Effectiveness of a quitline for Alaska Native people

ORIGINAL ARTICLE

EFFECTIVENESS OF A TOBACCO QUITLINE IN AN INDIGENOUS POPULATION: A COMPARISON BETWEEN ALASKA NATIVE PEOPLE AND OTHER FIRST-TIME QUITLINE CALLERS WHO SET A QUIT DATE

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ABSTRACT

Objectives. To conduct a descriptive, comparative study of the acceptability and effectiveness of a tobacco cessation quitline (QL) among Alaska Native people and non-Alaska Native people.

Study design. From January 2006 to January 2007, we conducted telephone surveys of first-time Alaska QL callers who set a quit date. We attempted to reach them by phone about 3 months after their call to the QL.

Methods. Analyses compared 7-day point prevalence quit rates, satisfaction measures, experiences and general perceptions of QLs by Alaska Native and non-Alaska Native callers.

Results. We surveyed 39.8% (n=772) of the 1,941 adult tobacco users we attempted to contact. The 7-day point prevalence quit rate among Alaska Native survey participants at the 3-month follow-up was 22.2% (CI: 14.8% – 32.0%), compared to 40.7% (CI: 36.7% – 44.9%) for non-Alaska Native survey participants. Eighty-three percent (CI: 74.6% – 89.3%) were somewhat/very satisfied overall with the QL program compared to 90.3% (CI: 87.6% – 92.4%) for non-Alaska Native participants.

Conclusions. Although the QL was less effective for Alaska Native callers than other QL callers, Alaska Native peoples’ quit rates and satisfaction were still quite good. Despite this, more effort should be made to address specific Alaska Native values and social and cultural barriers to quitting tobacco.

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Keywords: smoking cessation, quitline, ethnic groups, Alaska Native people, indigenous populations
INTRODUCTION

Tobacco use disproportionately affects ethnic minority populations (1). In the United States, Alaska Native people and American Indians combined have the highest prevalence of tobacco use (32%) among ethnic minorities (2,3). Alaska Native people alone have a smoking prevalence of 44%, which translates into more than 30,000 Alaska Native adults who smoke (4). The high prevalence of tobacco use among U.S. indigenous populations is consistent with estimates of tobacco use by indigenous peoples in Canada (51%–59%) (5,6), Australia (51%) and New Zealand (51%) (7).

Alaska Native people comprise about 20% (about 130,000 individuals) of the population of Alaska. Whereas 70% of all Alaskans live in urban areas of the state, only 32% of Alaska Native people live in urban areas. Alaska Native people reside in over 200 rural communities that range in size from 50 to 25,000 persons. Alaska Native people are divided into 11 distinct cultures, speaking 20 different languages. Many Alaska Native people have retained their indigenous customs, language, hunting and fishing practices and ways of living (8).

Tobacco quitlines (QLs) provide an effective means for tobacco cessation (9,10), and they have been widely adopted in North America (11). Very little, however, has been reported on the effectiveness of QLs among indigenous populations. Aboriginal users of a Canadian QL had higher 7-day point prevalence quit rates at 6 months (19%) than non-Aboriginals (17%), although the difference was statistically significant only for a 6-month prolonged abstinence for male Aboriginals (17%) compared to male non-Aboriginals (9%) (12). A QL study in Washington State showed that American Indian/Alaska Native people had a higher 7-day point prevalence quit rate (35%) at 3-month follow-up than non-Hispanic whites (30%), although the difference was not statistically significant (13). In a study of the New Zealand National QL, the 7-day point prevalence quit rate at 6 months was 17% for Maori callers, compared with 21% for non-Maori (statistical significance not reported) (14).

In contrast to these findings, some tobacco control stakeholders in Alaska led us to believe that a QL may be less effective for Alaska Native people. This anecdotal evidence suggested that Alaska Native people would not trust a statewide service to be helpful, and that the QL interactions would be too fast-paced, personal and generally inconsistent with the more measured style of communication found among Alaska Native people. Thus, the purpose of this study is to describe the acceptability and effectiveness of the Alaska QL for Alaska Native people.

