

Policy Forum

Characteristics of Callers Accessing the Tobacco Cessation Quitline in Mainland China*

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To describe the characteristics of callers accessing the first national smoking quitline in mainland China. The national quitline provides residents in mainland China with free telephone smoking cessation services. Of 8260 callers from December 1, 2009 to May 31, 2012, the study included 1049 callers to the non-automated service who gave basic information during the call. Of the 1049 live-access callers, 637 (60.7%) were smokers, and 768 (73.2%) were male. Of 937 callers seeking counseling, 544 (58.1%) chose to receive counseling about smoking cessation methods and 196 (20.9%) chose counseling about pharmacotherapy. Among the 908 callers identified in 31 locations in China, 268 (29.5%) were from Beijing, and constituted the largest number, followed by 134 (14.8%) from Guangdong Province. The number of incoming calls increased every month, particularly in May, coinciding with World No Tobacco Day. The majority of quitline callers in China requested information about quitting smoking. An increase in the number of callers to the quitline in mainland China for smoking cessation services was observed during the study.

Smoking is a major risk factor for mortality in China^[1]. China is the largest consumer of tobacco in the world, with an estimated 301 million current smokers^[2]. The number of deaths attributed to tobacco use annually has reached 1.0 million among the Chinese population^[3]. Offering a smoking cessation service is a cornerstone of the World Health Organization (WHO) MPOWER strategy to reduce tobacco use^[4]. Of the various smoking cessation strategies, a telephone quitline is an easily accessible, convenient and cost-effective strategy to aid smoking cessation^[5-12].

In 2000, Hong Kong established the first tobacco cessation quitline in all of Asia, and it has been

demonstrated to be a useful and acceptable smoking cessation tool for the Chinese^[6]. In 2004, mainland China established the first quitline in the city of Beijing (86-10-65089393) operated by the WHO Collaborating Center for Tobacco and Health. In December 2009, the Beijing quitline was expanded to a national quitline (4008885531); this move was sponsored by the Ministry of Health and the WHO. It is currently the only professional quitline providing a smoking cessation service in mainland China, and has a national long-distance toll-free number, which callers can access directly. The quitline provides both automated audio advice and live-access services. The automated voice response advice service, available 24 h a day, provides information about harmful ingredients in tobacco smoke, the health hazards of smoking, the benefits of quitting smoking, tobacco addiction, methods for smoking cessation, smoking cessation medicines, and specific information about smoking cessation clinics. The live-access service, available 10 h a day during workdays (from 8:00 am to 6:00 pm), provides detailed information from trained counselors. The quitline can provide an automated service and a live-access service to two callers at the same time. To expand the accessibility of the quitline, it was promoted in the mass media, in training courses, in the *Chinese Clinical Smoking Cessation Guidelines*, in the *China Report on the Health Hazards of Smoking*, and so on.

The purpose of the current study was to determine the characteristics of callers accessing the national quitline in mainland China. A better understanding of the characteristics of callers served by the quitline can facilitate the promotion and development of quitlines throughout mainland China.

Participants The participants were callers who accessed the quitline between December 1, 2009 and

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May 31, 2012. In this paper we mainly analyzed those callers who provided basic information (type of client and sex) (Figure 1).

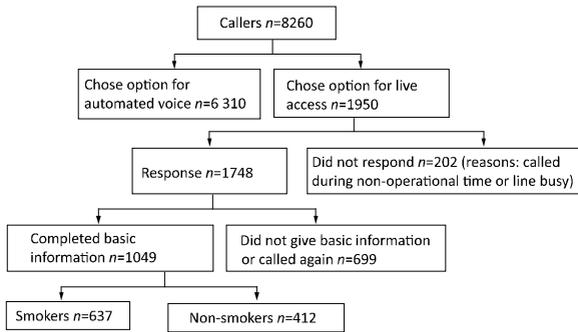


Figure 1. Quitline Study Protocol.

Procedure The quitline records every incoming call, so we had a register of the total number of incoming calls and the monthly number. When callers phoned the quitline, they were first asked to choose between an automated sound response service and a live-access service. If they chose the live-access service during operating hours, and the quitline was unoccupied, they could make contact with a counselor. When a caller reached the national quitline for the first time, he or she was initially screened by the counselor to determine the type of client (smoker, relative of a smoker, ex-smoker and other), and his or her demographic and smoking-related information. This information was saved on the computer and the information was automatically shown if the caller phoned again.

Study Variables Study variables included the type of client (smoker/relative of smoker/ex-smoker/other); sex of client (male/female); the main information requested during the call to the quitline, including advice about smoking cessation methods, information about smoking cessation clinics, information about pharmacotherapy (types of smoking cessation drugs and how to purchase them), withdrawal symptoms to expect, material related to tobacco control, and sharing the experiences of smoking cessation (ex-smokers talked about quit attempts or shared their success stories and the counselor provided feedback to encourage them to maintain their quit status); and the number of calls from different locations in China.

