Project Northland High School Interventions: Community Action to Reduce Adolescent Alcohol Use

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Project Northland is a randomized community trial initially implemented in 24 school districts and communities in northeastern Minnesota, with goals of delaying onset and reducing adolescent alcohol use using community-wide, multiyear, multiple interventions. The study targets the Class of 1998 from the 6th to 12th grades (1991-1998). The early adolescent phase of Project Northland has been completed, and reductions in the prevalence of alcohol use at the end of 8th grade were achieved. Phase II of Project Northland, targeting 11th- and 12th-grade students, uses five major strategies: (1) direct action community organizing methods to encourage citizens to reduce underage access to alcohol, (2) youth development involving high school students in youth action teams, (3) print media to support community organizing and youth action initiatives and communicate healthy norms about underage drinking (e.g., providing alcohol to minors is unacceptable), (4) parent education and involvement, and (5) a classroom-based curriculum for 11th-grade students. This article describes the background, design, implementation, and process measures of the intervention strategies for Phase II of Project Northland.

Project Northland is among the latest generation of comprehensive community trials focusing on the prevention of alcohol-related problems using multiple interventions.[1] This new generation combines individual behavior change strategies primarily focusing

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on demand reduction, with social-environmental approaches targeting supply reduction and normative change. These population-based programs recognize the prevention paradox: Even though problem drinkers face the greatest personal risk from excessive drinking, the majority of individuals who experience problems related to alcohol use (e.g., assaults, motor vehicle crashes) are light or moderate drinkers.[2,3]

Project Northland, the largest ongoing alcohol use prevention community trial funded by the National Institute on Alcoholism and Alcohol Abuse (initial grant 1990-1995, subsequent grants 1995-1999), was designed to delay onset of underage drinking and reduce alcohol use by adolescents.[4] The cohort for this study included all students enrolled in 24 public school districts at baseline in 1991 when they were in the sixth grade (N = 2,351), and who were present at subsequent follow-up years.[5] School districts were randomly assigned to intervention or reference conditions in 1991 and have remained in those assignments throughout the two phases of the study. The Class of 1998 cohort resided in six northeastern Minnesota counties with very high rates of alcohol-related problems.[4,6] The rationale, design, surveys, intervention programs, and outcomes of the early adolescent phase (sixth through eighth grades) of Project Northland have been published elsewhere.[4,5,7-13] The intervention materials from that phase are now being disseminated by Hazelden Publishing. This article focuses on the intervention components for high school, and how they evolved from the early adolescent interventions. We begin, however, with a short rationale for intervening with the same cohort during high school.

RATIONALE FOR PHASE II HIGH SCHOOL INTERVENTIONS

Despite the positive outcomes from Phase I of Project Northland, there are several reasons to continue developing and evaluating prevention programs with the same cohort of students during high school. Alcohol use is most problematic during high school and early adulthood. The most prevalent causes of death and disability among adolescents involve alcohol in notable proportions, including deaths due to motor vehicle crashes,

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homicides, and suicides.[14-17] In addition, alcohol use takes on additional meaning for older adolescents, since drinking increasingly co-occurs with driving, dating, and social events. Unfortunately, very few alcohol use prevention programs have been developed or evaluated for high school students, so this challenge seemed particularly appropriate as a research study.[2,18]

Similar to other successful prevention programs,[18] the positive outcomes of Phase I of Project Northland attenuated. At the end of 10th grade, there were no statistically significant differences between students in the intervention and reference communities on our alcohol use measures. Alcohol use may be more resistant to long-term change than cigarette or marijuana use,[19] perhaps because consistent, clear, and compelling messages to discourage underage drinking are not provided by American society.[4] Adolescents may need continued and strong reinforcement to resist alcohol use during high school,[18] which is similar to the National Cancer Institute's recommendations for antismoking programs.[20]

Adolescent alcohol use is probably best considered an ingrained, complex social behavior, with significant public health consequences, requiring long-term, developmentally appropriate interventions throughout adolescence. Phase II of Project Northland builds on the early adolescent interventions with new strategies for the cohort's last years in high school while emphasizing changes in the social environment of young people.[21-23] Phase II's intervention goals are to instigate action within the Project Northland communities to increase community efficacy to enact change and to improve community norms around high school students' alcohol use. Community action should thereby lead to reductions in the supply and demand for alcohol among high school students.

PHASE II PROJECT NORTHLAND INTERVENTIONS

Interventions for Phase II were guided by the behavioral model shown in Figure 1. Social cognitive theory is the basis for this model, with an emphasis on changes in social-environmental factors (particularly norms, role models, opportunities, and social support) and personal factors (such as self-efficacy).[21-28] Each of the five Phase II intervention strategies (community organizing, parent education, youth development, media, school curriculum) was designed to make changes in these factors, with normative changes having priority. Table 1 lists the specific norms targeted in the Project Northland high school interventions. The emphasis on normative change comes from the prevention research literature, which suggests that even in "skills development" interventions, shifts in perceived norms account for observed changes in adolescent behavior.[24] In addition, a research study during Phase I of Project Northland demonstrated that community-level norms accounted for 33% to 38% of the variance in adolescent alcohol use.[25] Because norms appear to be established at the community level, as well as within schools and families, interventions were designed to reinforce these norms within classrooms, families, schools, and the larger community.[23] The norms selected for Phase II were determined by the investigators in collaboration with representatives of the Project Northland communities.

