

# Closing Tobacco-Related Disparities Using Community Organizations to Increase Consumer Demand

Bruce A. Christiansen, PhD, Marva Brooks, BS, Paula A. Keller, MPH,  
Wendy E. Theobald, PhD, Michael C. Fiore, MD, MPH, MBA

---

**Background:** Individuals living in poverty are more likely to smoke, and they suffer disproportionately from tobacco use. Strategies used to deliver tobacco-cessation interventions often fail to reach smokers living in poverty. Providing tobacco interventions to smokers when they present to community organizations is a potential strategy, but the acceptability and effectiveness of such interventions is unknown.

**Methods:** In this 2007 pilot study, 295 smokers seeking emergency assistance from the Salvation Army in Wisconsin were randomly assigned to either a very brief (30-second) smoking intervention condition or to a control no-intervention condition. All participants completed a follow-up survey at the end of their visit assessing their satisfaction with the community agency, interest in quitting, and motivation to quit.

**Results:** This brief intervention increased the likelihood that smokers would seek help when they decided to quit (61% vs 44%,  $p < 0.05$ ) but did not affect intention to quit in the next 6 months or perceived difficulty of quitting. The intervention was well received by both participants and Salvation Army staff.

**Conclusions:** Smokers in this pilot study found it acceptable to have their smoking addressed when seeking services from a community agency. Such interventions may need to be more intense than the one used in this study in order to achieve the goal of increased motivation to quit. Community agencies should consider including brief tobacco-dependence interventions as a secondary mission to improve their clients' health.

(Am J Prev Med 2010;38(3S):S397–S402) © 2010 American Journal of Preventive Medicine

---

## Introduction

Tobacco-related disparities are well documented. Nationally, smoking prevalence among those living in poverty or of low educational attainment is about twice that of the general population.<sup>1–4</sup> Tobacco use is associated with poor health and diminished quality of life,<sup>5–8</sup> and it is a significant cause of premature death among those living in poverty.<sup>9,10</sup>

Many interrelated factors give rise to this disparity.<sup>11–13</sup> For many, smoking is normative and more ac-

cepted.<sup>4</sup> Smokers living in poverty are less likely to have health insurance and access to health care, limiting access to effective tobacco-dependence treatments.<sup>14–16</sup> They also have less information about the need to quit and effective ways to quit.<sup>16–20</sup> Their attempts to quit are more likely to fail, partly due to misperceptions about treatment and a lower sense of self-efficacy.<sup>21–25</sup> The poor are also targeted by tobacco companies as pliable tobacco purchasers.<sup>26</sup> Finally, the prevalence of mental illness and substance abuse disorders, conditions associated with higher tobacco-use rates, is higher among the poor.<sup>27–29</sup>

Despite initiatives to reduce disparities, little progress has been achieved.<sup>30,31</sup> Ceci and Papierno<sup>32</sup> argue that closing a disparity gap requires interventions unique to the disparate population.<sup>32</sup> To date, tobacco-dependence treatment efforts have emphasized interventions through the healthcare delivery system.<sup>33</sup> However, the healthcare delivery system does not serve the poor as well as it does other populations.<sup>30,34</sup>

---

From the Center for Tobacco Research and Intervention (Christiansen, Theobald, Fiore, Keller), University of Wisconsin School of Medicine and Public Health; and Tobacco Prevention and Control Program (Brooks), Division of Public Health, Department of Health Services, Madison, Wisconsin

Address correspondence and reprint requests to: Bruce A. Christiansen, PhD, UW-Center for Tobacco Research and Intervention, 1930 Monroe Street, Suite 200, Madison WI 53711-2059. E-mail: [bc1@ctri.medicine.wisc.edu](mailto:bc1@ctri.medicine.wisc.edu).

0749-3797/00/\$17.00

doi: 10.1016/j.amepre.2009.11.015

Community agencies (community assistance programs, transitional living facilities, drop-in mental health centers) are potential access points. These agencies often have established personal and regular contact with this population. It is unknown (1) whether such organizations would be willing to adopt smoking cessation as a secondary mission; and (2) whether interventions conducted by these agencies would have a beneficial impact. Brief interventions have been shown to be effective in other settings<sup>33</sup> but have not been tested in community agencies to determine whether they are consistent with agencies' primary missions, would be welcomed by their constituents, or would affect the likelihood of constituents' returning for services. This pilot study evaluated whether a very brief tobacco intervention, designed to increase consumer demand for treatment conducted in a community agency, affected smokers' perception of that agency, their satisfaction with and willingness to return for further services, and changes in motivation to quit.

