

Do the Right Thing, or the Right Thing to Do? Weighing the Evidence: Classification of Quitline Practices According to Type of Evidence



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Background

Tobacco cessation quitlines make decisions about which practices to include in the services they provide on a regular basis. Yet it is not always clear what level of scientific evidence exists for each practice provided. Knowing what types of evidence supports which quitline practices may help decision-makers determine which mix of practices is right for their quitline.

Methods

Members of the *Knowledge Integration in Quitlines: Networks That Improve Cessation (KIQNIC)* research team conducted a literature review to gather information about the levels of evidence for each of the 23 quitline practices asked about in the annual KIQNIC survey (2009-2011). Each practice was classified according to the type of evidence found for:

Efficacy – Whether or not a practice increases quit rates,

Reach – Whether or not a practice leads to increased utilization of the quitline service.

- Practices studied enough that the scientific community could develop consensus that they were effective—as indicated by recommendations in either the PHS Guideline or a Cochrane Review—were rated '●'.
- Practices with one or more peer-reviewed journal articles documenting their effectiveness, but not enough to generate conclusive findings with a meta-analysis, were rated '●'.
- Practices recommended by a reputable organization, like the CDC, but which have very limited scientific support, were rated '⊙'.
- Practices that do not have scientific evidence to support them were rated 'O'.
- Note that none of the practices on this list have evidence that they are *NOT* effective; practices in the '○' and '○' categories simply have less evidence at this point in time than practices in the '○' and '○' categories. Indeed, all new and innovative practices begin with a '○' rating until they have been studied more.

Results

• Following are the ratings for various quitline practices along with the source of evidence when evidence exists.

Table 1: Level of Evidence for Efficacy and Reach for Quitline Practices*

| Level of evidence for efficacy | Level of evidence for reach | |
|--------------------------------|-----------------------------|---|
| (quit rates) | (utilization) | Quitline Practices |
| | 0 | Proactive counseling ^{1,2,3,4,5,6,7,8,9,10} |
| | | Provide free or discounted NRT without counseling ^{5,14,15,16,17,18,19,20} |
| | | Provide NRT only when registered for counseling ^{5,22,23,24,25,26} |
| • | 0 | Multiple call protocol ^{3,5,13} |
| • | • | Media targeting mainstream population ^{3,24,27,28,29,30,31} |
| • | 0 | Self-help materials to proxy callers ^{3,37} |
| • | 0 | Self-help materials to users regardless of reason for calling or services selected ^{5,38,39} |
| • | 0 | Self-help materials to users who receive counseling ^{5,38,39} |
| • | 0 | Text messaging ⁴⁴ |
| • | 0 | Integrate phone/web ^{45,46,47} |
| • | 0 | 2As or 3As and refer ^{11,49,50,54,55} |
| • | 0 | Reactive counseling ^{1,11,12} |
| • | • | Media targeting specific populations 11,32,33,34,35,36,56,57,59 |
| • | 0 | Provide counseling immediately ¹¹ |
| O | 0 | Evaluate quitline effectiveness ^{11,40,59} |
| • | • | Serve uninsured callers ^{11,33,41,58,59} |
| • | 0 | Obtain Medicaid/insurance reimbursement ⁴² |
| • | 0 | Refer callers with insurance to health plans ¹¹ |
| • | • | Re-contact relapsed smokers ^{11,51} |
| • | 0 | Interactive Voice Response (IVR) ^{11,53} |
| 0 | • | Fax referral ^{5,48,49,50} |
| 0 | 0 | All Masters-level counselors |
| 0 | 0 | Integrate phone/face-to-face |

SYMBOL key for the level of evidence for each practice:

- Evidence to support this practice based on scientific consensus;
- Some scientific evidence to support this practice;
- Recommended best practice given limited evidence;
- O No evidence currently to support this practice.

*See handout for bibliography.

Discussion

- Quitlines have been proven to be effective at helping people quit the use of tobacco, but less is known about the individual components and practices implemented by quitlines.
- Levels of evidence vary across the different types of practices currently implemented by quitlines in North America.
- Having information about levels of evidence for specific practices can help quitline decision-makers make more informed decisions about adding or discontinuing practices, especially in times of limited financial resources.
- More research needs to be done to understand the connections between specific practices and outcomes of interest (*e.g.*, increasing reach, increasing quit rates). The substantial lack of evidence about practices' effectiveness for increasing reach suggests a specific area for future inquiry.