MATERIAL AND METHODS

Alaska QL services

The Alaska QL was established by the Alaska Tobacco Prevention and Control Program (TPCP) in 2002 as a free statewide tobacco cessation telephone counselling service. In 2005, free nicotine replacement therapy (NRT) was added to the service for all eligible adults for whom NRT was not medically contraindicated. During the time of this study, the Alaska QL was managed by the Providence Alaska Call Center, which provided telephone-based services for a broad range of health conditions.
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and was staffed by trained nurses 24 hours a day, 7 days a week. The services offered by the Alaska QL was based on a Mayo Clinic protocol (15), and consisted of tobacco use assessment, treatment planning based on stage of readiness to change, up to eight proactive follow-up counselling calls, a quit kit, and free NRT. The QL had 1 Alaska Native nurse who was available to speak with Alaska Native callers, if requested.

Survey participants and procedures
We conducted a 3-month follow-up survey of callers in English. The telephone survey was conducted by the Alaska Health Survey Lab, Alaska Department of Health and Social Services. For this survey, the study included individuals age 18 and older, who called the Alaska QL for the first time and set a quit date. Only callers that set a quit date on their initial call to the QL were eligible for the proactive follow-up counselling calls and the free NRT.

The study sample included all eligible individuals who called the QL from 15 October 2005 to 28 February 2006, in order to generate a state-level quit rate; from 1 March 2006 through 31 October 2006 the sample consisted of a simple random sample of 50% of QL callers who identified themselves as non-Hispanic white and 100% of callers of all other races and ethnicities. The sampling fraction for non-Hispanic white callers was changed to a 50% random sample because sufficient numbers were being collected to analyse quit rates and satisfaction for this group separately. In addition, the sampling strategy was designed to obtain a sufficient number of Alaska Native/ American Indian callers for analysis. The Health Survey Lab made at least 15 call attempts for each potential participant on a variety of days. QL callers who were reached by telephone were included in the survey if they spoke English, agreed to participate after receiving informed consent, reported being at least 18 years old and remembered having called the QL.

Study measures
The telephone survey was developed with input from the Alaska Tobacco Prevention and Control Program and adapted from a survey used in Washington State (13). The survey included questions about participants’ satisfaction with the QL, quit behavior, experiences with the QL, views about other people’s perceptions of QLs and other tobacco-related issues. Alaska Native callers were asked an additional 4 questions intended to elucidate perceptions about the appropriateness of the QL. The telephone survey took about 15–20 minutes to complete.

Demographic measures. The Alaska QL database provided little demographic information; therefore, information on race/ethnicity, gender, income and education level was collected in the survey for consistency with Alaska Behavioral Risk Factor Surveillance System (BRFSS) methods (16) to minimize missing data. Regarding race/ethnicity, the survey included a question about whether participants were Hispanic or Latino and a separate question about race. Participants who reported more than one race were also asked, “Which one of these groups would you say best represents your race?” The following categories were created based on participants’ responses: Latino, non-Latino, African American, non-Latino Asian or Pacific Islander, non-Latino American Indian, non-Latino Alaska Native and “non-Latino other.” For all
analyses, we combined Alaska Native and non-Latino American Indians into one group called ANAI. We asked all participants, “What is the highest grade of school you have completed?” We categorized responses into 3 categories: less than high school, high school and more than high school. The survey also asked about annual household income from all sources, and we categorized responses into 4 categories: less than $25,000, $25,000–$49,999, $50,000–$74,999 and $75,000 or more. Age was categorized into 3 groups: 18–29 years old, 30–44 years old and 45 years and older. For rural/non-rural classification of residence, we used a crosswalk between telephone prefixes and ZIP codes provided by the Alaska Department of Health and Social Services. Rural classification was based on the federal rural-urban commuting area (RUCA) methodology (17).

Tobacco cessation and cessation-related attitudes and behaviours. The 7-day point prevalence cigarette quit rate at 3 months was based on 2 questions: “Do you now smoke cigarettes everyday, some days, or not at all?” and “What was the date you last smoked, even a single puff on a cigarette?” Similarly, we defined the 7-day point prevalence smokeless tobacco (SLT) quit rate based on 2 questions, “Do you now use smokeless tobacco products everyday, some days, or not at all?” and “What was the date you last used smokeless tobacco?” Participants had to report now smoking (or using smokeless tobacco) “not at all” and a quit date at least 7 days before they were interviewed to be considered quit at the 3-month follow-up. Point prevalence quit rates were calculated only for survey participants. Callers who had a missing month and/or year for quit date were coded as missing if the threshold for the 7-day point prevalence could not be determined.