## Methods

### Subjects

Subjects were a convenience sample of 295 smokers seeking emergency assistance from the Salvation Army in two eastern Wisconsin communities in 2007.

### Procedures

A community-based participatory research process was used to develop the intervention and conduct the study, involving both the Salvation Army and the University of Wisconsin Center for Tobacco Research and Intervention. Salvation Army staff participated in a 2-hour training at their workplace that included study background, procedures to obtain verbal consent, survey administration, and practicing the intervention.

Participants were recruited at the end of regular visits to the Salvation Army to receive assistance. Trained Salvation Army staff asked adult clients (aged  $\geq 18$  years) if they smoked cigarettes. All self-identified smokers were invited to participate in this study. Staff reported that very few of those eligible did not consent. Those that provided verbal consent to the Salvation Army staff were randomly assigned, using a random number generator, to either the brief intervention ( $n=147$ ) or a no-intervention control group ( $n=148$ ).

Subjects assigned to the intervention received a 30-second "ALSO" (Ask, Link, Share, Offer) intervention that asked if they smoked; linked smoking to the agency's primary mission; shared health information about tobacco use; and offered self-help material (Table 1). This intervention was developed specifically for this pilot study to determine

**Table 1.** The ALSO intervention

<b>Ask</b>	Ask, <i>Do you currently smoke?</i>
<b>Link</b>	Link smoking to the agency's primary mission in order to establish credibility: <i>Our agency cares about your health. I know we're working with you today to arrange for emergency assistance, but I don't want to pass up the opportunity to help you with your health.</i>
<b>Share</b>	Share information: <i>Did you know that quitting smoking is probably the single most important thing you can do for your health—and the health of those around you? Did you know that, on the average, smokers die 6 years sooner than nonsmokers? Not only do smokers die younger, but they are also more likely to have nagging and painful health conditions that make it difficult day in and day out.</i>
<b>Offer</b>	Offer help and ask permission to follow up: <i>I want to give you some valuable information about quitting. Did you know that even though quitting is hard, there are many ways to do it that work? There are some strong medicines that really help. And there is a telephone number you can call for personal coaching about how to quit. And it's free to anyone who lives in Wisconsin. Is it OK if I ask you about your smoking when you come back?</i>

ALSO, Ask, Link, Share, Offer

whether a very brief tobacco-dependence intervention is acceptable to Salvation Army clients. Written information was then provided about how to quit, using cessation medicines, the Wisconsin Tobacco Quitline, and Medicaid smoking cessation benefits. Subjects then completed an anonymous, self-administered, 15-minute survey written at the 6th-grade level, and received a \$15.00 gift card. Staff read the survey questions and responses to those few who could not read. Control subjects completed the same survey and received the gift card and written cessation information after they completed the survey.

### Measures

The survey comprised 13 items (Table 2). Five items elicited demographic and smoking history information. Five items asked for subjects' opinions about the service just received from the Salvation Army and how they felt about being asked about smoking during their visit. The last three items measured aspects of quitting: intention to quit in the next 6 months, likelihood of asking for help to quit, and difficulty of quitting.

Salvation Army staff delivering the intervention also completed a brief survey regarding their experiences with the study and beliefs about conducting a tobacco intervention as part of the Salvation Army mission. Data were analyzed using chi-square and *t* tests. The University of Wisconsin IRB reviewed and approved all study procedures.