Statistical Analysis Table 1 presents the basic information of 1049 callers accessing the live-access quitline in mainland China between December 1,

2009 and May 31, 2012. Table 2 shows the main information requested during the call to the quitline between December 1, 2009 and May 31, 2012. Table 3 shows the number of calls in different locations in China during the study period. A line graph was used to illustrate the call numbers per month.

Table 1. Basic Information of 1049 Callers Accessing the Quitline in Mainland China between December 1, 2009 and May 31, 2012

Item	N	%
Type of client (n=1049)		
Smokers	637	60.7
Relatives of smokers	316	30.1
Ex-smokers	30	2.9
Others	66	6.3
Sex (n=1049)		
Male	768	73.2
Female	218	26.8

Figure 1 shows that, of the 8260 callers accessing the quitline over the study period, 1950 (23.6%) were callers requesting the live-access service, and 1748 (89.6%) callers were actually able to connect with the live-access service, the remainder (10.4%) calling during non-operational hours or when the counselor was busy. Of the 1748 callers, 1049 (60.0%) provided basic information (type of client and sex). Among those who provided basic information, 637 (60.7%) were smokers (539 were current smokers and 98 had quit in the past 3 months), and the remaining 412 (39.3%) were non-smokers (382 had never smoked and 30 were ex-smokers who had quit more than 3 months previously). Among the 412 non-smokers, 316 were the relatives of smokers, 30 were ex-smokers, and the remainder were others who had received anti-tobacco-related material and included journalists, medical workers, pharmacy staff, and health educators. Of the 1049 callers, 768 (73.2%) were male. Among the 539 current smokers, 86.8% were male (not shown in the Tables).

Table 2 shows the main information requested during the call to the quitline in mainland China between December 1, 2009 and May 31, 2012. Of the 937 calls, 58.1% received counseling about smoking cessation methods, 20.9% received information about pharmacotherapy, and 12.0% received information about smoking cessation clinics.

A total of 908 live-access callers gave their location. They came from 31 locations in China, with the largest number (268) from Beijing. The second largest call volume came from Guangdong Province at 134. The remaining 506 calls were from 29 other provinces or cities in China, such as Guangxi Zhuang Autonomous Region, Shandong Province, the city of Tianjin, and others. However, the number of calls from each of the 29 locations was much fewer than from Beijing or Guangdong Provinces, and ranged between 1 and 44.

Figure 2 illustrates call numbers in relation to month. The general trend was for an increase in the number of incoming calls, with a particular surge each May.

This paper reported the characteristics of callers accessing the national smoking cessation quitline in mainland China. Of the 1049 live-access callers during the study period, non-smokers accounted for 39.3%. Of the non-smokers, 76.7% were relatives of smokers. Some smokers may work during the day and not have time to call the quitline themselves or were not yet willing to quit. Their relatives who accessed the

quitline learned how to counsel them on how to quit. The quitline provides a convenient way for smokers' relatives to learn about providing counseling on how to quit smoking. Of the non-smokers, 7.3% were ex-smokers, who consulted the quitline for information about withdrawal symptoms or shared their personal experience of quitting. Through consulting the quitline, the ex-smokers were able to gain confidence, and maintain their status as quitters. In addition, counselors were able to learn from the exchange and then provide more effective help for future smokers. The remaining 16.0% were callers who received counseling for public education. Journalists and health educators were able to learn about the existence and aims of the quitline and increase their knowledge about smoking cessation. Healthcare workers could receive training on a professional method of smoking cessation, which allowed them to help their patients quit. Pharmacy staff were able to obtain information on the standard usage of smoking cessation drugs through the quitline, and provide correct guidance for smokers who bought the drugs.

The results showed that, of those who accessed the national quitline in mainland China, the number of male smokers was greater than female smokers (86.8% vs. 13.2%). This is possibly because of the much higher smoking prevalence among males than females in China (52.9% vs. 2.4%)^[2].