Participants were asked about their eligibility to receive NRT patches and whether they accepted the offer of free NRT. Those who refused were asked why they chose not to accept the offer.

The survey asked current tobacco users about barriers to quitting by asking, “People experience different barriers to quitting tobacco. What are the three hardest things about quitting for you?” The survey also asked participants who had quit, “What 3 things do you think were the most helpful to you in quitting?” We identified the most commonly occurring responses and tallied the frequency.

The survey also asked about the presence of other people smoking in the home, and rules about smoking in the home before and after calling the QL.

Satisfaction and experience with QL. Three measures of satisfaction were created. We asked participants: (1) “How satisfied were you overall with the QL Program? Would you say very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?” Responses were divided into satisfied (i.e., very or somewhat satisfied) versus not. (2) “Would you suggest the QL to others if they wanted help in quitting smoking? Would you say yes, for sure; yes, probably would; no probably would not; or no, never?” Responses were divided into would suggest (i.e., yes, for sure or probably would) versus not. (3) “How would you rate your experience with the QL nurse? Were you very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?” Responses were divided into satisfied (i.e., very or somewhat satisfied) versus not.

We went on to ask participants whether they agreed or disagreed with the following
statement: “During your interactions with quitline staff, you were always treated respectfully.” Responses were divided into agree (i.e., strongly or somewhat agree) or disagree. For those who disagreed with this statement, we asked, “What did the staff do to make you feel this way?” and recorded their comments.

Alaska Native questions. Four Alaska Native questions were asked of participants who said they were Alaska Native, alone or in combination with other races or ethnicities. Specifically, the questions asked participants about their preferences for an Alaska Native QL nurse, whether the QL questions were too personal to discuss on the phone, whether the pace of the questions was too fast or slow, and what their views on the appropriateness of the Alaska QL for Alaska Native people were.

Community perceptions of QLs. We asked a series of questions about how participants “think other people might view the QL.” We asked participants whether they agreed or disagreed with the following statements: “People don’t know about the QL,” “People think the QL is not needed because people should quit tobacco on their own,” “People think the QL would not be helpful to them in quitting tobacco,” “People think that the QL nurses would not treat them with respect,” “People think that QL nurses would be judgmental” and “People think that QL nurses would not be culturally sensitive.” For the last item, interviewers provided the following definition of culturally sensitive, if participants asked for an explanation: “By culturally sensitive we mean the QL nurses would understand and appreciate people with differing backgrounds, cultures or beliefs. For example, QL nurses would understand and respect persons from different racial/ethnic groups.” We divided their responses into agree (i.e., strongly or somewhat agree) or disagree.

Missing data. If a participant refused to answer or responded “Don’t know” to a question, their data for that question was considered missing. Generally, fewer than 2% of responses for any question were coded as missing. Notable exceptions were questions on age and income. For the questions related to the community perception of QLs, a “don’t know” response was included as a valid response category for analysis.

Statistical analyses
Analyses were based on measures from the survey, except for area of residence, which was based on telephone prefixes. Data were weighted by assigning a weight = 1 for all racial/ethnic groups other than non-Hispanic white. For whites, we assigned a weight = 2 to all respondents from 1 March 2006 through 31 October 2006, during which time there was a 50% random sample of whites and a weight = 1 otherwise. We compared quit rates and survey measures among survey participants by ANAI and non-ANAI. For these analyses, we used the Pearson Chi-Square test with Rao and Scott second-order correction in Stata Version 9.2 (18), which takes into account the sampling design. To examine the relative odds of quitting for ANAI, adjusting for other factors, we conducted a multiple logistic regression analysis that also accounted for the sampling design. For these and all statistical tests below, we used the 0.05 level of significance.
Ethics committee approval
The Office of Disease Prevention and Epidemiology, Oregon Public Health Division, Oregon Department of Human Services determined that this study was a program evaluation, not research, and therefore IRB review and approval were not required.

