

# Use of a Smokers' Quitline by Asian Language Speakers: Results From 15 Years of Operation in California

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In the United States, as in many other developed countries, telephone quitlines have become a recognized behavioral service for smoking cessation.<sup>1-3</sup> State quitlines across the country offer free telephone counseling to all residents who smoke. In addition, a toll-free number (1-800-QUIT-NOW) serves as a national portal to state quitlines. This allows nationwide media to promote a single phone number, but smokers still receive counseling from the quitline of the state in which their calls originate. The widespread use of quitlines in the United States has been fostered not only by scientific evidence of their effectiveness<sup>3</sup> but also by the enthusiasm of state and federal public health officials.<sup>2,4</sup>

Quitlines have also been shown to reach traditionally underserved populations, such as smokers from minority ethnic backgrounds or those who live in rural communities.<sup>5,6</sup> This has made quitlines an integral part of efforts to reduce disparities in smoking cessation in the United States.<sup>7</sup>

We addressed an area that has received insufficient attention from most state quitlines: Asian-language services. The Asian American and Pacific Islander population is one of the fastest-growing minority groups in the United States.<sup>8</sup> However, development of behavioral services for this population often lags behind, in part because of the stereotypical belief that Asian immigrants tend to take care of themselves.<sup>9</sup> In the case of state quitlines, most offer counseling only in English and Spanish, and only 1 provides direct counseling via Asian-language lines.<sup>10</sup> A few other quitlines provide counseling in Asian languages via telephone company translation services. In these cases, smokers must call the English or Spanish line and request counseling in an Asian language, which is then provided through an interpreter.<sup>7</sup> Little is known about how many callers to English and Spanish lines have requested counseling in Asian languages.

There are several reasons why most state quitlines currently do not offer services in Asian languages. One is the perception that

**Objectives.** We examined state quitline utilization by smokers who called Chinese-, Vietnamese-, or Korean-language lines, and compared their usage rates to those of Asians and Whites calling the English-language line.

**Methods.** Using data from 15 years (1993–2008) of operation of the California quitline (which included data on 22061 callers to Chinese, Korean, and Vietnamese lines) and from multiple California Health Interview Surveys, we computed the call rates for Whites, English-speaking Asians, and the 3 Asian-language groups. We also examined callers' demographics and where they heard about the quitline.

**Results.** Asian smokers who spoke English were significantly less likely than English-speaking White smokers to call the quitline (odds ratios range from 0.36 to 0.62). Smokers speaking 1 of the 3 Asian languages were no less likely than White smokers to call (odds ratios range from 0.82 to 3.25). More than 80% of those calling the Asian-language lines reported hearing about the quitline through mass media.

**Conclusions.** Contrary to general expectation, smokers speaking Asian languages were just as likely to call the quitline as English-speaking White smokers. State quitlines should consider adding Asian-language lines to help address disparities in access to cessation services. (*Am J Public Health.* 2010;100:846–852. doi:10.2105/AJPH.2009.168385)

Asians will not call quitlines because they generally do not seek counseling or "talk therapy."<sup>11-13</sup> This is believed to be especially true of recent Asian immigrants, who are even less familiar than longer-term US residents with the concept of behavioral counseling.<sup>11,12</sup> Another is the belief that Asians may not fully engage in the counseling process even if they do seek help.<sup>11</sup> Finally, and perhaps most important, there is a concern that it would be difficult to adequately staff quitlines with qualified counselors fluent in the many Asian languages spoken today. Issues such as these have kept most states from offering direct counseling services in Asian languages. The lack of counseling services and of the associated promotion that would raise smokers' awareness of smoking cessation places US smokers who speak Asian languages at a distinct disadvantage.

We examined data from a state quitline that has promoted and provided cessation services in 3 Asian languages for more than 15 years. The California Smokers' Helpline, the first state quitline in the United States, has advertised

its counseling services in Chinese (both Mandarin and Cantonese), Korean, and Vietnamese since 1993.<sup>14</sup> To determine whether Asian smokers conformed to widely held assumptions about their utilization of behavioral counseling services, we examined data on Asian language speakers who called the Helpline and how they heard about the Helpline, and compared their Helpline usage rates with that of English-speaking Whites.