The five intervention strategies were also designed to increase community efficacy to enact changes in policies and practices related to high school students' alcohol use. Community efficacy refers to the level of confidence that community members have in collectively taking action and creating change in their communities. The concept is an extrapolation of self-efficacy that involves an individual's level of confidence in enacting

Table 1. Normative Expectations for the High School Phase of Project Northland

1. It is unacceptable for high school students to drink.
2. It is unacceptable for anyone (parents, older teens, merchants, other adults, etc.) to provide alcohol to high school students.
3. Adults and high school students should take action when high school students are drinking.
4. High school students can have fun, establish their maturity and independence, and relieve stress and boredom without alcohol.
5. Parents do have an influence on their high school students' drinking. Parents can provide social support, set clear expectations, monitor and supervise, and avoid inconsistent or excessively severe punishment.
6. Community events and public places are opportunities for modeling healthy behaviors for high school students.

particular behaviors.[26,27] Increased self-efficacy has been shown to be predictive of behavior change and a result of guided, progressive skills development.[28] Increased community efficacy, therefore, should predict community-wide change because of the substantial involvement of community members in Project Northland interventions, which were designed to progressively teach skills to create change around alcohol use policies and practices. Community efficacy reflects increased skills in facilitating community change over the course of the intervention. It is not an indication of past achievements, cohesion, or readiness, which have been used as indicators in other community projects.[29,30]

Changes in community efficacy and high school students' alcohol-related norms were seen as leading to a reduction in the supply (i.e., access) of alcohol to adolescents and to lower demand for alcohol. However, more emphasis was placed on supply than demand reduction in Phase II. The five strategies were chosen based on prior research suggesting that they would be powerful ways to achieve these goals.[31-35] Other strategies such as "town meetings" were considered, but either the logistics or their compatibility with the other strategies prevented their development. For the most part, the conceptualization of the strategies and the process of implementation were done by Project Northland staff; the choice of projects and activities that would be the focus of community action was done by community members. The intervention team included Minneapolis-based faculty and staff, seven community organizers, and 18 youth development coordinators who were residents of the intervention communities. These staff members were the primary "expense" of the Phase II intervention, since the emphasis was on citizen participation rather than implementation of developed programs. Members of the community and youth action teams were volunteers from the intervention communities. Details about each of these intervention strategies, including the goal of each strategy, theoretical background, and implementation, are discussed below.

Community Organizing

In Phase I, there were no detectable community-level outcomes such as reductions in the ability of young people to purchase alcohol.[5] Given our intervention model for Phase II, which emphasizes changes in norms and community efficacy, we decided that citizen involvement and community-level change would need to be the centerpiece of our intervention. Community-level changes were seen as particularly important to reinforce and sustain the changes that had taken place in peer influence, self-efficacy, and parent-child communication in Phase I.

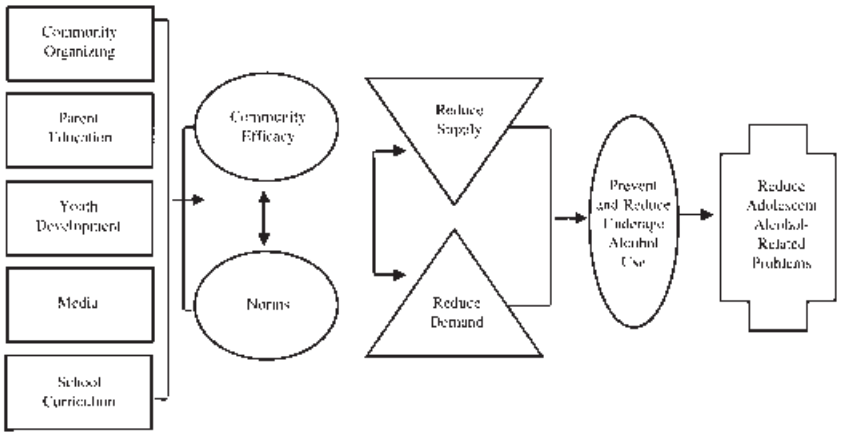

Figure 1. Behavioral model to guide intervention development for the high school phase of Project Northland.

Our experiences in Phase I suggested that mobilization of citizens in smaller communities was difficult, particularly if actions involved risk or confrontation, even when the community members strongly believed in the goal of reducing alcohol use among young adolescents.[12] Therefore, skill development in direct action strategies was selected as an approach to increase a community's ability and willingness to take action. Direct action community organizing has its roots in the political movements of the 1950s and 1960s, where action (e.g., sit-ins, demonstrations) and traditional political processes (e.g., petitions, referenda) were used to change government policies.[36] In Project Northland, direct action community organizing was implemented as a systematic and efficient process to mobilize community members to support, initiate, and establish policies and practices to reduce adolescents' access to alcohol. This process has been effective in reducing tobacco use among high school students.[31,37] Table 2 indicates the primary community organizing methods implemented during Phase II.

