Telephone Quitlines for Smoking Cessation

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Telephone counseling programs have attracted increasing interest in recent years as an alternative system for delivering smoking cessation services. The convenience of telephone counseling encourages program participation, which has been a significant barrier for formal treatment programs (Fiore *et al.*, 1991; Lichtenstein and Hollis, 1992). Telephone quitlines can also be centralized; for example, one toll-free number can provide most cessation services to smokers in even a large state. This makes it easier and more cost-efficient to promote the services in a large public health campaign.

Telephone counseling can be reactive or proactive. In reactive counseling, the smoker initiates all calls and talks with the counselor about specific issues of current concern. In proactive counseling, the counselor calls the smoker and provides counseling in a systematic manner, with scheduled sessions similar to traditional cessation clinics. Of course, a telephone quitline can be both reactive and proactive, taking calls from smokers who need immediate service and following up with those who need more intensive treatment.

We will outline the strengths of telephone quitlines, review the extent of their usage, and evaluate the empirical evidence for their efficacy. We will also discuss potential uses of the telephone quitline as support for physicians' advice to quit smoking and as an adjuvant for nicotine replacement therapy (NRT).

THE STRENGTHS OF TELEPHONE QUITLINES

Compared to traditional cessation clinics or classes, a telephone quitline has several advantages. It reduces barriers tied to the logistics of attending cessation classes, including having to wait for classes to form, time away from home to attend class, and the effort and expense of arranging for transportation and childcare. A quitline enables smokers to get help without leaving home and allows them to receive counseling at a time convenient for them, thus making the service more accessible. This is particularly helpful for those whose mobility is limited or who live in rural or remote areas. One study shows that, when offered the choice between group sessions and a telephone quitline, 70 percent of smokers chose the telephone quitline (McAfee *et al.*, 1998).

The telephone format appeals to those who are reluctant to get help face-to-face, especially in group settings. More importantly, it allows the counselor to proactively follow up on the smokers, thus addressing the problem of high attrition rates (Lichtenstein and Hollis, 1992). A proactive calling procedure can significantly reduce dropouts. One study shows that a

change from reactive counseling to proactive counseling reduced the attrition rate from 65 to 25 percent, which in turn was accompanied by a significant increase in quit rate (Zhu *et al.*, 1998a).

A principal strength of telephone quitlines, in the context of a population-based smoking cessation, is that they can utilize one centralized operation site to provide multiple services. The centralized service makes it easy for the quitline to be promoted in a coordinated public health campaign. It is more cost efficient and probably more effective to promote a single telephone number than to promote multiple programs, especially in cases where the promotion of cessation programs is fused with a comprehensive anti-smoking media campaign. For example, media spots can be tagged with the toll-free number of a quitline statewide.

THE USE OF TELEPHONE QUITLINES

Telephone quitlines can have many uses and can take many forms, such as:

- an information resource to distribute cessation materials (Anderson *et al.*, 1992; Cummings *et al.*, 1993);
- a recorded telephone message (Dubren, 1977; Burke, 1993; Ossip-Klein *et al.*, 1991 & 1997; Schneider *et al.*, 1995);
- a relapse prevention mechanism to support those who have finished a cessation program (Colleti and Supnick, 1980; Danaher, 1977; Lando *et al.*, 1996);
- a supplement to printed interventions (Prochaska *et al.*, 1993);
- an adjuvant treatment for nicotine replacement therapy (Lando *et al.*, 1997; Shiffman *et al.*, 1997; Zhu *et al.*, 1998b);
- a component of a preventive medicine program wherein telephone calls are combined with face-to-face interaction with clinical staff (DeBusk *et al.*, 1994; Ockene *et al.*, 1994; Taylor *et al.*, 1990); or
- the primary intervention in which the counselor provides individualized telephone counseling to those who are ready to quit smoking (Orleans *et al.*, 1991; Zhu *et al.*, 1996a & b).

