up quit rate estimates are not reliable and are not reported here. At the time of program completion/dropout, 10% of clients were referred to the Quitline.

FIGURE 2. NUMBER OF SESSIONS ATTENDED

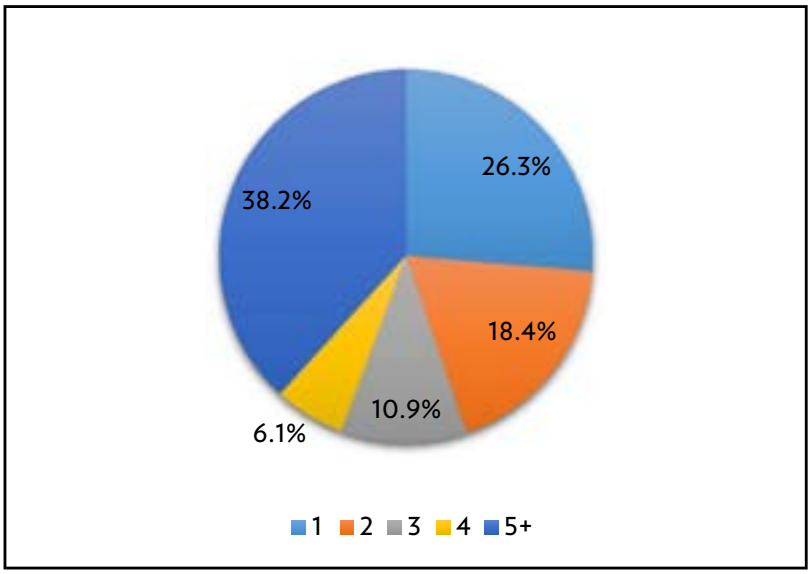
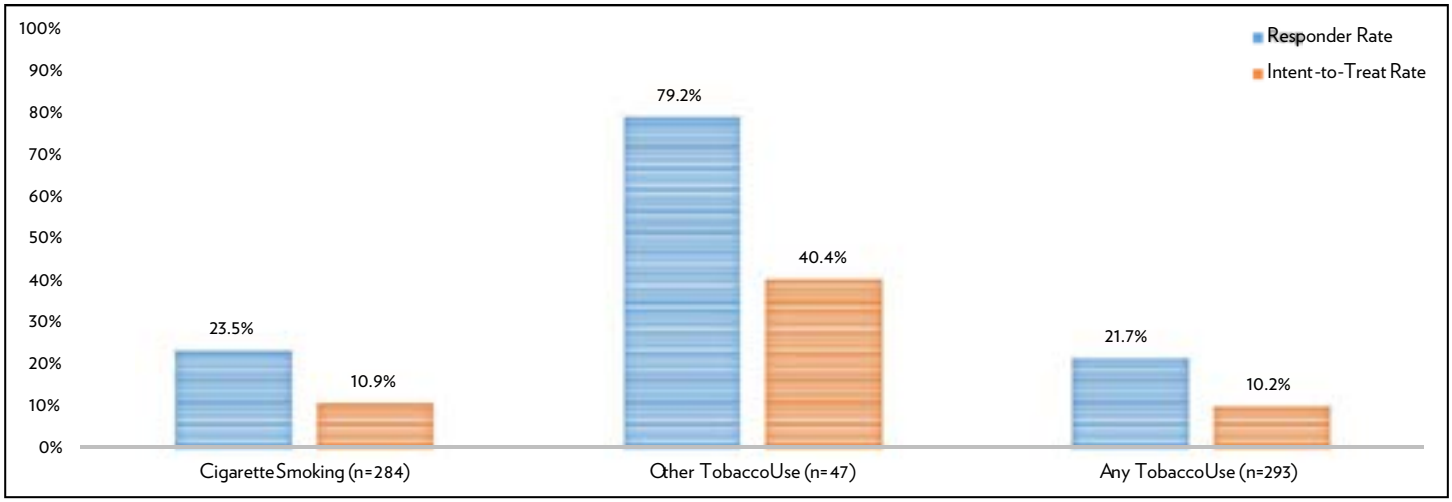


FIGURE 3. 30-DAY POINT-PREVALENCE QUIT RATES AT PROGRAM COMPLETION/DROPOUT



*Response rates: cigarette smoking=46.5%; other tobacco use=51.1%; any tobacco use=47.1%

PROGRAM COST

Total expenditures	Total expenditures without NRT	Cost per enrollment with NRT costs	Cost per enrollment without NRT costs	Cost per quit with NRT costs	Cost per quit without NRT costs
$141,663	$110,885	$457	$358	$2,228 - $4,740	$1,744 - $3,710

Summary: Agency F nearly reached its contracted enrollment goal, reached its target population, and achieved relatively high program utilization. Quit rates at 4 month follow-up could not be reliably reported due to very low response rates (2.4%); quit rates at program completion/dropout were slightly lower than quit rates observed for the program as a whole.