Seven community organizers were selected from the Project Northland communities, and each was responsible for implementation of direct action organizing in one to two communities. The organizers followed the process outlined below, but the choice of activities was made by community members. The organizers first interviewed citizens (one-on-one interviews) with an interest in the prevention of adolescent alcohol use and/or who represented a broad spectrum of the community. The purpose of these interviews was to identify each community's social, economic, and power structures; determine both the community's and the interviewee's interest in reducing high school students' access to alcohol; determine how the problem was perceived in the community; and build a broad base of support for future actions. One-on-one interviews were done in all intervention communities, averaging over 100 interviews per organizer.

The second stage involved the recruitment and formation of community action teams. Eleven action teams, representing 13 communities and ranging in size from 5 to 12 members, were formed. The action team members were recruited based on self-interest in reducing underage access to alcohol, leadership ability, access to resources, and representation of a particular community sector. The teams were intentionally broad based and included members from the education, business, civic, faith, medical, public health,

parent, and youth sectors. Regional training for action team members, as well as training for high school athletic directors and coaches, was held to support the work of the local teams. The purpose of these training sessions was to foster community adoption of institutional or policy solutions to underage drinking. All but one community sent representatives to these regional training sessions.

Teams were encouraged to develop action plans indicating the methods they would use to decrease commercial (liquor stores, bars, convenience stores) and/or social (adults, peers, siblings) availability of alcohol to adolescents. Methods used in the different communities can be seen in Table 2. All action teams offered responsible beverage service (RBS) training for bartenders and clerks, and most had similar merchant training for management and owners. These training sessions emphasized appropriate age identification procedures and other actions to decrease commercial availability, and were followed by several compliance checks of age-of-sale laws coordinated by seven of the action teams and local law enforcement. RBS, merchant training, and compliance checks were emphasized by the faculty and staff as important strategies for the communities to implement.

All but one action team participated in existing community festivals (e.g., booths at fairs; distribution of petitions, buttons, and brochures with program messages). Community policies were initiated successfully by five action teams and included the establishment of "safe houses" where parents pledged to supervise youth and provide alcohol-free and drug-free environments and increases in beer license fees. Action teams initiated ordinances (e.g., curfews, mandatory RBS training, penalization of establishments for failure to check age identification, noisy assembly laws that prohibit loud parties at certain hours) that were adopted in three communities.

Direct action community organizing was an effective and efficient approach to bring about community-level change, as indicated by the high percentage of action teams that initiated activities that could affect community-level policies and practices. Still, the process is lengthy and requires skilled and dedicated organizers to succeed. The organizers needed to be willing to take political risks, oppose people within their own communities if necessary, and be consistently oriented toward community change as the goal of their action groups. Thus, a key lesson learned from this phase of Project Northland is that to accomplish community-level change, community members need to be well organized, well trained, and intensely focused on bringing about significant change in policies and practices that affect the norms of underage drinking in their communities.

Parent Education and Involvement

Parent involvement was a central feature of Phase I, where home team programs, direct mail, and community events were effective in reaching more than 90% of our cohort's parents. The role of parents for high school students is one in which increasing independence is granted to the adolescent; yet, monitoring and supervision are still needed.[38] Thus, in Phase II, direct education on relevant issues for parents of high school students was the key intervention goal. In addition, parents were encouraged to join community action teams or to participate in their activities during Phase II.

A postcard campaign was designed to increase awareness about alcohol-related issues and encourage specific actions to keep adolescents alcohol free. Eleven postcards were created by university staff and mailed to the cohort's parents at 6-week intervals and included colorful artwork on one side and a short message with behavioral suggestions on the other. Because they were relatively inexpensive and could be produced quickly, the postcards' themes were tailored to community events and complemented other activities

Table 2. Intervention Components for the High School Phase of Project Northland

Strategy	Participation	Description
Community organizing methods (11 action teams representing 13 communities)		
One-on-one interviews	11/11 teams	Interviews on teen alcohol use conducted by organizers with community members
Formation of action teams	11/11	Teams of community members with a vested interest in alcohol use form to take action
Regional training	10/11	Training community action teams
Server training	11/11	Responsible beverage service (RBS) training provided to servers in the community
Merchant training	8/11	RBS training for managers and owners
Compliance checks	7/11	Checks by young people to determine whether merchants would sell to underage
Community festivals	10/11	Participation in fairs and festivals with booths, brochures, and so on
Policy adoption	5/11	Community policies initiated such as “safe houses”
Ordinance adoption	3/11	Community ordinances such as administrative penalties
Parental education (parents of the intervention students)		
Postcards	100% parents	11 postcards sent directly to the parents of the study cohort
Sound OFF!	20%	Contest to encourage parent-child communication about alcohol
Youth development activities (18 action teams representing 18 schools)		
Summer video project	17/18 teams	Community-specific videos made by students about alcohol use
Regional training	17/18	All-day training programs for youth action team members
Youth day	9/18	Students testified at the Minnesota legislature concerning bill to reduce youth access to alcohol
Alcohol-free activities	13/18	Alcohol-free social events planned by students
Homecoming/prom	13/18	Alcohol-free, safe events before and after homecoming, proms, and so on
Community festivals	10/18	Participation in fairs and festivals with booths, floats, and so on
“Chemical health weeks”	8/18	Educational activities during this week such as sponsoring speakers
Mentoring	5/18	Providing alcohol education or other support to younger students
Policy projects	4/18	Changing community policies such as alcohol at community festivals
Adult action team media projects (13 communities)		
Merchant calendars	9/13	Calendars created for alcohol beverage merchants
Faith organizations	8/13	Educational messages for church bulletins
Print media (18 schools and surrounding communities)		
Media kits	18/18	Media advocacy training and kits for action teams
Newsletters	18/18	Updates on Project Northland activities to action team members and students