One quitline can have several functions, of course, as has been demonstrated in several projects (Wakefield and Miller, 1997; Zhu *et al.*, 1998a).

In the last 5 years there has been a proliferation of telephone quitline services, most of them with a population orientation. Some are statewide (Altamore, 1998; Zhu, 1996a & b), some are regional (McCabe and Crone, 1997; Platt *et al.*, 1997), and some are national quitlines (Peters, 1995; Wakefield and Miller, 1997; Zeeman, 1997). The following describes three large projects, each with a different emphasis, but all of them using mass media to motivate smokers to call.

National Quitline in Australia

As part of the National Quit Campaign in Australia, which targeted smokers aged 18-40 years, a quitline number was attached to television ads, radio spots, and other promotional materials across the nation. One phone number was advertised; but when smokers called, they reached different regional call centers. To ensure that most of the smokers' calls were answered, some of the regional centers employed a telemarketing service to answer the first call. The main service of the quitline was to provide a self-help quit pack. However, those who requested further service were transferred to counselors (Wakefield and Miller, 1997).

In the first year of operation, the Quitline received 144,000 calls, representing 4 percent of all Australian smokers of age 18 or older. Approximately one-fifth of the callers were within the 18- to 40- year target age group. This large volume of smokers' request for cessation service in a limited campaign period challenges the belief that most smokers simply will not seek help (Chapman, 1985). Similar success of a coordinated promotion of telephone quitlines has been reported in England, where over 500,000 calls reached the quitline in 1 year (McCabe and Crone, 1997), and in Scotland, where approximately 8 percent of all smokers called the quitline in 1 year (Platt *et al.*, 1997).

A population-based approach to smoking cessation emphasizes that interventions work best when they are combined instead of standing alone (Fishbein, 1998). A quitline, when coupled with an aggressive media campaign, may impact more than just those people who call (Ossip-Klein *et al.*, 1991). The Quitline in Australia, for example, is one component of a comprehensive, nationwide campaign designed to encourage people to quit smoking (Wakefield and Miller, 1997). The presence of the Quitline makes the campaign complete. A single quitline number was shown repeatedly in different media spots, sending a clear message to smokers that if they want to quit, help is only a phone call away.

Quit 4 Life Program for Teen Smokers

The Quit 4 Life Program was a national campaign in Canada that targeted smokers aged 15–19 years. The campaign encouraged teen smokers to quit smoking by calling an 800-number, through which they received a self-help quit kit in the form of a paper or compact disc (CD). The program was promoted through mass media and was in operation for about 3 years. Between 1993 and 1995, nearly 98,000 teenage smokers called, representing almost 20 percent of all smokers targeted for this campaign (Peters, 1995). This result is very encouraging, given that teenage smokers are known not to attend cessation programs (U.S.DHHS, 1994). No counseling was provided through this project, but a year-long evaluation shows that 92 percent of those who received the quit kit used it, at least to some extent. A pre-post comparison based on self-report shows that 77 percent reduced the number of cigarettes smoked and 20 percent achieved a significant period of abstinence as measured by "quitting for 3 months" or "not smoking at both points of evaluation at 6 and 12 months" (Peters, 1995).

California Smokers' Helpline

The California Smokers' Helpline is a statewide cessation service that began in 1992 and is still in operation. No age group has been specifically targeted, although the media spots to which the Helpline's numbers were tagged have been mostly for adults. A major effort was made to reach smokers of minority ethnic backgrounds. The Helpline is currently also testing a counseling protocol for teen smokers.

The Helpline takes a stepped-care approach by providing three levels of cessation service according to smokers' readiness to change and their preference for intensity of treatment:

1) Motivational materials for smokers who are contemplating quitting but not yet ready to take action;
2) Self-help quit kits for those who are ready to quit but prefer to do it themselves with the materials; and
3) Comprehensive proactive counseling for those who are quitting soon and want the counseling.

