

# Tobacco Use: Quitline Interventions

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## Task Force Finding and Rationale Statement

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## **Task Force Finding and Rationale Statement**

### **Intervention Definition**

Quitlines use the telephone to provide evidence-based behavioral counseling and support to help tobacco users who want to quit. Counseling is provided by trained cessation specialists who follow standardized protocols that may include several sessions delivered over one or more months. Quitline counseling is widely accessible, convenient to use, and generally provided at no cost to users. Content may be adapted for specific populations, and tailored for individual clients. Counseling may be reactive (tobacco user or recent quitter initiates contacts) or proactive (tobacco user or cessation specialist makes initial contact, and the cessation specialist schedules follow-up calls). Quitlines may provide additional interventions such as mailed self-help materials, integrated web-based and text-messaging support, and evidence-based tobacco cessation medications (Fiore et al., 2008).<sup>A</sup>

### **Task Force Finding (August 2012)**

The Community Preventive Services Task Force recommends quitline interventions, particularly proactive quitlines (i.e. those which offer follow-up counseling calls), based on strong evidence of effectiveness in increasing tobacco cessation among clients interested in quitting. Evidence was considered strong based on findings from 71 trials of proactive telephone counseling when provided alone or in combination with additional interventions. Three interventions effective at increasing use of quitlines are: (1) mass-reach health communication interventions that combine cessation messages with a quitline number; (2) provision of free evidence-based tobacco cessation medications for clients interested in quitting; and (3) quitline referral interventions for health care systems and providers. Evidence also indicates that quitlines can help to expand the use of evidence-based services by tobacco users in populations that historically have had the most limited access to and use of evidence-based tobacco cessation treatments.

## **Rationale**

### **Basis of Finding**

The Task Force finding is based on evidence from a systematic review published in 2013 (Stead et al., 77 studies, search period through June 2013). The Task Force recommendation is based on evidence from 71 studies that evaluated effectiveness of proactive telephone counseling. Twelve studies evaluated treatment effectiveness for callers to quitlines available to the general public and observed a median absolute percentage point increase in tobacco cessation of 3.1 percentage points (interquartile interval [IQI]: 0.5 to 3.3 percentage points). Fifty-one studies evaluated interventions for clients in clinical and research settings and observed a median absolute percentage point increase in tobacco cessation of 1.7 percentage points (IQI: 0.0 to 8.5 percentage points).

Only six of 77 included studies provided evidence on effectiveness of reactive (caller initiated) quitline counseling. Three of these studies evaluated effectiveness of counseling for a single quitline contact and overall findings were inconsistent. The other three studies evaluated effectiveness of offering tobacco users access to quitline services, and similarly, overall results were inconsistent.

### **Applicability and Generalizability Issues**

Fifty-five of the 77 included studies were conducted in the United States; the remaining studies were conducted in Australia, Canada, Denmark, Germany, Hong Kong, Norway, Spain, and the United Kingdom. Although most included studies collected information about age, gender, race/ethnicity, and socioeconomic status (SES), cessation outcomes were not generally analyzed on these client characteristics.

Results from 12 of the U.S. studies that evaluated state quitline services available to the general public suggest that intervention effectiveness should be applicable to the general U.S. population of callers interested in quitting. Findings from 59 of the included studies that enrolled participants through hospitals, clinics, health care systems, worksites, or communities suggest quitlines are applicable to the broad population of recruited tobacco users interested in quitting.

### **Data Quality Issues**

All of the included studies were randomized controlled trials and assessed self-reported (50 studies) or biochemically verified (27 studies) cessation outcomes 6 months or more after the intervention.

### **Other Benefits and Harms**

No additional benefits or potential harms of quitline interventions were identified in this review.

### **Economic Evidence**

Twenty-seven studies were included in the economic review. Review conclusions are based on results from 12 studies which provided 13 cost-effectiveness measurements of different quitline services. For the purposes of this review, cost per additional quit was converted to cost per quality-adjusted life years (QALY) saved based on results from a 2006 study (Solberg et al. 2006) that estimated savings of 1.16 QALYs for every additional quit. Estimates of cost-effectiveness were assessed in comparison to a conservative threshold of \$50,000 per QALY saved. All monetary values from studies are reported in 2013 U.S. dollars.

Six studies evaluated the cost-effectiveness of quitline counseling and the provision of cessation information, with a median estimate of \$2,358/QALY saved (IQI: \$1,761 to \$3,156 per QALY). Six studies focused on the additional costs of providing cessation medications, such as nicotine replacement therapy, with a median estimate of \$849/QALY saved (IQI \$369 to \$2,426 per QALY). One study estimated the cost of an intervention that combined quitline counseling, nicotine replacement therapy (NRT) and media promotion to be \$5,965/QALY saved. Study estimates differed by the type and duration of treatments evaluated. These studies show that quitline services (with or without provision of cessation medications) are cost-effective, as the estimates fall well below the threshold.

### **Considerations for Implementation**

Quitline services are available to most tobacco users in the United States through a national state portal (1-800-QUIT-NOW) with variation in the treatments offered (some state services do not include proactive counseling). Obstacles to quitline use may include clients' lack of awareness about the services available, uncertainties about service costs, concerns about confidentiality and barriers related to language and cultural issues.