**Table 2.** Group differences (% unless otherwise indicated)

	Intervention	Control	Significance
<b>BACKGROUND/DEMOGRAPHIC DIFFERENCES</b>			
<b>Average (years)</b>	40.1	39.0	$t = -0.82, p < 0.45$
<b>Gender (female)</b>	53	45	$\chi^2 = 1.49, p < 0.30$
<b>Average number of years smoked</b>	20.8	20.1	$t = -0.51, p < 0.65$
<b>Time to first AM cigarette (minutes)</b>			
≤5	56	42	$\chi^2 = 7.49, p < 0.10$
6–30	28	35	
31–60	10	14	
>60	5	9	
<b>Typical number of daily cigarettes</b>			
≤10	24	30	$\chi^2 = 1.94, p < 0.50$
11–20	49	45	
21–30	17	18	
≥31	10	7	
<b>PERCEPTIONS OF THE SALVATION ARMY</b>			
<b>Average overall opinion (1 [worst] to 10 [best] scale)</b>	9.7	9.6	$t = -0.21, p < 0.85$
<i>Will you return for more services?</i>			
Definitely not	<1	1	$\chi^2 = 2.27, p < 0.50$
Probably not	4	8	
Probably yes	47	42	
Definitely yes	48	49	
<i>OK to be asked about smoking?</i>			
Definitely not	1	2	$\chi^2 = 5.69, p < 0.25$
Probably not	6	5	
I'm not sure	16	26	
Probably yes	39	32	
Definitely yes	38	34	
<i>OK to be asked at next visit?</i>			
Definitely not	2	2	$\chi^2 = 1.03, p < 0.90$
Maybe not	8	8	
Maybe it's OK	31	36	
Definitely it's OK	59	55	
<i>Think about being asked?</i>			
None of their business	3	6	$\chi^2 = 4.23, p < 0.25$
Should focus on my other needs	4	8	
It's for my own good	41	41	
They really care for the whole me	49	45	
Other	3	1	

(continued on next page)

## Results

### Demographics and Background

There were no differences between experimental and control subjects in age, years smoked, gender, daily smoking, or time to first morning cigarette (Table 2).

### Impact on Smokers' Perception of the Community Agency

There were no significant differences between the intervention and control groups on questions about the Salvation Army (Table 2). The vast majority of subjects, regardless of condition assignment, were highly satisfied with the service provided by the Salvation Army ( $M = 9.67$  on a 0–10 scale), and 93% stated they would definitely or probably return for usual Salvation Army services. Across both conditions, participants appreciated being asked about their smoking: 47% reported they were glad to be asked about their smoking as it indicated the Salvation Army really cared about them, including their health. An additional 41% did not mind being asked about their tobacco use, as they felt the questioning was for their own good.

## Impact on Quitting

More smokers (61%) who received the ALSO intervention thought that they would probably or definitely ask for help in quitting when they decided to quit than control subjects (44%). There were no differences between intervention and control participants in intention to quit or perceived difficulty of quitting (Table 2).

## Staff Perceptions

The five Salvation Army staff members conducting the study strongly agreed that clients wanted to quit smoking, and needed help quitting, and that this intervention complemented the mission of the Salvation Army. They disagreed that asking about tobacco use frustrated, angered, or alienated clients or that tobacco-related activities would drain resources from their core mission.

## Discussion

This study demonstrates that a community agency can provide a very brief tobacco intervention without impairing clients' perceptions of the agency or interfering with the staff's ability to serve the agency's core mission. The vast majority of smokers thought it appropriate to be asked about their smoking, as did staff.

This brief intervention had an immediate effect of increasing the level of intention to seek help when smokers decide to quit. This effect on the likelihood of seeking help is significant in light of the brevity of the intervention, and it holds promise to increase consumer demand for evidence-based treatment. Consistent with the recommendations of Ceci and Papierno,<sup>32</sup> the current findings suggest that community agencies should be encouraged to adopt tobacco-dependence interventions to help address this disparity.

**Table 2.** Group differences (% unless otherwise indicated) (continued)

	Intervention	Control	Significance
<b>Impact on quitting</b>			
<i>Intend to quit in next 6 months?</i>			
<i>Definitely not</i>	6	7	$\chi^2=0.91, p<0.95$
<i>I don't think so</i>	12	13	
<i>I might</i>	34	35	
<i>Probably yes</i>	22	22	
<i>Definitely yes</i>	27	23	
<i>How hard is it for you to quit?</i>			
<i>Impossible</i>	5	4	$\chi^2=1.23, p<0.90$
<i>Very hard</i>	48	44	
<i>Hard</i>	35	41	
<i>Easy</i>	10	8	
<i>Very easy</i>	2	2	
<i>Will you ask for help?</i>			
<i>Definitely</i>	3	7	$\chi^2=10.79, p<0.05$
<i>Probably</i>	8	17	
<i>Maybe</i>	27	32	
<i>Probably</i>	35	27	
<i>Definitely</i>	26	17	

This pilot study is subject to several limitations. The percentage of eligible smokers that declined to participate in this study is unknown, potentially affecting the generalizability of the findings. Also, the increase in expressed likelihood of seeking help to quit may have resulted from a demand characteristic of having received the intervention just before completing the survey. Contamination (control subjects asking for and receiving advice about their smoking from Salvation Army staff) cannot be ruled out, although training was designed to limit such contamination. Last, it is not known whether subjects called the quitline or sought any other treatment as a result of this intervention.