In addition, the Helpline provides smokers with a list of local cessation programs. It also serves as the primary source of adjuvant behavioral support for smokers who receive free nicotine replacement treatment (NRT) paid for by Medi-Cal (California's version of Medicaid). All Helpline services are provided in six languages—English, Spanish, Mandarin, Cantonese, Vietnamese, and Korean (Zhu, 1996).

The California Smokers' Helpline places emphasis on integrating its activities into the comprehensive tobacco control program in California, rather than on getting a large number of smokers to call the program (although over 80,000 smokers have called the Helpline). The anti-smoking media campaign in California is multi-tracked and has evolved over time. Media spots for cessation have a relatively small share of the overall campaign budget. Although mass media has been the chief mode of promotion for the California Smokers' Helpline, a major effort is also made to encourage local tobacco education groups to promote the Helpline. In 6 years of operation, the media campaigns generated about half of all the Helpline's calls. The rest came from other sources, including referrals from various local tobacco control programs, health care providers, and simple word of mouth. More recently, with counseling now available for teens, an effort is being made to promote the Helpline among school systems statewide.

EFFICACY OF TELEPHONE QUITLINES

Telephone counseling has been tested in a variety of settings, with diverse populations including hospital patients (DeBusk *et al.*, 1994; Ockene *et al.*, 1994), HMO insurees (Orleans *et al.*, 1991; Curry *et al.*, 1995), and smokers in the community at large (Ossip-Klein *et al.*, 1991; Zhu *et al.*, 1996a & b).

Reactive Quitlines

There is an inherent difficulty in evaluating the efficacy of a reactive telephone quitline because it requires a control group that is not aware of the existence of the quitline. Ossip-Klein and her colleagues (1991) conducted a large trial on the effect of a reactive telephone quitline. Ten rural counties were randomized into two conditions; one group received

self-help materials only, and the other group received the same materials plus an offer to access a telephone hotline. A total of 1,813 smokers were recruited into the study and assigned to these two groups—approximately 4 percent of the total number of smokers in these counties. The quitline condition included a recorded message and a session with a counselor. At the end of 12 months, the quitline condition produced higher biochemically confirmed quit rates (quit rates for 90+ days are 12.1 percent and 7.6 percent for the two conditions, respectively) than the self-help condition.

Most subjects in the quitline condition did not actually call: 36 percent did call, but only 9 percent spoke with the counselors; the rest of the callers listened to the recorded messages. The difference in success between the groups cannot be completely attributed to the increased quit rate among the 9 percent who spoke with the counselors, suggesting that simply knowing a quitline is available and/or calling to listen to recorded messages might be beneficial. One possible explanation is that knowing they could call for help if needed may have caused smokers in the quitline condition to be more confident about quitting, leading to a greater attempt rate, which in turn translated into a greater long-term quit rate. This is conjecture, and no data were available in the study with regard to changes in self-efficacy. However, the attempt rate was greater for the quitline condition.