## METHODS

Participants were callers to the California Smokers' Helpline from January 1993 to June 2008. The California Department of Public Health established the Helpline in August 1992 as a service operated by the University of California, San Diego. The Helpline began providing free English and Spanish services to all California residents in August 1992.<sup>14,15</sup> Asian-language services were launched in January 1993, first operated by the Asian Health Forum and then transferred to the University of

California, San Diego, in 1994. Currently the Helpline provides counseling in English, Spanish, Chinese (Mandarin and Cantonese), Korean, and Vietnamese. These are among the largest Asian-language groups in the United States, and many of the people who speak these languages prefer to speak an Asian language instead of English. Each language has its own toll-free quitline that is advertised in that language.<sup>16</sup>

To compare Helpline callers with the general smoking population in California, we used data from the California Health Interview Survey (CHIS).<sup>17</sup> CHIS is the largest California health survey that interviews participants in Chinese, Korean, and Vietnamese, in addition to English and Spanish. Data for the 3 Asian-language groups are available for CHIS survey years 2003, 2005, and 2007.

### Measures

The Helpline's intake questionnaire for callers asks whether they are calling for themselves or for someone else, their tobacco-use status, and their readiness to quit. It also asks how callers learned of the program, and it gathers demographic data on callers. Each caller's name and phone number are recorded for individual identification in the database. We divided Helpline callers into those calling for themselves and those calling to help others quit smoking. The first group is termed "smokers," though it includes those who have recently quit smoking and want to avoid relapse. The second group is termed "proxies."

Callers identifying themselves as Asians or Pacific Islanders are asked to provide their specific ethnicity. For expositional simplicity, we used the term Asians instead of Asian Americans and Pacific Islanders because the focus is on 3 Asian-language groups (Chinese, Koreans, and Vietnamese). These three groups are termed "CKV" in this article. We refer to all other Asian and Pacific Islander groups as "other Asians."

For those calling 1 of the Helpline's 3 Asian-language lines, the language essentially defines the ethnicity: 99.7% of callers on the Chinese line report Chinese ethnicity; 99.6% on the Vietnamese line report Vietnamese ethnicity; and 99.9% on the Korean line report Korean ethnicity. Thus, we do not further analyze other ethnic groups among callers to these lines.

We also defined CHIS respondents who self-identified as Chinese, Koreans, or Vietnamese, and who used Chinese, Korean, or Vietnamese as their interview language, as CKV-speaking Asians. Asian respondents who used English are grouped with all other Asian subgroups and defined as English-speaking Asians.

We used Whites as the reference group. Among Helpline callers, this group consisted solely of Whites calling the English-language line. Similarly, among CHIS respondents, "Whites" consisted of all Whites interviewed in English.

### Analysis

The Helpline usage rate for each group was obtained by taking the annual total of calls from the corresponding group to the Helpline and dividing it by that group's total estimated population of smokers in California. We used CHIS data to obtain these estimates. Data on smoking among CKV-speaking Asians are available for 3 CHIS survey years: 2003, 2005, and 2007. To compensate for annual variations in Helpline call volumes, we averaged call volumes over 2-year periods. Thus, for each study group, annual Helpline call volumes from July 2002 to June 2004 are averaged and then divided by that group's total smoking population in 2003 (derived from CHIS 2003). Similarly, Helpline call volumes from July 2004 to June 2006 are averaged and then divided by total smoking populations in 2005 (derived from CHIS 2005), and Helpline call volumes from July 2006 to June 2008 are averaged and then divided by total smoking populations in 2007 (derived from CHIS 2007).

Measures of ethnicity in CHIS 2003, 2005, and 2007 differ slightly. To ensure data comparability we used the California Department of Finance race categories, which the CHIS research team has recommended for comparisons across survey years.<sup>18,19</sup> English-speaking Asians in this case are all non-Latino Asians and non-Latino Pacific Islanders interviewed in English, and CKV-speaking Asians are all non-Latino Asians interviewed in Chinese (Mandarin or Cantonese), Korean, or Vietnamese.