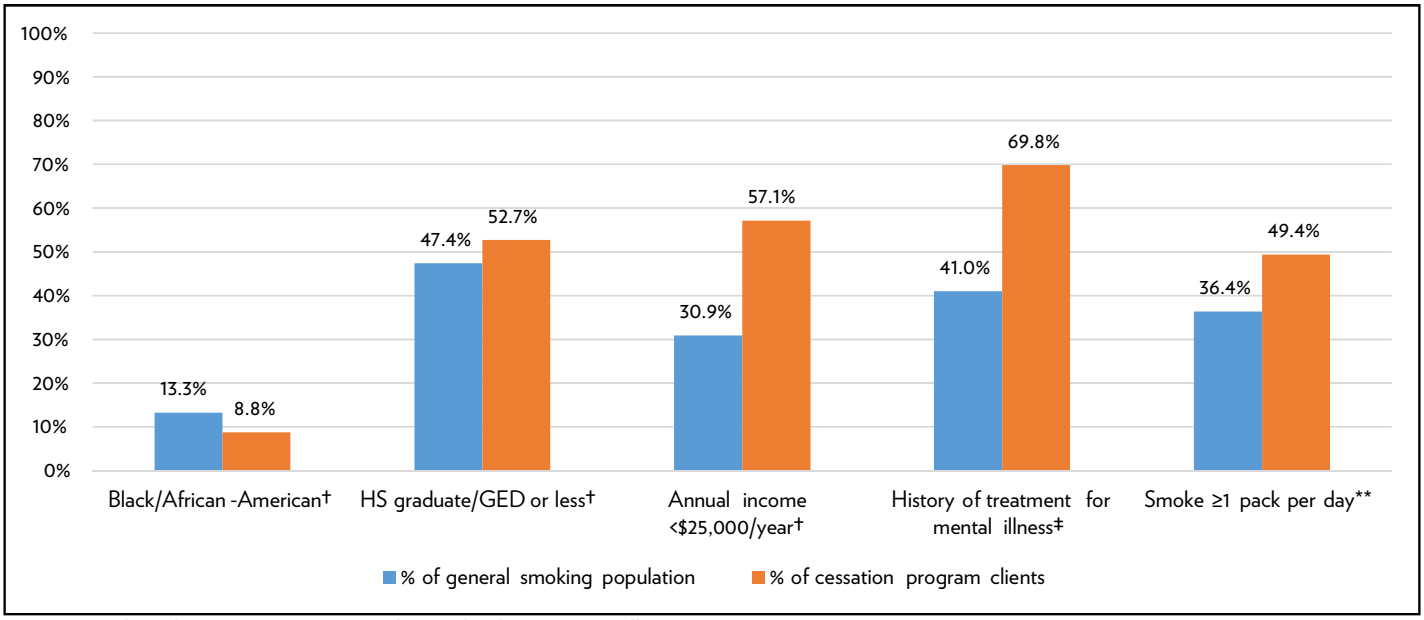
APPENDIX

G

AGENCY G SNAPSHOT

Client Characteristics: Agency G enrolled 182 unique clients, exceeding its contracted goal of 100 clients. The agency successfully enrolled clients from populations that experience disparities in tobacco use and tobacco-related disease at rates similar to or greater than their proportion of adult smokers in Connecticut, particularly clients with low income, mental illness, and heavy smoking (Figure 1).

FIGURE 1. CLIENTS FROM TARGET POPULATIONS



† Estimates based on 2013 Connecticut Behavioral Risk Factor Surveillance Survey
‡ Estimate based on 2009-2011 National Survey on Drug Use and Health
** Estimate based on 2013 National Health Interview Survey

Program Utilization and Outcomes: Nearly half of clients attended five or more counseling sessions (Figure 2). Quit rates for any tobacco use (30-day abstinence) at four month follow-up were between 12.6% (intent-to-treat rate [ITT]) and 31.9% (responder rate [RR]) (Figure 3). Quit rates at seven month follow-up (response rate 32%) declined slightly but remained positive, at 9.3% (ITT) and 29.3% (RR). At the time of program completion/dropout, 33% of clients were referred to the Quitline.

