White women may reflect a failure of our passive exposure index to measure exposure within the lower social stratum. Power to test for small differences in effect of passive smoking by race or social standing was lacking as were data to evaluate the role of other variables such as alcohol use or physical activity. Taken together with the results of previous studies and laboratory results suggesting that passive smoke exposure causes decreases in energy production in the mitochondria of heart muscle and increased platelet aggregability in nonsmokers, our results support the health hazards of exposure to passive smoke.

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Community Impact of a Localized Smoking Cessation Contest

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Abstract: The present study assessed the effectiveness of a localized community contest timed to coincide with a statewide smoking cessation contest. Follow-up interviews were conducted with 218 local contest participants and 198 participants from the statewide contest. Overall cessation impact (participation rate x abstinence) was 0.39 percent for the local contest and 0.09 percent for the statewide contest. Localized community contests offered in conjunction with statewide or national campaigns may represent cost-effective methods of reaching large numbers of smokers. (Am J Public Health 1990;80:601-603.)

Introduction

Contests to promote smoking cessation appear to represent cost-effective means of producing quit attempts in community settings. Quit smoking contests have been offered on a number of occasions as part of the smoking intervention in the Minnesota Heart Health Program (MHHP), a 10-year research and demonstration project intended to reduce the prevalence of heart disease.

Several smoking cessation contests have been timed to coincide with the Great American Smokeout conducted annually by the American Cancer Society (referred to as "D-Day" in Minnesota). The present study examined contest participation and outcome for samples of Twin Cities area residents in the 1984 Minnesota D-Day contest. Participants from one of the intervention communities (Bloomington) were compared with a random sample of those from other Minneapolis suburbs (not within the immediate Bloomington area). It was hypothesized that the overall impact of a contest, measured by participation and abstinence outcome, offered in conjunction with specific localized community recruitment and prizes would be greater than that of the statewide contest alone.

Method

Subjects were recruited for a statewide D-Day contest during the Fall of 1984. Recruitment began August 25, 1984.
and continued through D-Day (November 15). Prize winners were selected in mid-January from participants who remained abstinent. In addition, Bloomington participants who remained abstinent for one additional month through February 15, 1983 were eligible for a separate Bloomington Quit and Win contest. D-Day registrants who lived in Bloomington were automatically signed up for the Bloomington contest. The grand prize for the statewide contest was a trip for four to Florida with airfare, use of an automobile, and a condominium provided. The prize for the Bloomington contest was a $1000 savings bond. Lesser prizes for the statewide contest were weekends for two at local hotels.

The statewide D-Day contest was promoted through radio, television, newspapers, posters and flyers, billboards, worksites, health professionals, and mailed announcements. Special promotions targeted to Bloomington residents included letters sent to all Bloomington households, a newspaper insert describing the contest, and flyers given to Bloomington residents who attended the MHHP Heart Health Center for risk factor screening.

A post-contest survey of Bloomington participants (N = 218) and non-Bloomington participants (N = 198) was conducted by telephone during March and April 1985. The Bloomington sample consisted of all Bloomington contest participants; the non-Bloomington sample was randomly selected from participants in the other Minneapolis suburbs.

Results

No significant differences were found in demographic characteristics between Bloomington and non-Bloomington contest participants. Contest participants were predominantly female (61 percent overall). The average age of contest participants was 39. Fifteen percent of the overall sample were unemployed, 17 percent were blue collar workers, 41 percent were either in clerical or sales positions, and 26 percent were classified as professional or administrative.

Smoking Cessation

In Bloomington, 50 percent of contest participants reported being abstinent at the time of the follow-up telephone survey. In the non-Bloomington suburbs, the reported quit rate was 52 percent. However, inspection of the data indicated that a substantial portion of contest registrants (total N = 115) had in fact quit before November. Adjusting outcome figures to eliminate early quitters yields a follow-up abstinence rate of 37 percent (55 of 148 participants) for Bloomington and 45 percent (56 of 124 participants) for the non-Bloomington suburbs.

The number of Bloomington contest participants (excluding those who quit before November) represented roughly 1.06 percent of the entire Bloomington age-eligible smoking population; this figure for the non-Bloomington participants was only about 0.2 percent (the Bloomington age-eligible smoking population could be estimated very accurately from previous Minnesota Heart Health Surveys; the estimate for non-Bloomington participants was based upon statewide surveys and is therefore somewhat less precise). While participation for the entire state (less Bloomington) and the other non-Bloomington suburbs remained approximately the same between the 1983–84 and 1984–85 D-Day contests, participation in Bloomington increased almost tenfold. If cessation impact on the entire community of smokers is considered, the overall success rate for Bloomington smokers (1.06 percent contest registration × 37 percent follow-up abstinence rate) was 0.39 percent (± .053 percent) vs 0.09 percent (± .012 percent) for the non-Bloomington suburbs [difference = .30 percent; 95 percent CI-interval = .20 percent, .41 percent].