Summary

- In order to determine the levels of evidence that exist for practices employed by tobacco cessation quitlines, members of the KIQNIC research team conducted a literature review.
- Each of the 23 practices asked about in the annual KIQNIC survey was classified according to the type of evidence found for efficacy and for reach.
- Such information may be useful to quitline decision-makers as they determine which mix of practices their quitlines should offer.
- Levels of evidence were found to vary widely across the different types of practices currently implemented by North American quitlines.
- More research is needed to understand practices' effectiveness for increasing quit rates, and especially reach.

Acknowledgements

The KIQNIC project is funded by Grant Number R01CA128638 from the National Institutes of Health to the Mayo Clinic in Scottsdale Arizona.







References

- . Lichtenstein E, Glasgow R, Lando H, Ossip-Klein D, Boles S. Telephone counseling for smoking cessation: rationales and meta-analytic review of evidence. *Health Educ Res.* 1996;11(2):243-257.
- 2. Pan W. Proactive telephone counseling as an adjunct to minimal intervention for smoking cessation: a meta-analysis. *Health Educ Res.* 2006;21(3):416-427.

 3. Stead LF, Perera R, Lancaster T. Telephone counselling for smoking cessation. *Cochrane Database of Systematic Reviews*. 2006;(3). Available at: http://www2.co
- 4. Stead LF, Lancaster T, Perera R. Telephone counselling for smoking cessation. *Cochrane Database Syst* Rev. 2003;(1):CD002850.
- 5. Fiore MC, Jaen CR, Baker TB, et al. Treating tobacco use and dependence: 2008 update. Clinical Practice Guideline. 2008. Available at: http://www.surgeongeneral.gov tobacco/treating_tobacco_use08.pdf.
- Journal of Preventive Medicine. 2001;20(2, Supplement 1):10-15.
 Tzelepis F, Paul CL, Walsh RA, et al. Active telephone recruitment to quitline services: Are nonvolunteer smokers receptive to cessation support? Nicotine & Tobacca Research. 2009;11(10):1205-1215.
- 8. Tzelepis F, Paul CL, Walsh RA, *et al.* Telephone recruitment into a randomized controlled trial of quitline support. *American Journal of Preventive Medicine.* 2009;37(4):324-329.

 9. Van Deusen AM, Hyland A, Abrams SM, *et al.* Smokers' acceptance of "cold calls" offering quitline services. *Tobacco Control.* 2007;16:i30-i32.
- 10. Britt J, Curry SJ, McBride C, Grothaus L, Louie D. Implementation and acceptance of outreach telephone counseling for smoking cessation with nonvolunteer smoked Health Education & Behavior. 1994;21(1):55-68.11. Centers for Disease Control and Prevention. Telephone quitlines: a resource for development, implementation, and evaluation. Atlanta, GA: U.S. Department of Health
- 2004. Available at: http://www.cdc.gov/tobacco/quit_smoking/cessation/quitilnes/index.ntm.

 2. Ossip-Klein DJ, Giovino, Gary A., Megahed, Nivine, *et al.* Effects of a smokers' hotline: Results of a 10-county self-help trial. *Journal of Consulting and Clinical Psychology.*1991-59(2)-325-32
- 3. Stead LF, Perera R, Lancaster T. A systematic review of interventions for smokers who contact quitlines. *Tobacco Control.* 2007;16:i3-i8.
- 14. Stead LF, Perera R, Bullen C, Mant D, Lancaster T. Nicotine replacement therapy for smoking cessation. *Cochrane Database of Systematic Reviews*. 2008;(1).

 15. Etter J, Stapleton JA. Nicotine replacement therapy for long-term smoking cessation: a meta-analysis. *Tobacco Control*. 2006;15(4):280-285.

 16. Mills FT, Wu P, Spurden D. Ebbert JO. Wilson K. Efficacy of pharmacotherapies for short-term smoking abstinence: A systematic review and meta-analysis. *Harm Reduction*
- 16. Mills EJ, Wu P, Spurden D, Ebbert JO, Wilson K. Efficacy of pharmacotherapies for short-term smoking abstinence: A systematic review and meta-analysis. *Harm Reduction Journa* 2009;6(25). Available at: http://ezproxy.library.arizona.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2009-19068-001&site=ehost-live 17. Wu P, Wilson K, Dimoulas P, Mills EJ. Effectiveness of smoking cessation therapies: a systematic review and meta-analysis. *BMC Public Health*. 2006;6:300-16.

 18. Cummings KM, Fix B, Celestino P, *et al.* Reach, efficacy, and cost-effectiveness of free nicotine medication giveaway programs. *J Public Health Manag Prach*
- 2006;12(1):37-43.

