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Oklahoma Tobacco Helpline Utilization and Cessation Among American Indians

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Abstract

Background—American Indians in Oklahoma have higher rates of tobacco use (29.2%) than any other racial group in the state. The Oklahoma Tobacco Helpline provides free cessation services to all Oklahomans and implements strategies specifically aimed at increasing the utilization and effectiveness of cessation services for American Indians.

Purpose—To explore Helpline utilization patterns as well as outcomes, such as participant satisfaction and success in quitting, for American Indians. The utilization patterns and outcomes for American Indians were compared to that of the white population from July 1, 2010, to June 30, 2013, to determine whether the Helpline is equally effective among American Indians compared to whites.

Methods—Helpline utilization data from July 1, 2010, to June 30, 2013, were analyzed in the fall of 2013 to identify patterns and compare differences between American Indian and white Helpline registrants. Four- and 7-month follow-up survey data were used to compare outcomes related to satisfaction with services and quit rates.

Results—During the 3-year study period, 10.6% of registrants who enrolled in an intervention were American Indian (11,075) and 71.2% were white (74,493). At the 7-month follow-up survey, 31.7% of American Indians reported having used no tobacco in the past 30 days compared to 36.5% of whites, but the differences were not statistically significant between racial groups.

Conclusions—The Oklahoma Tobacco Helpline is equally effective for American Indian and white tobacco users who register for Helpline services.

Introduction

Oklahoma has consistently had a higher smoking prevalence than the majority of other states in the nation. Since the Master Settlement Agreement in 1998, Oklahoma has invested considerable resources toward tobacco control in an effort to reduce the substantial burden of smoking-related morbidity and mortality. The Oklahoma Tobacco Helpline was established by the Oklahoma Tobacco Settlement Endowment Trust in 2003 to provide free

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smoking-cessation telephone services to any Oklahoman interested in quitting tobacco. It is operated by Alere Wellbeing, Inc., and provides telephone counseling services, mailed materials, and nicotine replacement (NRT) therapy to eligible registrants. Counseling includes setting a quit date, developing a quit plan, stress management, and relapse prevention. Oklahoma Tobacco Helpline services are delivered in a manner consistent with best practices in quitline operations.^{1,2} Tobacco quitlines are proven to be an effective strategy for tobacco cessation,^{3–11} and the Oklahoma Tobacco Helpline has ranked in the top 20% of all state quitlines for reach, investment, and quit rates since the inception of the North American Quitline Consortium's benchmarking activities.¹² In 2012, Oklahoma ranked fourth in the nation in state investment in quitline services, investing nearly \$7 per smoker. In the same year, the Oklahoma Tobacco Helpline served 4.4% of all Oklahoma tobacco users, achieving the highest reach of all state quitlines.¹² The North American Quitline Consortium recommends methods to increase reach, such as increasing promotion through various media sources, targeting and supporting priority populations effectively, and ensuring that the capacity of the quitline is sufficient to serve tobacco users who call the auitline.13

Although the national prevalence of smoking has declined among the overall population during the last several decades, the prevalence of smoking among American Indians (AIs) remains the highest of any racial group, at 29.2% compared to 22.7% among whites in Oklahoma in 2012.^{14,15} Oklahoma has the second largest population of AIs in the nation. AIs represent the largest minority group in Oklahoma, accounting for approximately 13% of the population.^{16,17} One of the goals of the Oklahoma tobacco control program is to reduce the health disparities related to tobacco use among the AI population. Tobacco use among AIs remains a complex issue owing to the traditional and ceremonial uses of tobacco in many tribal nations.