We used SUDAAN version 10.0<sup>20</sup> to obtain estimates of the size of the population of California smokers in each ethnic group, using CHIS 2003, 2005, and 2007, respectively. The upper

and lower bounds of these estimates were used to compute confidence intervals for quitline usage rates. All other analyses were conducted using SAS version 9.2.<sup>21</sup>

### RESULTS

From January 1993 to June 2008, a total of 35 521 Asian Americans and Pacific Islanders called the Helpline. Notably, the sum of Chinese, Korean, and Vietnamese people calling the 3 Asian-language lines was much greater than that of all Asians calling the English-language line (22 061 versus 13 460). Asians calling the English-language line included English-speaking Chinese, Koreans, Vietnamese, and many other Asian groups. Specific ethnicities for these callers to the English-language line, assessed beginning in April 1994, were: Filipino (31.8%), Korean (11.3%), Chinese (11.2%), Japanese (9.3%), Vietnamese (7.2%), Hawaiian (7.0%), Samoan (2.5%), Asian Indian (1.8%), Guamanian (1.4%), Hmong (1.3%), Cambodian (1.2%), Laotian (1.0%), and all other Asian subgroups combined (13.0%).

Among callers to the Asian-language lines, 35.4% were proxies calling on behalf of a smoker. The percentage of proxies among Asian callers on the Asian-language lines was significantly greater ( $P < .001$ ) than that of proxies among Asian callers on the English-language lines (11.1%). If the analysis were to omit proxies, the total number of smokers calling the 3 Asian-language lines would still be greater than the combined total of Asian smokers calling the English-language line (14 400 versus 12 111).

During the same period, 259 979 callers to the English-language line identified themselves as White; 4.8% of these were proxies. The total number of White smokers calling for themselves was 247 592.

Table 1 presents the groups' annual quitline usage rates, separated by gender. Male smokers' usage rates range from 0.37% to 1.53% for the first period of comparison (2002–2004 Helpline data versus CHIS 2003 data). English-speaking Asians were significantly less likely than were Whites to call the Helpline ( $P < .05$ ). However, smokers using the 3 Asian-language lines were significantly more likely than were Whites to call ( $P < .05$ ). Like males, English-speaking Asian female smokers

**TABLE 1—Annual Usage Rates for the California Smokers' Helpline, by Ethnic and Language Group, 2002–2008**

	Male				Female			
	Average No. of Annual Calls to Quitline	Estimated No. of Smokers in CA	Usage Rate, % (95% CI)	OR	Average No. of Annual Calls to Quitline	Estimated No. of Smokers in CA	Usage Rate, % (95% CI)	OR
<b>CHIS 2003<sup>a</sup></b>								
Whites (Ref)	9866	1 130 481	0.87 (0.83, 0.92)	1.00	13 730	1 008 207	1.36 (1.29, 1.44)	1.00
English-speaking Asians	815	223 157	0.37 (0.31, 0.43)	0.42*	562	81 527	0.69 (0.53, 0.90)	0.50*
CKV-speaking Asians	1358	88 768	1.53 (1.29, 1.85)	1.77*	144	9 288	1.55 (0.86, 2.82)	1.14
<b>CHIS 2005<sup>b</sup></b>								
Whites (Ref)	8206	1 067 132	0.77 (0.73, 0.81)	1.00	11 402	971 932	1.17 (1.11, 1.24)	1.00
English-speaking Asians	593	176 140	0.34 (0.28, 0.41)	0.44*	444	61 098	0.73 (0.53, 1.00)	0.62*
CKV-speaking Asians	908	119 630	0.76 (0.66, 0.88)	0.99	121	12 623	0.96 (0.54, 1.71)	0.82
<b>CHIS 2007<sup>c</sup></b>								
Whites (Ref)	6299	1 066 843	0.59 (0.56, 0.63)	1.00	9 366	829 700	1.13 (1.05, 1.21)	1.00
English-speaking Asians	495	233 236	0.21 (0.17, 0.26)	0.36*	388	69 973	0.55 (0.39, 0.80)	0.49*
CKV-speaking Asians	1051	75 642	1.39 (1.13, 1.74)	2.37*	135	3 777	3.57 (1.54, 8.30)	3.25*

