Quit and Win: a community-wide approach to smoking cessation

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Abstract
Objective – To summarise the overall Minnesota Heart Health Program (MHHP) experience with Quit and Win smoking cessation contests.
Setting – Minnesota, USA.
Interventions – The 12 contests reported here differed somewhat over time and communities, but key elements were present in nearly all. Smoking was validated prior to entry and quitting was validated among potential prize winners. A large grand prize such as a family vacation was typically offered along with six to ten lesser prizes.
Results – Contest participation varied substantially, ranging from 1% to 5% of the eligible smokers in the community. Contest outcomes tended to be encouraging with self-reported six to eight month abstinence rates of 21% to 24% in the first three contests but a somewhat less favourable outcome in the most recent contest.
Conclusions – MHHP Quit and Win contests produced positive but variable outcomes both in proportions of smokers reached in the community and in abstinence among contest participants. The contest model has been widely disseminated. Contests may have significant impact in their own right and may increase interest in additional cessation options including more formal help programmes.

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A major component of the Minnesota Heart Health Programme (MHHP) has been the Quit and Win contests. Initiated in 1980, MHHP was a 10-year research and demonstration project involving approximately 500 000 persons in six communities in the upper midwest. The Quit and Win contests enjoyed high visibility in the communities and were generally successful in recruiting large numbers of smokers to attempt to quit smoking. Abstinence outcomes were evaluated for several of the contests and were generally quite encouraging.

The current article summarises the overall MHHP experience with Quit and Win contests. It also considers incorporation of the contests in MHHP communities following the termination of external funding, the dissemination of contests to other settings, and practical suggestions for implementing Quit and Win contests at relatively little cost.

Most published smoking cessation evaluations have focused on formal smoking cessation methods and programmes. However, more than 90% of successful quitters have quit without the assistance of such programmes. Approaches designed to reach individual smokers or small groups of smokers have limited impact in reducing smoking prevalence in the community. The MHHP was designed to reduce cardiovascular disease risk at the community level. To accomplish this objective, it was necessary to go beyond traditional smoking cessation programmes such as clinics. While MHHP did attempt to enhance and increase the frequency and availability of traditional programmes, it sought primarily to involve a more substantial proportion of smokers in the community in quit attempts.

A key initiative in MHHP was to recruit adults in the education communities to Heart Health centres for cardiovascular disease risk factor screening. Although approximately 60% of the target-age adults (ages 25-74) in the three education communities were recruited for these 2.5-hour screening visits, only 44.5% of smokers took part. It seemed evident that additional strategies and incentives would be needed to reach smokers.

Several events converged to suggest the use of Quit and Win contests as a major intervention strategy. An early attempt at community-wide cessation occurred in August, 1969, when Greenfield, Iowa, residents were participating in the making of the United Artists film Cold Turkey. The movie plot involved the efforts of a small town trying to quit smoking for 30 days to win a $25 million prize. In real life, United Artists offered the town a more modest $6000. Smoking cessation was extensively promoted and the community was heavily involved in trying to duplicate the plot of the film. Survey data indicated that 37% of the smokers attempted to quit due to this campaign and 11% reported still being abstinent at a seven-month follow-up.

An incentive approach implemented at the Freeport, Texas, plant of Dow Chemical Company in 1975 (unpublished company report) was also instructive. A lottery system was introduced in which smokers could win such attractive prizes as a ski boat for each month they remained abstinent. During the four-month period of primary recruitment, 24% of the plant's 1938 smokers enrolled and 97%
claimed to be abstinent at the end of this recruitment period. While the abstinence claims may be viewed with considerable skepticism, the ability of incentive-based efforts to recruit and involve smokers appears impressive. These two examples plus early results from other incentive approaches focusing on such targets as weight loss⁵ reinforced the theoretical plans of the MHHP. From these multiple influences, the Quit and Win model of a community-wide contest promoting smoking cessation was formed.

