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PREVENTION RESEARCH FINDINGS: 1988

Proceedings of the First National Conference on Prevention Research Findings: Implications for Alcohol and Other Drug Abuse Program Planning

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This monograph is based on papers and discussions from the First National Conference of Prevention Research Findings held in Kansas City, Missouri, in March 1988. The conference was originally funded through a conference grant No. 1R13DA04388/01 by the National Institute on Drug Abuse. The proceedings were compiled by staff and consultants of the National Association of State Alcohol and Drug Abuse Directors under a purchase order agreement with Professional Management Associates, Inc., a support services contractor for OSAP. Sandy Katz, Division of Communication Programs, OSAP, served as the developmental and preliminary production manager for the publication.

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OSAP Prevention Monograph Series
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Foreword

Knowledge transfer within the alcohol and other drug field is vitally important, and this is especially true in the rapidly evolving field of prevention. Those who work in demonstration programs, as well as service providers, are anxiously awaiting news of innovative and promising approaches so that they might apply them in their own programs.

Thus, the Office for Substance Abuse Prevention (OSAP) was pleased to join with the National Institute on Drug Abuse; National Association of State Alcohol and Drug Abuse Directors; National Prevention Network; Project Star, Kansas City, Missouri; Project I-Star Indianapolis, Indiana; Kansas Department of Social and Rehabilitation Services/Alcohol and Drug Abuse Services; Missouri Division of Alcoholism and Drug Abuse; and the New York State Division of Alcoholism and Alcohol Abuse to sponsor the First National Conference on Prevention Research Findings, March 26–30, 1988, in Kansas City, Missouri. The conference brought together an outstanding group of prevention researchers, policy makers, and service providers. This monograph presents a synthesis of the presentations and information exchange that occurred during the conference.

OSAP's philosophy and approach has been collaborative, and we encourage such efforts as a model for comprehensive, community prevention. Knowledge transfer should take place in an atmosphere of partnership within local communities. In developing this monograph we joined in a collaborative network that models what we hope State, regional, and local communities will continue to create in actively addressing the crisis of alcohol and other drug abuse.

This publication is the third in a new series of OSAP monographs that are being issued to communicate state-of-the-art information across the entire prevention and intervention spectrum. We hope these monographs will facilitate knowledge transfer and thereby improve prevention and intervention programs across the Nation.

Elaine M. Johnson, Ph.D., Director
Office for Substance Abuse Prevention

Preface

The idea for this First National Conference on Prevention Research Findings: Implications for Alcohol and Drug Abuse Program Planning evolved from a collaborative relationship between the Office for Substance Abuse Prevention (OSAP), the National Prevention Network (NPN), and the National Association of State Alcohol and Drug Abuse Directors (NASADAD). The National Institute on Drug Abuse (NIDA) provided support for convening the planning committee. These groups had previously joined forces to produce the First National Prevention Profile Survey, which assessed how, where, by whom, and on what, alcohol and other drug prevention monies (Federal, State, and other funds) are being utilized. The survey established the attributes of high quality prevention programs and assessed the training and technical assistance needs of States and communities. This study represents the status of prevention programming in FY 1986 and is available from the National Clearinghouse for Alcohol and Drug Information (NCADI).

As a part of this project, OSAP and NPN identified, through a national nomination and selection process, 20 exemplary community prevention programs. Representatives of these programs were brought to Washington, DC, for a national press conference in October 1987. Summaries of these projects have been made available to all interested State and community agencies from NCADI.

In the process of preparing the First National Prevention Profile Survey and selecting 20 exemplary prevention programs, some members of NPN/NASADAD and the OSAP staff recognized the need to bridge the gap between the prevention research world and the world of the "hands-on" practitioner and community prevention organizer. The long delay in the dissemination, diffusion, and transfer of knowledge from prevention research to the community implementor needed to be shortened.

For example, there may be more than a 2-year lag from the time a research project is completed to the time that the findings appear in the scientific literature. From that point, it may be at least another year or so before those findings are widely disseminated and plans begun to integrate the approach into planning and action at the State and community level. Even then, administrators and practitioners may wait for a number of researchers to report their findings in a particular area before adopting a particular preventive intervention approach.

Hence, OSAP, NIDA, NASADAD, and NPN staff sought to reduce the delay between reporting preventive intervention research and its translation into practical programming. The need to act promptly given the current national

focus on the primary prevention of alcohol and other drug use and abuse has been a major concern.

OSAP and NIDA selected preventive intervention researchers and NPN and NASADAD identified the major State and local prevention planners and implementors. Thus was born the idea for this conference, whose goals were to bring together alcohol and other drug abuse prevention professionals with their research counterparts to learn about recent findings in the field of prevention research: their practical applications, their relevance for the design of local and State programs, and their implications for the development of a national prevention plan.

Another goal, and one of equal importance, was to facilitate communication between the prevention professionals and the prevention researchers with the hope of better informing the researchers about the issues that are at the "front line" of community prevention work on a daily basis. The Planning Committee believed that it would be stimulating for everyone to dialog about how to address the particular barriers and opportunities that professionals face within their professional domains. The objective was to provide a forum for cross-fertilization and identification of new areas of emphasis for prevention research and State and community prevention programming.

The conference was designed to highlight the major settings in which prevention activities occur and to be responsive to the legislation that has been enacted by Congress and is being implemented by Federal and State agencies. Accordingly, the 3-day conference included half-day symposia on the following subjects: Models of Prevention and Prevention Research; School-based Prevention: A Critical Review of the Research Literature; Community-based Prevention Programs; Health Promotion and Wellness Concepts; Lessons Learned from Public Policy Prevention Programs; Overview of State Prevention Systems, Structures, and Functions; Prevention Research Inadequacies; and Outcome Research for High-Risk Youth. In addition, opportunities were provided for the five NPN/NASADAD regions to meet together and with the conference presenters on a daily basis. The final day was devoted to synthesis and discussions of how to apply the proceedings of the conference to State programming. Also, each of the five regional teams presented its deliberations and reactions to the formal presentations.

Of particular note was the inclusion in the conference of a presentation by the Creative Arts Team (CAT) from New York University. CAT is a professional, award-winning group of actors and actresses who develop and implement dramatic and theatrical productions in conjunction with the New York City Youth Bureau, the New York City Board of Education, the New York State Division of Youth, the New York State Division of Substance Abuse Services, and the New York State Department of Social Services. They have designed productions to supplement existing school programs that focus on alcohol and

other drug issues. They presented a very moving dramatic piece (which included audience participation) entitled, "A Theatrical Presentation of a Prevention Strategy." It brought into sharp focus both the frustrations as well as the successes that are part of our daily work in the prevention of alcohol and other drug use among children and youth.

The conference achieved its goals. It brought together outstanding prevention researchers who are committed to seeing that their research endeavors have practical applications in community and school settings. It brought together a large group of dedicated and concerned Federal, State, and local elected and appointed officials, planners, programmers, and administrators who are turning toward prevention as a crucial investment of their time, effort, and appropriated dollars in the fight against alcohol and other drug use among our Nation's children and adolescents.

We believe that we have inaugurated a dialog that will have dividends in the years to come in both the prevention research as well as the State and local program level. We would like the dialog to continue as you debate and use this report when prevention projects are conceptualized, designed, funded, and implemented.

It is my hope that we will hear from you about what is contained in these pages, as well as your interest in supporting future meetings of this nature.

An endeavor such as this requires the cooperation, collaboration, and commitment of many individuals and agencies from the public, private, and professional arenas. The Planning Committee is grateful for that support and believes that this document is evidence of that dedication and hard work.

While this proceedings document cannot possibly encompass all of the activities, knowledge transfer, and learning that occurred during such a conference, every effort was made to include a representative sample of the topics, research reviews, and recommendations that made this conference a landmark event.

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Contents

Introduction: Accepting the Challenge

The First National Conference on Prevention Research Findings: Implications for Alcohol and Drug Abuse Program Planning, was the first of its kind and an important event for all sponsoring agencies and organizations. In 1986, the National Prevention Network conducted a survey to determine the needs in the field. This conference is a response to a need to demonstrate the effectiveness of some prevention strategies.

We brought together alcohol and other drug abuse prevention professionals to learn more about recent findings in prevention research, their practical applications, their relevance for the design of local and State prevention programs, and their implications for the development of a national prevention plan. We wanted to provide a forum for cross-fertilization and identification of new areas of emphasis for prevention programming.

The intent of this conference was to explore these questions:

- What are current areas of need in the prevention field?
- What questions are the researchers asking? What are the areas of overlap?
- Are there answers forthcoming from current prevention research endeavors?
- What are the questions/issues that need research in the future?
- What are the limitations to research questions, strategies, techniques, and findings?
- What are the limitations to applying research findings in the practical setting?
- What are the tools for knowledge transfer?

It was, indeed, an ambitious agenda, but it challenged the prevention field both to recognize the value of research as a prevention tool and to utilize the findings—whenever appropriate—for effective program planning. It also challenged researchers to recommend program models that have the greatest potential to work and areas needing more research.

Although we have invested a number of years and dollars in alcohol and other drug abuse prevention and education, we are still confronted by the fact that the term itself, "prevention," is at best ill-defined and misused. For example, education is used all too often as a synonym for prevention. Moreover, there is some confusion on what exactly we are attempting to prevent. Many contradictory messages and patch-work strategies are also out there, some of which will not withstand the rigors of science.

We turned our attention then to prevention research, definitions, methodologies, and theoretical base—all of which need clarification. Lack of clarity in these areas might explain, somewhat, any inconsistencies in the findings themselves, and/or in their interpretation.

The meeting in Kansas City was an attempt not only to bridge the gap, but also to foster a bond; to explore the issues or at least raise them. It was, indeed, a difficult task, but not an impossible one.

To help us, we called upon well-known professionals from both prevention and research to describe field-tested prevention activities and their relevance for different target populations, as well as what was forthcoming from current research endeavors. To provide input and technical assistance, we also included representatives from Federal agencies interested in prevention. With the Office for Substance Abuse Prevention (OSAP) support, we expect to make these proceedings available to those who can use them.

The challenge we face is not ours alone. Our society is no longer in a position to support the ever-increasing social and economic demands of alcohol and other drug use.

We believe prevention is the only way significantly to reduce the problem. Of course, we know quite well that it has many limitations. More efforts are needed to identify programs that work and strategies that are effective, especially in primary prevention.

In secondary prevention/intervention, such as employee assistance programs, student assistance programs, server intervention, intervention for children of alcoholics, and effective training of primary health providers, among others, very encouraging progress has been made.

We also need to update ourselves, to gather in forums to compare notes; to review the most current research that has documented positive outcomes; and especially to understand better findings that appear to demonstrate lack of effectiveness of some prevention strategies.