Note. CHIS = California Health Interview Survey; CI = Confidence interval; CKV = Chinese, Korean, and Vietnamese. Each 2-year span of quitline data is compared to a year of CHIS data to estimate usage percentages for the period in question. Confidence intervals based on the variance in estimating the total number of smokers by using CHIS data.

<sup>a</sup>Data from July 2002 through June 2004.

<sup>b</sup>Data from July 2004 through June 2006.

<sup>c</sup>Data from July 2006 through June 2008.

\* $P < .05$ .

were significantly less likely than Whites to call ( $P < .05$ ), whereas CKV-speaking female smokers were no less likely to call (Table 1).

The data pattern is similar for the second period of comparison, 2004–2006 Helpline data versus CHIS 2005 data. English-speaking Asian male and female smokers were significantly less likely to call the Helpline than were White smokers, whereas CKV-speaking male and female smokers were not significantly less likely to call the Helpline than were White smokers.

The pattern for the third period of comparison, 2006–2008 Helpline data versus CHIS 2007 data, was also similar to the first period, with differences between groups becoming more pronounced. English-speaking Asian male and female smokers were both significantly less likely to call the Helpline than were White smokers, but CKV-speaking male and female smokers were both significantly more likely to call than were White smokers.

Apart from CHIS 2003, 2005, and 2007, no other population surveys are available for estimating the total number of CKV-speaking smokers living in California during the Helpline's 15 years of operation. Thus, we cannot compare usage rates for years other than those

shown in Table 1. However, the Helpline's own call data allow some internal comparisons. If all English-speaking Asian callers in Table 1 are combined for each time period, their call volume is 5.8% of the call volume for Whites for July 2002 through June 2004, 5.3% for July 2004 through June 2006, and 5.6% for July 2006 through June 2008. The average call volume of English-speaking Asian callers as a percentage of Whites' call volume for the entire 15-year period is 5.6%. The call volumes of CKV-speaking Asians are 6.4%, 5.2%, and 7.6% of Whites' call volumes for the same 3 periods, respectively. The averaged call volume of CKV-speaking Asians for the 15-year study period as a percentage of Whites' call volume is 6.3% (data not shown). In other words, the relative percentages of English-speaking and CKV-speaking Asian callers compared to Whites for the entire 15-year period are not significantly different from those of the 3 periods considered in Table 1. This suggests that the pattern presented in Table 1 is not limited to the 3 periods in which CHIS data are available.

Table 2 shows smokers' and proxies' reports of where they heard about the Helpline. Among smokers calling the Asian-language lines, the

media was by far the most common source of information (greater than 80% for all 3 groups). Only a small proportion mentioned health care providers as a source (4.1% averaged over the CKV-speaking groups). About the same proportion reported having heard about the Helpline from friends and family (4.8% averaged over the CKV-speaking groups).

In contrast, among White smokers, although the media was also reported as their chief source of information (42.3%), there was a much greater proportion reporting health care providers as a source (28.1%). Whites were also more likely to report other sources, such as county health departments and non-profit organizations such as the American Cancer Society.

The proportions of English-speaking Asians reporting media and health care providers as their source of information about the Helpline fall between those for CKV-speaking Asians and Whites.