 19. O'Connor RJ, Carlin-Menter SM, Celestino PB, *et al.* Using direct mail to prompt smokers to call a quitline. *Health Promotion Practice*. 2008;9(3):262-270.
- 20. Bauer JE, Carlin-Menter SM, Celestino PB, Hyland A, Cummings KM. Giving away free nicotine medications and a cigarette substitute (Better Quit) to promote calls to a quitline. *J Public Health Manag Pract.* 2006;12(1):60-67.
 21. Miller CL. Using a quitline plus low-cost nicotine replacement therapy to help disadvantaged smokers to quit. *Tobacco Control.* 2009;18(2):144-149.
- 22. Campbell SL, Lee L, Haugland C, Helgerson SD, Harwell TS. Tobacco quitline use: Enhancing benefit and increasing abstinence. *American Journal of Preventive Medicine*. 2008;35(4):386-388.

 23. An LC, Schillo BA, Kavanaugh AM, *et al.* Increased reach and effectiveness of a statewide tobacco quitline after the addition of access to free nicotine replacement
- 23. An LC, Schillo BA, Kavanaugh AM, *et al.* Increased reach and effectiveness of a statewide tobacco quitline after the addition of access to free nicotine replacement therapy. *Tobacco Control.* 2006;15(4):286-293.
- Medicine. 2010;38(3):S343-S346.

 25. Tinkelman D, Wilson SM, Willett J, Sweeney CT. Offering free NRT through a tobacco quitline: impact on utilisation and quit rates. Tobacco Control. 2007;16:i42-
- 26. Fellows JL, Bush T, McAfee T, Dickerson J. Cost effectiveness of the Oregon quitline "free patch initiative". *Tobacco Control.* 2007;16:i47-i52. 27. Bala M, Strzeszynski L, Cahill K. Mass media interventions for smoking cessation in adults. *Cochrane Database of Systematic Reviews.* 2008;(1):CD00470
- 28. Snyder LB, Hamilton MA, Mitchell EW, et al. A meta-analysis of the effect of mediated health communication campaigns on behavior change in the United States of Health Communication. 2004;9:71-96.
 29. Mosbaek CH, Austin DF, Stark MJ, Lambert LC. The association between advertising and calls to a tobacco quitline. *Tobacco Control.* 2007;16:i24-i29.
- 30. Farrelly MC, Hussin A, Bauer UE. Effectiveness and cost effectiveness of television, radio and print advertisements in promoting the New York smokers' quitline. *Tobacco Control*. 2007;16:i21-i23.
- 31. Hurd AL, Augustson EM, Backinger CL, Deaton C, Bright MA. Impact of national ABC promotion on 1-800-QUIT-NOW. *American Journal of Health* 2007;21(6):481-483.

 32. Solomon J. L. Bunn, JY. Flynn, BS. *et al.* Mass media for smoking cessation in adolescents. *Health Education & Behavior*, 2009:36(4):642-659.
- 32. Solomon LJ, Bunn JY, Flynn BS, *et al.* Mass media for smoking cessation in adolescents. *Health Education & Behavior.* 2009;36(4):642-659.

 33. Burns EK, Levinson AH. Reaching Spanish-speaking smokers: State-level evidence of untapped potential for QuitLine utilization. *Am J Public Health.* 2010;100 Suppl
- 1:S165-S710.

 34. Cummings KM, Sciandra R, Davis S, Rimer B. Response to anti-smoking campaign aimed at mothers with young children. *Health Education Research*. 1989;4(4):429-437.

 35. Cotter T, Perez D, Dessaix A, Bishop J. Smokers respond to anti-tobacco mass media campaigns in NSW by calling the Quitline. *N S W Public Health Bull*. 2008;19(4):68-71.
- 36. Campion P, Owen L, McNeill A, McGuire C. Evaluation of a mass media campaign on smoking and pregnancy. *Addiction.* 1994;89(10):1245-1254.

 37. Patten CA, Petersen LR, Hughes CA, *et al.* Feasibility of a telephone-based intervention for support persons to help smokers quit: A pilot study. *Nicotine & Tobacco Research.* 2009;11(4):427-432.
- 38. Naughton F, Prevost AT, Sutton S. Self-help smoking cessation interventions in pregnancy: a systematic review and meta-analysis. *Add* 39. Lancaster T, Stead LF. Individual behavioural counselling for smoking cessation. *Cochrane Database of Systematic Reviews.* 2005;(2). 40. Campbell HS. Ossip-Klein D. Bailey L. *et al.* Minimal dataset for guitlines: a best practice. *Tobacco Control.* 2007: 16:i16-i20.
- 41. Swartz SH, Cowan TM, Klayman JE, Welton MT, Leonard BA. Use and effectiveness of tobacco telephone counseling and nicotine therapy in Maine. *American Journal of Preventive Medicine*. 2005;29(4):288-294.