Finally, we wish to thank the faculty, participants, and planning committee for a great conference.

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Assistant Director of Planning and Project Management
New York City Department of Mental Health, Mental Retardation, and Alcoholism Services
Conference Chair

Opening Remarks

Elaine M. Johnson, Ph.D.
Director
Office for Substance Abuse Prevention

Good morning, and welcome to this conference. I am delighted to be here to represent the Office for Substance Abuse Prevention (OSAP). Our session this morning is entitled "Accepting the Challenge," and it is wonderful to see so many people at this marvelous forum for knowledge transfer and prevention planning.

Indeed, we are confronted with an enormous challenge to reverse the alcohol and other drug abuse crisis that is affecting every area of our Nation and every socioeconomic, ethnic, and age group. Answering this challenge will not be easy, but I believe it can be done. Federal and State agencies, local governments, parent groups, religious organizations, and many others are applying their expertise to this perplexing and difficult problem. In joining together in groups such as the National Prevention Network (NPN) and National Association of State Alcohol and Drug Abuse Directors (NASADAD), we increase our chances of success by sharing new findings and program information, pinpointing gaps in knowledge that can be bridged through research and demonstration programs, and coordinating strategies to enhance our resources.

OSAP has a legislative mandate to conduct alcohol and other drug abuse prevention activities with special emphasis on prevention among high-risk youth and their families. OSAP was created with the passage of the Anti-Drug Abuse Act of 1986 to provide Federal leadership for prevention achieved through demand reduction. OSAP has been in existence for a little more than a year now, and we have established an impressive prevention agenda. I would like to take the next few minutes to share with you some information about OSAP—both where we are now and where we are going.

OSAP has adopted three principles to guide our prevention efforts and form the foundation of our prevention outreach activities: (1) We believe that a firm and consistent "nonuse" of alcohol and other drugs by youth message, which comes from all sectors of our society, is essential to effective prevention. (2) We believe that collaboration is one of our most important weapons in the war on drugs—the marvelous working relationship that exists between NASADAD, NPN, and OSAP is a prime example of productive collaboration; it is vital that we all work together to strengthen our families and to help our young people avoid alcohol and other drugs. (3) We believe that our children need protective environments, not only within their families, but also within their schools, churches/synagogues, and communities.

Earlier, I mentioned that OSAP is particularly committed to prevention among high-risk youth and their families. For those of you who are not familiar with the term "high-risk youth," let me explain. These are the youth who are economically disadvantaged, whose parents are alcohol and/or other drug abusers, and who are abused or neglected. Youth who have dropped out of school, run away from home, or attempted suicide are also considered to be at high risk for problems with alcohol and other drugs. Some high-risk youth have begun to use the gateway drugs of alcohol, tobacco, or marijuana, and still others have been involved with the juvenile justice system. Frequently, high-risk youth are at multiple risk. We are not sure how many high-risk youth there are, but we believe their numbers are proportionately small. Yet, these troubled youth account for a significant amount of alcohol and other drug use and other problem behaviors among young people in this country.

While the High School Senior Survey for 1987, recently released by the National Institute on Drug Abuse (NIDA), shows an encouraging decline in the use of cocaine among the young people surveyed, we do not have comparable data for high-risk youth who are seldom in school long enough to become seniors. Some experts believe dropouts account for 15 to 20 percent of the 16- to 19-year-olds in America; this represents a significant number of young people for whom we do not have a definitive picture of alcohol and other drug use.

One of our primary avenues for reaching high-risk youth is through OSAP's demonstration grants program. Our 131 grantees are at work in urban, suburban, and rural areas; they are conducting community-based prevention activities among inner-city youth, in public housing projects, among Native Americans, in community centers, and in other settings. These grants, which will run from 1 to 3 years, are providing OSAP with the opportunity to identify and test existing and new prevention concepts for high-risk youth.

All of the grants will be evaluated. During the evaluation cycle, we are going to be asking some very important questions. We are particularly interested in finding out how high-risk youth and their families are recruited and retained in the various grant programs. We need to know what mechanisms the grantees are using to generate community support for the programs, especially among minority groups. We will be investigating how conventional prevention approaches must be modified to make them accessible and culturally relevant among various ethnic minorities. And, most important, we want to know what new prevention approaches can be identified.

As you can see, I am very excited about these grants—all of us in OSAP are counting on this grants program for new techniques that will help us fight the war on drugs through prevention. We hope that the OSAP grant program will result in new ideas, new methods, and better insight into the problems of

high-risk youth. Following evaluation, the best and most effective programs will be available for replication in other communities.

In the prevention field, one of our most important tasks is disseminating information. Just recently, I participated in the national White House Conference for a Drug Free America, which was held in Washington, DC. Information exchange was the name of the game there and at the six regional conferences that preceded it. Experts from the public and private sectors shared their knowledge and perspectives with more than 2,500 attendees. In turn, community representatives, religious leaders, parents, and young people had an opportunity to share their knowledge and voice their concerns about alcohol and other drug abuse in America.

In the summer of 1988, the White House Conference published a comprehensive report on the regional meetings and national conference. These proceedings should provide us with a better understanding of the magnitude of the drug problem, the concerns of parents, youth, minorities, and other special-interest groups, and the recommendations for action that were formulated at the regional and national levels.

Because we believe knowledge transfer is so important, OSAP has a diverse communications program. The cornerstone of this program is the National Clearinghouse for Alcohol and Drug Information (NCADI). This national resource includes print and audiovisual materials produced by Federal agencies, State governments, voluntary and professional associations, and the private sector. These materials include scientific findings; prevention program and product descriptions; publications, posters, and kits for parents and youth; and information about organizations and groups concerned with alcohol and other drug problems. The Clearinghouse also provides data base support for literature searches and other services.

OSAP is creating a Regional Alcohol and Drug Awareness Resource (RADAR) Network in partnership with NASADAD, NPN, and other national voluntary and professional organizations. This Network will consist of unique resource centers to help OSAP and others promote and disseminate information, conduct media campaigns, and obtain feedback for improving communications activities. Because of the interactive nature of the RADAR Network, OSAP will be better able to meet your needs for materials that are responsive to regional differences.

We are also conducting a major review of alcohol and other drug messages and materials using the services of special-interest task forces. These task forces will assess the accuracy, usefulness, and appeal of materials developed by both the public and private sectors. Following the review and any necessary revisions, descriptions of these materials will be disseminated through the Clearinghouse. In addition, the review will identify gaps in prevention

materials—for example, materials for specific ethnic minority populations. These gaps will be filled by creating new, specially designed materials.

In addition to our grants program and our communications activities, OSAP is providing support for grassroots prevention activities in America's neighborhoods and communities. Through our prevention implementation contracts, we provide support for conferences and workshops, training, and on-site technical assistance to many groups that are engaged in community-based prevention activities. These include the National Federation of Parents for Drug-Free Youth, the Boys Clubs of America, the National Association for Children of Alcoholics, the Congress of National Black Churches, and many, many others.

Our diverse prevention agenda is strengthened by our strong alliances with many groups, including NASADAD and NPN. We plan to build on these alliances by reaching out to embrace other organizations, both community-based groups and professional associations. We are particularly interested in forming partnerships for prevention with groups that traditionally have not been involved with alcohol and other drug problems. This desire stems from our firm belief that a solution will only be found when all sectors of society make a commitment to join the war on drugs.

In the future, we will be placing more emphasis on scientifically based prevention activities; this will be reflected in any future grants that we might support and in the technical assistance and training that we provide to parent and youth groups, ethnic minority groups, and community-based organizations.

In closing, I would like to congratulate you on being involved in this conference. Your presence here demonstrates your concern about the alcohol and other drug problems facing America. I also want to congratulate NPN and NASADAD—OSAP's longtime partners and friends; this first national conference has brought together an impressive array of professionals, State alcohol and other drug prevention representatives, health care planners, and others who can have a tremendous impact on the quantity and quality of prevention services available to all of America's people. The planning committee has arranged a most challenging agenda for this 4-day meeting. I know how much work goes into organizing an event such as this, and I hope you will take advantage of the many opportunities it provides for learning and networking.

CHAPTER 1

State/Federal Roles in Prevention

Summary

Presenters described the alcohol and other drug abuse prevention roles of State government–particularly the alcohol and drug agencies and their prevention staff–and the Federal Government, focusing on the new Office for Substance Abuse Prevention (OSAP) in the U.S. Department of Health and Human Services' Alcohol, Drug Abuse and Mental Health Administration (ADAMHA). Dr. Elaine M. Johnson, Director, OSAP, described her office's mission and general future direction. She stated that OSAP has to become the national leader for prevention. It wants to empower prevention as a legitimate discipline by bringing together the research and practitioner communities and by building bridges with the public and private sectors and the professional and lay communities. OSAP is interested in providing technical assistance and training through its various contractors. The concept of a national training center is being considered. OSAP will be evaluating recently funded demonstration grants, which will produce data on youth in high-risk environments. It will disseminate that information in the form of monographs that practitioners can use. Dr. Johnson explained that prevention really means healthy families, including adults. Therefore, prevention must relate to adults and have services available to them.

The next speaker, Janet A. Zwick, Director, Division of Substance Abuse and Health Promotion, Iowa Department of Public Health, asserted that States' services are organized based on their individual needs. She discussed current philosophical issues, such as the competition for scarce funds, social control versus social norms, environmental change versus behavioral change, and alcohol versus other drugs. Her speech begins on the following page.

The Role of State Alcohol and Other Drug Agencies in Prevention

Janet A. Zwick
Director
Division of Substance Abuse and Health Promotion
Iowa Department of Public Health

I want to give you a global overview of the State agencies' roles in preventing alcohol and other drug abuse. I'll speak about what State agencies do, the variables that influence what we do, and how States can use the research findings we hear about at this conference.

What State Agencies Actually Do

Leadership

The State alcohol and drug abuse agency provides leadership because of its knowledge of the field, its ability to work with and respond to the natural constituencies of concerned citizens, its history of service in the field, and its staff of qualified and experienced professionals.

Alcohol and drug agencies take the lead in prevention because treatment and prevention are their central tasks. In other parts of State governments (the education departments, the various sectors of the criminal justice systems, the highway departments, mental health services, and so forth), the focus on prevention is peripheral or adjunctive. Therefore, in most States, leading the charge toward demand reduction is a task that falls squarely on the State alcohol and other drug abuse agency.

There is a great cry in the field of prevention for improved coordination and for coherence in planning and structuring services. People often say, "Everybody and his brother is in prevention, and nobody knows what is going on."

One reason for this is that we are embarked on systemwide change to prevent alcohol and drug abuse. Every social institution must help. Government agencies, religious institutions, social clubs, corporations, and families, each working from their own perspective, must cooperate in creating the impetus for social change.