Oklahoma has invested specific resources into the promotion of the Helpline directly toward the AI population. The state continues to work closely with various tribal nations to create culturally appropriate messages regarding the Helpline's assistance in quitting commercial tobacco, rather than targeting traditional or sacred use. A large media campaign was created in partnership with tribal representatives and tribal actors to tailor and deliver messages in order to bring awareness to and promote that the Helpline is available for AI populations. The state also provides tobacco control funding directly to tribal nations to promote the Helpline at tribal health facilities and within tribal communities. To ensure Helpline services are culturally competent regarding the issues of sacred tobacco, the Muscogee (Creek) Nation in Oklahoma partnered with the Helpline operator, Alere Wellbeing, Inc., to develop an initial training curriculum for Helpline coaches. The entire service delivery team is trained on ways to more effectively serve AI populations. Coaching protocols used for the AI population include asking less direct questions by enhancing context prior to questioning, asking permission to make a personal query, being aware of the pace of the call and using more pauses, balancing support for quitting commercial or recreational tobacco use while respecting traditional use, and listening to identify if the participant is an elder. In order to better serve AIs without phones, the coaches can set up appointments and ask that the participants use the Helpline number to make inbound calls rather than respond to incoming calls from a coach.

Steps have been taken to specifically promote the Oklahoma Tobacco Helpline to AIs and ensure that Helpline coaches are aware of the differences between traditional and commercial tobacco use. However, it is unclear whether tobacco quitlines aimed at providing tobacco-cessation services to the general population are effective at increasing tobacco cessation among AI populations. This study was conducted to compare the utilization patterns, satisfaction, and tobacco-cessation outcomes among AI and white tobacco users to determine whether the Oklahoma Tobacco Helpline is equally effective among AIs.

Methods

Data Sources

Oklahoma Tobacco Helpline data are collected using an initial intake survey conducted at registration to capture demographic data, tobacco use history, motivation to quit, and how the caller heard about the Helpline. The data collected through the Helpline services delivery database includes which intervention was received (single- or multiple-call program); amount of NRT the registrant was eligible for; number of calls completed; and amount of NRT shipped. These data are used to evaluate utilization patterns for tobacco users registering for services. For this study conducted in the fall of 2013, registration and service delivery data from July 1, 2010, to June 30, 2013, were analyzed from tobacco users identifying themselves as white or AI. Helpline interventions were determined by the tobacco user's readiness to quit, participant preferences, and insurance status. Tobacco users without insurance who were ready to quit were eligible for the multiple-call intervention and up to 8 weeks of NRT. Tobacco users with private insurance were eligible for the single-call program and 2 weeks of NRT. State employees with HealthChoice insurance were eligible for more intensive services through an arrangement with the Oklahoma Employees Group Insurance Board (up to 12 weeks of NRT). Thus, tobacco users in this study may have received a single- or multiple-call intervention and anywhere from 0 to 12 weeks of NRT from the Helpline.

An evaluation follow-up survey of a sample of registrants was conducted to assess participant satisfaction and effectiveness of services. The telephone survey includes a random sample of participants in both multiple- and single-call interventions at 4 and 7 months post-registration. An oversampling of AI registrants was surveyed in addition to the random sample. Analysis using the follow-up data included those participants contacted on July 1, 2010, through the end of final follow-up surveys, which ended in October 2012 for the 4-month and January 2013 for the 7-month surveys. Response rates among those with working phone numbers who were determined eligible were approximately 28% for both whites and AIs at the 4-month survey. At the 7-month survey, response rates were slightly higher for whites (31%) compared to AIs (28%). Slightly more AIs had non-working phone numbers compared to whites. Nearly 13% and 6% of white Helpline registrants who were contacted refused to participate in the 4- and 7-month follow-up, respectively, compared to 9% and 6% of AIs. This study and the overall evaluation of the Helpline were reviewed and approved by the University of Oklahoma Health Sciences Center IRB (IRB No. 2616).