The Quit and Win contest model was based upon the following rationale: (a) Widespread quit attempts occurring at a similar time can provide a network of social support for quitting from family, friends, and co-workers, from other smokers trying to quit, and from the general non-smoking public; (b) almost all smokers in the MHHP education communities wanted to quit on their own; baseline surveys showed that 75% of all smokers wanted to quit and almost 50% tried to quit every year; (c) most relapses occur within 30 days of self-initiated quit attempts; in fact, baseline surveys showed that less than 50% of quit attempts lasted even one week; (d) the potential to win a large prize could offset immediate discomforts of quitting and attract large numbers of smokers in a targeted quit attempt; (e) after 30 days of abstinence, the natural reinforcements for quitting are more likely to maintain abstinence.

Methods
The specific protocols in the contests varied over time and across communities. Several key elements of the model were replicated across almost all contests, however: (a) Smoking was validated prior to entry and quitting was validated among potential prize winners: smokers must show a high expired air carbon monoxide (CO) level to enter the contest and all potential prize winners were tested by CO, saliva thiocyanate, or saliva cotinine to document sustained abstinence; (b) adult (18 or older) smokers must enter by an enrollment deadline and pledge to quit for 30 days from the target quit dates to be eligible for a prize; (c) a large grand prize was offered, eg, an all-expense-paid vacation to Disney World for a family of four in addition to six to ten other prizes like bicycles and health club memberships; (d) prizes were donated or were paid for by donations; (e) the contests were heavily promoted in local media, through school children, and within community organisations and worksites such that contest awareness among smokers always exceeded 70%; (f) support from area physicians, other health professionals, and community leaders was directly sought; the rationale for the contest was carefully presented so that these community leaders understood that it was a serious health promotion strategy; (g) contests were organised locally and promoted by a volunteer smoking task force staffed by a single, paid, staff member.

The specific details and outcomes of several Quit and Win contests have been presented elsewhere.¹ ² Three of the contests are briefly described here to illustrate procedures applied in each of the education communities. These three communities differ considerably in size and proximity to large urban areas.

MANKATO, 1982–3
Mankato is a community of approximately 38 000 in southern Minnesota. Community-wide educational activities started in mid-1981, and the first smoking education campaign was initiated in early 1982.³ The community smoking task force adopted the suggestion of the MHHP smoking intervention director (TFP) to mount a Quit and Win smoking cessation contest.

The task force suggested the family-oriented prize structure and solicited donations to pay for the family vacation to Disney World and other prizes, including two 10-speed bicycles, health club memberships, and gift certificates. The rules required smokers to enroll between 15 November and 19 December 1982, pledge to quit by 1 January 1983, and remain abstinent until the end of January. The contest was heavily promoted including distribution of 32 000 promotional flyers, numerous locally produced television and radio promotions, half-page feature stories in the local daily paper, and a highly visible recruitment booth which was maintained in the city shopping centre by volunteers for six weekends. Local health professionals distributed cessation materials, recruited participants, and paid for four billboards publicising the contest. Additionally, as part of coordinated school-based prevention efforts, 750 adults were interviewed by school children about smoking and smokers were encouraged to enter the contest. From a pool of entries, a random sample was selected in the last week of January as potential finalists.

FARGO-MOORHEAD, 1983–4
Fargo-Moorhead is a community of approximately 110 000 on the border of Minnesota and North Dakota. Community-wide educational activities started in late 1982 and the first smoking education activities were held in March 1983 focusing on health information and promotions for existing and self-help cessation services. Based upon results from the 1982–3 Mankato Quit and Win Contest, the Fargo-Moorhead Smoking Education Task Force elected in Spring 1983 to mount a similar contest beginning in autumn 1983.

School children heavily promoted the contest since a 10-speed bike was offered as a special student prize for recruiting. Approximately 32 000 promotional flyers were distributed by students, health professionals, local organisations, and volunteers.¹ Heart health programmes and locally produced television and radio promotions were widely used during the promotional period. Recruitment booths were maintained by volunteers at local grocery stores and special recruitment booths were set up at sports events and worksites. Enrollment
was limited to adults living within a 10-mile radius of Fargo-Moorhead. The grand prize was a seven-day trip to Disney World for a family of four, including $500 spending money. The grand prize and all accompanying prizes were paid for by local donations.