For proxies, the mass media was also the main source of information. Among CKV-speaking Asians, proxies were even more likely than smokers to report media as their source (greater than 90% for all proxies). The media was also the most frequently reported

**TABLE 2—Where Callers to the California Smokers' Helpline Heard About the Program, by Language and Ethnicity, 1993–2008**

	Asian-Language Lines			English Line	
	Chinese, % (95% CI)	Korean, % (95% CI)	Vietnamese, % (95% CI)	Asians, % (95% CI)	Whites, % (95% CI)
<b>Smokers</b>					
Mass media	87.7 (86.63, 88.75)	91.8 (91.08, 92.50)	80.7 (79.36, 82.04)	54.8 (53.85, 55.63)	42.3 (42.13, 42.51)
Health care providers	4.1 (3.46, 4.74)	1.6 (1.23, 1.87)	8.4 (7.50, 9.38)	17.1 (16.47, 17.81)	28.1 (27.92, 28.28)
Family/friends	5.3 (4.54, 5.98)	3.8 (3.36, 4.36)	5.9 (5.06, 6.66)	10.7 (10.15, 11.25)	12.2 (12.05, 12.31)
Other	2.9 (2.40, 3.48)	2.8 (2.37, 3.23)	5.0 (4.26, 5.74)	17.4 (16.73, 18.09)	17.4 (17.26, 17.56)
<b>Proxies<sup>a</sup></b>					
Mass media	92.4 (91.41, 93.31)	92.0 (90.89, 93.19)	92.0 (90.73, 93.23)	55.3 (52.72, 58.02)	61.5 (60.59, 62.31)
Health care providers	1.5 (1.05, 1.91)	1.0 (0.54, 1.36)	1.9 (1.30, 2.58)	11.7 (9.93, 13.35)	8.6 (8.08, 9.06)
Family/friends	2.8 (2.23, 3.41)	3.1 (2.34, 3.82)	2.7 (1.96, 3.46)	9.0 (7.45, 10.49)	7.4 (6.98, 7.90)
Other	3.3 (2.70, 4.00)	3.9 (3.10, 4.76)	3.3 (2.55, 4.21)	24.0 (21.74, 26.30)	22.5 (21.80, 23.28)

Note. The sample size for Chinese smokers was n=4179; for Korean smokers, n=6340; for Vietnamese smokers, n=3881; for Asian smokers, n=12 111; for White smokers, n=247 592. The sample size for Chinese proxies was n=3355; for Korean proxies, n=2301; for Vietnamese proxies, n=2005; for Asian proxies, n=1349; for White proxies, n=12387.

<sup>a</sup>People who said they called the quitline on behalf of a smoker they knew.

source for White and English-speaking Asian proxies. Interestingly, a meaningful percentage of proxies among both Whites and English-speaking Asians reported health care providers as sources (8.6% and 11.6%, respectively).

Table 3 presents caller demographics. Among smokers, most CKV-speaking callers are males, corresponding to the well-known fact that far greater proportions of the males in these groups are smokers. White smokers who call are more likely to be female (58.0%). English-speaking Asians fall between CKV-speaking Asians and Whites in terms of gender.

In terms of age distribution, Asian-speaking smokers are older, with a far greater proportion aged 45 to 64 years: the average age is 43.5 years for Chinese smokers (SD=12.3 years), 45.7 years for Korean smokers (SD=11.8 years), and 46.0 years for Vietnamese smokers (SD=12.5 years). English-speaking Asians are the youngest group; their average age is 32.8 years (SD=12.3 years). The average age for White smokers is 40.7 years (SD=13.8 years). In terms of education, English-speaking Asians are the most highly educated group, followed by Whites and CKV-speaking Asians.

Among proxies, a striking similarity crosses all ethnic and linguistic lines: the majority of proxy callers are female. Proxies generally have similar age distributions to smokers in the corresponding groups. Thus, CKV-speaking proxies, for example, are older than White

proxies and similar in age to CKV-speaking smokers. The same similarity of proxies to smokers holds true for education level.

## DISCUSSION

Our study, based on data from 15 years of operation of Asian-language quitlines in California, demonstrates that smokers speaking Asian languages used a telephone-based cessation service as frequently as most other smokers did. This was at least true for Chinese-, Korean-, and Vietnamese-speaking smokers in a state where there was strong promotion of the program through the media. These groups used the Helpline at about the same rate as White smokers in California: about 1% of the total smoking population for each group annually. This usage rate is about the same as the averaged annual usage rate reported by other established state quitlines across the United States.<sup>10</sup> In the case of California, this means more than 22 000 Asian language speakers called the quitline during the study period.