Measures

The registration intake survey gathered the following demographic data used in this analysis: gender; numeric age (categorized into 18–24, 25–34, 35–44, 45–54, 55–64, 65–74,

75 years); educational attainment (less than high school degree, high school degree or General Educational Development [GED], some college or university, college or university degree); income (< 10,000, 10,000–14,999, 55,000–19,000, 20,000–24,999, 525,000–34,999, 355,000–49,999, 550,000–74,999, 575,000); healthcare coverage (Indian Health Service, uninsured, Medicaid, Medicare, private insurance, Veterans coverage); and self-reported race (white, AI). Baseline tobacco history characteristics included in this analysis were tobacco use history in years (< 1, 1–5, 6–19, 20 years); number of previous quit attempts (zero, one, two to five, six or more); number of cigarettes smoked per day (less than a pack, one pack, between one and two packs, more than two packs); and time after waking to first cigarette (5, 6-30, 31-60, 60 minutes). Data on Helpline services received included type of call program (multiple-call, single-call); amount of NRT received (0, 2, 4, 6–12 weeks); and number of calls completed among those who were enrolled in the multiple call intervention (one, two, three, four, five or more).

Participant satisfaction data were analyzed from the 4-month follow-up survey. The following measures of satisfaction were used in this analysis:

- **1.** Overall, how satisfied were you with the services you received from the Oklahoma Helpline? (very satisfied, mostly satisfied, somewhat satisfied, not at all satisfied)
- **2.** *How would you rate your experience with the Helpline counselor? (excellent, good, average, poor)*
- 3. Would you recommend the Helpline to others? (yes, no)

To measure tobacco-cessation outcomes, 30-day abstinence rates were calculated among respondents at the 7-month follow-up survey using the following survey question: *Have you used tobacco or smoked a cigarette, even a puff, in the last 30 days (does not include use of tobacco in American Indian ceremonies)?* Quit rates were also calculated by call program and by amount of NRT shipped to the participants.

Statistical Analysis

The main analyses in this study examined the utilization, participant satisfaction, and tobacco-cessation outcomes in AIs compared to whites. Descriptive statistics were used to obtain percentages of baseline characteristics by race. For satisfaction and outcomes data gathered through the random sample survey, percentages and 95% CIs were calculated and reported for both racial groups. Pearson chisquare tests were used to test for significant differences between racial groups. A significance level of 0.05 was used for all comparisons, and all analyses were conducted using SAS, version 9.2.

Results

From July 2010 to June 2013, a total of 11,075 AI and 74,493 white adult tobacco users called the Oklahoma Tobacco Helpline and enrolled in the multiple- or single-call telephone

cessation program. Table 1 provides the demographic characteristics including gender, age, education, income, and healthcare coverage for AI registrants compared to whites. Although demographic patterns were relatively similar for AIs and whites, AI tobacco users were significantly more likely to be female, younger, have lower educational attainment, and have a lower annual income compared to white Helpline registrants. Nearly 9% of AIs reported Indian Health Services as their primary insurance plan, which is the equivalent of being uninsured when determining Helpline service eligibility. Fewer AIs reported having private insurance, and a higher proportion reported being uninsured compared to whites.

Tobacco use characteristics were analyzed to compare tobacco use history, levels of addiction to tobacco, and motivation to quit among AIs and whites at enrollment. Table 2 displays baseline data collected at registration. AIs were slightly less likely to have smoked cigarettes for > 20 years; however, the differences could be due to the younger age distribution. Approximately half of both AI and white registrants reported between two and five previous quit attempts, although across all categories AIs reported slightly fewer previous quit attempts than whites. The patterns of reported number of cigarettes per day and time to first cigarette after waking were similar for AIs and whites; however, AIs were somewhat more likely to report smoking less than a pack per day and waiting > 1 hour after waking to smoke a first cigarette.

Approximately 72% of AIs that registered for Helpline services enrolled in the multiple-call intervention, compared to 67% of whites. Similar proportions of AIs and whites received either 0 weeks of NRT or > 4 weeks, but AIs were more likely to receive 4 weeks rather than only 2 weeks. Among those who registered for the single- or multiple-call intervention, 13.6% of AIs and 12.5% of whites never completed an intervention call. When comparing only those registrants participating in the multiple-call intervention, AIs were more likely to have only completed one follow-up call from the Helpline compared to whites, though the majority of both groups only completed one call.