BLOOMINGTON, 1988–9
Bloomington is a community of approximately 85,000 in the Twin Cities (Minneapolis–St Paul) metropolitan area. Community-wide educational activities began in early 1984 and the first Quit and Win contest was held in January 1985. In the final year of MHHP-funded intervention, the Bloomington Smoking Education Task Force opted to try an extended contest format called Quit Date 88.

The first month in which smokers were eligible to participate was June 1988. Contest recruitment continued through January 1989, and smokers were allowed to enter the contest at any point during the eight-month contest period. In contrast to the other contests, each month a draw was held to award a $200 cash prize, or equivalent, to a participant who had maintained biochemically verified abstinence during that month. In addition, all participants who had entered the contest by 31 January 1989 and who were abstinent through the month of February were eligible for the grand prize of a trip for two to Mexico. A more detailed description of Quit Date 88 is available elsewhere.

FOLLOW-UP
Records of participation were kept for all Quit and Win contests, but systematic outcome data were not collected for all of the contests. When post-contest outcome data were collected, the timing of the surveys varied. The first three contests collected both six- to eight-month outcome data and shorter-term (three- to five-month) results. Surveys in later contests tended to occur at three to five months. Follow-up data were obtained by telephone and self-reports of abstinence were not biochemically verified.

Results
PARTICIPATION
Table 1 indicates participation levels for contests in the three education communities including the total number of participants, the number of target-age adults, and estimates of the percentage of the target population that participated. Target-age adults included only those individuals between the ages of 25 and 74 who actually lived in the education community and potentially could be counted in the MHHP outcome evaluation. There was considerable variation in the proportion of contest enrollees who were target-age adults. After the first Bloomington contest in 1985, participation was strictly limited to community residents. In the 1985 contest no restrictions were placed on contest enrollment and only a small percentage of participants were from Bloomington.

Overall, numbers of contest participants varied dramatically. Although there was a tendency for contest enrollment to drop over time, this was not totally consistent, especially in Bloomington. Participation rates were often quite impressive. The 1982–3 contest in Mankato enrolled more than 5% of the eligible, target-age, smokers in the community. The extended 1988 contest in Bloomington (not shown in table 1) reached almost 7% of the entire Bloomington smoking population. On the other hand, several contests (Mankato, 1986; Bloomington 1985, 1986) reached fewer than 2% of the target-age smokers in the community. Despite continued encouraging enrollments and despite continued MHHP funding, Quit and Win contests were discontinued in Fargo-Moorhead after three years due to the withdrawal of an insurance company which had been the major sponsor of the event.

ABSTINENCE OUTCOME
Seven contests were subjected to outcome evaluation with some variation in the follow-up period. Point prevalence abstinence data (not smoking at the time of survey) are presented in table 2. In the first three contests only, survey respondents were asked whether they had managed to quit during the contest.

<table>
<thead>
<tr>
<th>City</th>
<th>Month/Year</th>
<th>Participants**</th>
<th>Target-age adults</th>
<th>% of target-age smokers in community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mankato</td>
<td>1/83</td>
<td>544</td>
<td>366</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>2/84</td>
<td>439</td>
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<td>3.6</td>
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<td></td>
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<td>125</td>
<td>98</td>
<td>1.8</td>
</tr>
<tr>
<td>Fargo/</td>
<td>2/84</td>
<td>1500</td>
<td>762</td>
<td>4.8</td>
</tr>
<tr>
<td>Moorhead</td>
<td>2/85</td>
<td>987</td>
<td>720</td>
<td>4.8</td>
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<tr>
<td></td>
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<td>229</td>
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<tr>
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<td></td>
<td>12/87</td>
<td>388</td>
<td>388</td>
<td>7.6</td>
</tr>
</tbody>
</table>

* This table includes the Quit and Win contests with the standard 30-day abstinence requirement. It does not include the extended Quit Date 88 contest held in Bloomington and described in the text.
** "Participants" may include "helpers", etc.
Reported quit rates among all enrollees were 93% in the Mankato 1982–3 contest, 97% in the Mankato 1983–4 contest, and 97% in the Fargo-Moorhead 1983–4 contest. One-month abstinence outcomes for the early contests also were very encouraging: based upon self-reports at the 10- to 12-week follow-ups, the 30-day quit rates were estimated at 59% (Mankato 1982–3), 41% (Mankato 1983–4), and 50% (Fargo-Moorhead 1983–4).