A major reason for the Helpline's success in reaching CKV-speaking smokers is that California has an ongoing antismoking media campaign that has raised smokers' awareness of the importance of quitting.<sup>16</sup> The campaign also includes messages about the availability of a statewide quitline in each of the Asian languages. Data in Table 2 suggest that the number of CKV speakers using the Helpline would be

dramatically lower if it were not for media promotion of the program. Of course, this statement is largely true for English-speaking Whites as well, because the media is also the primary referral source for White smokers calling the quitline.

A more detailed analysis of media promotion of the Asian-language quitline in California is not feasible because the California Tobacco Control Program media campaign includes many elements. The portion devoted to the Helpline has received varying amounts of emphasis in various languages over the years.<sup>22</sup> However, a study of California's Chinese- and Korean-speaking smokers has shown that their awareness of general antismoking media messages was very similar to that of California's English-speaking majority.<sup>23</sup> This suggests that the California antismoking media campaign successfully reaches smokers who speak Asian languages, even though their exposure to cessation-specific messages is unknown. Thus, it might be predicted that CKV-speaking smokers in California will continue to call the Helpline as long as the media campaign in Asian languages maintains its current practices.

The media campaign for the Helpline also has an extended motivational effect, leading nonsmokers to call the quitline on behalf of other smokers. This lateral effect seems particularly strong in Chinese-, Korean-, and Vietnamese-speaking communities, as evidenced by the high proportion of proxies among

**TABLE 3—Demographic Characteristics of Callers to the California Smokers' Helpline, 1993–2008**

	Asian-Language Lines			English Line	
	Chinese, % (95% CI)	Korean, % (95% CI)	Vietnamese, % (95% CI)	Asians, % (95% CI)	Whites, % (95% CI)
<b>Smokers</b>					
Gender					
Male	87.9 (86.87, 88.89)	87.4 (86.57, 88.25)	93.9 (93.14, 94.68)	58.7 (57.79, 59.53)	42.0 (41.83, 42.21)
Female	12.1 (11.11, 13.13)	12.6 (11.75, 13.43)	6.1 (5.32, 6.86)	41.3 (40.47, 42.21)	58.0 (57.79, 58.17)
Age, y					
<18	0.2 (0.08, 0.38)	0.2 (0.11, 0.35)	0.1 (-0.01, 0.19)	5.2 (4.81, 5.59)	2.6 (2.56, 2.68)
18–24	5.0 (4.36, 5.74)	1.7 (1.39, 2.07)	2.2 (1.73, 2.71)	25.1 (24.34, 25.88)	11.2 (11.08, 11.32)
25–44	51.5 (49.88, 53.04)	46.8 (45.51, 48.09)	46.3 (44.60, 47.92)	52.0 (51.15, 52.93)	47.4 (47.21, 47.61)
45–64	36.3 (34.80, 37.84)	43.9 (42.57, 45.13)	42.2 (40.55, 43.83)	16.1 (15.38, 16.68)	33.7 (33.52, 33.90)
≥65	7.0 (6.15, 7.75)	7.4 (6.72, 8.08)	9.2 (8.28, 10.20)	1.6 (1.40, 1.84)	5.1 (4.98, 5.16)
Education, y					
≤12	42.2 (40.11, 44.37)	25.0 (22.61, 27.35)	60.4 (57.44, 63.30)	35.2 (34.29, 36.07)	48.9 (48.69, 49.09)
>12	57.8 (55.63, 59.89)	75.0 (72.65, 77.39)	39.6 (36.70, 42.56)	64.8 (63.93, 65.71)	51.1 (50.91, 51.31)
<b>Proxies<sup>a</sup></b>					
Gender					
Male	24.0 (22.49, 25.43)	30.6 (28.73, 32.55)	32.6 (30.49, 34.65)	26.7 (24.36, 29.04)	26.2 (25.42, 26.96)
Female	76.0 (74.57, 77.51)	69.4 (67.45, 71.27)	67.4 (65.35, 69.51)	73.3 (70.96, 75.64)	73.8 (73.04, 74.58)
Age, y					
<18	0.3 (0.07, 0.47)	0.2 (0.00, 0.42)	0.4 (0.10, 0.66)	11.9 (10.16, 13.68)	8.2 (7.77, 8.75)
18–24	4.3 (3.54, 5.10)	1.3 (0.77, 1.77)	4.5 (3.59, 5.49)	19.4 (17.33, 21.63)	11.8 (11.18, 12.34)
25–44	44.8 (42.93, 46.73)	35.1 (32.96, 37.26)	43.4 (41.13, 45.67)	46.0 (43.06, 48.46)	40.2 (39.30, 41.06)
45–64	39.7 (37.84, 41.58)	49.8 (47.56, 52.06)	39.6 (37.33, 41.81)	19.0 (16.97, 21.23)	30.3 (29.46, 31.10)
≥65	10.9 (9.69, 12.07)	13.6 (12.05, 15.13)	12.1 (10.60, 13.60)	3.7 (2.71, 4.77)	9.5 (8.99, 10.05)
Education, y					
≤12	29.9 (27.28, 32.58)	27.9 (22.34, 33.44)	57.9 (52.25, 63.61)	25.6 (23.13, 28.07)	31.0 (30.21, 31.87)
>12	70.1 (67.42, 72.72)	72.1 (66.56, 77.66)	42.1 (36.39, 47.75)	74.4 (71.93, 76.87)	69.0 (68.13, 69.79)

