

Development of Culturally Appropriate Support Strategies to Increase Uptake of Nicotine Replacement Therapy Among Russian- and Chinese-Speaking Smokers in New York City

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Abstract Approximately 80,000 New York City smokers are Chinese or Russian speakers. To increase utilization of smoking cessation services among these populations, the Department of Health and Mental Hygiene developed linguistically and culturally tailored outreach strategies to promote and enhance its annual Nicotine Patch and Gum Program. In 2010, online web applications in Chinese and Russian were introduced. In 2011, input was sought from the community to develop Russian-language radio and newspaper ads, and a Russian-speaking liaison provided phone-assisted online enrollment support. In 2012, Chinese newspaper ads were introduced, and a Cantonese- and Mandarin-speaking liaison was hired to provide enrollment support. In 2010, 51 Russian speakers and 40 Chinese speakers enrolled in the program via web application. In 2011, 510 Russian speakers applied via the web application, with 463 assisted by the Russian-speaking liaison; forty-four Chinese speakers applied online. In 2012, 394 Russian speakers applied via the web application; 363 were assisted by the Russian-speaking liaison. Eighty-five Chinese smokers applied online via the web application; seventy were assisted by the Chinese-speaking liaison. Following the implementation of culturally tailored cessation support interventions, ethnic Russian smokers' uptake of cessation support increased tenfold, while Chinese

smokers' uptake doubled. Although linguistically appropriate resources are an essential foundation for reaching immigrant communities with high smoking rates, devising culturally tailored strategies to increase quit rates is critical to programmatic success.

Keywords Tobacco · Smoking cessation · Ethnicity · Immigrants · Culturally competent care · Program evaluation

Introduction

Smoking is the leading preventable cause of premature death globally, responsible for more than six million premature deaths each year [1]. China is the leading consumer of cigarettes in the world (38%) [2], and has the highest rate of tobacco-related deaths globally [3]; Russia consumes 7% of cigarettes worldwide [2] and tobacco use ranks third in risk factors for premature death in that country [4]. Because these countries consume cigarettes at a disproportionate rate to their population, Chinese and Russian immigrants to the United States (US) may arrive with smoking habits in place which may be perpetuated and culturally reinforced, especially if they reside in predominantly immigrant neighborhoods. Smoking remains the leading preventable cause of premature death in the US [5]. In New York City (NYC), despite significant reductions in smoking prevalence over the last decade, smoking persists as a major public health problem. Almost one million residents are current smokers, of whom more than 80,000 are Chinese- or Russian-speakers [6].

Increasing the rate of successful quit attempts is one of the most effective strategies for reducing preventable tobacco-related illness and deaths. The US Public Health

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Service Clinical Practice Guidelines for treating tobacco use and dependence recommends the use of cessation medications, including nicotine replacement therapy (NRT), for more effective quit attempts [7]. Since 2003, the New York State (NYS) Department of Health has offered NRT as part of its telephone-based cessation services [8]; in 2006, the NYC Department of Health and Mental Hygiene (Health Department) launched the Nicotine Patch and Gum Program (NPGP) a time-limited (typically 2-weeks), population-based NRT giveaway program to complement the state's services for NYC residents [9]. During the time the NPGP is implemented each year, daily smokers who enroll are mailed nicotine patches and/or nicotine gum as well as quit smoking materials, and offered free coaching services. The program is accompanied by a hard-hitting anti-tobacco media campaign that directs smokers to call 311 or the NYS Quitline. Between 2004 and 2012, services were available 24 h per day, 7 days per week and available in 170 languages, including Russian, Cantonese, and Mandarin when managed by 311; currently, these multilingual services are provided Monday through Friday, 9 am–9 pm, and online through the NYS Quitline. In 2010, an online application was added as alternative method. Since its inception, the NPGP has delivered free cessation support to over 300,000 individuals.

In this paper, we describe efforts to increase enrollment of Chinese- and Russian-speaking smokers, and consider the effectiveness of these strategies in increasing the enrollment of Chinese- and Russian-speaking daily smokers in the NPGP. Our objective is to share lessons learned from this process that may inform the development of effective cessation support strategies for immigrant communities in other jurisdictions.