Intermediate (three- to five-month) outcome data were available for all seven contests in which follow-up evaluations were conducted. A 1984–5 contest in Bloomington held in conjunction with the Great American Smokeys produced 37% self-reported abstinence at three- to five-month follow-up. Contests held in Fargo-Moorhead in 1984–5 and 1985–6 yielded three- to five-month self-reported abstinence outcomes of 27% and 34%, respectively. The most recent contest, an extended intervention in Bloomington conducted biochemically validated. Two of these at a three- to five-month follow-up survey among those who pledged to quit. Six- to eight-month self-report outcome data, available only for the first three contests (two in Mankato and one in Fargo-Moorhead), were 21%, abstinence for Mankato 1982–3, 22% for Mankato 1983–4, and 24% for Fargo-Moorhead 1983–4.

Biochemical validation of self-reported abstinence was conducted for a substantial pool of contest finalists in the first three contests. Three of 74 finalists across the three contests failed biochemical validation. Two of these finalists subsequently admitted smoking. A third individual who had an elevated thiocyanate level but who submitted three supportive affidavits verifying total abstinence during the contest period was retained in the finalist pool.

The shape of the relapse curves from the contests (to the extent data are available) are strikingly similar to the classic Hunt and Bespalco curve for smoking relapse. Despite the fact that the contest prize contingency was removed after one month, no burst of relapse occurred at that point; rather, participants relapsed in the classic pattern beginning with the contest-required quit date.

**Discussion**

The Quit and Win contest model has produced very encouraging results in at least two respects: relatively large proportions of smokers in entire communities have participated and good abstinence outcomes have been reported. With the exception of the withdrawal of the major sponsor in Fargo-Moorhead, the MHHP communities encountered no major problems in soliciting donations, either of large prizes directly or of funds to pay for such prizes. The intensive community organizing undertaken as part of MHPP surely helped create the conditions for this successful fund raising.

Directsite encouraging overall participation and outcomes, considerable variability occurred in both of these indicators. Several contests in Bloomington and Mankato enrolled only 2% or less of all the smokers in the community. Even with positive abstinence outcomes, the overall cessation impact upon community prevalence in these contests would have been modest. It is not clear what factors accounted for the variability in participation rates. Our experience suggests that the amount of promotional activity – especially that which gains media attention – is the key factor. The target-age adult figures are conservative; in applied settings, sponsors undoubtedly would not need to discriminate on the basis of age or residence. It should be noted that many smokers who did not enroll in contests apparently attempted to quit on their own during the same time period. Thus, in the first Mankato contest, although only approximately 5% of smokers participated, over 45% of all smokers in the community initiated a quit attempt during the contest promotion.

The 17% self-reported quit rate at a three- to five-month survey among pledges in the extended 1988 Bloomington contest is somewhat less than the approximately 22% absti- nence at six to eight months in the early contests in Mankato and Fargo-Moorhead. Perhaps the more recent contests reached a more dependent population of smokers. There also may be a trade-off between participation boosted by longer contests and quitting. The extended enrollment may eventually elicit participation from less motivated or more dependent smokers who are less likely to quit.

It should be noted that all follow-up abstinence figures are based upon self-report and are not biochemically verified. It is therefore likely that these figures overestimate true abstinence outcomes. False reporting was relatively rare, however, in the early contests which validated 30-day abstinence claims of contest finalists. No prizes were contingent upon reports of abstinence at later follow-ups.