The State alcohol and drug abuse prevention agency that coordinates this many-faceted activity cannot control what other social institutions do. At best, it can track what is happening, identify overlaps and gaps in service, and encourage each appropriate social institution to adapt its effort to the general need. Its task is not to manage but to encourage a range of social institutions to fulfill their purpose and to cooperate with all other agencies.

The typical State agency also carries out a broad mandate to provide direct State prevention services. A quick review of some tasks that are often done at the State level includes:

- Conduct media campaigns
- Train trainers to increase prevention expertise
- Host statewide conferences to encourage communication
- Develop resource centers and other information functions
- Provide technical assistance and training services for local programs
- Develop materials for public education and training prevention activists
- Encourage networking among community social institutions
- Prepare and distribute service directories
- Operate prevention hotline services and the like.

Not only does the State spend money in its own right for the kinds of direct services I just mentioned, but it usually passes money along to other agencies and organizations at regional and local levels. A few of the smaller States, which do not have large funding resources, spend most of their money at the State level. But most of the others contract with direct service providers and a great many have an intermediate level—i.e., regions of the State or counties that receive money from the State then pass it along to local grantees and contractors. The State's role in this work is to develop program designs, issue requests for proposals and grant announcements, set performance criteria for the services that are desired, establish selection criteria whereby a review group can choose among the vendors who offer services, and make money available to the selected local service providers.

Of course, the State cannot simply spread money around. It sets standards for local programs to meet; it lays out reporting requirements; it usually conducts site visits with an information-gathering protocol to make sure that each program is meeting its specific performance criteria; and finally, it provides feedback to the operators on the quality of service they are providing and feedback to the ultimate funders (the legislatures that appropriate the money) concerning the costs and effectiveness of the prevention services.

Many States are beginning to study what knowledge and abilities are necessary to perform prevention activities. By setting up such professional standards, the State helps local programs that compete for funds to make sure that they have identified the best quality people for the job. A side effect of this effort to determine qualifications is to lay the groundwork for the definition of prevention as a new profession.

States are now beginning to assume another responsibility: conducting certain kinds of research and evaluation studies as part of their regular program. Almost from the beginning of our concern with alcohol and other drug abuse, there were efforts to conduct incidence and prevalence studies to demonstrate the level of need for treatment and prevention services. Another very common research activity is the conducting of school alcohol and other drug use surveys. These surveys are often done for the State education department by the State alcohol and drug abuse agency. Many such agencies have also helped their sister agencies, which operate the schools to develop and evaluate curricula.

But the most significant current trend is toward conducting local evaluation studies. Most States are giving greatest emphasis to "process evaluation" that tries to determine how and whether a program is meeting its own goals and objectives or performance standards. Less common, but equally important in the long run, are outcome and impact evaluations that try to demonstrate the direction and amount of change in alcohol and other drug abuse behavior.

Variables That Influence What States Can Do

Some of the most pervasive influences on prevention policy are felt in elusive and subtle ways. Perhaps the strongest social institutions that resist change are the elements most dependent on continued use of alcohol and other drugs. These include the manufacturing, distribution, and local sales outlets as well as the media used to promote alcohol and other drug use. Clearly, the drug industry (being illegal and under intense scrutiny) must try to influence policy in subtle and unobtrusive ways.

But the alcohol industry is more overt in its efforts. It appears to resist recognizing the seriousness of the problems alcohol causes, but supports positions that appear to promote moderation. On the other hand, efforts to raise alcohol excise taxes to support treatment and prevention services are often resisted.

Other groups that exert an influence are the heavy drinkers and regular marijuana smokers who are also voters. They may express themselves in subtle ways, but there is no mistaking the fact that they do not always feel comfortable with prevention messages.

Size, Population, and Wealth of States

The smaller States have a harder time than larger ones providing a full range of prevention services. The Federal Alcohol, Drug Abuse and Mental Health Administration (ADAMHA) Block Grant Program (ADMS) allocations are based on population, so the larger States usually fare better when they ask for additional funding. The wealthier localities have more money to chip in for their share of the services. We have a number of States around the country whose

efforts in prevention funding are very strong, but I would be remiss if I did not make special mention of California, Illinois, New York, and South Carolina, which spend significant percentages of their total dollars on prevention.

An old saying, "The rich get richer and the poor get poorer," really applies in the prevention field. States with a high level of public awareness and an orientation toward increased prevention activity are able to spend more and, as a result, have sizable prevention activities. Conversely, States that tend to ignore the problem devote only a modest amount of effort to prevention. This requires that local prevention programs create a greater demand for prevention activity, which then creates public awareness and, we hope, increased public expenditures.

Another variable that affects State agencies' delivery of prevention services is the way in which they structured their delivery system during the early days of treatment services. Some States set up treatment facilities operated by government employees at the State or county level. Others used existing systems of community mental health centers. Some were free-standing; others were operated by the parent mental health agency. Still other States built up their treatment delivery system using grants and contracts to free-standing treatment agencies in the different regions and localities of the State. This latter system, which led to the use of grants and contracts to purchase prevention services, provides greater latitude and freedom of action to change the type and mix of services that will be used.

Using the Findings of This Conference

Finally, I want to address the question of how States can use the research findings reported here. State agencies need to track research findings closely to assess which program types appear to be useful and which are having little or no effect. Such information is fundamental for decisionmaking regarding existing programs.

In a field where innovation is rampant and claims are being made for all kinds of prevention programs, research also becomes important for State agencies as a means of determining areas in which new initiatives should be encouraged. Descriptive research, which promotes self-analysis and self-improvement and assesses the effectiveness of new programs in reaching their stated goals, is invaluable. Documenting such ongoing formative research is often specified for a new project in case it turns out to be particularly effective. Obviously, an effective model that has not been documented cannot be easily replicated.

CHAPTER 2

Prevention Research Perspectives

Summary

Presenters provided a broad overview of the state of the art of prevention research in the United States: What is prevention research? What are the concepts and principles on which prevention research is based? What are the questions prevention researchers are asking? What are the questions/issues that need to be researched in the future for preventive intervention approaches to succeed?

Program planners received advice for designing prevention services so they can be evaluated; and school-based programming received special attention.

It was noted that schools have been traditionally seen as the place to "save the youth." However, schools have also become a battlefield for religious beliefs and personal values. Within this context, programs must be well designed and well implemented; structured by age, sex, and other variables; and started early. Students need a great deal of reinforcement. The closer the program's cultural ties to the setting, the more effective the program will be.

The steps in performing community-based prevention were discussed: (1) develop awareness; (2) develop skills; (3) develop behavioral action; and (4) maintain the change over a period of time.

Presenters examined both the strengths and weaknesses in prevention research and prevention programming, including planning, program development, implementation, and evaluation. Also, the prevention research continuum and the prevention practitioner continuum were discussed.

What Works?

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Introduction

The most often asked question in the field of prevention is, "What works?" Prevention practitioners are most concerned about this, but many other groups—Congress, foundations, parents, and so forth—also want an answer. While the concept of prevention is quite simple, the answer to "What works?" is complex.

Proposing, conducting, and/or reporting the results of a real live prevention program is the equivalent of being a target in a popular shooting gallery (No pun intended). It appears that a review of prevention research has been written for every four prevention studies that have been done. Most of these reviews have relatively narrow foci and are generally negative about the quality of the research base.

Like mystery novel writers, those who review prevention programs have a formula for success:

- Use a research design checklist
- Demand perfection
- Indicate what should have been done
- Ask for more money
- Predict doom and gloom.

A more optimistic viewpoint about the results, as well as future prevention research, is needed. Most prevention studies do report some positive results. Reviews of these studies tend to highlight the methodological flaws, therefore discounting positive findings. Moreover, these reviews may be limited in scope and ignore beneficial changes in other areas such as delinquency, school dropouts, and discipline.

The real purpose of evaluation is to improve programs, but evaluation often serves only as a means of accepting or rejecting these programs. We need to build on positive results and modify from that stance until the most effective strategies evolve.

One aspect of prevention programs that show positive gains is in participant information. This is an increasingly important finding, particularly as some recent research indicates that as perception of risk increases, alcohol and other drug use decreases (National Institute on Drug Abuse: Johnston et al. 1988). Furthermore, many programs have changed attitudes, and a few have delayed or reduced drug use (e.g., National Institute on Drug Abuse: Bry 1983; Botvin 1986; Mitchel et al. 1984).

Several studies had positive results, but their results were misinterpreted or not widely circulated. For example, Research for Better Schools' final report (1981) to the National Institute on Drug Abuse of the Life Skills for Mental Health Program in Georgia showed the program was unsuccessful because it only reduced incidents of discipline problems and not drug abuse in elementary schools (National Institute on Drug Abuse: Dusewicz and Martin 1981). Disruptive behavior among young children is a strong predictor of subsequent drug use, but this conclusion, while technically accurate, failed to see the positive potential for further development of the program. A values clarification program reduced drug use among junior high students in a rural school district in Pennsylvania, but the results were not widely circulated (Office of Juvenile Justice: Swisher and Piniuk 1975). A school curriculum known as Growing Healthy indicated that cigarette use was less among students exposed to 50 hours of instruction at the elementary level over a 3-year period (Connell and Turner 1985) than among those not exposed, but the results have not been widely acclaimed. There are many more examples of positive results (e.g., see other reports in this monograph), yet the mentality that nothing works in prevention seems to prevail.

Estimates of What Works

The following tables are estimates regarding the outcomes of prevention evaluations. Several other sections of this monograph examine in depth what works in several of these cells, and I hope these estimates are not too far off. A "yes" means that teachers (for example) are accessible, and the rating following the statement refers to my confidence in the statement based on the research and evaluation that is available. A higher rating generally reflects a larger number of studies that support the rating. If the results of research pertinent to any cell are mixed, then the rating would be lower; if there are only two or three studies in this category, then the rating also would be lower.

As can be seen in table 1, teachers are accessible but get a lower confidence rating due to the reluctance of some schools, unions, and/or individual teachers to become involved. As more States require alcohol and other drug education, this rating will probably increase. If you access the teachers with a decent training model, they will respond positively to training. The research on this factor is based on workshop evaluations by the participants as well as some

Table 1. Providers of Prevention

Providers	Accessible		Trainable		Changeable	
Teachers	Yes	6.5	Yes	9.0	Yes	5.0
Parents	Yes	2.5	Yes	5.0	Yes	2.0
Peers	Yes	9.0	Yes	7.0	Yes	4.5
Counselors	Yes	6.5	Yes	5.0	Maybe	2.0

evaluation followup studies that examined implementation. Teachers' motivation usually makes them an excellent audience. There are relatively little data on the extent to which teachers change their classroom behavior as a result of prevention training (e.g., Bandt et al. 1976); more research is needed that focuses on what teachers do in their classrooms after training. Furthermore, there is a need for the prevention professional to examine basic research on how youth learn to read, conduct science experiences, and so forth, since these are areas that may have implications for prevention. Basic educational processes have tremendous implications for prevention programming, but educators too often have looked elsewhere for expertise and overlooked what they know about development and learning.