Methods

Prior to 2010, few Chinese- or Russian-speaking smokers accessed the NPGP, despite the availability of linguistically appropriate services and the implementation of Chinese- and Russian-language TV and print media campaigns to promote the program. To increase enrollment of Chinese- and Russian-speaking smokers in the NPGP, the Health Department developed and implemented linguistically and culturally tailored outreach strategies prior to the annual 2010, 2011, and 2012 NPGPs.

Online Enrollment Application in Russian and Chinese

In 2010, a NPGP web application was built and integrated into the Health Department website. This new online option was available in English, Spanish, Russian, and Chinese, and was intended to facilitate NPGP enrollment and increase

access to cessation services for ethnic populations with low English fluency. The online application also streamlined data collection, eliminating the problematic cross-agency transfer of data related to moving telephone enrollments from 311 to the Health Department. The Health Department promoted the new online application through focused mass media efforts. For print campaigns, translated versions of an English-language print advertisement were run in Russian and Chinese newspapers. On television, two hard-hitting media campaigns were aired in Cantonese and Mandarin.

Russian-Specific Program Development Activities

The Health Department focused Russian-language activities in Brighton Beach, Brooklyn, which is home to the largest community of Russian speakers in NYC. Beginning in 2010 and continuing through 2012, the Health Department sent letters by post to Russian speakers in the spring, in advance of the 2-week NPGP giveaway, who were past enrollees of the program. The letters encouraged residents to access the NPGP's Russian-language services, and to share the information with other community members. During October and November 2010, two Health Department staff members spent 3 h on two separate occasions in Brighton Beach, in order to observe resident activities and to identify community stakeholders who may contribute to program development. Observations indicated that Brighton Beach Boardwalk, abutting the Atlantic Ocean, was the most popular location in the neighborhood for socializing, followed by the Shorefront Young Men's–Young Women's Hebrew Association, a Jewish community center offering recreational, educational and cultural services. Staff noted that hundreds of residents gathered in these locations to walk, chat, and smoke. Also, groups of men gathered together to listen to Russian-language radio on handheld devices.

The Health Department conducted brief, informal meetings with a convenience sample of health and wellness professionals, which included physicians, physical therapists, pharmacists, and exercise instructors in the community. Through these conversations, the Health Department learned that local residents were generally healthy and fit, valuing exercise, and that they respected physicians in the community. This observation was corroborated by Russian-speaking staff at the Health Department and by community partner organizations, who added that Russian-speaking immigrants generally distrusted government agencies and officials.

Subsequently, the Health Department recruited 33 Russian adults from the community to participate in interviews to gain more insights into potentially effective enhancements that could be made to attract Russian smokers to enroll in the NPGP. A common theme that emerged from these interviews was that the community members distrusted government

but placed faith in community-based medical professionals. Participants suggested that the Health Department work with community and clinical organizations to continue to build trust and rapport with this community. Additionally, participants reported that community members were high utilizers of medications.

In response to these findings, the Health Department piloted a NRT giveaway on Brighton Beach Boardwalk on a single day in December 2010, in order to assess the acceptability and feasibility of NRT distribution within the community. The pilot was promoted with a Russian-language poster advertising free NRT, with the Health Department logo, which was mounted on the boardwalk on the day of the giveaway. Within 90 min, 40 smokers inquired about the giveaway, and 37 smokers successfully enrolled in the pilot. The Health Department provided enrollees with a brief smoking cessation counseling session (5–10 min) and a kit that included 4 weeks of nicotine patches and gum along with instructions for use, translated into Russian.

Based on the success of the pilot giveaway, the Health Department incorporated additional measures to expand access to NRT within the Russian community. In 2011, a unique Russian-language phone number was promoted by a full-page ad on 11 occasions, in five different Russian-language newspapers with a total weekly circulation of 167,000. Additionally, on Russian radio, deejay announcements were run 135 times. A Russian-speaking liaison was hired to develop community partnerships and contribute to program development in 2011, and facilitate NPGP enrollment for Russian speakers using the Russian-language online form during the 2011 and 2012 giveaways. In 2012, the number of radio announcements was decreased by 50% and there were no Russian newspaper ads.