One issue in evaluating Quit and Win contests is their “shelf-life”. Innovative changes in contest format may be needed to maintain enthusiasm and to generate sustained
enrollment. It is possible that saturation could occur after a number of repetitions in the same community. However, most communities experience significant turnover in residents. The majority of enrollees in any contest will not achieve permanent abstinence. Repeated contests may be effective in encouraging renewed quit attempts among previous participants. Ironically, one reason for the withdrawal of the major sponsor in Fargo-Moorhead was the perception that too many registrants had participated in earlier competitions. The contests were then discontinued despite continuing high enrollment.

It is certainly encouraging that there was no evidence of sudden relapse at the end of the typical 30-day required abstinence period. A largely neglected possibility is the use of contests as a foot-in-the-door technique for additional smoking cessation approaches. Thus, in Bloomington, contest enrollees were very responsive to telephone calls offering additional support.12 Many enrollees who had tried to quit and failed subsequently elected to participate in more intensive help programmes, including multisession clinics.

DISSEMINATION OF QUIT AND WIN CONTESTS

Although the contests were often highly successful in recruiting participants, there may be important limitations in generalising the contests to other community settings. Considerable groundwork was established in the MHHP communities prior to contest implementation. Extensive staff and financial resources were devoted to contest promotion, resources that are unlikely to be readily available to most communities. On the other hand, the contest format itself could be disseminated easily. Contests potentially can be extremely cost-effective. Innovative use of donated resources might lead to considerable contest awareness at much lower levels of expenditure. A quit contest could be offered in a community the size of Bloomington for less than $5000. This would assume some donated prizes, donated materials, free public service promotion and volunteer labour in addition to paid prizes, advertising, and print materials.3 A Quit and Win contest guide has been developed and is available at modest charge.*

The Quit and Win contest approach clearly has had considerable impact. Within the MHHP education communities themselves, Bloomington incorporated the contests on its own initiative. Contests were conducted in 1990 and 1991 although with somewhat smaller prizes and enrollments of fewer than 100 participants each time. Contests have been implemented in numerous worksite settings.13,14 The contest format has been adopted in other community trials including Pawtucket,15 Stanford,16 and COMMIT. The COMMIT trial included 11 intervention communities in North America.17 One of the authors (TFP) was project officer for COMMIT and encouraged COMMIT sites to implement Quit and Win contests. All 11 COMMIT intervention sites initiated at least one contest and a total of 27 Quit and Win contests were held over the four-year intervention period (Shipley RH, personal communication). In contrast to MHHP, however, many sites experienced considerable difficulty in securing either prizes or prize money donations from the communities. The contests have also been implemented in a number of other countries, including Australia, Finland, Sweden, and the United Kingdom.18,19 In the Scandinavian contests, the grand prize was a trip for two to Hawaii. More than 20000 smokers enrolled in the 1990 Swedish contest which was extensively promoted through television, posters, and numerous organisations and companies.20-22

It should be noted, however, that the specific effectiveness of Quit and Win contests is almost impossible to prove.18 Clearly, multiple influences operate to produce smoking cessation. Quits must be considered against secular trends in the community as a whole. Chapman and his colleagues suggest that contests may concentrate a secular trend around a discrete event without increasing the cessation rate of the community as a whole. A vast array of quit influences exist among which a contest may represent one rather small component. Nonetheless, Quit and Win contests focus community attention and awareness on smoking cessation and may contribute to an overall environment that is more supportive of quitting.

Conclusion

The Quit and Win contest appears to represent a useful public health smoking cessation strategy. Contests may have impact in their own right; may increase interest in other cessation options including more formal help programmes, and may produce a social climate more supportive of quitting. Resource materials are available to guide community workers in developing Quit and Win programmes. Additional work is needed to assess low-cost contest approaches, to study innovative format modifications that will help to preserve "shelf-life", and to evaluate combining contests with other approaches and events including the annual Great American Smokeout.

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* The Quit and Win Contest process guide is available for a nominal cost from the Bloomington Heart and Health Program, 1900 West Old Shakopee Road, Bloomington, MN 55431, USA (Tel: (1 612) 887-9603)
have we learned over the past decade? J Consult Clin Psychol 1992; 60: 518-27.