 42. Joyce GF, Niaura R, Maglione M, *et al.* The effectiveness of covering smoking cessation services for Medicare beneficiaries. *Health Services Research*. 2008;43(6):2106-2123.
- 43. Rodgers A, Corbett T, Bramley D, *et al.* Do u smoke after txt? Results of a randomised trial of smoking cessation using mobile phone text messaging. *Tobacco Control.* 2005;14(4):255-261.

 44. Whittaker, R, Borland, R, Bullen, C, *et al.* Mobile phone-based interventions for smoking cessation. *Cochrane Database of Systematic Reviews.* 2009;(4).
- 45. Zbikowski SM, Hapgood J, Barnwell SS, McAfee T. Phone and web-based tobacco cessation treatment: Real-world utilization patterns and outcomes for 11,000 tobacco users. *Journal of Medical Internet Research*. 2008;10(5):55-67.
 46. Chen H, Yeh M. Developing and evaluating a smoking cessation program combined with an Internet-assisted instruction program for adolescents with smoking. *Patient*
- 47. Japuntich SJ, Zehner ME, Smith SS, *et al.* Smoking cessation via the Internet: A randomized clinical trial of an Internet intervention as adjuvant treatment in a smoking cessation intervention. *Nicotine & Tobacco Research.* 2006;8:59-67.
- 48. Willett JG, Hood NE, Burns EK, et al. Clinical faxed referrals to a tobacco quitline: reach, enrollment, and participant characteristics. American Journal of Preventive Medicine. 2009;36(4):337-340.
- 49. Redmond LA, Adsit R, Kobinsky KH, Theobald W, Fiore MC. A decade of experience promoting the clinical treatment of tobacco dependence in Wisconsin. WMJ. 2010;109(2):71-78.

 50. Perry RJ, Keller PA, Fraser D, Fiore MC. Fax to quit: a model for delivery of tobacco cessation services to Wisconsin residents. WMJ. 2005;104(4):37-40, 44.
- 51. Carlini BH, Zbikowski SM, Javitz HS, et al. Telephone-based tobacco-cessation treatment: Re-enrollment among diverse groups. American Journal of Preventive Medicine. 2008;35(1):73-76.
 52. Brendryen H, Drozd F, Kraft P. A digital smoking cessation program delivered through internet and cell phone without nicotine replacement (happy ending): Randomized controlled trial. Journal of Medical Internet Research. 2008;10(5):11
- controlled trial. Journal of Medical Internet Research. 2008;10(5):11.

 53. Reid RD, Pipe AL, Quinlan B, Oda J. Interactive voice response telephony to promote smoking cessation in patients with heart disease: A pilot study. Patient Education & Counseling. 2007;66(3):319-326.
- 54. Gordon JS, Andrews JA, Crews KM, Payne TJ, Severson HH. The 5A's vs 3A's plus proactive quitline referral in private practice dental offices: preliminary results. *Tobacco Control.* 2007;16(4):285-288.

 55. Puschel K, Thompson B, Coronado G, *et al.* Effectiveness of a brief intervention based on the '5A' model for smoking cessation at the primary care level in Santiago,
 - Puschel K, Thompson B, Coronado G, *et al.* Effectiveness of a brief intervention based on the '5A' model for smoking cessation at the primary care level in Santiag Chile. *Health Promot Int.* 2008;23(3):240-250. Skinner CS, Campbell MK, Rimer BK, Curry S, Prochaska JO. How effective is tailored print communication? *Ann Behav Med.* 1999 Fall;21(4):290-8.
- Kreuter MW, Wray RJ. Tailored and targeted health communication: strategies for enhancing information relevance. *Am J Health Behav.* 2003 Nov-Dec;27 Suppl 3:S227-32. Tworek C, Haskins A, Woods S. Maine's Tobacco Medication Program: compliance, patterns of use, and satisfaction among smokers. *Nicotine Tob Res.* 2009 Jul;11(7):904-7. Epub 2009 May 25
- 9. Centers for Disease Control and Prevention. Best Practices for Comprehensive Tobacco Control Programs 2007. Atlanta: U.S. Department of Health and Human Services,