Chinese-Specific Program Development Activities

Chinese-specific efforts focused on Chinese enclaves in three of NYC's five boroughs: Sunset Park, Brooklyn; Flushing, Queens; and Downtown Manhattan (Chinatown). Beginning in 2010 and continuing through 2012, the Health Department sent letters by post to Cantonese and Mandarin speakers in the spring, in advance of the NPGP giveaway, encouraging residents to access the NPGP's Chinese-language services. In 2011 and 2012, the program was promoted through print ads in Chinese newspapers. In 2011, the existing English-language print ad was translated into Chinese; and in 2012, a new ad was created specifically tailored to the Chinese community. The Health Department partnered with the Charles B. Wang Health Center, the largest Chinese health center in NYC, which promoted the NPGP through its clinical network, and included the center's logo in the NPGP print ads.

In preparation for 2012 campaign, the Health Department conducted seven key informant interviews with stakeholders within the Chinese community. Findings were similar to those found in the Russian community. Themes included distrust of government initiatives, paired with faith in community-based professionals and organizations, and participants suggested that the Health Department enlist support from community-based organizations, as well as clinical providers and their membership agencies, such as the Chinese American Medical Society. They also suggested allowing family members to call the NPGP phone line on the smokers' behalf, because in many Chinese families, males are more likely to smoke, but wives often facilitate medical appointments for their husbands and the family. In terms of promotion and marketing of the NPGP, participants noted that since the Chinese community avidly reads newspapers, the Health Department should focus uniquely on this media channel. Five of the seven participants reported seeing past NPGP print ads in Chinese newspapers, but also stated that the ads did not appeal to them and suggested redesigning the ads so that instead of focusing on health, the ads were family-oriented. These findings influenced the development of the new print ad for Chinese speakers in 2012, with the theme of "Not Fade Away" (Fig. 1).

Fig. 1 Example of Chinese-specific print ad, “Fades like Smoke,” used to increase uptake of nicotine replacement therapy among Chinese-speaking smokers in New York City

In 2012, the Health Department engaged a Cantonese- and Mandarin-speaking liaison to provide phone-assisted online enrollment for Chinese speakers. As with the Russian community, a Chinese-language phone number was promoted by print ads in Chinese newspapers. Twelve full- and half-page ads were run in four papers with a total circulation of 687,000. The liaison helped develop community partnerships, served as the point of contact for public inquiries from Chinese speakers, and assisted online enrollment of Chinese speakers via the web application form during the 2012 NPGP. The Health Department also partnered with Chinese community-based organizations to hold a press conference to promote the 2012 NPGP, which resulted in earned media of three newspaper articles.

Results

Increases in NPGP Enrollment

In 2010, 51 Russian speakers and 40 Chinese speakers enrolled in the NPGP using the language-specific web application; an additional 15 Russian speakers and 12 Chinese speakers enrolled using the 311 language line. In 2011, Russian web enrollment increased substantially, to 510 smokers; 463 (91%) were assisted by the Russian-speaking liaison. Chinese enrollment remained relatively stable at 44 smokers. An additional 73 Russian speakers and 21 Chinese speakers enrolled using the 311 language line. In 2012, Russian web enrollment declined somewhat, to 394 smokers; 363 (92%) were assisted by the Russian-speaking liaison. Chinese enrollment nearly doubled, to 85 smokers; 70 (82%) were assisted by the Chinese-speaking liaison. An additional 74 Russian speakers and 15 Chinese speakers enrolled using the 311 language line in that year.

Effectiveness of Promotion and Marketing

Of the information available for Russian-speaking enrollees who accessed the web application, in 2010, about one-third of enrollees (14 of 40 individuals, 35%) reported that they learned about the program through either a television or newspaper ad, while another one-third (13, 33%) learned through word of mouth. In 2011, more than two-thirds (345 of 510 individuals, 68%) learned about the program through a radio ad, while 36 individuals (7%) saw a TV or newspaper ad and 97 (19%) heard through word of mouth. In 2012, over two-thirds (270 of 394, 69%) learned about the NPGP through media on the radio, while 76 (19%) heard through word of mouth and 36 (9%) responded to a Health Department letter.

Of the information available for Chinese-speaking enrollees who accessed the web application, in 2010, one-quarter

of enrollees (10 of 40 individuals, 25%) learned about the program through a newspaper ad, one quarter (10, 25%) responded to a Health Department letter, and nearly one quarter (9, 23%) saw or heard an advertisement on TV, the radio or in a newspaper. In 2011, about half of enrollees (24 of 44 individuals, 55%) saw a newspaper ad, and 7 individuals (16%) responded to a DOHMH letter. In 2012, half of enrollees (44 of 85 individuals, 52%) saw a newspaper ad, one quarter (20, 24%) responded to a Health Department letter, and 8 individuals (9%) learned about the NPGP through word of mouth.