(continued)

Table 2 Continued

Strategy	Participation	Description
Print media (18 schools and surrounding communities)		
Don't Provide	12/18	Print media campaign to not provide alcohol to teens
Celebration poster	18/18	Thank you poster for participants in Project Northland
Classroom curriculum (intervention students)		
Class Action	92% students	11th-grade six-session curriculum based on the Mock Trial Program

sponsored by the action teams. For example, one card addressed the concern of parents' providing alcohol to their teen. Another card alerted parents to the fact that most of the problems resulting from alcohol use were found among "average" rather than high-risk teens.

A new parent-child intervention was developed for the cohort's senior year, a pseudo-contest called Sound OFF! The purpose of Sound OFF! was to encourage parents and their seniors to communicate about alcohol. A series of three mailings was sent to parents and seniors in November 1997, January 1998, and February 1998 with discussion questions asking for opinions about the minimum drinking age, the provision of alcohol to teens, and community responses to underage drinking. A $5 incentive was mailed to students for each set of questions returned. In addition, those parents and students who returned all three sets were eligible for a drawing for at least one $500 grand prize per school. A final mailing of all three Sound OFF! forms was sent to the entire intervention group in March indicating that they could still enter.

Response rates for the Sound OFF! intervention were relatively low, with 20% of those eligible returning at least one question. However, 70% of those who entered returned all three, and the contest was widely publicized in many communities. The seventh-grade parent program, also mailed directly home, had a higher participation rate (33%) using a similar method and the opportunity to win a trip to the Twin Cities, but without the more significant monetary incentives given to seniors.[39] This highlighted the difficulties of engaging high school seniors in prevention activities with parents, even with significant monetary incentives, and most likely reflects the increased autonomy of high school students and their unwillingness to talk with their parents about their social world and the social behaviors that are imbedded in the peer group. In addition, by the 12th grade, nearly all young people have had a drink, and 56% of our cohort had had a drink in the past month, even with parental disapproval, so parent-child communication may be difficult to structure around this topic even with significant incentives.

Youth Development

Youth involvement had been a central feature of Phase I of Project Northland, which included multiple, structured peer leadership opportunities with considerable success.[4,8,9] The influence of the peer group is a central theme of adolescence, and thus structuring "positive" peer influence may be critical to the success of prevention efforts, particularly when peers take responsibility for activities that may affect them.[9,23,40] In Phase II, youth action teams were formed. Adult part-time coordinators in 18 schools recruited young people from high schools to participate in teams to affect alcohol use among their peers. The teams met as an extracurricular activity, after school and on weekends, assisted by the

coordinators. The coordinators and action team members followed general guidelines for activities for their teams, but the various activities were selected by each team. The various activities of the peer action groups over 2 years is shown in Table 2.

In 1996, 17 youth action teams worked on a summer project that involved producing community-specific videos about adolescent alcohol use and its negative consequences. These videos were replayed over the 2 years of intervention in many community and school gatherings. Representatives from 17 teams attended regional training sessions in their junior and senior years. A Project Northland Youth Day at the Minnesota State Capitol drew students from nine teams to testify about a bill to reduce youth access to alcohol. These regional efforts were developed to demonstrate that there was a larger, positive peer group across northeastern Minnesota supporting the norms in Table 1.

Planning alcohol-free dances, all-night lock-ins at school, and cookouts were popular activities across teams. Other activities included planning safe homecoming, prom, and graduation events; participating in community events such as fairs; developing activities for "chemical health weeks" (e.g., "ghost-out" activities representing victims of alcohol-related crashes, mock crashes, speakers); and mentoring other students. Four teams worked on changing policies related to alcohol sales at community festivals, easy underage access to alcohol, and/or parents providing safe and alcohol-free homes. One team developed a youth city council. All but one action team participated in these various projects.

The youth action teams were successful in providing an opportunity for cohort members to create, plan, and implement activities that might influence alcohol-related norms in their communities. However, the members of the teams were a small percentage of the entire intervention cohort, and so this direct empowerment opportunity was not experienced by most of the cohort. In addition, students preferred concrete, educational activities to those aimed at changing school or community policies. The students who participated were among the more active students in their communities, so scheduling times to meet and plan became problematic for many of the teams. Even with these barriers, the accomplishments of the teams are noteworthy and demonstrate how much positive energy is available for productive youth development activities among high school students.

Media

The use of radio and television has not been possible in Project Northland due to the proximity of the reference and intervention communities. Instead, we have relied on print media to "market" messages, advertise events, and support the communities' adult and youth action teams.[41] In Phase I, this was done primarily through presentations by Project Northland staff and news columns in local newspapers. The various media activities for Phase II are shown in Table 2.

