

Randomized Controlled Trial to Assess Comprehensive Smoking Cessation Treatment Benefits for Smokers in IPA Model HMOs

University of California, Berkeley, School of Public Health, Berkeley, CA

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This grant from The Robert Wood Johnson Foundation (RWJF) to the University of California, Berkeley, School of Public Health (UC) supported a controlled trial to assess the costs and effectiveness of a one-year, comprehensive smoking cessation treatment benefit in IPA (independent practice association)/network model health maintenance organizations (HMOs). Researchers recruited an experimental group of 601 participants and a control group of 603 participants from large employers enrolled in one of two HMOs. All participants received self-help materials; in addition, participants in the experimental group could call a toll-free telephone number to order free nicotine replacement therapy (either the over-the-counter patch or gum) and to obtain a referral for free group counseling. The study design allowed health care consumers to directly obtain smoking cessation benefits, without first consulting their physicians. The study found that offering smokers free nicotine replacement therapy significantly increased quit rates, which at the end of the study period were 18.1% for the experimental group compared with 13.4% for the control group. The total cost of the benefit per user was \$965 (\$1,495, including the cost of sending the self-help materials). The cost per HMO member per month was \$0.47 (\$0.73 including the self-help materials). The researchers concluded that offering free nicotine replacement therapy was a cost-effective strategy for increasing quit rates, quit attempts, and use of nicotine gum and patch.

BACKGROUND

Little research has been conducted on how health insurance coverage for smoking cessation may affect smoker quit rates or what such programs may cost for each smoker who quits, but pressure is mounting from large purchasers for health plans to provide smoking cessation as part of preventive care. Cigarette smokers have more hospital admissions and hospital days, longer average lengths of hospital stays, and higher average insured payments, giving employers and managed care plans a direct financial stake in encouraging people to stop smoking. The Agency for Health Care Policy and Research (AHCPR) of the US Department of Health and Human Services has published *Practice Guidelines for Smoking Cessation* (see [Grant Results Report on ID# 029389](#)), which concludes that effective smoking cessation treatments are available and that every smoker should be offered them. The National Research Corporation, a leading health care performance measurement organization, now includes the availability of smoking cessation counseling as one of the standards by which employers may evaluate the health plans they purchase for their employees. Yet health maintenance organizations (HMOs) rarely include smoking cessation as a covered benefit and neither Medicare nor Medicaid covers these smoking cessation services in the core benefit package defined at the federal level. ([See Report on ID# 022927, part of RWJF's Tobacco Policy Research](#))

[and Evaluation Program, for a study of](#) the impact of different insurance coverage structures on the utilization and cost effectiveness of smoking-cessation services in one HMO).

Minimal research has been conducted on the cost and effectiveness of various smoking cessation treatments and little of that has focused on the fast-growing sector of independent practice association (IPA) model HMOs. In the IPA-model HMO, physicians continue in their existing individual or group practices but contract with a health insurance carrier who pays them to provide medical services to a defined population.

THE INITIATIVE

Under a grant from RWJF, UC, Berkeley, carried out a randomized trial to assess the costs and effectiveness of offering insurance coverage for a comprehensive smoking cessation benefit. Large employers who are enrolled in CIGNA HealthCare of Northern California and CaliforniaCare of Blue Cross of California, which are IPA-model HMOs, agreed to participate. Employers using these HMOs were eligible to participate if they: (1) did not cover any smoking cessation treatments at the time the grant was made; and (2) agreed to assume any additional costs that might be associated with the smoking cessation benefit to participants for one year (such as the cost of drug treatment). The trial was the first study of the effect of offering first-dollar coverage (requiring no co-payment by participating employees) to smokers enrolled in IPA-model HMOs. RWJF funds covered program implementation, training in smoking cessation counseling for staff physicians, and database management and analysis.

UC, Berkeley employed a San Francisco research firm, Freeman, Sullivan & Co., which recruited enrollees by telephone. Telephone interviews elicited baseline data on health status, smoking behavior, and motivation to quit. To be eligible, participants had to be current smokers ages 18-64 years, in good health, enrolled in one of the participating HMOs, and not pregnant; they also could not have been informed by their health care provider in the past six months that they had one of several excluded health conditions. Participants were randomly assigned to an experimental group (601 people) or a control group (603 people).