Discussion

Research has demonstrated that online channels may increase enrollment in cessation services among the general population [10]. Yet, initially, the Health Department found that the Russian- and Chinese-language web application forms did not attract large numbers of individuals in the communities they were meant to serve. In 2010, the online enrollment option resulted in an increase of 12,000 NPGP enrollees in 2010; yet only 51 individuals enrolled using the Russian-language web application and 40 enrolled using the Chinese-language web application. Enrollment increased substantially only when the Health Department worked to understand and involve the two communities in developing culturally tailored strategies, for the 2011 and 2012 campaigns.

Among Russians, in late 2010 and early 2011, the Health Department gathered information from the community through observations, interviews, and a pilot NRT giveaway; and in response to findings, a Russian-speaking liaison was hired, and new promotional efforts and ads were developed for the radio and other media channels. Following these interventions, Russian enrollees in the NPGP increased tenfold, from 51 individuals in 2010 to 510 in 2011. In 2012, when promotional activities were reduced, enrollment declined to 394 individuals. In both 2011 and 2012, nearly all Russian online enrollees were assisted by the Russian-speaking liaison, pointing to the importance of this resource. Similarly, among the Chinese community, the Health Department conducted interviews with community members, hired a Chinese-speaking liaison, and developed new promotional materials and newspaper ads. Between 2011 and 2012, Chinese enrollment doubled, from 41 to 84 individuals. Nearly all of the Chinese enrollees in 2012 were assisted by the Chinese-speaking liaison.

Radio was by far the most successful promotional channel utilized for Russians; while among the Chinese community, newspaper ads were the most successful channel each year. Yet, simply translating English-language ads did not achieve the desired results; enrollment increased only

in parallel to the development of media that reflected the interests and needs of the community. For both Russian and Chinese speakers, the ad content and the choice of media channels were determined through Health Department observations of the communities, and through conversations and interviews with opinion leaders and community members. Our findings suggest the importance of working in partnership with the communities of focus to develop culturally appropriate materials and promotional strategies.

Over the 3 years of program activities, Russian online enrollment in the NPGP appeared to be impacted more strongly than Chinese enrollment. Among Russian speakers, smoking prevalence was 22% [95% CI (16, 30)] in 2009, and 14% in 2012 [95% CI (9, 23)]. While this decline was not significant, these figures show that smoking prevalence among Russian speakers moved in the desired direction; it may be that small sample sizes limit our ability to draw conclusions about the effect of programming on smoking prevalence. However, among Chinese speakers, between 2009 and 2012, smoking prevalence remained steady at 16% [95% CI in 2009 (11, 25) and 14% in 2012 (10, 19)] [6]. Furthermore, among male Chinese speakers, prevalence has remained especially high, at 23% in both years. These findings reflect the experiences of other jurisdictions that have designed health promotion and disease prevention programs for immigrant communities. In Sacramento, California, tobacco survey results showed fewer Chinese American smokers seeking help to quit smoking as compared to the general population [11]; and research suggests that white immigrants may acculturate more quickly than nonwhite immigrants, including Chinese Americans, such that health promotion initiatives may face greater barriers in attracting ethnic Chinese and other nonwhite communities, as compared to Russians and other European immigrants [12]. More qualitative research is needed to elucidate how public health programs may better respond to the needs and interests of the Chinese community.

Nonetheless, our findings provide important directions for future work in smoking cessation among immigrant and linguistically isolated communities, and particularly among Russian and Chinese Americans. While linguistically appropriate resources are essential to reach immigrant communities with high smoking rates, devising culturally tailored strategies is critical to programmatic success. Our experience demonstrates the importance of engaging with community members at the outset of program development. Our findings also attest to the importance of comprehensive implementation of culturally and linguistically appropriate services, as delineated by the National Standards in Culturally and Linguistically Appropriate Services in Health and Health Care (National CLAS Standards), to ensure that respectful and responsive programming is developed for all

Americans, toward the realization of health equity for all communities [13].

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflicts of interest.

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