Future research is required to further investigate these findings and identify effective tobacco-dependence intervention(s) for delivery by community agencies. Research could focus on the feasibility of interventions to directly provide treatment versus interventions designed to increase consumer demand. The brief 5A's intervention recommended for healthcare settings<sup>33</sup> delivered in a community agency might also include a motivational intervention for those not interested in quitting, or address other factors that serve as barriers to evidence-based treatment, such as perceptions that smoking is normative. Such research should also study the trade-off

between increasing the intensity of the intervention and decreasing its practicality for community agencies. Finally, future studies should include follow-up measures to determine the impact of intervention on quit attempts and use of evidence-based treatment.

Funded by a grant from the Wisconsin Tobacco Prevention and Control Program to the Salvation Army of Wisconsin and Upper Michigan. The authors are grateful to Sasha Nobel for her help in data collection and analysis.

MCF has served as an investigator in research studies at the University of Wisconsin that were funded by Pfizer, GlaxoSmithKline, and Nabi Biopharmaceuticals. In 1998, the University of Wisconsin appointed MCF to a named chair funded by a gift from GlaxoWellcome.

No other financial disclosures were reported by the authors of this paper.

## References

1. Kanjilal S, Gregg EW, Cheng YJ, et al. Socioeconomic status and trends in disparities in 4 major risk factors for cardiovascular disease among U.S. adults, 1971–2002. *Arch Intern Med* 2006;166(21):2348–55.
2. Butler J, Okuyemi KS, Jean S, Nazir N, Ahluwalia JS, Resnicow K. Smoking characteristics of a homeless population. *Subst Abus* 2002;23(4):223–31.
3. Okuyemi KS, Caldwell AR, Thomas JL, et al. Homelessness and smoking cessation: insights from focus groups. *Nicotine Tob Res* 2006;8(2):287–96.
4. Flint AJ, Novotny TE. Poverty status and cigarette smoking prevalence and cessation in the U.S., 1983–1993: the independent risk of being poor. *Tob Control* 1997;6(1):14–8.
5. Thorn J, Bjorkelund C, Bengtsson C, Guo X, Lissner L, Sundh V. Low socioeconomic status, smoking, mental stress and obesity predict obstructive symptoms in women, but only smoking also predicts subsequent experience of poor health. *Int J Med Sci* 2007;4(1):7–12.
6. Giovino GA. The tobacco epidemic in the U.S. *Am J Prev Med* 2007;33(6S):S318–26.
7. Delva J, Tellez M, Finlayson TL, et al. Cigarette smoking among low-income African Americans: a serious public health problem. *Am J Prev Med* 2005;29(3):218–20.
8. Jarvis M. Tobacco smoking. *Br J Clin Psychol* 1996;35(Pt 2):319–20.
9. CDC. Public health focus: effectiveness of smoking-control strategies—MMWR Morb Mortal Wkly Rep 1992;41(35):645–7, 653.
10. Jha P, Peto R, Zatonski W, Boreham J, Jarvis MJ, Lopez AD. Social inequalities in male mortality, and in male mortality from smoking: indirect estimation from national death rates in England and Wales, Poland, and North America. *Lancet* 2006;368(9533):367–70.
11. van Loon AJ, Tjshuis M, Surtees PG, Ormel J. Determinants of smoking status: cross-sectional data on smoking initiation and cessation. *Eur J Public Health* 2005;15(3):256–61.
12. Barbeau EM, Krieger N, Soobader MJ. Working class matters: socioeconomic disadvantage, race/ethnicity, gender, and smoking in NHIS 2000. *Am J Public Health* 2004;94(2):269–78.
13. Hussey P, Anderson G, Berthelot JM, et al. Trends in socioeconomic disparities in healthcare quality in four countries. *Int J Qual Health Care* 2008;20(1):53–61.