In Phase II, youth and adult community members on the respective action teams were trained separately in media advocacy to increase coverage of underage alcohol use at the local level, and media kits were provided to each community team. Media advocacy has been used to create action around key community issues, such as teen alcohol and tobacco use.[42] Action teams were also assisted in developing letters to the editor, flyers, brochures, buttons, signs, and so on. Project Northland newsletters were sent periodically to members of youth and adult action teams, as well as to the cohort. These newsletters highlighted ideas and progress toward reducing adolescent access to alcohol in the region.

Merchant calendars initially were developed and distributed by one community action team. These day-by-day calendars assisted clerks in calculating a buyer's age. Because this campaign allowed positive interactions with merchants, another set was developed the following year for distribution by 13 action teams in their communities.

The Don't Provide posters, postcards, and stickers campaign was also successfully implemented. The campaign was designed to reduce social availability by communicating the norm that providing alcohol to adolescents is unacceptable (Table 1). Young adults (18-22 years) were identified from driver's license lists, resulting in a target population of approximately 4,000. An advertising agency provided the concept, design, and graphic work at no cost for this 9-month campaign; the materials were distributed (i.e., liquor and convenience stores, restaurants, bars, schools, clinics) by community and/or youth teams. Many media articles were written about the campaign, and one community created corresponding T-shirts.

A series of three posters, two corresponding postcards for parents of the cohort, four postcards for the target population of young adults, and Mylar stickers for stores' cooler doors were used in the Don't Provide campaign. Three communities chose not to participate in the poster and sticker distribution; however, young adults and parents received the postcards in the mail. The posters and matching postcards had photographs of young children from the 1950s that had been altered to look as if the children were drinking alcohol. Each poster included a catchy phrase (e.g., "No matter how much they beg, don't buy them a keg!"), a subtheme ("They're just kids, for crying out loud!"), and short messages about the legal consequences of providing.

The prevention partnership with faith organizations was a smaller effort, with 13 local churches conducted over 6 months during the cohort's senior year. Monthly educational messages were sent to the churches to include in their bulletins.

The final major media effort was a celebration and thank you poster, "Celebrating Success: How Project Northland Became a Prevention Model for the Nation," developed and mailed in March 1998 to approximately 5,500 community members (e.g., parents and students, police, merchants, community leaders, schools, faith organizations). Each community organizer and youth coordinator was asked to nominate outstanding Project Northland volunteers representing students, parents, police, schools, or the broader community, and eight individuals (four high school seniors) were pictured on the poster to represent these sectors. Also included in the mailing was an incentive, a magnetic picture frame with a message that "prevention works."

The various media activities during Phase II were successful in reaching a large percentage of parents, young adults, church members, and other community members in the intervention communities. The Don't Provide campaign had some negative feedback, with a few communities finding inappropriate the use of young children on the posters and refusing to hang them. The "retro" image advertising that was popular at the time was seen as too "urban" for some in the intervention communities. Because the work for the advertising campaign had been pro bono, we were not able to conduct the usual formative development work on the campaign. Thus, we strongly encourage those who are planning even modest media campaigns to ensure that formative evaluation and pilot work is done prior to implementation.

School Curriculum

Classroom curricula were the core of the Phase I interventions and the interim ninth-grade year.[4,5,7,10] These focused on skills development related to parent-child

communication, peer and media influences, and community change.[21,23] The outcomes of Phase I reflect the efficacy of these programs.[5] For Phase II, we were limited in the amount of classroom time that was available, since there are fewer required classes in the 11th and 12th grades, many students have more flexible schedules that include employment, and some students are already enrolled in college courses.

The Phase II Class Action curriculum for 11th-grade students was created by the university staff based on the Minnesota State Bar Association's popular Mock Trial Program, emphasizing social and legal consequences of alcohol use. The curriculum framed underage drinking as a community-wide problem and gave students the opportunity to debate the legal intricacies of alcohol-related cases in six class sessions of 45 or 50 minutes. Each classroom was divided into five or six plaintiff's teams for hypothetical civil cases. The six cases involved personal injury or property damage resulting from provision of alcohol to minors at home, the use of alcohol by a pregnant adolescent, commercial sale to a minor and resulting violence, a community festival where minors were drinking, a coach's lack of enforcement of the state athletic association's rules against alcohol use, and rape resulting from alcohol use at a party. The defense was presented via videotapes that were made using law students acting as the defense attorneys. Similar to our other classroom programs, a 1-day teacher training session was held prior to program implementation.

Class Action was implemented in 12 intervention schools during the cohort's junior year (1996-1997). Students at one small school refused to participate in Class Action, even though it was initially required by the school. Students argued that they had had 4 years of alcohol education in the sixth through ninth grades, and further alcohol education was not necessary. Negotiations were held that included the students, school administration, and university staff. The principal decided to make participation optional. Although several students signed up to participate, the teacher was unable to schedule class time. Instead of 100% participation rates as in all our previous school curricula, the participation rate for Class Action during the cohort's junior year was 92%.

Class Action was designed to provide the students with analysis skills using alcohol-related legal problems. The students found presenting their cases in class quite difficult, even though the cases were of interest and relevance to them, because they are not often called to speak in public about a community issue. The students also would have preferred if teams had debated each other rather than having the defense of each case presented by videotape. We had selected the latter method because we wanted more cases to be discussed in class, but we also wanted the teams to be forced to think of ways in which providing alcohol to minors was illegal and irresponsible, as well as a community-level problem. Many teens did not agree that the person being sued was the responsible party (for providing alcohol). Rather, they felt that the teens who drank and made poor choices were exclusively responsible. The curriculum was clearly a new approach to prevention for these students and provided instruction on the broad ramifications of adolescent drinking.