FIGURE 2. NUMBER OF SESSIONS ATTENDED

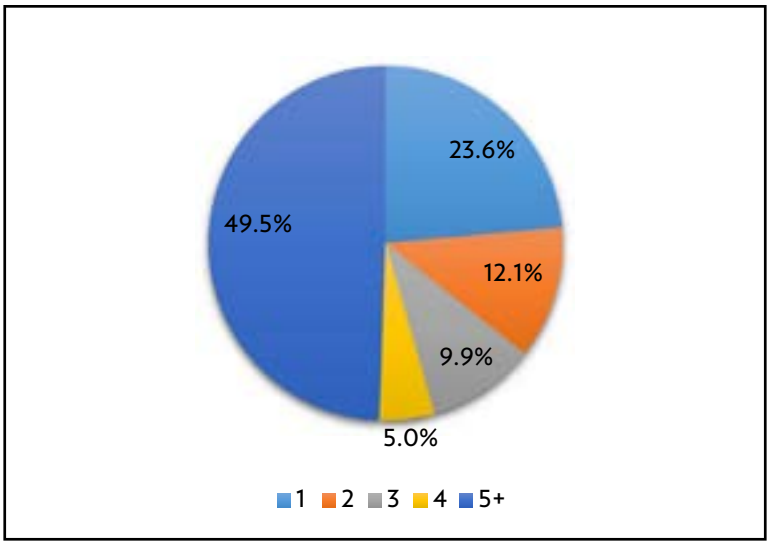
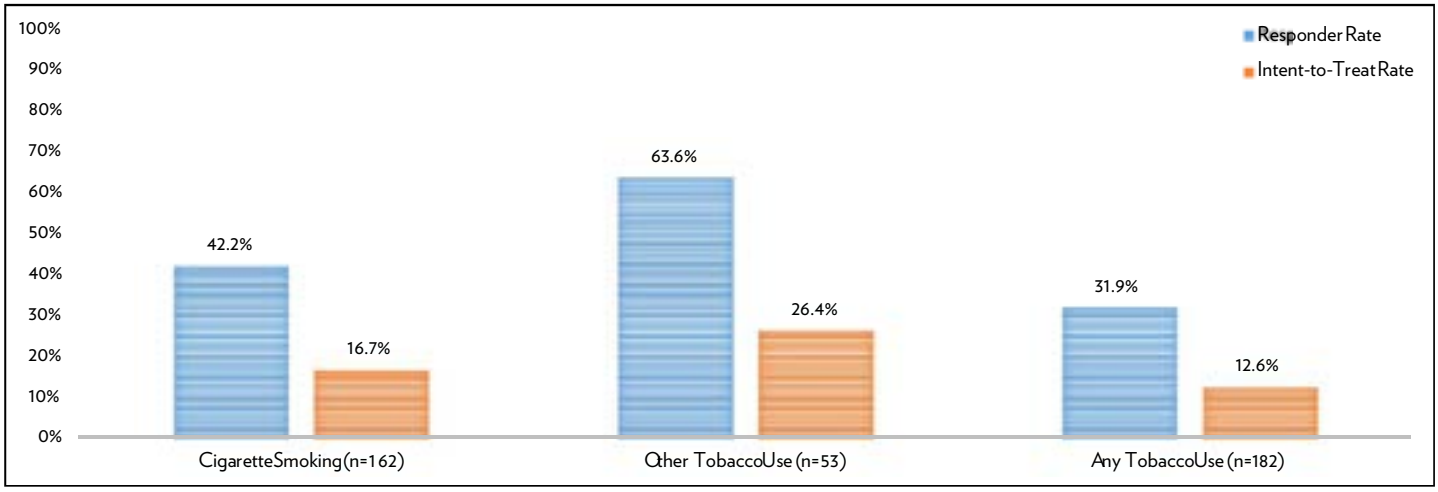


FIGURE 3. 30-DAY POINT-PREVALENCE QUIT RATES AT 4 MONTH FOLLOW-UP



*Response rates: cigarette smoking=39.5%; other tobacco use=41.5%; any tobacco use=39.6%

PROGRAM COST

Total expenditures	Total expenditures without NRT	Cost per enrollment with NRT costs	Cost per enrollment without NRT costs	Cost per quit with NRT costs	Cost per quit without NRT costs
$102,392	$69,489	$502	$341	$1,705 - $3,197	$1,157 - $2,169

Summary: Agency G enrolled nearly double its contracted goal, successfully reached clients from disparate populations, and engaged a high percentage of clients in multiple sessions. Quit rates were higher compared to those observed for the program as a whole.