Note. The sample size for Chinese smokers was n=4179; for Korean smokers, n=6340; for Vietnamese smokers, n=3881; for Asian smokers, n=12 111; for White smokers, n=247 592. The sample size for Chinese proxies was n=3355; for Korean proxies, n=2301; for Vietnamese proxies, n=2005; for Asian proxies, n=1349; for White proxies, n=12 387.

<sup>a</sup>People who said they called the quitline on behalf of a smoker they knew.

CKV-speaking quitline callers: 35% versus 5% among Whites. This suggests that media promotion of cessation services may be especially effective with Asian-language populations, because it mobilizes the community to help smokers quit.<sup>24</sup> Thus, when a state quitline adds Asian-language services, media promotion should be an integral part of the plan. Asian-language communities clearly respond to media messages.

The success of media promotion of the quitline does not mean that other promotion methods will be ineffective with smokers in Asian-language communities. For example, many state quitlines have found that offering free nicotine patches via the quitline motivates smokers to call.<sup>25–27</sup> It is reasonable to expect

that the same strategy would also work for Asian-language populations. The clinical experience of the California Smokers' Helpline supports this idea: many callers to the Asian-language lines inquire about the possibility of getting free patches, a service that the Helpline currently does not have the budget to provide. In fact, a study of smokers who are recent Asian immigrants shows that even an incentive not directly related to quitting smoking (a free pedometer) dramatically increases the proportion of these smokers calling the Helpline.<sup>28</sup>

Data in Table 2 also suggest that more could be done to encourage health care providers to help smokers who speak Asian languages. Few CKV-speaking callers report hearing about the Helpline from health care providers,

whereas more than a quarter of White smokers do. An effort is underway to encourage California's Asian physicians associations to promote Helpline services to their patients who are smokers.

A surprising finding in this study is the relatively active participation of CKV-speaking smokers compared with English-speaking Asian smokers. The data on English-speaking Asians in Table 1 agree with the literature on Asian American populations: English-speaking Asians tend to be less likely to use behavioral services than the White population.<sup>11–13</sup> Lack of acculturation is often cited as an explanation: talk therapy is a Western idea, and Asian Americans—even if they are native English speakers—are less acculturated to the

idea.<sup>11,12</sup> Accordingly, it has been expected that smokers speaking Asian languages would be even less likely to use behavioral services because they are less acculturated than English-speaking Asians. In this study the opposite turned out to be the case. Smokers speaking Asian languages were more likely to use the quitline than were English-speaking Asians.