The project mailed a letter to all primary care physicians in California to inform them of the study and to assure that each participant's physician would be familiar with it. The mailing included a copy of a physician guide to smoking cessation treatments based on AHCPR guidelines (see [Grant Results Report ID# 029466](#)). The project mailed participants in both experimental and control groups a self-help smoking cessation video and pamphlet based on the AHCPR guidelines. In addition, a toll-free number was set up for the experimental group to order free nonprescription nicotine replacement therapy — over-the-counter patch or gum — and to obtain a referral to an American Lung Association group counseling smoking cessation program. This group was permitted to obtain smoking cessation benefits directly, without first consulting their physicians. CIGNA handled the mailings of nicotine replacement therapy for both CaliforniaCare and CIGNA enrollees. The medical directors of the two HMOs worked closely together, in collaboration with the UC, Berkeley School of Public Health, to oversee the project.

The smoking cessation treatment benefit started on January 1, 1998 and ended one year later. Participants were reminded by postcard of 6-month and 12-month telephone interviews and modestly compensated (\$5) for participating in the baseline and follow-up interviews. Some 436 persons in the experimental group and 445 in the control group completed the 12-month follow-up interview.

Shortly before the study began, the Food and Drug Administration (FDA) approved Zyban (Buproprione), a prescription drug, as an aid in smoking cessation. Although Zyban was not included as part of the treatment benefit, researchers added questions about its use to the baseline and follow-up interviews.

Findings

- **Offering smokers free over-the-counter nicotine replacement therapy significantly increased quit rates, attempts to quit, and the use of nicotine gum and the nicotine patch.** Of smokers in the experimental group, 18.1% reported at the 12-month follow-up interview that they had quit smoking, compared with 13.4% in the control group. Smokers in the experimental group were more likely to report at both the six-month and twelve-month interviews that they had actually quit smoking, tried to quit one or more times, tried to quit two or more times, had watched the video, read the AHCPR guidelines, or used nicotine replacement therapy.
- **The annual cost of the benefit per user who quit was \$965 (\$1,495 including the cost of sending the self-help materials). The cost per HMO member per month was \$0.47 (\$0.73 including the cost of sending the self-help materials).** The researchers concluded that offering free nicotine replacement therapy was a cost-effective strategy for increasing quit rates, quit attempts, and use of nicotine gum and patch.
- **Participants were much more likely to use nicotine replacement therapy than group counseling.** Over the study period 106 smokers in the experimental group placed a total of 152 orders for the nicotine patch or gum; only four people took advantage of the group counseling benefits.
- **In both the experimental and control groups, participants who used Zyban were more likely to report having quit at six months.** Zyban was not included as a covered benefit, but participants were asked about their use of this new drug. Those who used it were more likely than those using nicotine replacement therapy to report having quit at six months, with no difference after 12 months.

Project Lessons

1. **A better design for the counseling benefit may be needed to encourage its use.** Relatively few smokers desiring to quit took advantage of traditional group counseling, even when it was provided at no charge.
2. **Competing HMOs can collaborate effectively.** Although for-profit HMOs usually view each other as competitors in designing and implementing innovative approaches to new benefits,

staff at CIGNA and CaliforniaCare were able to work closely together during the course of this study.

COMMUNICATIONS

The project director has made three presentations of project findings at professional meetings and has an article in press in *Tobacco Control*. (See the Bibliography for details.)

NEXT STEPS

The UC, Berkeley, School of Public Health is carrying out another randomized trial to assess the benefits of smoking cessation treatment. Funded by the State of California's Tobacco-Related Disease Research Program, this trial includes a newly designed telephone counseling benefit and offers Zyban in addition to the nicotine gum and patch. Participants in the new study are members of preferred provider organizations (PPO), who are served by an even broader group of physicians than those in IPAs, since PPO members can use physicians outside the network through a system of co-payments.

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BIBLIOGRAPHY

(As provided by the grantee organization; not verified by RWJF.)

Journal Articles

Schauffler HS, McMenamin SB, Olson K, Boyce-Smith G, Rideout JA, and Kamil JA. "A Randomized Controlled Trial of the Effectiveness and Cost-effectiveness of a Tobacco Dependence Treatment Benefit in IPA Model HMOs." *Tobacco Control* 2001 10;175-180.

Presentations

Schauffler HS, "Coverage for Tobacco Dependence Treatments: Results of a Randomized Trial in California HMOs," invited presentation at the Addressing Tobacco in Managed Care Conference, Atlanta, February 7, 2000.

Schauffler HS, "Costs and Effectiveness of Coverage for Smoking Cessation Treatments and Environmental Scan Results," invited presentation to the Managed Care Working Group of the Next Generation California Control Alliance, Berkeley, CA. December 13, 1999.

Schauffler HS, "Smoking Cessation as a Medicare-covered Benefit," remarks as an expert panelist at the Health Aging Project Meeting, Smoking Cessation and Medicine of the Health Care Financing Administration, Washington, DC, October 21, 1999.