Parents are harder to reach; there is a tremendous need for studies on how to reach them. Their low rating is a function of the lack of research in this domain. When parents show up at a program, they are fairly responsive. The confidence rating for this factor could be increased simply by an increase in the number of positive studies in this realm. Parents will change their approach to parenting, but, again, there is a lack of data reflecting changes in parent behavior. A dimension not included in table 1, but relevant to parents, is the impact trained parents have on their children. Very few studies have examined changes in children as a result of parent training, but those that tested the children have shown reductions in use of tobacco and alcohol (National Institute on Drug Abuse: Bry 1983). In some studies, even the parents reduced their use of tobacco and drugs (National Institute on Drug Abuse: Flay and Sobel 1983).

Peers are often flattered when asked to assist in the educational process; if the school is willing, these youth leaders are very accessible. The lower rating on their trainability is based on a few studies that have found that peer leaders can be as boring as any bad teacher and that they need help with group techniques to be effective. There is an adage that when peer leaders are involved, they are more affected by the program than their intended audience. However, there are few actual studies of this particular phenomenon, and consequently a lower confidence rating is warranted.

Counselors are often very interested and motivated to become involved in prevention, but the extent to which they will alter their approach has not been

demonstrated in the literature. Very few studies involving counselors have been reported, and among those, one of the problems was obtaining full cooperation to follow the protocol of the approach being evaluated (e.g., Warner and Swisher 1976). Counselors tend to be true believers in some approach; consequently, they are sometimes more difficult to change than are other adults.

If a school has agreed to participate, students are accessible primarily because they are captive audiences. The confidence rating for this domain (see table 2) is the highest for any table because of students' interest in a change in the school routine. A number of large-scale, multicomponent, comprehensive curricula (Connell and Turner 1985) as well as intensive, special-focus classroom programs have demonstrated success in reducing use primarily of tobacco, and a few have affected alcohol and other drugs (e.g., Botvin 1986). Therefore, the 7.5 confidence rating is given to our ability to effect change among students. However, the effective programs have been comprehensive curricula, have involved parents, were provided over several years, and involved extensive teacher training (40 hours). Unfortunately, the durability of these programs has not been adequately tested. The few followup studies that involved booster sessions for senior high students show some promise (Botvin 1986). It cannot be assumed that a good elementary school curriculum will hold into junior and senior high school. Advanced curricula, special services, and consistent policies will need to be evaluated to improve this rating.

Table 2. Targets of Prevention

Targets	Accessible		Changeable		Durable	
Students	Yes	9.5	Yes	7.5	Maybe	2.0
High Risk	No	3.0	No	3.0	Who Knows	

High-risk youth have generally not participated in the evaluation work described for students in general. The primary reason is that these students are often not in school. They may be accessible through community-based outreach activities. The Office for Substance Abuse Prevention (OSAP) has underway a major nationwide study of this phenomenon. It is simply not known at this time whether this population is reachable or changeable; clearly, we do not know whether any changes are durable.

We have not adequately evaluated what works with specific curricula. Only one comprehensive curriculum ("Here's Looking at You") has been evaluated six or more times (Swisher et al. 1985) in separate studies, and it generally produced positive results (mostly information gains). However, the "2000" version is so radically different that new research is needed to assess its efficacy. No other curriculum can boast more than one or two evaluations. Replication is more

difficult because each school and especially teachers often modify a curriculum when it is implemented. Very few replication studies have been conducted; consequently, only a 1.5 "maybe" can be given this domain (see table 3).

Table 3. Strategies of Prevention

Strategies	Effective		Replicable	
Curriculum	Yes	4.5	Maybe	1.5
Programs	Yes	7.5	Maybe	3.0
Alternatives	Maybe	3.5	No	7.5

In the realm of programs, there is a rapidly mounting number of studies supporting refusal skills training (Benard 1988). These programs have generally been successful, and the evaluation efforts are now focused on variations on approaches (e.g., peer- vs. teacher-led groups). There have been problems in replicating these programs in that the original materials are modified in the process of adaptation (e.g., Office for Health Promotion and Disease Prevention: 1987). "Diffusion of innovations" research indicates that this modification phase is necessary for permanency to result, but there is relatively little research to bolster our confidence in this phase.

Alternatives programming has not been extensively evaluated, but it has been the focus of much activity at all levels. Some research supports positive alternatives for youth, particularly high-risk youth (Tobler 1986), but not enough has been done for us to have a great deal of confidence in the results. Unique alternatives programs, often involving charismatic individuals as instigators, are very difficult to replicate, and there is practically no research in this realm.

Prevention efforts are an integral part of the context in which they occur. There is general acknowledgment in the literature that the school climate (physical and interpersonal) correlates with alcohol and other drug use, but very few studies have attempted to change the climate (see table 4). Consequently, it is difficult to know whether this is possible and whether, if the climate were to change, there would be a subsequent effect on student behavior. Community climates have been studied somewhat more (e.g., changing attitudes toward acceptance of tobacco); when they are changed, use may be affected. This is a more difficult arena in which to conduct an evaluation, and there is a great need for more research.

Several State and national training efforts have focused on changing school policy, but there is almost no research on the extent to which changes have taken place and none on their effectiveness. Conversely, community policies (e.g., drinking age) have been evaluated, and positive changes appear to be possible

Table 4. Contexts for Prevention

Contexts	Changeable		Effective	
Climate				
School	Maybe	2.0	Maybe	1.5
Community	Maybe	5.0	Maybe	2.0
Policy				
School	Yes	2.5	Unknown	
Community	Yes	4.5	Yes	8.0

in this realm (National Institute on Alcohol Abuse: Moskowitz 1987). When changes have been enacted in communities, there have been positive changes in consequences for youth (e.g., fewer fatal highway crashes). There is a need for evaluation of other policy changes (e.g., distribution of alcohol) to determine their impacts on youth.

Future Program Evaluations

We need a scheme for understanding the state of the art/science that allows us to determine future directions and fill gaps in the research literature. One way of viewing the science base is to place prevention research on a continuum that begins with etiological studies and culminates in diffusion of innovations research (see figure 1).

As an idea matures along this continuum, it is based on results from earlier points on the continuum and should verify and extend those results. No step on the continuum is a discrete one; rather "progress" is a series of increments, and the results of later phases should revise the conclusions from earlier phases.

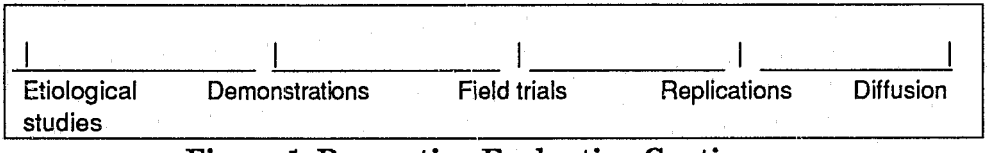

Figure 1. Prevention Evaluation Continuum

Below are some working definitions of each step.

Etiological studies: basic surveys of correlates of abuse patterns. These may be longitudinal or cross-sectional in nature. The results should have implications for prevention. *Example*: correlate peer use and self-reported use, preferably from longitudinal research.

Demonstrations: based on etiological results and other basic research. These projects are preliminary feasibility studies on the implementation of innovations; after initial startup, they give some indication of outcomes. *Example*: teach refusal skills to improve resistance. Offer the assistance of trained specialists and test for self-efficacy.

Field trials: basic experimental and quasi-experimental designs to determine the outcomes of prevention programs. They include the use of control and experimental groups and several test occasions with reliable and valid instruments. *Example:* teach refusal skills through teachers or parents.

Replications: protocols of field trials reproduced with new populations or new content. The translation of the National Cancer Institute's smoking prevention programs into alcohol and marijuana prevention strategies is one example of this type of research. These studies should also be experimental and/or quasi-experimental designs. *Example*: replicate a program after a successful field trial.

Diffusion: focused on large-scale dissemination of programs emerging from field trial and replication research. The focus of this research is on the characteristics of adopters (e.g., schools) as they interact with the characteristics of prevention programs (e.g., requirements for training). *Example*: adopt a statewide school curriculum.

The dynamic tension between practitioners and researchers can be seen in figure 2, which reveals that researchers prefer to think, then act, whereas practitioners have to act, and if they are fortunate, they may find time to think. One of OSAP's missions is to help bridge this gap by funding demonstrations, field trials, and replications.

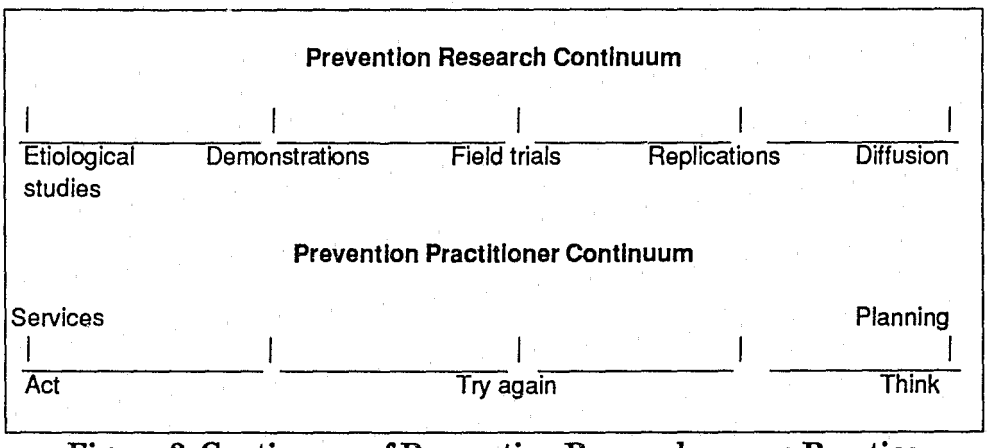

Figure 2. Continuum of Prevention Research versus Practice

Most activity among prevention researchers is at the thinking end of the continuum, whereas it is at the action end among practitioners. Even when evaluation is part of a prevention program, the results are often not available until after important decisions have had to be made.

One of the major roles for prevention researchers is to provide a bridge between the practitioners and the research community. The end result of this emphasis will be a substantial contribution to the state of the art or knowledge about prevention needs and results. OSAP's demonstration program is an example of the type of program development coupled with appropriate evaluation that will advance the knowledge base of prevention.