RESULTS

Survey response rate
Overall, 1,941 callers were identified by the QL as participants who had set a quit date and were eligible for the 3-month satisfaction survey. Of the 1,941, we were unable to reach 998 (51.4%); 107 (5.5%) were reached and refused to participate; and 836 (43.1%) were reached and consented to the interview. Of the 836 consented callers, 796 completed the eligibility screening; 790 remembered calling the QL; and 772 or 39.8% of all eligible callers during the study period completed the survey.

Among 314 callers who were identified by the QL as ANAI, 127 (40.4%) were reached and consented to the interview, compared to 43.5% of non-ANAI callers. The number of ANAI callers who completed the survey was 112, which represents 35.7% of all ANAI callers; 40.6% of non-ANAI callers completed the survey.

Description of survey participants
Table I provides descriptive information about ANAI and non-ANAI participants who completed the survey. For all our results, counts are unweighted and percentages are weighted. The survey participants were white, non-Latino 78.9%; African American, non-Latino 3.7%; Asian/Pacific Islander, non-Latino 2.3%; other, non-Latino 2.5%; Hispanic/Latino(a) 2.7%; and ANAI 10.0%.

| Table I. Demographic characteristics of ANAI and non-ANAI participants. |
|-----------------|-----------------|-------------------|
| Gender          | ANAI % (95% CI) | Non-ANAI % (95% CI) | p-value |
| Male            | 42.2 (33.0–51.9) | 42.1 (38.2–46.1) | 0.988 |
| Female          | 57.8 (48.1–67.1) | 57.9 (53.9–61.9) |          |
| Age group       | n=87            | n=537              | 0.022 |
| 18–29           | 26.4 (18.2–36.7) | 14.7 (11.9–18.1) |          |
| 30–44           | 29.9 (21.2–40.3) | 32.2 (28.2–36.6) |          |
| 45 and older    | 43.7 (33.6–54.3) | 53.1 (48.6–57.5) |          |
| Education       | n=99            | n=667              | 0.001 |
| Less than high school | 24.2 (16.8–33.7) | 12.1 (9.7–15.0) |          |
| High school or GED | 39.4 (30.3–49.3) | 34.5 (30.8–38.4) |          |
| More than high school | 36.4 (27.5–46.3) | 53.5 (49.4–57.4) |          |
| Income          | n=86            | n=602              | 0.010 |
| <$25,000        | 59.3 (48.6–69.2) | 45.0 (40.8–49.3) |          |
| $25,000–$49,999 | 32.6 (23.5–43.2) | 31.4 (27.6–35.5) |          |
| $50,000–$74,999 | 4.7 (1.8–11.8)  | 13.4 (10.7–16.6) |          |
| $75,000 or higher | 3.5 (1.1–10.3) | 10.2 (8.0–13.0) |          |
| Region          | n=100           | n=653              | <0.001 |
| Rural           | 43.0 (33.7–52.9) | 11.9 (9.5–14.9) |          |
| Non-rural       | 57.0 (47.1–66.4) | 88.1 (85.1–90.5) |          |
ANAI participants were significantly younger, had lower educational attainment, lower income levels and were more likely to live in rural areas than non-ANAI participants.

**Tobacco cessation and related behaviors**

The 7-day point prevalence cigarette quit rate among ANAI survey participants at the 3-month follow-up was 22.2% (CI: 14.8%–32.0%) compared to non-ANAI participants’ quit rate of 40.7% (CI: 36.7%–44.9%). The 7-day point prevalence SLT quit rate was also lower for ANAI (26.7%, CI: 10.4%–53.4%) compared to non-ANAI (41.6%, CI: 29.8%–54.4%), although not statistically significant. Table II shows the comparison between ANAI and non-ANAI for tobacco cessation-related behaviours.