Complementary Intervention Components

In both phases of Project Northland, the intervention components were designed to be complementary and developmentally appropriate. In Phase I, the classroom curricula provided the themes and motifs for each year of intervention, with parental involvement programs, peer leadership opportunities, and task force activities using similar themes, yet supplementing these curricula. Thus, for example, whereas the seventh-grade curriculum Amazing Alternatives! focused on skills to recognize and deal with social-

environmental pressures to drink alcohol, the complementary programs sought to provide nondrinking role models, support, and opportunities in social situations.[5]

In Phase II, supply reduction was given more priority as an intervention goal, just as demand reduction had been for Phase I. The community action teams were the central intervention component. The action teams were guided by the normative expectations shown in Table 1 and had the goal of reducing commercial and social access to alcohol. Parent involvement in the action teams was encouraged, and thereby parents were brought into the goals of Phase II. Parents also were sent direct messages through the postcards concerning the norms, the action teams' activities, and what they could do at home to reinforce nondrinking. Members of the youth action groups were also invited to join the community action teams, so that there was a liaison between the youth action and community action teams. Additionally, the youth action teams' activities were guided by the goals of reducing commercial and social access to alcohol, although they primarily addressed social availability. The mass media were used by both the adult and youth action teams to publicize their activities and mobilize the public about issues of access. This was particularly potent when young buyers attempted to purchase beer in local establishments (i.e., compliance checks) in collaboration with the local police. Then, "ease" of access to alcohol became localized and relevant. The Don't Provide campaign also focused on preventing access by young adults; students in the youth action teams hung the posters in the communities. Finally, the classroom curriculum, Class Action, dealt with the penalties of providing alcohol to adolescents and encouraged young people to think about the problem of teen alcohol use from a community perspective.

PHASE II PROCESS EVALUATION

To evaluate the outcomes of Project Northland, ongoing process evaluation was necessary. The primary outcome measure for Project Northland has been reduced alcohol use, measured by annual surveys of the study's cohort from 1991 through 1998.[5,43] The process measures were designed so that (1) the ongoing monitoring of intervention activities could take place for participation, compliance, and fidelity;[44,45] (2) additional training and/or resources could be allocated during the intervention if more support was needed; and (3) we could explain how and why the intervention had been successful (or unsuccessful). Some of the process measures were implemented in both intervention and reference communities to assess potential changes in community context that could affect outcomes.[46] Others, more specific to an intervention component, were obtained only in the intervention communities. Table 3 provides a description of the process evaluation methods for each intervention component, the purpose of each method, whose responsibility it was to provide the process data, and summaries of the data that have been collected. Some of these data were presented as part of the description of the five intervention strategies to provide information on participation, compliance, and fidelity to date.

For example, telephone surveys were conducted with alcohol merchants in the intervention and reference communities to assess merchant practices related to preventing the sale of alcohol to underage youth, an indicator of how well the action teams influenced merchant practices. Telephone surveys were done with more than 92% of the merchants in 1996 and 1998. The 1998 alcohol merchant data, now being analyzed, will document changes that have occurred during Phase II and possible intervention effects. Process data have been collected to determine the extent of community-organizing activities such as the

Table 3. Process Evaluation for the High School Intervention Components of Project Northland

Strategy/Measure	Purpose	Responsibility	Participation/Completion
Community organizing (11 action teams representing 13 communities)			
Evaluation of training			
The organizers' written assessment of each of five training sessions during the first 6 months of Phase II	To improve subsequent training and identify topics needed for more training	Intervention director asked organizers to complete a questionnaire at the end of each training session	100% of organizers completed questionnaires
Contact forms			
A computer record of organizers' one-on-one interviews with community members	To document number and variety of one-on-one interviews about the issue of teens and alcohol use and used to recruit action team members	Organizers logged one-on-one interviews using the TouchBase software that was formatted with menus relevant to the project	An average of 107 one-on-one interviews per organizer
Action team meeting minutes and attendance	To document meeting frequency, individuals present, purposes of meeting, decisions made, and actions to be taken	Community organizer or action team member completed minutes and attendance at each meeting using a standard form	An average of 16 meetings per action team over an 18-month time frame
Event forms			
The organizers' written assessment about events related to Project Northland that occurred in their communities over 18 months	To document action team activities and other events related to the prevention of alcohol use among teens	Community organizers recorded details about each event in their communities using a standard form	An average of 15 events per action team
City council meeting minutes and ordinances	To document any city council activity related to youth alcohol issues; to document the passage of any youth alcohol–related ordinances in the intervention communities	Community organizers collected city council meeting minutes for any meeting in which youth alcohol–related issues were discussed and provided a copy of any youth alcohol–related ordinances that were passed	Five ordinances passed. Organizers collected 100% of city council meeting minutes related to the passage of the five ordinances and copies of the ordinances
Community-conducted compliance checks	To document action team's involvement in compliance checks and the success rate of underage youth purchasing alcohol	Community organizer or action team member documented each compliance check administered by the community and the purchase success rate	Seven action teams representing nine communities conducted compliance checks with an average of two per community