As can be seen in figure 3, the majority of OSAP activities are demonstration grants (70 percent) that focus on the feasibility of implementing innovations. A significant proportion of the grantees are conducting field trials with pre- and post-testing of experimental and control groups. A small percentage of the grantees are conducting experimental replications of established prevention strategies with new populations. As the grantees mature, it also appears that they are moving along the continuum toward field trials and replications, at least for some components of their programs. OSAP grantees are also using biological research as it relates to prevention, intervention, and treatment

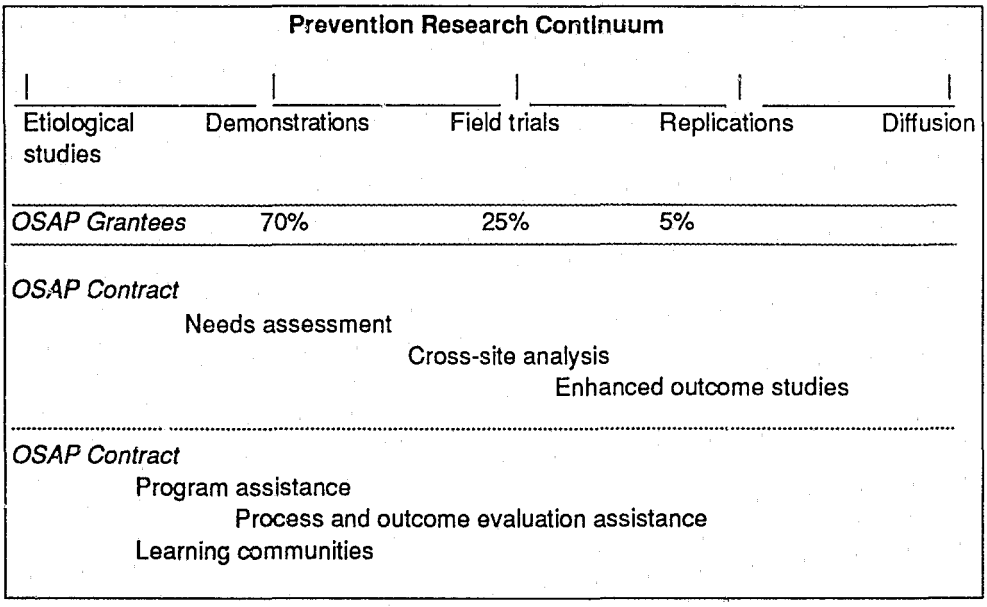

Figure 3. Prevention Continuum and OSAP Grants and Contracts

activities via their knowledge of basic research results. This latter dynamic is being enhanced through technical assistance, the National Clearinghouse for Alcohol and Drug Information, the learning community concept, and networking among grantees.

Summary

The purpose of evaluation is to help programs improve. There is a need to focus on what works from the previous evaluations to formulate hypotheses about future program and research efforts. This paper presents a summary of the results of prevention evaluation in terms of providers, targets, strategies, and environments. Generally, the results support the involvement of most providers, particularly when they are offering comprehensive, long-term strategies. There is a need for evaluation programs aimed at the diffusion of innovations and at the larger environments in which prevention programs operate.

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Prevention Research: Impediments, Barriers, and Inadequacies

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In the overall scheme of things, prevention research is a relatively new enterprise that is, in fact, a stepchild of more traditional research paradigms. Many theoreticians and observers of science have commented on its emergence as a new endeavor that puts traditional findings and approaches into new paradigms and new perspectives (Felner et al. 1983). The President's Commission on Mental Health referred to prevention as the fourth revolution in the mental health field (Task Panel Report 1978). Prevention research is revolutionary in that it takes bits and pieces of existing research paradigms and adapts them to new questions and new problems. The purpose of this paper is to look at some of research's impediments, barriers, and inadequacies as it relates to alcohol and other drug use and abuse.

The operational impediments include definitional issues; ethical considerations; variations in institutional settings that make outcome measurement difficult (Broskowski and Baker 1974); problems of statistical power; and the need for large samples of individuals to show conclusively that one type of intervention is more effective than another. Some of these rigorous requirements are outlined below.

Prevention research proposals should offer:

- A clearly articulated, theoretical model that is empirically based, reflective of developmental processes underlying the specified disorder(s) and that makes a conceptual link among the chosen target group, intervention, and outcome measures;
- An assessment of the processes, effects, limitations, duration, and safety of the proposed preventive intervention;
- Research designs and procedures appropriate to the developmental and sociodemographic characteristics of the target group and designs conducted in settings relevant to the target group and the occurrence of the disorder; and
- Methods to evaluate whether the predicted changes in the hypothesized mediating variable(s) occurred.

Yet another difficulty is the requirement for long-term followup to ascertain that an intervention has been incorporated into an individual's approach to dealing with a problem and that the intervention was effective in preventing the expression of a negative behavior over time. The complexity of the currently known causative or contributory factors involved in alcohol and other drug use among youth and adolescents renders very specific prevention approaches questionable. Clear proof of preventive effectiveness of risk reduction requires multi-generational studies; these are very expensive in terms of time and professional resources. Four of the most significant barriers to prevention efforts (Olson and Gerstein 1985) are that they:

- Are future oriented
- Success measured by long-term goals
- Long-range commitment needed
- Lack a well-defined and sustaining constituency
- Prevention comprehensive, not disease-specific
- Difficult to claim clear-cut victories/progress
- Provoke a conflict of values (example: alcohol use versus abuse)
- Are subject to competition with treatment needs.

Funding Allocations

The outcome of an intervention for an individual depends in part on the individual's genetic and constitutional predisposition, his or her temperament, his or her attribution of the events that are associated with the risk for developing a disorder, and his or her age and developmental stage. Factors in the environment—such as the presence of a social network, peer pressure, and alternative outlets for maintaining one's distance from temptation—are also important and may help to diminish the intensity of the problem.

Ethical considerations about the potential invasion of privacy or tampering with a person's freedom of choice also impede the development of preventive interventions (McGinnis 1985). Whether a prevention researcher should be telling others what is best for them and, in so doing, possibly interfering with self-determination, cultural tenets, and cultural values is an issue that must be addressed (Orlandi 1987). Disease prevention and health promotion involve decisions affecting an individual's sense of self, lifestyle, freedom, and future. How and when the message of prevention is delivered to an individual or group may well determine the degree to which they will hear it, incorporate it, and respond to it (Marmor et al. 1960).

Inadequacies exist in the following prevention research areas: (1) statistical approaches; (2) appropriate methodologies; (3) evaluation/outcome measurements; (4) accurate selection of high-risk/at-risk populations to receive interventions; (5) conceptual issues regarding the development of interventions; and (6) the degree of specificity and linkage of the intervention to the hypothesized etiology. Some of these issues are outlined in figure 1 in terms of criteria for evaluating research proposals. Yet another "shorthand" is conceptualized as the "5 A's" for evaluation in figure 2.

We must remember that research is expensive, time consuming, relatively inefficient, and purposely limited in what it tries to measure and accomplish. It is inefficient because the research enterprise allows for trial and error and often incorporates the education and training of young investigators who are learning the approaches and procedures of conducting research. It is limited; good research asks specific questions and controls variables in order to accurately identify causality and the relationships among dependent and independent variables.

1. Conceptual issues (the problem)
2. Hypotheses (mechanisms)
3. Theoretical paradigm
4. Sampling design
5. Measurement of variables
6. Data collection methods
7. Human subjects protection
8. Analysis plans
9. Research outcomes
10. Policy outcomes (generalizability)
11. Budget
12. Length of study

Figure 1. Evaluation Criteria for Research Grant Proposals

1. Accessibility
2. Availability
3. Acceptability
4. Appropriateness
5. Accountability

Figure 2. Prevention Evaluation (The Five A's)

Ambiguities and uncertainties in the research process are compounded in prevention research because the field lacks (1) consistent definitions; (2) outcomes that are comparable across studies (i.e., *use* versus *abuse* versus *misuse*); (3) consistent units of measurement (i.e., behavior, attitudes, values, norms); (4) consistent long-term followup periods; (5) comparable populations under study; and (6) the ability to control for external variables that may truly affect outcome measurements. Such external variables include the changing economy, political campaigns and elections, and the role of media campaigns.

One important political impediment to conducting primary prevention research is that it may be competing with basic and applied research, which has demonstrated productivity and need in other domains over the years (Bloom 1981). Many other research endeavors are also dealing with individuals at risk for illness and are treating "real cases" that have political expediency and immediacy. Prevention research needs to develop multifactorial causation models to understand disease etiology and pathophysiology. Such models are in their early conceptual development; we do not have sophisticated prevention programs to match these concepts.

Conducting prevention research in applied settings is a very difficult undertaking and one that requires considerable preparation, luck, and finesse. Finally, it is also critical to recognize that the field of prevention research needs to develop a set of evaluation criteria that is synchronous with, but also sensitive to, the limitations of the research itself. Such evaluation must bear in mind the fact that prevention research occurs in applied settings, with real people, and attempts to alter behavior that is multifactorial by nature. Such limitations are essential to predicting global outcomes and must be kept in mind when we attempt to generalize from one setting and population to another. Lest we forget, if the research is well designed, well conducted, well evaluated, and followed over a significant period of time, then even negative findings are as important to advancing the field as positive findings.

Schaps et al. (1981) reviewed 127 school-based prevention programs for alcohol use that had some evaluation component in place (see figure 3). Three different goals were identified among these programs, as were 10 different strategies to accomplish these goals. This evaluation study concluded that very few of these programs accomplished the desired outcome, i.e., prevention of alcohol use among youth. This highlights the need for prevention research projects that clarify which strategies work best for specific goals to achieve specific outcomes.

My own analyses of existing prevention models (see figure 4) attempts to illustrate how research findings have shed light on some of their benefits and deficits (U.S. Department of Health and Human Services 1987). Caution must be used in interpreting these brief overviews, because they were designed to be

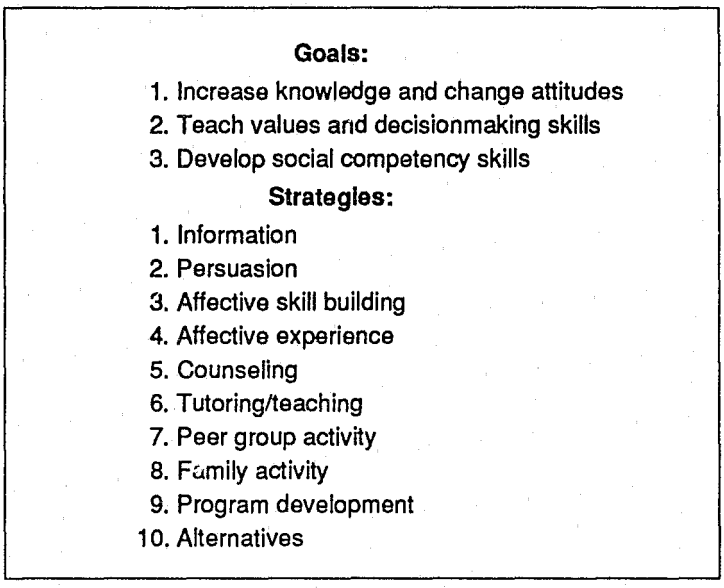

Figure 3. School-Based Prevention Programs (Alcohol Use)

illustrative and not definitive, and therefore do not reflect the full range and variation of prevention approaches that fall within each broad category. My point in displaying these four models in this particular format is to illustrate how research projects can be designed and specific research questions formulated that will address the efficacy, effectiveness, goals, and assumptions of each of these models. For example, the Social Learning Model (see figure 4, part III) lacks a "deficits" analysis because a number of research projects using this model are still going on. As discussed above, we cannot expect any one project's results to answer definitively all our questions regarding the efficacy of a particular prevention model. However, we can hope that prevention projects will share results with one another and influence the ongoing modification of new and existing programs.