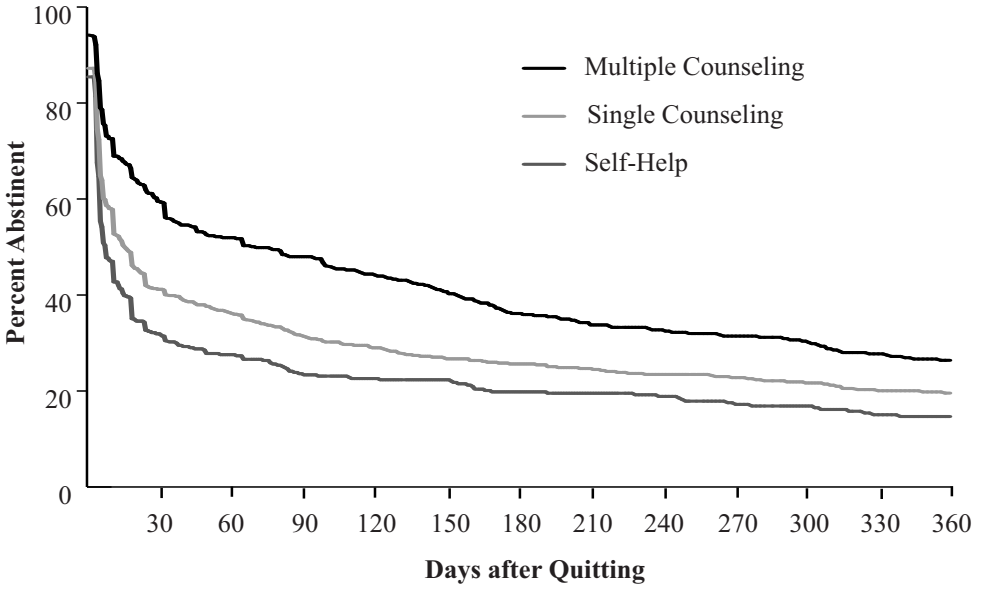
Proactive Quitlines A number of randomized trials for proactive telephone counseling have been conducted and have produced varying results. The studies differed in several major aspects, including the number of counseling sessions (ranging from one to nine sessions), the schedule of these sessions (weekly, monthly, or by relapse probability), and the supervision and quality control provided for the counseling. Two features seem to be associated with lack of effect for counseling: one is if the smokers are not voluntary participants; the other is if the telephone counseling is used only as a secondary follow-up treatment for subjects who have already gone through an intensive cessation treatment. These two types of studies tend to find no significant effect for telephone counseling.

A meta-analysis that combined 13 randomized trials (including all non-significant-effect studies) shows proactive counseling to have an effect that is statistically significant but modest in size. The combined odds ratios are 1.34 for short-term effect (95% CI = 1.19-1.51) and 1.20 for long-term effect (95% CI = 1.06-1.37) (Lichtenstein *et al.*, 1996).

Three studies that used proactive telephone counseling as the primary intervention method found larger effects. One study recruited hospitalized patients with myocardial infarctions (Taylor *et al.*, 1990). At the 12-month follow-up, the helpline condition produced a 61 percent cessation rate compared to 32 percent in the control group. Another study recruited HMO insurees and found a 21.5 percent cessation rate in the counseling group compared to 13.7 percent in the control group at the 18-month follow-up (Orleans *et al.*, 1991).

One study of proactive telephone counseling was conducted in the general population (Zhu *et al.*, 1996a). Smokers were recruited from the general community. Two levels of counseling were tested, single session and multi-

Figure 8-1
Relapse Curves for Self-Help (SH), Single Counseling (SC), and Multiple Counseling (MC)



Source: Zhu et al., 1996a

ple session, against a self-help group in a randomized design. Evaluation of the effect of a single session is valuable for real-world applications because smokers often use the quitline once and then drop out of the process. Thus, it is important to examine whether single session counseling can be effective, as budgetary concerns may prevent the quitline staff from continuing to call those who drop out of the process. This study also made a major effort to document the whole counseling process, both the single and multiple sessions, for the purpose of quality control as well as for future replication (Zhu *et al.*, 1996b).

Both single and multiple counseling were effective, and there was a dose-response relationship between the intensity of treatment and the long-term effect (see Figure 8-1; the 12-month success rates are 14.7 percent, 19.8 percent, and 26.7 percent for self-help, single counseling, and multiple counseling, respectively). A recent evaluation of the California Smokers' Helpline, which used the multiple counseling protocol, replicated the earlier result (26.9 percent in Zhu *et al.*, 1998a).