Given the option, the greatest number of callers chose to learn about smoking cessation methods. This is a basic function of the quitline and also reflects a desire to understand more about the standard smoking cessation methods in China. The WHO Collaborating Center for Tobacco and Health has invited well-known domestic and international tobacco cessation experts to train doctors nationwide once a year since 2009. So far, 84 doctors have participated in the training and 48 of these have acquired the qualification of "Tobacco Cessation Physician"^[13]. In addition, in 2007, the Collaborating Center wrote clinical guidelines for Chinese physicians^[14], and experts from the Center have traveled around the country giving lectures on professional smoking cessation methods to local doctors. The second highest number of callers received counseling about cessation pharmacotherapy. In China, many pharmacies sell smoking cessation drugs, yet often pharmacy staff lack the knowledge on correct use of the drugs. The quitline number could be advertised in pharmacies to encourage smokers buying smoking cessation drugs

Table 2. Main Information Requested During the Call to the Quitline in Mainland China between December 1, 2009 and May 31, 2012

Consultation Content	N (n=937)	%*
Smoking cessation methods	544	58.1
Information about pharmacotherapy	196	20.9
Information about smoking cessation clinics	112	12.0
Withdrawal symptoms	51	5.4
Collecting material about tobacco control	25	2.7
Sharing the smoking cessation experience	9	1.0

Note. * Because of rounding off, not all percentages add up to 100.

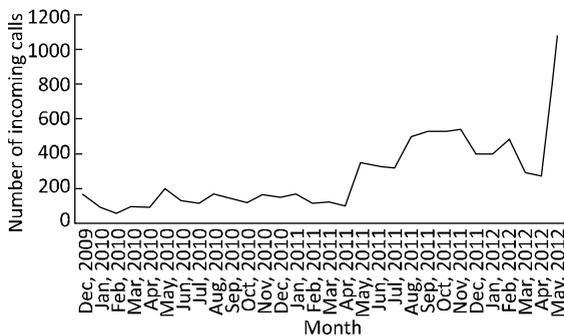


Figure 2. Line graph illustrating call number in relation to month.

to access standardized and effective instructions. The quitline also collects information about smoking cessation clinics all over the country and updates this information regularly for the callers. Some callers reported that they learned of drugs that could help them quit smoking from newspapers or television, but did not know which kinds of drugs or how to purchase them. Some smokers who felt physical discomfort after stopping smoking were able to identify that their symptoms were withdrawal symptoms, and learn how long they would last and methods to deal with them.

The greatest number of calls came from Beijing. This may be because the quitline was located in Beijing, and the promotion of the quitline in the city was greater than in other locations. In addition, Beijing is the capital of China, where policies about tobacco control were promoted earlier and wider. The second largest number of calls came from Guangdong Province. This may be because the smoking cessation drug Champix along with the old quitline number 86-10-65089393 were promoted in 2008 in Guangdong Province. In addition, even though the Beijing quitline was subsequently converted to the national quitline (4008885531), callers contacting the old number were forwarded to the new number.

The general trend in the number of incoming calls was increasing. Every May, there was an increase in the number of incoming calls likely as a result of May 31st being World No Tobacco Day, when the quitline was promoted by the media. In other countries, it has been demonstrated that 70%-80% of the callers learn about quitlines from the mass media^[15-16]. On May 1st, 2011, the Ministry of Health passed a regulation that prohibited smoking in indoor public places^[17]. The volume of the calls increased after that time, which may be partly due to this regulation.

There are some limitations in this study. First, the sample size was small compared with other studies^[5,13]. One possible reason is the profound lack of understanding on the harm of smoking by the public in China, resulting in little interest in quitting^[3]. Figure 2 shows that promotion of the quitline resulted in an increased number of calls. There are only two professional counselors available to answer the phones at the national quitline in mainland China. Thus, personnel and equipment also restrict the development of the quitline. If the government increases the funds and personnel for the quitline, its development may be accelerated. Second, some

information about callers such as age and smoking history during the first 2 years was not fully recorded. The reason might be that many callers were reluctant to reveal information that they considered private. Finally, the calls were mainly reactive. Research has demonstrated that proactive smoking cessation counseling can improve cessation rates^[8,18]. With the further development of the quitline, in the future more proactive smoking cessation counseling will be implemented, which should improve the callers' quit rates.

The quitline is an important component of tobacco cessation, and its increasing use will contribute to the development of a comprehensive tobacco control program. Since the WHO Framework Convention on Tobacco Control came into effect in China in 2006, the government of China has gradually increased tobacco control measures. The Ministry of Health passed prohibited smoking in all indoor public places in 2011^[17], and similar legislation in other countries has demonstrated that such laws can reduce tobacco consumption and promote smoking cessation^[19-21]. On May 30th, 2012, the Ministry of Health released the China Report on the Health Hazards of Smoking, hoping it would attract the public's attention to the harms of tobacco^[3]. The quitline number 4008885531 was promoted by this report as well. Further research should be conducted to evaluate the effects of the implementation of related regulations on tobacco control, the publicity about the quitline, and the release of the China Report on the Health Hazards of *Smoking* on quitline usage and tobacco consumption within China. We may then use this data to advocate for further government support for the quitline and other tobacco control measures.

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