Quitlines must be promoted to ensure their reach and impact. To supplement findings on quitline effectiveness, the Task Force considered additional studies that evaluated three interventions to promote quitline use: (1) mass-reach health communication interventions tagged with the quitline number (23 studies); (2) offers of free evidence-based tobacco cessation medications to eligible callers (12 studies); and (3) quitline referral interventions for health care systems and providers (14 studies).

Twenty-three studies evaluated the effectiveness of using mass-reach health communication interventions to increase calls to quitlines. Interventions used cessation-themed messages that included the quitline number, and disseminated them through multiple channels including television, radio, newspapers, and cigarette pack health warning labels. Eleven of the 23 studies evaluated changes in overall quitline call volume and observed a median relative percent increase of 132% (IQI: 39% to 379%). Twelve studies examined the effects of message content, media channel,

advertisement placement, and intensity on overall effectiveness and generally observed that increasing media campaign intensity was directly related to increases in quitline call volume. Only two studies examined tobacco use cessation as an outcome of media promotion, finding a mean absolute percentage point increase of 4.2 compared with callers who were not exposed to media messages (3.0 and 5.3 percentage points). Overall, results suggest that mass-reach health communication interventions featuring cessation messages and a quitline number are effective in increasing both the number of callers and the number of tobacco users who quit successfully.

Twelve studies examined the effectiveness of offering free evidence-based tobacco cessation medications (primarily nicotine replacement therapy) to callers to promote use of quitlines and enhance treatment options. Provision of medications was typically promoted through earned media activities such as press releases and announcements. Nine of the 12 studies evaluated changes in call volume and found a median relative percent increase of 396% (IQI: 134% to 1132%). Eleven of the 12 studies examined changes in self-reported tobacco cessation, typically based on follow-up periods of 6 months or less, and observed an increase in cessation rates of median 9.8 percentage points compared with callers who were not offered nicotine replacement therapy (IQI: 7.4 to 15.7 percentage points). Results suggest that provision of medications (coordinated with earned media activities) can increase use of quitline services, as well as the number of tobacco users who quit successfully.

Fourteen studies examined the effectiveness of quitline referral interventions for health care systems and providers. In 12 studies, providers sent referrals to the quitline by fax, in one study referrals were sent by fax or by mail, and in one study referrals included telephone transfers directly to the quitline. Twelve of the 14 studies examined changes in health care systems' or providers' use of referrals or subsequent contact and recruitment of patients by quitlines. In general, studies observed substantial increases in the number of quitline referrals within targeted clinical settings. Only one study (Perry et al., 2005), an evaluation of a state-wide promotion and health system recruitment effort in Wisconsin, assessed the impact on quitline call volume and found fax referrals accounted for approximately 30% of the nearly 12,000 annual callers. Eight of the 14 studies evaluated quit outcomes for referred tobacco users and observed a median absolute percentage point increase in cessation rates of 2.4 percentage points compared with non-referred tobacco users (IQI: 1.6 to 12.0 percentage points). Overall, these results suggest that quitline referral interventions for health care systems and providers are effective in increasing both the use of quitline services and the number of patients who successfully quit using tobacco.

Quitline services and promotion activities in the United States may be funded as components of comprehensive tobacco control programs. Quitline use and benefits are likely to be amplified when provided as part of a comprehensive approach to tobacco control and prevention and coordinated with other national, state, and local interventions (CDC, 2007).

### **Evidence Gaps**

Whereas evidence on effectiveness of proactive telephone counseling is strong, quitline services in the United States vary, and reactive counseling may, in some cases, be the only treatment offered (or requested by callers). Effectiveness of these reactive treatments remains unclear. Although studies evaluating quitlines demonstrate effectiveness at the population level, only a minority of tobacco users make use of quitline services each year. Additional research and innovation is needed to increase quitline awareness, use, and impact, both population-wide and in high-risk populations, including groups with high rates of tobacco use and tobacco-related diseases or limited access to health care and evidence-based cessation treatments. The emergence of digital media accessible through mobile phones provides additional opportunities for intervention research, both in comparing the relative effectiveness and cost-effectiveness of

these interventions, and in combining interventions such as proactive quitline counseling with automated text messages or web-based social support.

Although studies provide evidence on the cost-effectiveness of quitline interventions, additional economic research should evaluate the combined costs and impact of both quitline promotion and quitline services. Future studies should also compare the economic trade-offs between different quitline treatments and different options to increase and maintain demand for quitline services. Additional assessments of quitline referral interventions for health systems and providers are also needed in order to compare these potentially low cost programs with the other options to increase and sustain use of offered quitline services.

<sup>A</sup> FDA-approved medications for tobacco use cessation

*The data presented here are preliminary and are subject to change as the systematic review goes through the scientific peer review process.*

## References

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## Disclaimer

The findings and conclusions on this page are those of the Community Preventive Services Task Force and do not necessarily represent those of CDC. Task Force evidence-based recommendations are not mandates for compliance or spending. Instead, they provide information and options for decision makers and stakeholders to consider when determining which programs, services, and policies best meet the needs, preferences, available resources, and constraints of their constituents.

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