Prevention research is a field where classic control techniques of research design may not work. It is a field in search of new models and techniques. Establishing national norms and comparing values and community behavioral changes are difficult. Prevention research is also struggling with conceptual issues such as the definition of use, abuse, and misuse; the role of various factors in the etiology of drug use; and the appropriate domain for the implementation of preventive interventions (i.e., family, school, religious institution, community, and law enforcement agencies).

I. Information Model (Cognitive)

Assumption:	Children use drugs because they are ignorant of the dangers
Approach:	Provide information about drugs —pharmacology —effects/consequences on health —methods of use General health education
Result:	If less positive attitudes toward drugs are produced, less drug use (behavior) will result
Deficits:	Peer pressure is a strong counterbalance (situational factors) Knowledge alone does not affect behavior directly "Scare tactics" do not work Children are becoming sophisticated earlier

II. Individual Deficiency Model (Affective Education/Interpersonal)

Assumption:	Adolescents use drugs because they lack some essential trait or ability (low self-esteem and/or lack of adequate tools for making rational decisions)
Approaches:	Values clarification Skills development: —cognitive, social, interpersonal, decision-making, problem solving Improve self-esteem, self-worth, self-concept Become more aware of own feelings and those of others
Result:	If essential tools are provided, correct choices will be made Improved psychosocial development and adjustment
Deficits:	Short-term programs do not change lifetime experience Very difficult to implement Programs may provide little or no information about drugs

Figure 4. Prevention Education Models (Parts I and II)

III. Social Learning Model/Behavioral

Assumptions:

Longitudinal studies show that drug use usually starts in a group setting, among peers or relatives
—social influences/external pressure

Young people have a strong desire to appear independent and "adult"
—imitation/modeling
—peer pressure

Young people are present-oriented (normative expectations)
—long-term risks are not understood or valued
—emphasis is on short-term effects/pressures

Role playing among peers about specific situations (Bandura's social learning theory 1977) avoids "passive spectator" problem

Reinforcement of newly learned skills through practice results in a learned repertoire of behaviors

Use of peers as role models
—reinforce positive aspects of independence and self-concept

Approach:

Identify implicit and/or explicit external pressures to use drugs
—media
—adults
—peers

Develop counter arguments ("social inoculation")
—based on short-term rationale/reasons

Apply these effective, and socially acceptable, methods of resisting pressure to use drugs
—learning how to "say no" gracefully (refusal skills)
—values clarification

Result:

Provide adolescents with specific skills and support for saying no

Establish normative expectations

Figure 4. (Part III)

IV. The Alternatives Model	
Assumption:	Adolescents start using drugs for a variety of reasons, including internal and external pressures
Approach:	Provide alternative activities to keep them busy and productive
Results:	Improved self-esteem
	Connectedness to community
Deficits:	Ineffective as the only intervention for adolescents

Figure 4. (Part IV)

Conclusion

Prevention research is evolving and will continue to develop as a direct consequence of the following: (1) more complex theoretical and conceptual thinking; (2) more valid and reliable measures of drug-related problems; (3) a better understanding of individual risk factors; (4) better identification of individuals and groups at high risk; (5) better research design, including prospective and long-term followup studies; and (6) better integration of interventions across various settings—family, school, community, religious, and criminal justice. The National Prevention Network and National Association of State Alcohol and Drug Abuse Directors conducted a national survey (USDHHS 1988) of exemplary community-based prevention programs that resulted in the development of a list of attributes found to be common among effective prevention programs (see figure 5). These 12 attributes are indicative of the complexity of prevention research.

1. Program planning process
2. Goals and objectives
3. Multiple activities
4. Multiple targets/populations
5. Evaluation base
6. Sensitive to needs of all
7. Part of overall health promotion/health care system
8. Community involvement and ownership
9. Long-term programs
10. Multiple systems/levels
11. Marketing/promotion
12. Replicability/generalizability

Figure 5. Twelve Attributes of Effective Prevention Programs

Despite my emphasis on the impediments, barriers, and inadequacies associated with the current state of the art of prevention research, I sincerely believe that the future holds great promise that prevention research will establish itself as a viable research enterprise.

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School-Based Drug Education Research Findings: What Have We Learned? What Can Be Done?

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Education embodies the hopes and expresses the fears that a society holds for its future. Our society's commitment to education is also a statement of belief in the power of knowledge to liberate our citizens, enabling them to behave in personally and socially responsible ways. Our faith in education is witnessed by the intensity of debate concerning the content and process of our children's education, whether it concerns sex, religion, or politics. It is felt, on the one hand, that our children can be influenced for the better through education about such social issues as democracy and race. On the other hand, we sometimes have reservations about the impact of education on our children's religious values and their sexual practices. Education has become a preferred means for righting social injustice, for changing the minds and hearts of our citizens, and for preventing the costly effects of behaviors such as discrimination, poor nutrition, and the use of alcohol and other drugs.

As policymakers and educators, we frequently act as though we are facing these problems for the first time, and as though we have been handed a novel technique for addressing them. We talk about the prevention of alcohol and other drug problems through education as if, in the history of humanity, such an approach has never been considered. In reality, these concerns are documented in the earliest human records. Most societies have sought to control drug use either for their own financial profit or to reduce the costs of abuse. Rarely, however, has control of abuse through legislation existed in the absence of education.

It is especially appropriate, as we make recommendations for future educational actions to prevent alcohol and other drug use among youth, to pause and consider the lessons of past efforts. What has history taught us regarding the appropriate content and processes of drug education? What do we know about the effectiveness of the various forms of drug education? How does education fit into a broader program of measures to prevent abuse? What are the most promising educational avenues? How can we build on what we have learned? How can we avoid the weaknesses and mistakes of history?

Overview of Drug Education Research

Previous reviewers of alcohol and other drug education research have consistently drawn pessimistic conclusions concerning the effectiveness of education other than that directed at smoking. (For drug education see: Berberian et al. 1976; Braucht et al. 1973; Bry 1978; Goodstadt 1974, 1978, 1980; Hanson 1982; Randall and Wong 1976; Schaps et al. 1981. For alcohol education see: Braucht and Braucht 1984; Cooper and Sobell 1979; Freeman and Scott 1966; National Institute on Alcohol Abuse and Alcoholism: Hewitt 1982; Kinder et al. 1980; Staulcup et al. 1979; National Institute on Alcohol Abuse and Alcoholism: Wittman 1982.) These reviews agree in finding fault with the quantity and quality of the evidence regarding the impact of school-based drug education.

Quantity of Research

The overwhelming majority of alcohol and other drug education programs has not been evaluated. Randall and Wong (1976), for example, found that only 23 of over 200 reports of drug education programs (published after 1967) included any systematic evaluation. This ratio is not expected to have improved within the last decade. Research evidence concerning the effectiveness of drug education grows with each passing year, allowing Schaps et al. (1981) to review 127 evaluation reports, and Tobler (1986) to conduct a meta-analysis of 98 evaluations of adolescent tobacco, alcohol, and other drug prevention programs. These studies, however, represent only a meager effort to evaluate the flood of past and current drug education program efforts. Moreover, as we shall see, the nature of these studies does not permit an adequate assessment of the variety of education programs and approaches.

Quality of Research

As indicated above, only a very small minority of reported evaluations of alcohol and other drug education programs conforms to acceptable research standards. Schaps et al. (1981), for example, identified only 51 (40 percent) of 127 evaluations as possessing minimally acceptable designs. Tobler (1986) classified 98 (41 percent) of 240 studies as containing experimental or quasi-experimental designs and meeting other selection criteria related to target audience and program objectives; 47 (20 percent) studies lacked a control group, and another 45 (19 percent) lacked quantitative outcome measures. Staulcup, Kenward, and Frigo (1979) reported that none of 21 federally funded programs (i.e., National Institute on Alcohol Abuse and Alcoholism) regarding prevention of alcohol problems included a true experimental group design; 5 utilized nonequivalent comparison groups. The quality of existing evidence, therefore, prohibits our drawing confident conclusions regarding the effectiveness of drug education.

In addition to defects in research design, most programs evaluated lacked the qualities that are prerequisite for any program impact. Thus, Schaps et al. (1981) categorized only 31 percent of their 127 evaluations as possessing sufficient intensity in the form of program duration, scope, and persistence. These reviewers categorized only 10 of 127 studies as being adequate in *both* research design and program characteristics. When considered within the context of program diversity, it is evident that we can make few definitive statements about the impact of drug education within school settings.

Summary Statements Regarding the Effectiveness of Drug Education

The quantity and quality of existing evidence, therefore, does not allow us to draw definitive conclusions regarding either the potential or actual effectiveness of education other than to conclude that inconsistencies in results appear to be the norm (see later discussion). Rather than compile a manual regarding the large number of differences in program and research design (see table 1), I will summarize what we have learned from the findings and failings of past evaluations of drug education as a set of 14 propositions.

PROPOSITION 1: In the absence of better research data, one is neither able to conclude that alcohol and other drug education is effective nor justified in concluding that it is ineffective. (Some would argue that it is incumbent on advocates of drug education to justify, with supporting empirical evidence, their intrusion in schools and into the lives of young people and their use of increasingly scarce resources.)

PROPOSITION 2: Previous evaluations of drug education programs teach us a single and salutary lesson: inconsistencies in the impact of drug education programs are to be expected. There are three forms of inconsistent effects:

(1) Program impact is inconsistent across outcome measures: knowledge is readily influenced, while attitude and behavior change are more difficult to achieve. Of greater significance, changes in one domain are often not associated with changes in other domains; this cautions us against assuming that improvements in knowledge will have an impact on drug attitudes or use, or that improvements in attitudes will produce corresponding improvements in behavior;

(2) Individual programs have produced both positive and negative outcomes. Programs have exhibited negative (i.e., undesirable) effects in one domain, such as attitudes, while having a positive impact with regard to drug use or expectations about future use.