Discussion

Consistent with hypothesis, the impact of the quit smoking contest (considering abstinence outcome and level of participation) was significantly greater in Bloomington than it was in the other Twin Cities suburbs. Success rates for the Bloomington contest (37 percent at 4- to 5-month follow-up) compare favorably with those for more intensive individualized treatment approaches.

Despite the greater impact of the contest in Bloomington and a rather impressive follow-up abstinence rate among contest participants themselves, the effect of the contest on the community-wide prevalence of smoking was quite limited. However, the present results may in fact substantially underestimate the real impact of the contests. Considerably higher than expected quit rates have been observed at the time of contests among nonparticipants in the community. Furthermore, participation in Bloomington was actually substantially lower than the 3 to 5 percent rate obtained in a number of other contests of the Minnesota Heart Health Program.

The cost-effectiveness of the contest should be noted. Promotion of the Bloomington D-Day contest in conjunction with the statewide campaign required relatively minimal additional resources. Major expenses were for the community-wide mailing and the newspaper insert. Prizes were donated by local merchants.

Quit smoking contests can be implemented fairly readily by local communities. A Quit and Win Contest process guide has now been developed.* If localized contest promotion and recruitment are combined with statewide or national events (e.g., the Great American Smokeout), community-wide cessation impact may be possible.

The present results are qualified, however, by several important limitations. First is the lack of longer-term follow-up and the absence of biochemical validation for nonwinners. Second is the fact that although demographic characteristics of contest participants were quite similar, Bloomington and non-Bloomington participants were drawn from two different populations. Although Bloomington and the comparison suburbs appear generally similar, it is possible that demographic characteristics of Bloomington residents favored contest participation. Third is the existence of extensive Minnesota Heart Health Program activities prior to the contests. The enhanced participation rates in Bloomington may be a function of the previous program activities as well as the localized promotion (nonetheless, it is impressive that contest promotion in Bloomington led to almost a tenfold increase in recruitment over the previous year when these activities were already in place). Thus, it may be overly


The Quit and Win Contest process guide is available for a nominal cost from the Bloomington Heart Health Program, Suite 260, 5801 Dupont Avenue South, Bloomington, MN 55431; from the Fargo-Moorhead Heart Health Program, 1902 S. 30th Avenue, Moorhead, MN 56560; and from the Mankato Heart Health Program, Bank of Commerce Building, Suite 101, 101 North Second Street, Mankato, Minnesota 56001.

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optimistic to assume that similar results can be achieved elsewhere simply by adding a local promotion to a statewide contest.

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Smoking and Consistently High Use of Medical Care among Older HMO Members
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Abstract: Smoking behavior of consistently high and low users of medical care services were compared in two groups of older health maintenance organization (HMO) members continuously enrolled for five years and a subgroup who were continuously enrolled for 10 years. Smokers and former smokers, combined, were more likely than never-smokers to be consistently high users of ambulatory services (52 percent vs 34 percent in the five-year group, and 45 percent vs 30 percent in the 10-year group). (Am J Public Health 1990; 80:603-605.)

Introduction
Although the increased risk of morbidity and mortality associated with cigarette smoking is well established, the effect of smoking on the use of health services is less clear.1-3 A number of studies have examined utilization patterns among the elderly,4-7 but few have examined the relation between smoking and utilization. To our knowledge, no research has examined the relation between smoking and long-term ambulatory utilization patterns among persons 65 years of age and older. This study seeks to determine: whether smoking behavior is an independent predictor of consistently high use of ambulatory medical services over periods of five and 10 years; and whether, when individuals are categorized as consistently high or low users of services, smokers (defined as current and former smokers) within the consistently high or consistently low user group use more medical services and resources than non-smokers (defined as persons who have never been smokers).

Methods
Data Sources
Study subjects were members of Kaiser Permanente (KP), Northwest Region, a large prepaid group practice HMO (health maintenance organization). Since January 1, 1967, medical record information has been routinely recorded for all medical contacts of a 5 percent sample of KP members.8

In 1970-71 the Center for Health Research at Kaiser Permanente conducted an extensive household interview survey of those subscriber units (families) in the 5 percent sample who were continuously enrolled in KP for the full two years of 1969 and 1970. The household survey was designed to obtain detailed individual and family demographic, social, economic, situational, behavioral, and attitudinal data, as well as health status data. The response rate was over 92 percent.9 The survey and the outpatient utilization system for sample members age 65 and over (as of 1970-71) provide the data for this study.

Study Groups
Two study groups have been identified for this analysis:

• 312 sample members who were 65 years of age or older at the time of the survey, continuously enrolled in KP for the five-year period 1970-74, and alive at the end of 1975.
• A sub-group consisting of 203 sample members still alive at the end of 1980 who had been continuously enrolled for the 10-year period 1970-79.

Utilization Patterns
We determined the actual distribution of total ambulatory care contacts for each of the years 1970-74 for the first study group, and for the years 1970-79 for the second study group. Subjects were categorized as low, medium, or high users of services in each of the years according to the tertile into which their utilization fell.