Ninety-seven percent of ANAI and non-ANAI were eligible to receive free NRT patches; however, only 90% (CI: 82.4%–94.9%) of ANAI accepted them versus 96% (CI: 93.8%–97.2%) of non-ANAI. We asked participants why they did not accept the offer of free NRT patches. Two ANAI participants said they already had NRT patches, 2 wanted to quit “cold turkey,” 2 subsequently became medically ineligible, 1 said she/he did not need them and 1 said she/he still smoked. The survey asked about home smoking bans (Table II). Participants were asked to think back to before calling the quitline and respond to which rules applied in their homes. Significantly more ANAI prohibited smoking in their homes (67.3%, CI: 57.6%–75.8%) than non-ANAI (50.1%, CI: 46.1%–54.1%), despite a higher percentage of ANAI having others in the home that smoke. Three months after calling the QL, both groups reported an increase in the presence of home smoking bans, but the increase was smaller among ANAI participants. Survey participants were asked about barriers and enablers to quitting. The category of responses labelled “addiction” was mentioned as the top barrier to quitting for both ANAI and non-ANAI participants who did not quit. Addiction included both physical and psychological addiction, including tobacco use being a habit, feeling a lack of willpower, cravings and withdrawal symptoms. Other top-ranked barriers to quitting for both ANAI and non-ANAI participants were cost of NRT and life stress.

ANAI and non-ANAI participants who quit were also similar in their responses to the question, “What three things do you think were the most helpful to you in quitting?” The most frequently occurring response for both groups was NRT patches, gum or inhalers.

**Factors associated with quit rates**

The results of the multiple logistic regression to determine factors independently associated with quitting cigarettes are shown in Table III.

ANAI participants were considerably less likely to quit smoking cigarettes than non-ANAI (OR 0.44, CI: 0.22–0.87), controlling for demographic factors likely to be associated with tobacco use (all factors are displayed in Table III). Gender and age were the other significant factors independently associated with quitting cigarettes, where females were less likely to quit than males (OR 0.61, CI: 0.41–0.92), and middle-age participants were more likely to quit than participants in the oldest age group (OR 1.87, CI: 1.19–2.93).
Table II. Tobacco quit rates and other tobacco cessation behaviours.

| Factor                                      | ANAI % (95% CI) | Non-ANAI % (95% CI) | p-value |
|----------------------------------------------|-----------------|---------------------|---------|
| **7-day point prevalence quit rate at 3 months – cigarettes** |                 |                     |         |
| n=90                                         | 22.2 (14.8–32.0) | 40.7 (36.7–44.9)    | <0.001  |
| n=15                                         | 26.7 (10.4–53.4) | 41.6 (29.8–54.4)    | 0.289   |
| Accepted the offer of free NRT                | 90.3 (82.4–94.9) | 95.8 (93.8–97.2)    | 0.026   |
| Other smokers in the home                     | 51.0 (41.3–60.6) | 32.0 (28.3–35.9)    | <0.001  |
| Home smoking ban before calling the QL        |                 |                     |         |
| n=101                                        | 67.3 (57.6–75.8) | 50.1 (46.1–54.1)    | 0.005   |
| Smoking allowed in some places or sometimes   | 14.9 (9.1–23.2)  | 19.5 (16.5–22.9)    |         |
| Smoking allowed anywhere                      | 17.8 (11.5–26.6) | 30.4 (26.8–34.2)    |         |
| Home smoking ban after calling the QL         |                 |                     |         |
| n=100                                        | 78.0 (68.8–85.1) | 67.6 (63.7–71.3)    | 0.109   |
| Smoking allowed in some places or sometimes   | 11.0 (6.2–18.8)  | 17.6 (14.8–20.9)    |         |
| Smoking allowed anywhere                      | 11.0 (6.2–18.8)  | 14.8 (12.1–17.9)    |         |

Table III. Factors associated with cigarette 7-day quit at 3 months – logistic regression.*

| Factor                          | Adjusted odds ratio (OR) (95% CI) |
|---------------------------------|-----------------------------------|
| Race/ethnicity                  |                                   |
| Non-ANAI                        | 1.0                               |
| ANAI                            | 0.44 (0.22–0.87)                  |
| Age Group                       |                                   |
| 45 and older                    | 1.0                               |
| 18–29                           | 1.75 (0.99–3.08)                  |
| 30–44                           | 1.87 (1.19–2.93)                  |
| Gender                          |                                   |
| Male                            | 1.0                               |
| Female                          | 0.61 (0.41–0.92)                  |
| Education                       |                                   |
| More than high school           | 1.0                               |
| Less than high school or GED    | 0.50 (0.24–1.03)                  |
| High school                     | 1.23 (0.79–1.91)                  |
| Income                          |                                   |
| <$25,000                        | 1.0                               |
| $25,000–$49,999                 | 1.32 (0.83–2.10)                  |
| $50,000–$74,999                 | 1.35 (0.72–2.53)                  |
| $75,000 or higher               | 2.12 (0.99–4.57)                  |
| Region                          |                                   |
| Non-rural                       | 1.0                               |
| Rural                           | 0.94 (0.53–1.65)                  |