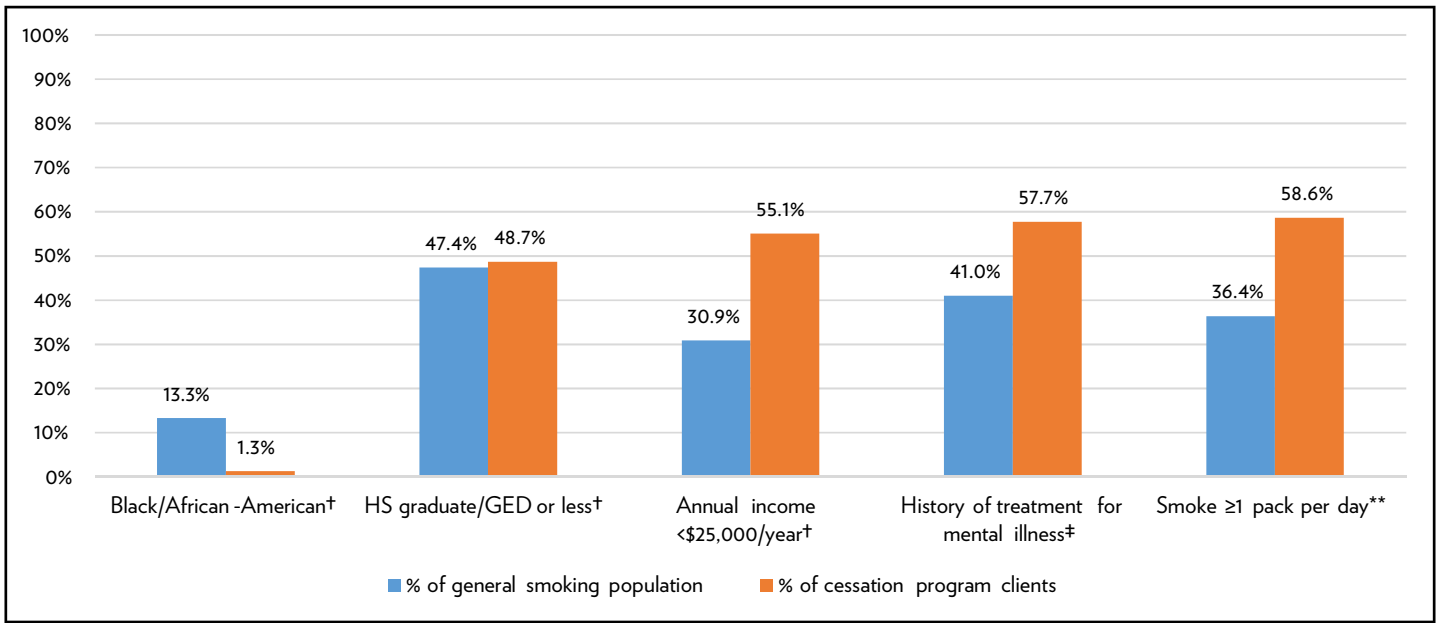
APPENDIX

H

AGENCY H SNAPSHOT

Client Characteristics: Agency H enrolled 78 unique clients, reaching 53.8% of its enrollment goal of 145 clients. The agency successfully reached clients from populations with disparities in tobacco use and related disease, including clients with mental illness, identified as one its contracted target populations, but reached a very small number of African-Americans, another contracted target population (Figure 1).

FIGURE 1. CLIENTS FROM TARGET POPULATIONS



† Estimates based on 2013 Connecticut Behavioral Risk Factor Surveillance Survey
‡ Estimate based on 2009-2011 National Survey on Drug Use and Health
** Estimate based on 2013 National Health Interview Survey

Program Utilization and Outcomes: Most clients (80%) attended five or more sessions (Figure 2). Quit rates for any tobacco use at four month follow-up (30-day abstinence) were between 11.5% (intent-to-treat rate [ITT]) and 39.1% (responder rate [RR]) (Figure 3). Due to low response rates, seven month follow-up quit rate estimates are not reliable and are not reported here. At the time of program completion/dropout, 46% of clients were referred to the Quitline for relapse prevention.