The results of the 4- and 7-month follow-up surveys to assess participant satisfaction and 30-day point prevalence abstinence rates are shown in Table 3. At the 4-month survey, 91.6% of AIs reported being very, mostly, or somewhat satisfied with the services they received from the Oklahoma Tobacco Helpline, compared to 92.8% of whites. Eighty-two percent of AI tobacco users rated their experience with the Helpline coach as excellent or good, compared to 84% of whites. AIs were just as likely as whites to report that they would recommend the Helpline to others. Although there were slight differences in satisfaction between AIs and whites, none of the results were significantly different.

At the 7-month follow-up survey, the self-reported 30-day abstinence rate among survey respondents within both the multiple- and single-call interventions combined was 31.7% for AIs and 36.5% for whites. Using an intent-to-treat method that assumes non-respondents continued to use tobacco, 6.5% of AIs remained quit at 7 months compared to 9.5% of whites. Although AIs reported slightly lower 30-day abstinence rates than whites, the differences were not statistically significant. Among registrants participating in the multiple-call intervention, 32% of AIs and 37% of whites reported 30-day abstinence from tobacco use at the 7-month follow-up, but the results were not significantly different. The 37% quit

rate among whites only was slightly higher than the quit rates when looking at the general Helpline population, which was typically 34%–35%. Participants that received 6–12 weeks of NRT had the highest 30-day quit rates at 7 months, at nearly 50% for both AIs and whites; differences between racial groups at each of the levels of NRT were not statistically significant.

Discussion

The results of this study indicate that the Oklahoma Tobacco Helpline services are equally effective for AI and white registrants who participated in the Helpline interventions during the years included in these analyses. Although the differences in baseline characteristics of AI compared to white registrants were statistically significant, the overall demographic and tobacco use patterns were similar across the multiple categories and most likely were not clinically significant. When assessing treatment reach, an estimated 3.5% of AI tobacco users in the state received counseling or medications from the Helpline compared to 3.3% of whites.

This is one of the first studies to directly compare the utilization and effectiveness of state quitline services among AIs to whites in a state with a high AI population. A study¹⁸ of aboriginals in Alaska found that quit rates for Alaska Natives who used the state quitline were not as high as those of the general population; however, Alaska Natives do not share the complex issue of traditional or ceremonial use of tobacco and may be much different than AI populations in Oklahoma. One study¹⁹ in Canada explored the effectiveness of population-based quitlines among aboriginal smokers and found that aboriginals do call the quitline and have similar quit rates to that of non-aboriginal smokers. Other studies^{13,20} assessing the effectiveness across multiple racial/ethnic groups have indicated that the use of quitlines can be equally effective among priority populations.

There were a few limitations to this study. There was a low response rate for the follow-up surveys. The Helpline asked permission at registration to contact participants for follow-up; however, there was no incentive for participating and many people were unable to be reached or were not interested in participating at follow-up. A sub-analysis comparing the demographic characteristics and tobacco use history of responders to non-responders indicated that differences were similar for AIs and whites. Non-responders for both AIs and whites were more likely to be younger, less educated, have a lower income, smoke a cigarette within 5 minutes of waking, and have smoked < 20 years compared to responders to the follow-up survey. Differences in characteristics among non-responders may limit generalizability of overall estimated quit rates, but the comparisons between AIs and whites in this population should not be affected by non-response bias. Another limitation with follow-up is that the 30-day abstinence rates were not biochemically verified and relied solely on self-reported responses. However, the self-reported 30-day point prevalence abstinence measured 7 months after registration used in this study to assess Helpline effectiveness matched the North American Quitline Consortium's benchmark used to assess quality of quitlines.¹² When assessing differences in Helpline effectiveness related to NRT, the participants were categorized by the amount of NRT that was shipped. This may not accurately represent the amount of NRT that the participants actually used during their

intervention period. Another limitation of this study is that the strength of cultural identity was not assessed; therefore, it is unclear whether strong identity is associated with Helpline effectiveness.