AN AREA FOR SYNERGY: TELEPHONE QUITLINE AS A SUPPORT FOR PHYSICIAN ADVICE AND ADJUVANT TREATMENT FOR NRT

A potential area for synergy among various approaches to smoking cessation is to use telephone counseling as support for physician advice, as an adjuvant treatment for NRT, or both. Physician advice to quit smoking is a potentially important population-based approach to smoking cessation because most smokers see their physicians at least once a year (Hollis, 1998; Ockene, 1987; and see Chapter 4). The Agency for Healthcare Research and Quality (AHRQ) guidelines recommend that physicians ask about their patients' smoking status at every visit, advise every smoker to quit, and prescribe NRT for every quit attempt in the absence of major medical contraindications. The guidelines further suggest that physicians should help their patients formulate a quit plan, provide supplementary materials, and schedule a follow-up session to be conducted either in person or via telephone (Fiore *et al.*, 2000).

In practice, however, physicians may prescribe NRT but not provide any follow-up counseling for various reasons. They may feel unprepared to provide behavioral counseling (Cummings *et al.*, 1987; Lindsay *et al.*, 1994). Or they may think that advising their patients to quit and prescribing NRT are sufficient. Even if they wish to counsel their patients on how to quit smoking, time constraints generally limit their ability to do so (Humire and Ward, 1998; Thorndyke *et al.*, 1998). Providing follow-up counseling takes even more time. These barriers may be part of the reason for differences between long-term successful cessation demonstrated in multiple research-based physician intervention trials and the absence of an effect of physician advice to quit on long-term cessation success found in the 1996 California Tobacco Survey (See Chapter 4). What physicians can easily do, however, is refer their patients out for cessation counseling.

Telephone counseling is a good referral choice for physicians to use for their patients, for two reasons mentioned at the beginning of this paper. One is that smokers are more likely to use a telephone quitline than to attend face-to-face group sessions (McAfee *et al.*, 1998). The second reason is that once smokers enroll in a quitline, the telephone counselor can proactively call them for the follow-up sessions to prevent early dropout (Zhu, 1996). As the impact of an intervention over a population is a product of how many people enroll and what percentage of them finish the program, the telephone quitline is expected to have a greater overall effect on the population in question than face-to-face group sessions.

When physicians realize that smokers are following up with their referral to cessation programs, their referral behavior will be reinforced. One way to help physicians know the outcome of their referrals is to send a progress report of the smoking patients back to their providers (with smokers' permission). This can be accomplished quite easily if the quitline is set up within a group health setting. This is indeed the case with the Group Health Cooperative (GHC) at Puget Sound, which has developed a systematic approach to using telephone counseling as a support for physician advice and as an adjuvant treatment for NRT (Curry *et al.*, 1998; McAfee *et al.*, 1998). The quitline services have been an important behavioral treat-

ment component in the overall smoking cessation program of GHC, as a majority of smokers used the telephone quitline when they wanted to obtain free NRT. The overall cessation program is credited with contributing to the accelerated decline of smoking prevalence within GHC (McAfee *et al.*, 1998).

In fact, a telephone quitline does not have to be within the health care system to be useful for that purpose. A study with the California Smokers' Helpline shows that telephone counseling can serve as physician support and adjuvant treatment to NRT, even though the Helpline is not officially affiliated with any of the physicians who refer their patients to the program. Over 6 years of operation, the Helpline has received calls from over 14,000 smokers who reported that their health care providers referred them to the program. More than 4,000 smokers also obtained NRT free of charge for their enrollment in the Helpline. They got free NRT because their health plans accepted the Helpline enrollment as a sufficient condition. Some NRT users dropped out of the process after they obtained the NRT, while others stayed with the program for more follow-up sessions. Those who received follow-up sessions are significantly more likely to stay abstinent in the long term (Zhu *et al.*, 1998b). These data suggest that telephone counseling is a useful adjuvant support for both physician advice and NRT.

CONCLUSIONS Telephone quitlines are highly accessible forms of cessation service. They can also be effective aids for smoking cessation. A centralized telephone quitline is easier to integrate with other population-based approaches to smoking cessation, such as mass media campaigns. The convenience and the proactivity associated with the telephone format makes the quitline a good adjuvant treatment for physician advice and nicotine replacement treatment.

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