(3) Program effects vary among subgroups of students: impact may differ as a function of participants' gender, age, school, and experience with alcohol. Within studies, positive, negative, or neutral effects occurring within one group may not be exhibited by other subgroups receiving the program.

PROPOSITION 3: Existing research concerning the impact of drug education relates more to actual effectiveness than to potential effectiveness or efficacy. More attention should be given to the efficacy of drug education in addition to studying its effectiveness.

PROPOSITION 4: In the absence of guidance from definitive research evidence, the planning, development, and implementation of drug education should be guided by the logic and psychology of human behavior, its origins, and its changes.

PROPOSITION 5: Drug educators should recognize the variety of possible prevention objectives and target groups for educational programs. Program objectives should be clearly specified during program development and evaluation.

PROPOSITION 6: Drug educators should take account of the dynamics of individual behavior and interpersonal influence. Programs should possess sound and explicitly stated theoretical bases for their expected social and behavioral influence.

PROPOSITION 7: Drug educators should take account of existing research concerning the building blocks of all programs, namely, changes in knowledge, attitudes, perceptions, skills, and behaviors. Program objectives should be realistic in relation to this research.

PROPOSITION 8: Drug educators should take account of the history, diversity, and strength of the competing reinforcements to which audiences have been or might be exposed.

PROPOSITION 9: School-based drug educators should link their programs with other areas of the school curriculum and school life.

PROPOSITION 10: School-based drug educators should make the necessary links between the principles and skills students acquire in the classroom and the reality of drugs outside the classroom—in their schools, among their friends and peers, in their families, in their communities, and in society at large.

PROPOSITION 11: As much attention should be devoted to implementing and evaluating programs as to developing them.

PROPOSITION 12: Drug educators should give increased attention to the effective implementation of their programs, including adequate time allocation, sufficient staff training, and the maintenance of quality in program operation.

PROPOSITION 13: A greater number of drug education programs should be evaluated than is currently the case.

PROPOSITION 14: The quality of drug education evaluations should be improved.

Table 1. Factors Associated with Lack of Comparability Between Evaluations of Drug Education Programs

A. PROGRAM DIFFERENCES
   1. Program objectives, including:
      a. Abstinence
         (1) Permanent
         (2) Time limited
      b. Delay of onset/initiation of drug use
      c. Responsible use
      d. Moderate use
      e. Low-risk use
      f. Reduced use
      g. Cessation
   2. Target populations, including:
      a. Age cohorts:
         (1) Young children
         (2) Adolescents
         (3) Adults
         (4) Seniors
      b. User status, including:
         (1) Nonuser
         (2) Infrequent user
            (a) Experimental user
            (b) Occasional user
         (3) Regular user
            (a) Low-risk user
            (b) High-risk user
            (c) Problem user
            (d) Dependent user
         (4) Former user
   3. Target drug(s), including:
      a. Alcohol
      b. Tobacco
      c. Illegal drugs
      d. Medications
         (1) Over the counter
         (2) Prescription

Table 1. (*continued*)

4. Program strategy, including:
   a. Knowledge/attitudes/behavior
   b. Skills development
      (1) Decisionmaking, problem-solving
      (2) Values clarification
      (3) Communication
      (4) Assertiveness
      (5) Refusal
      (6) Coping with stress/anxiety
   c. Self-esteem development
   d. Alternatives
5. Program qualities
   a. Intensity
      (1) Duration
      (2) Scope
      (3) Persistence
   b. Implementation
      (1) Implementor
      (2) Training
      (3) Quality control
         (a) Time
         (b) Content
         (c) Process

B. RESEARCH DESIGN DIFFERENCES
1. Sampling
   a. Population representation
   b. Random selection
2. Program comparisons
   a. Alternative experimental programs
   b. Standard program
   c. No treatment control
   d. No comparison group
3. Dependent variables
   a. Knowledge/attitudes/behaviors
   b. Skills
   c. Perceptions (e.g., re: normative behavior)

Table 1. (*continued*)

4. Data analysis
   a. Unit of analysis: individual vs. group
   b. Univariate vs. multivariate
   c. Appropriateness of assumptions re:
      (1) Random sampling—generalizability
      (2) Random assignment
      (3) Normal distribution of dependent variables
      (4) Covariation among variables
      (5) Independence of statistical tests

Conclusions

From experience, logic, and research, we are able to estimate the size and nature of the alcohol and other drug problems faced by our society. We are also able to specify the appropriate objectives with respect to various problems and target groups. Further, we can make educated decisions concerning effective strategies for achieving individual and social change. We know how to remedy our ignorance. What we need, most of all, is the personal, professional, societal, and political commitments to use existing and future resources to achieve what we know is possible—a healthier society for all citizens.

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Drug Abuse Prevention: Research Needs

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For the past 20 years, communities across the United States have addressed the problem of drug initiation, and a cadre of prevention professionals has emerged. Over the past 15 years, a goal of the National Institute on Drug Abuse's (NIDA) prevention research program has been to identify effective strategies that can be disseminated throughout the country. Unfortunately, research efforts have been able to tell us more about what does *not* work than about what does. To date, no drug abuse prevention strategy has been consistently demonstrated to be effective. However, promising approaches have been evaluated within the research context. We will be learning about these in the next several days. A major problem in documenting the effectiveness of drug abuse prevention stems from limitations in the research methods available. For example, prevention research studies generally require large numbers of subjects who must be followed for several years after the intervention. It is prohibitively expensive and logistically difficult to manage sufficiently large studies, and subjects who are most at risk for drug abuse are the most likely to drop out of studies before long-term program effects can be measured.

That aside, there has been increased attention to the design and testing of a variety of drug abuse prevention strategies during the past decade. Most of these studies have focused on school-age populations and have assessed the efficacy of information, education, and other intervention techniques. Research has also contributed to our knowledge of the etiology of drug abuse. Although advances have been made in identifying risk factors for drug use, precursors to abuse have been most frequently identified retrospectively. Studies have rarely focused on the predictive validity of potential risk factors, and, in general, research has not focused on factors that mediated the underlying pathology.

Research suggests that initial markers of later problem behaviors can be identified as early as elementary school. For example, the early emergence of conduct disorders and achievement problems in school has been shown to be predictive of later antisocial and delinquent behavior in adolescence (Jessor and Jessor 1977). Other social and behavioral markers of later drug use and abuse include poor and inconsistent parental practice, physical and/or sexual abuse, a low degree of social bonding, positive beliefs and attitudes toward drug use, high levels of sensation seeking, rebelliousness, shy and aggressive behavior, association with deviance-prone peers, early age of first use, and an affinity for unconventional behavior. A combination of these factors appears to place an

individual at *high risk* to subsequent drug use (Newcomb et al. 1986; National Institute on Drug Abuse: Hawkins et al. 1985).

Between 1982 and 1987, NIDA funded prevention research in the amount of $70.1 million, with $12.5 million in FY 1987 going to more than 50 research grants. Research studies have focused on the etiology of drug abuse, drug use vulnerability, and well-controlled intervention trials.

Prevention Research Needs

The focus of NIDA's prevention research activities is on (1) etiology research, which seeks to identify factors that place individuals at risk for alcohol and other drug abuse and factors that mitigate such risk; and (2) evaluation, which seeks to develop and test strategies that will prevent the onset of alcohol and other drug abuse.

In the etiology area, NIDA is interested in supporting research aimed at understanding the factors that contribute to initial drug use, as well as factors that contribute to the progression from initial use to dependence. Studies regarding alcohol and other drugs are needed to (1) identify risk factors that predispose individuals to initiate, maintain, and escalate use; (2) identify developmental correlates and consequences of abuse behaviors; (3) develop methods for identifying high-risk individuals and high-risk environmental and family factors that may serve as role models and support systems for, and be etiologically related to, abuse; (4) formulate and test conceptual models of the processes and factors involved in the initiation, escalation, and maintenance of abuse; and (5) refine methodological and statistical procedures for quantitatively assessing risk.

Previous studies of the etiology (National Institute on Drug Abuse: Jones and Battjes 1985) of drug abuse have focused, in large part, on examining drug use among white, middle-class youth. NIDA is currently interested in supporting research to evaluate the effectiveness of strategies for preventing the onset of drug use. Controlled evaluation research is needed to assess the effectiveness of prevention strategies employed in a variety of settings, including the school, community, and workplace. Evaluation results would be used to test prevention theories, improve program delivery, and inform prevention policymakers.

Research that would focus on special populations, e.g., members of ethnic and minority groups, women, institutionalized youth, and children with learning disabilities is encouraged. Etiological research is also needed to assess the development of drug use patterns that occur during the transition from adolescence to adulthood. Special attention should be given to the effects of earlier alcohol and other drug-related behavior and critical life events encountered as a result of increased family, work, and social responsibilities. There is a need for research focused at special target groups at risk for drug use who have

previously not been the focus of intensive research. These would include children and youth who have used cigarettes, alcohol, and other drugs at a very early age; youth who are alienated from or have dropped out of school; inner-city youth at special risk for alcohol and other drug use onset; high-school-age students who are beginning the transition to the workplace or to higher education; and young adults who are experiencing stress, frustration, and uncertainty due to the complexities of increased family, work, or community responsibilities and pressures.

Research is also needed on intervention efforts to interrupt progression (National Institute on Drug Abuse: Kandel and Yamaguchi 1985; Kandel and Logan 1984) of drug use from less dangerous to more dangerous drugs, increased intensity of drug use, and/or the use of greater numbers of psychoactive drugs. Previous research suggests that drug use progresses from the use of alcohol and/or cigarettes to marijuana, then to other illicit drugs. More recent studies indicate that a stage of problem drinking may follow the use of marijuana and precede the use of other illicit drugs. Increased intensity in use of a particular drug and the use of multiple drugs contributes to drug progression.

Also needed are studies of the mechanisms and effects of persuasive communication from broadcast and print media on drug-related cognition, affect, motivational levels, and behavior. Of importance is the testing of message format, content, and presentational style on affective states, given individual receiver differences in cognitive levels, personality characteristics, and prior alcohol and other drug use exposure.

Some individuals seem to be at particularly high risk for alcohol and other drug abuse, while others who seem to share many of the same characteristics appear to be strongly resistant to them. Research is needed to (1) determine those factors that mitigate the risk for abuse, and (2) organize those identified factors into tested patterns, models, and theories that will facilitate the identification of high-risk individuals and increase the effectiveness of intervention.

Research is also needed to identify factors that may mitigate against the establishment and/or escalation of abuse-related behaviors. In addition to projects involving larger numbers of subjects, clinically oriented studies that focus more intensively on smaller numbers of subjects are encouraged.