Owing to differences in healthcare coverage and a lack of private insurance, more AIs (72.4%) were eligible for the multiple-call program compared to whites (67.1%). Although AIs were more likely to be eligible for multiple calls, they were less likely to complete the entire intervention, and AIs received services at levels comparable to the white registrants. It is unclear from these data why AIs were less likely to complete the multiple-call intervention. It is possible that Helpline services aimed at the general population did not resonate as well with AIs because of cultural differences; however, self-reported satisfaction with Helpline services at the 4-month follow-up was similar for AIs and whites, and AIs were just as likely to report that they would recommend the Helpline to others.

This study indicates that AI tobacco users that do call the Helpline have quit rates exceeding 30%, similar to that of the white population in the state. These quit rates of higher than 30% exceed the North American Quitline Consortium's 2015 goal.¹² The Helpline utilization by AIs has been increasing over the last several years, and Oklahoma continues to work toward expanding the reach among this priority population. More research is needed to identify ways to improve reach among AI tobacco users, increase the utilization and completion of services, and improve effectiveness of state quitlines when serving AI populations.

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Table 1

Demographic characteristics of American Indian and white Oklahoma Tobacco Helpline registrants, July 2010 through June 2013, n (%)

	American Indian (n=11,075)	White (<i>n</i> =74,493)	<i>p</i> -value
Gender			
Male	4,201 (37.9)	29,919 (40.2)	< 0.0001
Female	6,868 (62.0)	44,549 (59.8)	
Age (years)			
18–24	1,497 (13.5)	8,586 (11.5)	< 0.0001
25–34	2,554 (23.1)	15,670 (21.0)	
35–44	2,206 (19.9)	14,371 (19.3)	
45–54	2,752 (24.9)	18,519 (24.9)	
55-64	1,513 (13.7)	12,075 (16.2)	
65–74	481 (4.3)	4,432 (6.0)	
75	72 (0.7)	840 (1.1)	
Education			
Less than high school degree	2,567 (23.2)	15,259 (20.6)	< 0.0001
High school degree or GED	3,966 (36.1)	27,220 (36.8)	
Some college or university	3,273 (29.8)	22,253 (30.1)	
College or university degree	1,153 (10.5)	9,016 (12.2)	
Unknown/refused	41 (0.4)	224 (0.3)	
Income (\$)			
< 10,000	3,975 (36.6)	22,610 (31.0)	< 0.0001
10,000–14,999	1,762 (16.2)	11,198 (15.3)	
15,000–19,000	1,274 (11.7)	8,596 (11.8)	
20,000–24,999	946 (8.7)	6,789 (9.3)	
25,000–34,999	1,019 (9.4)	7,716 (10.6)	
35,000–49,999	797 (7.3)	6,578 (9.0)	
50,000–74,999	445 (4.1)	4,080 (5.6)	
75,000	217 (2.0)	2,548 (3.5)	
Unknown/refused	424 (3.9)	2,868 (3.9)	
Insurance status			
Indian Health Service ^a	942 (8.5)	155 (0.2)	< 0.0001
Uninsured	5,187 (47.0)	31,843 (42.9)	
Medicaid	1,785 (16.2)	11,785 (15.9)	
Medicare	1,277 (11.6)	9,953 (13.4)	
Private insurance	1,673 (15.2)	19,071 (25.7)	
Veteran coverage	38 (0.3)	378 (0.5)	
Unknown/refused	143 (1.3)	1,000 (1.3)	

Note: Boldface indicates statistical significance (p < 0.05).

^aIndian Health Service is considered uninsured for Helpline benefits eligibility.

GED, General Educational Development test.