*Model includes all factors in the table as independent variables.
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Satisfaction and experience with the QL
Table IV shows a strong majority (83.2%, CI: 74.6%–89.3%) of ANAI participants were satisfied overall with the QL. Although significantly fewer ANAI were satisfied than non-ANAI (90.3%, CI: 87.6%–92.4%), nearly all of them would suggest the QL to others (97.0%, CI: 91.1%–99.0%) and felt the registration process was fine (94.0%, CI: 87.3%–97.3%). Significantly fewer ANAI were satisfied with the QL nurse (88.9%, CI: 81.0%–93.8%), compared to the 94.6% (CI: 92.6%–96.1%) of non-ANAI participants, but it is noteworthy that satisfaction with the QL nurse was high in both groups. When asked about being treated respectfully by the QL nurse, there were no differences between ANAI and non-ANAI (Table IV).

When asked, “What, if anything, would improve your satisfaction with the Alaska Tobacco QL?” the most frequently occurring response among the 88 ANAI who answered the question was “nothing” (n=41) or “don’t know” (n=14). However, there were 15 ANAI who mentioned their satisfaction would be improved with other forms of NRT (there were several mentions of side effects with NRT patches) and other cessation resources (n=5), including face-to-face counselling and peer-to-peer groups. There were 8 mentions of more follow-up calls or more time to talk to the QL nurse, and 8 comments related to the timeliness of the calls, timeliness of receiving the NRT and missed calls. Three ANAI expressed concerns about judgemental or disrespectful interactions with the QL nurse.

Alaska Native-only questions
Four Alaska Native-only questions were asked of all participants who said they were Alaska Native, alone or in combination with other races. Eighty-five individuals responded to these questions; 13 (15.3%) indicated they would have preferred to have an Alaska Native nurse to talk with; 3 (3.5%) responded that the questions were too personal; 16 (18.8%) responded that the pace of the questions was too fast; and 4 (4.7%) responded “no” when asked whether the QL is appropriate for Alaska Native people.

Community perceptions of the QL
Participants were asked about how they think other people they know might view the QL. For most statements, the percentage of ANAI and non-ANAI that agree was not signifi-

Table IV. Satisfaction and experience with QL.

|                               | ANAI % (95% CI) | Non-ANAI % (95% CI) | p-value |
|-------------------------------|-----------------|----------------------|---------|
| Satisfied overall with QL program | n=101           | n=663                | 0.033   |
|                               | 83.2 (74.6–89.3) | 90.3 (87.6–92.4)     |         |
| Would suggest QL to others    | n=100           | n=661                | 0.575   |
|                               | 97.0 (91.1–99.0) | 97.9 (96.4–98.8)     |         |
| Felt registration process was fine | n=100         | n=662                | 0.126   |
|                               | 94.0 (87.3–97.3) | 97.0 (95.3–98.1)     |         |
| Satisfied with QL nurse       | n=99            | n=655                | 0.027   |
|                               | 88.9 (81.0–93.8) | 94.6 (92.6–96.1)     |         |
| QL nurse always treated you with respect | n=101     | n=663                | 0.420   |
|                               | 98.0 (92.4–99.5) | 96.5 (94.6–97.7)     |         |
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cantly different. However, a significantly 
(p = 0.008) smaller percentage (51.5%, CI: 
41.8%–61.1%) of ANAI agreed that people 
don’t know about the QL, compared to 66.9% 
(CI: 63.0%–70.6%) of non-ANAI. There was 
large and significant (p<0.001) difference in 
the percentage of ANAI (20.2%, CI: 13.4%– 
29.3%) that agreed with the statement “people 
think that the QL nurses would not be cultur-
ally sensitive,” compared to 8.1% (CI: 6.2%– 
10.6%) of non-ANAI.