(continued)

Table 3 Continued

Strategy/Measure	Purpose	Responsibility	Participation/Completion
Community organizing (11 action teams representing 13 communities)			
Event forms			
Documentation of responsible beverage service (RBS) training	To document community and specific alcohol outlets participation in RBS training	Community organizers documented the training and participants who attended and which outlet they were from	All action teams offered training in their communities; 71 outlets were represented at trainings with 319 owners/managers/ employees attending a training
Monthly status report			
Report completed by the community organizer and collected by the intervention director	To document action team participation and activities and other youth alcohol-related activities; to assess progress of each community	Community organizers compiled all of the documentation listed above and mailed it in a monthly report to the intervention director, including a written summary by the organizers describing perceived barriers and assets and answers to specific questions written by the intervention director	100% completion
Organizer survey			
A questionnaire completed by the organizers at the end of the intervention period	To provide a summary of the organizers' insights into the community-organizing process and lessons learned	Community organizer completed the survey during their last month of employment on the project	100% completion
Parent education (parents of the intervention students)			
Evaluation of parent postcard campaign	To assess awareness and perceived usefulness of the information included on the parent postcards	Survey items included on a telephone survey of Class of 1998 parents	1998 parent survey: 92% response rate among intervention group. 92% recalled receiving postcards
Evaluation of Sound OFF!	To assess participation rates	Returned and completed cards or phone calls	20% returned at least one of three questions
Youth development (18 action teams representing 18 schools)			
Evaluation of training			
The community coordinators' written assessment of each of two trainings over 2 years	To improve subsequent training and identify topics needed for more training	Youth development coordinator asked community coordinators to complete a questionnaire at the end of each of their training sessions	100% completion for first training; 82% completion for second training

The youth action team members assessment of two trainings over two years	To improve subsequent training and identify topics needed for more training	Youth development coordinator asked youth action team members to complete a survey at the end of their training sessions	85% completion for first training (66 of 78 students), 96% completion for second training (127 of 132 students)
Project report			
Youth action teams' written assessment about their projects	To document youth action team activities	A designated youth action team member recorded details about each of their activities using a standard form	An average of seven projects in each of 17 action teams. One action team did not complete any projects
Monthly status report	To document youth action team participation and activities; to assess progress of each team	Youth action team members compiled all of the documentation listed above and mailed it in a monthly report to the youth development coordinator, including a written summary describing perceived barriers and assets and answers to specific questions written by the youth development coordinator	98% of monthly status reports were turned in
Report completed by the youth action team			
Youth action team coordinator survey	To provide a summary of the coordinators' insights into the youth action team process and lessons learned	Youth action team coordinators completed this survey during the last month of their employment on the project	72% of coordinators completed the final survey
A questionnaire completed by the youth action teams at the end of the intervention period			
Youth action team member survey	To provide a summary of the youth action team members' insights into the youth action team process and lessons learned	Youth action team members completed the survey during the last month of their activities	32 action team members completed a final survey; 429 students attended at least one meeting; 70 attended 50% of meetings
A questionnaire completed by the youth action teams at the end of the intervention period			
Action team media projects (13 communities)			
Evaluation of the faith organizations campaign	To document the number of churches that participated in distributing youth alcohol-prevention messages provided by the project	Organizers documented faith organizations' participation	13 faith organizations in eight communities
Press clippings			
Articles related to the issue of teens and alcohol use that appear in the intervention communities' local newspapers	To document newspaper coverage of the issue of teens and alcohol use and to document where the article was generated: (1) university, (2) action team, (3) other community group/member, or (4) other	Community organizers read and clipped any relevant article and determined its origin	260 articles were published in intervention community or school newspapers: 48% of them were university generated, 26% were organizer or action team generated, and 25% were community generated

(continued)

Table 3 Continued

Strategy/Measure	Purpose	Responsibility	Participation/Completion
Print media (18 schools and surrounding communities)			
Distribution and placement of the three (#1, #2, #3)Don't Provide posters	To assess placement of the three Don't Provide posters	Youth action team members distributed and documented placement of posters	#1: An average of 16 posters in each of 12 communities; #2: An average of 15 posters in each of eight communities; #3: An average of 12 posters in each of seven communities
Evaluation of the Don't Provide poster and postcard campaign	To assess awareness of the information included in the Don't Provide campaign	Survey items included on a telephone survey of young adults living in the intervention communities	1996 response rate: 70.6%; 1998 survey in progress
Class action curriculum (22 teachers in 13 schools)			
Evaluation of teacher trainings			
The teachers' written assessment of the curriculum training	To assess the effectiveness of the training	The intervention director asked teachers to complete the survey prior to leaving the training	100% completion
Classroom observations			
Periodic classroom observations while curriculum was in progress	To substantiate teachers' reports of implementation	Project staff visited classrooms to observe implementation fidelity	An average of two observations per teacher; 19 teachers implemented the curriculum in 12 schools
Teacher evaluation			
Form completed after the Impementation of the program	To document implementation fidelity	Teachers completed form after the implementation	63% of 19 teachers returned the evaluation
Provention activities in Project Northland intervention and reference communities			
Telephone survey of alcohol merchants	Assess practices related to preventing the sale of alcohol to underage youth	Evaluation director, coordinator, and trained telephone survey interviewers	1996 response rate was 93.9%; 1998 response rate was 92.1%
Telephone survey of police	Assess enforcement practices around legal drinking age law	Evaluation director, coordinator, and trained telephone survey interviewers	1996 response rate was 100%; 1998 response rate was 100%
Telephone survey of community leaders	Assess knowledge of community activities around youth alcohol use prevention, including passage of ordinances	Evaluation director, coordinator, and trained telephone survey interviewers	1996 response rate was 99.3%; 1998 response rate was 100%
Paper-and-pencil mailed survey for school principals	Assess school alcohol prevention activities	Evaluation director and coordinator	1996 response rate was 100%; 1998 response rate was 96.7%