14. DeNavas-Walt C, Proctor BD, Smith J. Income, poverty, and insurance coverage in the U.S.: 2006. Washington: U.S. Government Printing Office, 2007.
15. Connor SE, Cook RL, Herbert MI, Neal SM, Williams JT. Smoking cessation in a homeless population: there is a will, but is there a way? *J Gen Intern Med* 2002;17(5):369–72.
16. Murphy JM, Mahoney MC, Hyland AJ, Higbee C, Cummings KM. Disparity in the use of smoking cessation pharmacotherapy among Medicaid and general population smokers. *J Public Health Manag Pract* 2005;11(4):341–5.
17. Chase EC, McMenemy SB, Halpin HA. Medicaid provider delivery of the 5A's for smoking cessation counseling. *Nicotine Tob Res* 2007;9(11):1095–101.
18. McMenemy SB, Halpin HA, Ibrahim JK, Orleans CT. Physician and enrollee knowledge of Medicaid coverage for tobacco dependence treatments. *Am J Prev Med* 2004;26(2):99–104.
19. Murphy JM, Shelley D, Repetto PM, Cummings KM, Mahoney MC. Impact of economic policies on reducing tobacco use among Medicaid clients in New York. *Prev Med* 2003;37(1):68–70.
20. Roddy E, Antoniak M, Britton J, Molyneux A, Lewis S. Barriers and motivators to gaining access to smoking cessation services amongst deprived smokers—a qualitative study. *BMC Health Serv Res* 2006;6:147.
21. Giskes K, van Lenthe FJ, Turrell G, Brug J, Mackenbach JP. Smokers living in deprived areas are less likely to quit: a longitudinal follow-up. *Tob Control* 2006;15(6):485–8.
22. Wiltshire S, Bancroft A, Parry O, Amos A. 'I came back here and started smoking again': perceptions and experiences of quitting among disadvantaged smokers. *Health Educ Res* 2003;18(3):292–303.
23. Price JH, Everett SA. Perceptions of lung cancer and smoking in an economically disadvantaged population. *J Community Health* 1994;19(5):361–75.
24. Cummings KM, Hyland A, Giovino GA, Hastrup JL, Bauer JE, Bansal MA. Are smokers adequately informed about the health risks of smoking and medicinal nicotine? *Nicotine Tob Res* 2004;6(3S):S333–40.
25. Hausteine KO. Smoking and poverty. *Eur J Cardiovasc Prev Rehabil* 2006;13(3):312–8.
26. Apollonio DE, Malone RE. Marketing to the marginalised: tobacco industry targeting of the homeless and mentally ill. *Tob Control* 2005;14(6):409–15.
27. Dani JA, Harris RA. Nicotine addiction and comorbidity with alcohol abuse and mental illness. *Nat Neurosci* 2005;8(11):1465–70.
28. Lasser K, Boyd JW, Woolhandler S, Himmelstein DU, McCormick D, Bor DH. Smoking and mental illness: a population-based prevalence study. *JAMA* 2000;284(20):2606–10.
29. Pickett KE, James OW, Wilkinson RG. Income inequality and the prevalence of mental illness: a preliminary international analysis. *J Epidemiol Community Health* 2006;60(7):646–7.
30. Voelker R. Decades of work to reduce disparities in health care produce limited success. *JAMA* 2008;299(12):1411–3.

31. Agency for Healthcare Research and Quality. National health-care disparities report. AHRQ Pub. No. 07-0012. Rockville MD: USDHHS, 2006.
32. Ceci SJ, Papierno PB. The rhetoric and reality of gap closing: when the “have-nots” gain but the “haves” gain even more. *Am Psychol* 2005;60(2):149–60.
33. Fiore MC, Jaén CR, Baker TB, et al. Treating tobacco use and dependence: 2008 update. Rockville MD: USDHHS, U.S. Public Health Service, 2008.
34. Adler NE, Rehkopf DH. U.S. disparities in health: descriptions, causes, and mechanisms. *Annu Rev Public Health* 2008;29: 235–52.

**Did you know?**

You can sign up for saved search and table of contents email alerts on the *AJPM* website.

**Visit [www.ajpm-online.net](http://www.ajpm-online.net) today!**