DISCUSSION

This study examined the appropriateness and 
effectiveness of a statewide tobacco QL for 
ANAI callers in Alaska compared to non-
ANAI callers. Twenty-two percent of ANAI 
participants had quit smoking at 3 months 
compared to 41% of non-ANAI participants. 
Most ANAI were satisfied with the QL 
service, although almost a fifth felt that the 
pace of the QL questions was too fast and a 
few (5%) said “no” when asked whether the 
QL was appropriate for ANAI. We are aware 
of only one other published study that exam-
ined effectiveness and satisfaction with a state 
tobacco QL among ANAI (13). That study, 
which was conducted in Washington State, 
showed higher quit rates and satisfaction levels 
than the Alaska ANAI participants examined 
here. In the Washington study, the 7-day point 
prevalence cigarette quit rate at the 3-month 
follow-up for a sample of 101 ANAI callers 
was 35%; and over 90% were satisfied overall, 
would suggest the QL to others and were 
satisfied with the QL specialist. Although 
the Washington and Alaska QLs were run 
by different vendors and the services cannot 
be compared directly, the difference in quit 
rates between ANAI and other racial/ethnic 
groups in Alaska is greater than the difference 
between ANAI and other racial/ethnic groups 
in Washington (non-Latino whites 30%, non-
Latino African American 35%, non-Latino 
Asian/Pacific Islander 35% and Latino 35%). 
This suggests that there may be a disparity 
in QL effectiveness for ANAI in Alaska 
that is not present for ANAI in Washington. 
This difference might possibly be explained 
by social and cultural differences between 
the groups of native peoples in the different 
states, rather than differences in QL services. 
Additional research is needed to understand 
the differences in QL effectiveness between 
ANAI in Alaska and Washington.

Despite lower quit rates and satisfaction 
for ANAI in Alaska compared to ANAI in 
Washington and non-ANAI in Alaska, the 
QL can still be considered an effective tool 
for helping ANAI tobacco users to quit. The 
3-month 22.2% 7-day point prevalence quit 
rate among ANAI QL callers is similar to the 
6-month point prevalence quit rate of 18.9% 
for Canadian Aboriginal QL callers (12). The 
authors of that study concluded that QLs are 
an effective intervention for people of Aborigi-
nal origin.

A statewide QL could be an important 
cessation resource to ANAI, particularly 
those in rural regions who do not have easy 
access to health care providers. In order to 
achieve higher rates of cessation and satisfac-
tion, adaptations to a general QL service may 
be helpful. Guidelines for providing counsel-
ing services to Alaska Native people include 
avoiding directive advice and fast-paced 
delivery of interventions (19). Indeed, this 
study showed a substantial proportion (nearly
20%) of ANAI QL callers thought the pace of the questions was too fast. Also, the social acceptance and widespread use of tobacco in the Alaska Native population (20) should be considered in tailoring a QL intervention to this group. Additional research is needed to determine which modifications are needed to achieve greater effectiveness. It is also important that the Alaska TPCP continue working with community groups to ensure that state cessation services are addressing the needs of the ANAI population.

This study was limited to persons who called the Alaska QL, so we cannot generalize the results to all tobacco users in Alaska. When we examined the Alaska QL utilization rates over the course of the study, utilization did vary by race/ethnicity. Specifically, ANAI cigarette smokers appear less likely to call the QL than non-ANAI smokers. ANAI smokers account for 25% (30,000 out of 120,000) of all adult cigarette smokers statewide (4), but only 13% (314 out of 2,421) of all tobacco users who called the QL during the study period were ANAI. This type of disparity in utilization of QL services has been reported by others (21,22).

Study findings are also subject to several additional limitations. First, our results cannot be generalized to other states’ or countries’ QLS or to different QL vendors and services offered. Second, the quit rates generated in this study are based only on the 39.8% of eligible QL callers who completed the survey, though only 5.5% of eligible QL callers refused to participate in the study. Third, no caller to the Alaska QL received the service in a language other than English during the study period, therefore our survey was conducted only in English.

Last, we interviewed only 112 ANAI callers for this study, and not everyone answered all the questions. Therefore, the estimates for quit rates and satisfaction levels within this group have wide confidence intervals.

Even with these limitations, our results suggest that QLS can help indigenous populations quit tobacco. Although levels of QL utilization among smokers in the U.S. are generally low (23) and appear to vary by subpopulations (21,22), QLS are effective and may possibly be more effective if they provide culturally competent services to specific populations.

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