FIGURE 2. NUMBER OF SESSIONS ATTENDED

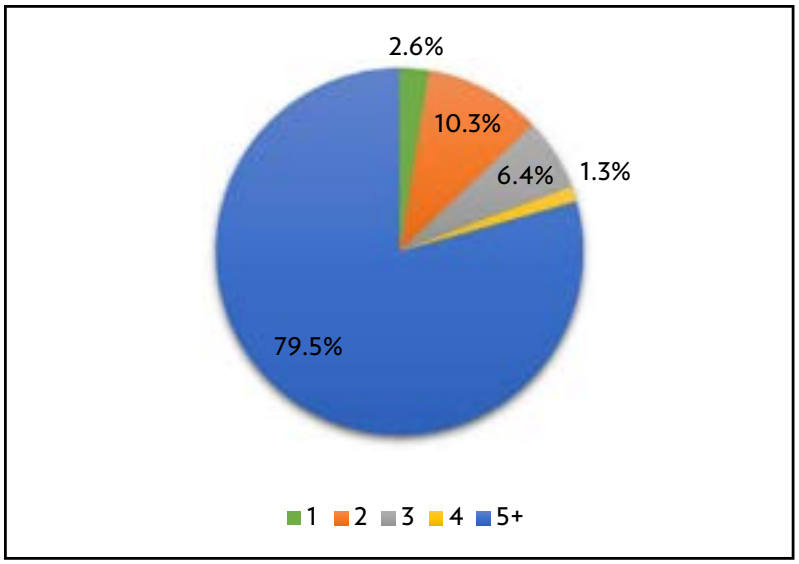
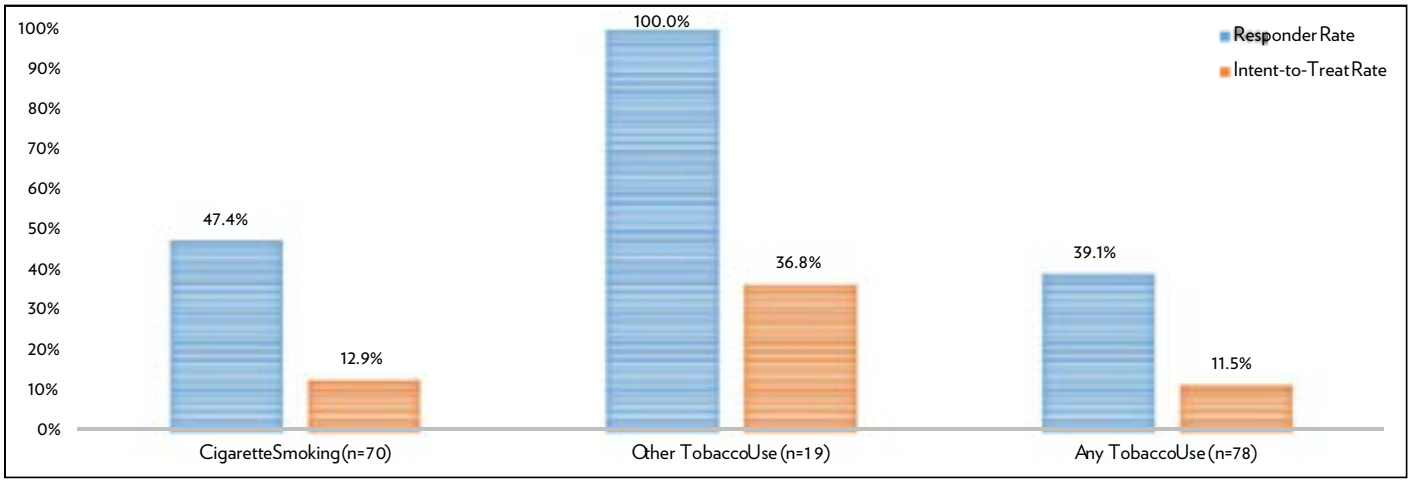


FIGURE 3. 30-DAY POINT-PREVALENCE QUIT RATES AT 4 MONTH FOLLOW-UP



*Response rates: cigarette smoking=27.1%; other tobacco use=36.8%; any tobacco use=29.5%

PROGRAM COST

Total expenditures	Total expenditures without NRT	Cost per enrollment with NRT costs	Cost per enrollment without NRT costs	Cost per quit with NRT costs	Cost per quit without NRT costs
$92,376	$61,280	$1,038	$689	$4,854 - $9,252	$3,220 - $6,138

Summary: Agency H reached only slightly more than half its enrollment goal, but successfully enrolled many clients with mental illness, one of its targeted populations. Program utilization was high, with most clients attending at least five sessions. Quit rates were slightly higher than those observed for the program as a whole, and nearly half of clients were referred to the CT Quitline for ongoing support with becoming tobacco-free.

Connecticut Tobacco Use Prevention and Control Program

FOR MORE INFORMATION ON THE CT TOBACCO USE PREVENTION AND CONTROL PROGRAM INITIATIVES

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Tobacco Use Prevention & Control Program
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Hartford, CT 06134

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