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Table 2

Baseline characteristics and treatment among American Indian and white Helpline registrants, July 2010 through June 2013, n (%)

	American Indian (n=11,075)	White (<i>n</i> =74,493)	<i>p</i> -value
Tobacco use history (year)			< 0.0001
<1	14 (0.2)	115 (0.2)	
1–5	494 (5.8)	3,031 (5.3)	
6–19	2,708 (32.0)	16,855 (29.3)	
20	5,239 (62.0)	37,445 (65.2)	
Previous quit attempts			< 0.0001
0	935 (12.2)	5,450 (10.4)	
1	1,815 (23.7)	11,912 (22.7)	
2–5	3,819 (49.8)	27,056 (51.7)	
6	1,094 (14.3)	7,963 (15.2)	
Cigarettes smoked per day (pack)			< 0.0001
<1	4,523 (40.8)	27,571 (37.0)	
1	3,584 (32.4)	25,003 (33.6)	
>1	1,715 (15.5)	12,855 (17.3)	
2	1,253 (11.3)	9,064 (12.2)	
Time after waking to first cigarette (min	nutes)		< 0.0001
5	5,647 (52.3)	37,943 (52.4)	
6–30	3,000 (27.8)	21,437 (29.6)	
31–60	1,044 (9.7)	6,908 (9.6)	
> 60	1,097 (10.2)	6,082 (8.4)	
Call program			< 0.0001
Multiple call	8,064 (72.4)	49,947 (67.1)	
Single call	3,011 (27.0)	24,546 (33.0)	
Nicotine replacement therapy (weeks)			< 0.0001
0	2,370 (21.4)	15,384 (20.7)	
2	2,520 (22.8)	21,555 (28.9)	
4	4,227 (38.2)	24,709 (33.2)	
6–12	1,958 (17.7)	12,842 (17.2)	
Number of calls completed among mult	iple call participants		< 0.0001
1	4,112 (51.1)	23,739 (47.6)	
2	1,901 (23.6)	12,497 (25.1)	
3	1,028 (12.8)	6,439 (12.9)	
4	597 (7.4)	4,086 (8.2)	
5	411 (5.1)	3,082 (6.2)	
Registered but completed no calls	1,508 (13.6)	9,326 (12.5)	< 0.0001

Note: Boldface indicates statistical significance (p < 0.05).

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Table 3

Follow-up results, satisfaction and outcomes among American Indian and White Helpline registrants, July 2010 through January 2013

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	An	nerican Indian		White	
	u	% (95% CI)	u	% (95% CI)	<i>p</i> -value
Four-month follow-up					
Satisfaction with services					0.3910
Very, mostly, or somewhat satisfied	512	91.6 (89.2, 94.0)	1,519	92.8 (91.5, 94.1)	
Satisfaction with coach					0.1268
Excellent or good	515	81.6 (78.2, 84.9)	1,522	84.4 (82.6, 86.3)	
Would recommend Helpline to others					0.5778
Yes	508	93.7 (91.6, 95.8)	1,510	93.0 (91.7, 94.3)	
Seven-month follow-up, 30-day abstinence ^d					
Total participants	454	31.7 (27.4, 36.0)	1,480	36.5 (34.0, 38.9)	0.0630
Intervention					
Single-call participants	89	31.5 (21.8, 41.1)	500	35.2 (31.0, 39.4)	0.4945
Multiple-call participants	365	31.8 (27.0, 36.6)	980	37.1 (34.1, 40.2)	0.0680
NRT received (weeks)					
0	153	30.7 (23.4, 38.1)	422	35.1 (30.5, 39.6)	0.3300
2	100	29.0 (20.1, 37.9)	547	34.9 (30.9, 38.9)	0.2507
4	101	19.8 (12.0, 27.6)	257	29.6 (24.0, 35.2)	0.0604
6–12	100	48.0 (38.2, 57.8)	254	49.2 (43.0, 55.4)	0.8372
a Respondents' 30-day abstinence rates.					

NRT, nicotine replacement therapy.