Because there was no direct assessment of how many CKV-speaking smokers in California have seen the quitline media message in comparison with English-speaking Asians, it is difficult to ascertain how much of the difference between the 2 groups can be attributed to differences in media exposure. However, other studies on adoption of tobacco control behaviors have reported similar results, contrary to predictions based on acculturation theory.<sup>29–31</sup> For example, CKV-speaking families in California are more likely to adopt smoking bans at home than are English-speaking Asians.<sup>31</sup> The present study adds to the limited but growing literature on this phenomenon. Further studies are required to verify generalizability of these findings and to clarify mechanisms producing these differences.

This study is limited by several other factors not mentioned above. Although the results clearly show that media campaigns in general are an effective way to motivate smokers to use the quitline, it is unclear whether effectiveness varies by factors such as educational level (Table 3 shows that educational levels are quite different by language and ethnic subgroups). In addition, the study could not reliably measure how much the promotional efforts of various community organizations have contributed to the quitline's success in reaching the Chinese-, Korean-, and Vietnamese-language groups. Moreover, Asian Americans and Pacific Islanders are very diverse populations; thus, the generalizability of these results to other Asian groups needs further examination.

The main practical result of this study—15 years of data from California showing active quitline use by CKV-speaking smokers—has strong implications for US state quitlines not currently providing Asian-language services. Most states currently conduct media promotion of quitlines,<sup>32</sup> but few promote these services in Asian languages. Failure to promote cessation services in Asian languages will perpetuate the perception that Asians do not use behavioral

services such as quitlines. State quitlines that are unable to maintain an adequate staff of counselors fluent in Asian languages might collaborate with other states on joint Asian-language services, sharing the financial burden. Telephone-based services are highly conducive to multistate operation. In addition, federal agencies might consider a national effort to help states with smaller Asian-speaking populations, creating basic coverage for Asian languages on a national basis, just as the 1-800-QUIT-NOW number did for English speakers before state quitlines were universally established.<sup>2</sup>

The value of an Asian-language quitline reaches beyond the provision of counseling. It can facilitate the process of conducting anti-smoking media campaigns in Asian languages among communities with large Asian immigrant populations, when the positive message of free help via a quitline follows a strong media campaign that aims to make smoking socially unacceptable.<sup>22</sup> The high level of quitline participation by proxies from the Asian-language groups in this study suggests that such a combination could amplify the effect of mass media campaigns, helping to mobilize these underserved language/ethnic communities toward smoking cessation. Combining direct cessation services with a media campaign, which in itself is one of the most effective methods of motivating smokers to quit,<sup>33</sup> can address disparities in helping all American smokers quit. ■

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*This article was accepted August 22, 2009.*

#### Contributors

S.-H. Zhu conceptualized and supervised the study and wrote the drafts of the article. S. Wong and A. Gamst conducted the analyses and assisted with data interpretation. C. Stevens managed the California statewide media campaign and supervised the creation of numerous media spots that focused on Asian-language-speaking communities. D. Nakashima managed the early period of the Asian-language quitline, including all data

collection procedures, when it was operated by the Asian and Pacific Islander American Health Forum. All authors helped to conceptualize ideas, interpret findings, and review drafts of the article.

#### Acknowledgments

The data analysis and the writing of this article were supported by National Cancer Institute (grant R01 CA104573). The California Smokers' Helpline services provided in Mandarin, Cantonese, Korean, and Vietnamese have been supported by the California Department of Health Services, Tobacco Control Section, under contracts 90-10961, 92-15416, 96-27049, 00-90605, and 05-45834, and by First 5 California under contract CCFC-6810.

The authors would also like to acknowledge Robin Shimizu of the California Department of Public Health for her support and invaluable contributions to the promotion of quitlines among California's Asian communities.

#### Human Participant Protection

This study was approved by the ethics committee of the institutional review board of the University of California, San Diego.

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