number of one-on-one interviews and youth development activities, parent education participation, media distribution, and curriculum implementation as documented in Table 3.

The process data will be analyzed ultimately to determine how and why Phase II of Project Northland was successful or unsuccessful in changing intermediate outcomes as well as high school students' alcohol use.[43] Lack of success may be due to problems in theory, intervention potency, implementation, or measurement.[23] For example, to evaluate the impact of community action teams, one of the intermediate outcomes, reduced access to alcohol, is measured by alcohol purchase attempts by youthful buyers in all the liquor establishments in our intervention and reference communities that have a license to sell off-sale. Perceptions of reduced access are also assessed by surveys of the Class of 1998 students and young adults.

Mixed-model regression methods will be used to assess differences between intervention and reference communities in young people's access to alcohol.[47] Mediation analyses will be used to determine whether any changes in access contribute significantly to changes in high school students' alcohol use.[48] Analyses of the process evaluation measures will provide evidence of whether the community action teams and community organizing were sufficiently potent to create changes in access to alcohol. Evidence of potency would include the number of one-on-one interviews, number of action team meetings, number of action team members, the ability to conduct compliance checks and RBS training, and the number of access-related ordinances that were passed by city councils. However, because these data were collected throughout the intervention, they were also used to remedy potential implementation problems, such as an organizer who had conducted a small number of one-on-one interviews compared with his or her colleagues, and who required additional support. Finally, the process data may be used to characterize intervention communities as high, medium, or low implementers to examine outcomes as a function of intervention success.[49] Process measures, therefore, served dual purposes of signaling implementation problems that might be remedied and providing an indication of intervention potency and overall implementation fidelity and compliance, which will be critical in determining the multiple outcomes of Phase II of Project Northland high school interventions.

OUTCOMES OF PROJECT NORTHLAND

Data are still being collected and analyzed from Phase II, so final results are not yet available. However, we have been tracking the students annually since 1991 and, hence, have data for each year of intervention. At the end of Phase I, the students were in eighth grade, and there were significant reductions in alcohol use among intervention students—a 20% reduction in past-month drinking and a 30% reduction in past-week drinking.[5] By the end of 10th grade, after 2 years without a substantive intervention program, there were no significant differences between the intervention and reference groups—the results of Phase I had attenuated. By the end of 11th grade, after 1 year of Phase II intervention activities, students in the intervention group were drinking less, but this was not statistically significant. However, among baseline nonusers (the two-thirds of the sample who had not started drinking until sixth grade or later), the difference between groups in past-week alcohol use was marginally significant ($p < .07$) at the end of the 11th grade, suggesting some impact from the 11th-grade intervention among these students.[50]

Results of the 12th-grade surveys of students, parents, police, community leaders, school leaders, and merchants, as well as alcohol purchase attempts by young buyers, are forthcoming.

IMPLICATIONS FOR PRACTICE

Project Northland faced several challenges during Phase II that are relevant to practitioners, in addition to the development and implementation issues that have been discussed above. The first is the challenge of working with high school students, among whom alcohol use is normative and "no use" messages less popular than with a younger age group. The emphasis on availability and access shifted the focus from the students to the community, which is appropriate, and also shifted the responsibility from the individual teen (to say "no" to alcohol) to adolescents and adults who might provide alcohol at social events or in commercial settings. The Class Action curriculum seemed to be developmentally appropriate but may have been better received among a cohort that had not already participated in 4 years of activities.

A second challenge of working with high school students is that they have less flexibility in their school schedules than younger students, more demands on their time (e.g., academics, athletics, jobs), and greater independence from teachers and parents, thus making direct educational interventions more difficult to schedule. Therefore, the concept of the social environment of high school students had to be expanded from parents, peers, and schools to be able to "reach" adolescents in new environments.

A third challenge was in trying to shift the community's focus from education to action, that is, trying to create changes at the community level when norms are deeply entrenched. Even among the trained and motivated organizers, maintaining this focus on community policies and practices required ongoing communication, training, support, and supervision.

We approached these challenges by expanding the intervention components so that the strategies targeted the broader social environment of older adolescents and provided consistent messages around alcohol use. Thus, high school students were exposed to Project Northland via their schools, peers, families, media, religious institutions, and community members. This multicomponent approach, based on changing community norms, made it more likely that high school students would have less access to alcohol and may have reduced their rate of drinking. Our multiple evaluation strategies will allow us to determine if and how these interventions were successful in meeting the many challenges of prevention programs with high school students.

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