Research and clinical practice indicate that adolescent alcohol and other drug use behaviors may have their origins early in life (National Institute on Drug Abuse: Bush and Ianotti 1985). For example, preliminary research findings suggest that children as early as the first grade demonstrate behavior, such as shyness or aggressiveness, that is predictive of drug use by adolescent males, and that these early behavioral indicators or markers can be observed and reported by teachers and parents. Other findings indicate that identifiable early childhood behaviors and characteristics of high drug use risk do exist and can

be utilized to target individuals who should receive the special attention of early interventions.

In addition, research is needed to develop high-risk profiles, assessments, and methodologies necessary to identify individuals at particularly high risk for future alcohol and other drug abuse behavior. These high-risk markers may involve overt behavioral characteristics as well as familial or environmental factors.

Vulnerability Research Needs

Vulnerability to alcoholism has been well established (Cotton 1979; Goodwin 1973; Schuckit 1985). The results of family, adoption, and twin studies suggest that both genetic and environmental factors are involved in the etiology of alcoholism vulnerability. For example, studies have shown that alcoholism tends to run in families, which may be explained by both genetic and environmental influences. The role of genetic factors in alcoholism has been strongly suggested by results of adoption studies (male adoptees with at least one alcoholic biological parent are three to four times more likely to abuse alcohol than adoptees with nonabusing biological parents) and twin studies (monozygotic twins show higher concordance for alcohol abuse than dizygotic twins). The role of environmental influences is also evident from the results of these studies, particularly twin studies, where not all monozygotic twins have been found to be concordant for alcoholism.

In contrast, little is known about environmental and genetic factors that contribute to the etiology of other types of drug abuse (i.e., heroin, cocaine, marijuana). Evidence suggests, however, that the pattern of inheritance for drug abuse may be similar to that for alcoholism. Drug abusers frequently abuse alcohol, and alcoholics often report problematic drug use. Also, alcoholism and other drug abuse tend to run in the same families. In addition, there is a close association between alcohol and other drug abuse and other forms of psychopathology. Family studies of alcohol abuse report increased rates of other psychiatric disorders (including drug abuse) in the family members of alcoholics.

It is recognized that simple cause and effect models are inadequate for explaining vulnerability to drug abuse. Rather, it appears that various combinations of biological and environmental factors can attenuate or exacerbate an individual's likelihood for becoming drug dependent. To identify the relevant variables, it is important to examine not only organismic variables, but also environmental factors that interact to determine an individual's vulnerability. Such factors may operate within either the immediate milieu (e.g., family, peer group), or more broadly (e.g., cultural norms).

Special attention should be directed toward children who are at high risk for developing drug dependence but do not develop disorders. Research is needed

to determine the types of genetic, familial, behavioral, and environmental factors that contribute to this "invulnerability." Such findings may be employed by prevention programs to protect other high-risk adolescents from becoming drug dependent.

AIDS Research Needs

Intravenous drug users comprise the second largest group at risk for acquired immune deficiency syndrome (AIDS) (Battjes et al., in press). As of March 7, 1988, 9,564 cases of AIDS among heterosexual intravenous drug users had been reported to the Centers for Disease Control (1988). This constitutes 18 percent of the 55,167 overall AIDS cases reported in the United States. An additional 7 percent of AIDS cases are made up of homosexual or bisexual intravenous drug users. Thus, intravenous drug abusers comprise a total of 25 percent of all AIDS cases in the United States. They are predominately Black (51 percent) or Hispanic (30 percent). Children with AIDS whose parents abuse intravenous drugs are also predominantly Black (51 percent) or Hispanic (31 percent) (Centers for Disease Control 1986).

It is estimated that 250,000 to 350,000 intravenous drug abusers are already infected with the virus, and that 25 percent of those infected will develop AIDS by the end of 1991 (U.S. Public Health Service 1986). The latency period between infection with the virus and development of AIDS currently averages 5 years or more. In the meantime, those who are seropositive will be infecting—through the sharing of needles and sexual contact—many thousands of drug addicts and non-drug-abusing partners. Intravenous drug users are the primary link to two other groups at risk—heterosexual partners and their offspring.

Detailed information regarding seroprevalence rates among intravenous users is not available. Testing of intravenous drug abusers outside of New York, New Jersey, and California has been limited. Studies conducted in New York show an infection rate of 50 percent among intravenous drug users in methadone maintenance and detoxification programs (Des Jarlais, personal communication 1987). A 1984 New Jersey study demonstrated marked differences in infection rates by geographic area. Among patients in methadone maintenance and detoxification programs, 59 percent of those within 5 miles of New York City were seropositive, compared with 45 percent 5 to 9 miles away, 24 percent 10 to 25 miles away, and 2 percent 100 miles from the city (Weiss et al. 1986). Currently, 60 percent of AIDS cases are outside New York City and San Francisco and, by 1991, it is anticipated that this figure will increase to more than 80 percent (Des Jarlais, personal communication 1987).

Drug abuse prevention and treatment are methods of controlling the spread of AIDS among intravenous drug users and reducing chances of AIDS exposure. Providing effective treatment would allow clients to eliminate their needle use

and to learn about other risk-reduction activities (i.e., safe sex practices). There is a crucial need to reach intravenous drug users not yet in treatment, and to target AIDS prevention messages to those who will not enter treatment. It has been estimated that for every intravenous drug user in treatment, there are seven not in treatment.

The target group for the research may include high-risk individuals, families, and/or communities. Consideration should be given to placement of interventions in drug abuse treatment programs and public health agencies, as well as nontraditional settings such as street clinics, homeless shelters, hospital emergency rooms, and mission centers.

In closing, let me note that studies should also be proposed to assess the specific communication networks that exist for intravenous drug abusers, to determine the most effective methods of reaching target subjects, and to test the most appropriate message format, style, and content to evoke desired behavioral change. Findings from these studies would guide the development of effective public awareness materials, campaign strategies, and interventions appropriate for high-risk groups.

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CHAPTER 3

School-Based Prevention Programs

Summary

Presenters described various school-based prevention models and strategies. They stated that prevention education in school settings has become a major primary prevention approach.

Presenters discussed positive aspects of various approaches as well as the shortcomings of specific models. High-risk youth were of particular concern. Participants heard recommendations regarding alternative models or modifications to existing ones; implementation strategies were also discussed.

School-based prevention models, of course, are developed to respond to what is believed to be the underlying cause(s) of use among youth. One such model posits that prevention must draw on several disciplines to be effective.

The Social Influence Model draws its ideas from behavioral epidemiology, developmental psychology, social psychology, and education. The model holds promise, as mounting evidence suggests that the onset of alcohol and other drug use may be deterred as a result of the program. The speaker cautioned, however, that no program, based on the social influence model or other models, will be entirely effective for all drugs or problem behaviors or among all groups.

School-based efforts will be more successful if linked to efforts within the entire community, particularly those involving parents.

The kind of knowledge available from the prevention practitioner is as important as that from research.

Schools that are implementing a broad range of prevention activities (and sustaining them throughout the year) are showing reductions in expected levels of students' use of cigarettes, alcohol, and marijuana.

A Statewide Evaluation System for School-Based Prevention Programs and Its Research-Suggestive Results

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Introduction

It is my opinion that a group of prevention professionals, several hundred school staff, and, particularly, several key people are responsible for a remarkable, important, and largely unheralded success story for prevention. I think the "remarkable" and the "important" part will become obvious by the time I have finished. The "unheralded" part has to do with the fact that the evaluation system that we have developed is largely unknown outside Kansas and a few other States.

History

Let me begin with a history of this evaluation system. The most interesting aspect of this story is that it starts at the grassroots level. It starts with program people who are involved with schools and students daily. Many people think the original impetus for research arises within university settings. I know many program people who think this way. They think that research is never something to which they would directly contribute. I call this a dualistic model, with researchers creating the programs and practitioners applying them. Actually, program work generates a large proportion of research. I would suggest that this conference would be well served if we used a dialog rather than a dualistic model. I think that the field would greatly benefit if we were to see research as a two-way communication between program practitioners and researchers. If you consider yourself a program person, this would mean that researchers need to hear what you have to say about your experiences with prevention. I know that program people make working modifications to research designs for real and important reasons. My advice to the program people here is to listen *and* to talk back, trust yourselves and your applied knowledge, and let the researchers know what you know.

When I was doing evaluations of highway safety programs for the Kansas Department of Transportation, I received a call from Galen Davis. At that time, Galen was director of prevention services for the Wichita, Kansas, school district. Wichita had been designated as one of 10 "targets of opportunity" by

the U.S. National Highway Traffic Safety Administration. Because of this, the Kansas Department of Transportation's Office of Traffic Safety was providing grants to various agencies in Wichita to impact the local problem of alcohol-impaired driving. D.E. "Doc" Robinson, the administrator of that office, had decided to include prevention funding as part of that effort. As he was doing this more than 5 years ago, "Doc" was a true pioneer of efforts within the Federal highway safety community to fund prevention. No matter what area we are working in, we all know people who are key people. What I mean is people who, had they not been in their positions and had they not done the things they chose to do, made good things happen that otherwise would not have. "Doc" is one of those key people. As the head of a major State government agency, he has provided and continues to provide substantial support for prevention programming and evaluation in Kansas.

Galen needed help evaluating his program and "Doc" had suggested that he talk to me. Galen told me that he had called the National Institute on Drug Abuse (NIDA) to ask what kind of evaluation data he ought to collect. NIDA's answer was to collect everything. So he had been collecting everything, but he needed help making some sense out of it. He sent me some data. I massaged them a bit and sent them back. He liked the results and wanted further advice.

Galen is another one of those key people I mentioned. Galen introduced me to the team-training prevention method. He has been an outstanding leader in prevention programming in Kansas and beyond. For me, though, he is most crucial for his ongoing support and dialog on prevention evaluation and research. Just like "Doc," without Galen there would be no statewide prevention evaluation system.

For 2 or 3 years, we developed and implemented an evaluation system for the Wichita schools' prevention program. This was a formative period. There was a constant exchange among Galen, his staff, their program, and my expertise in evaluation. We did not go in and try to lay the best, most comprehensive, most reliable, most thorough evaluation system on the schools. Trying to do this is a mistake that some professional and university evaluators and researchers make. My experience is that neither the applied prevention practitioner nor the school environment is ready for that. I also think that such an approach is too presumptive on the part of the researcher or evaluator. This goes back to the dialog approach. To repeat, I strongly believe that the most productive approach to research and evaluation is an ongoing, balanced dialog between theory and practice. The Greeks have a word for this, *praxis*. Praxis implies the living crucible where theory and practice meet—the application of knowledge. I think that we make a serious error when we exclude an ongoing exchange between theory and practice.

Meanwhile, statewide recognition and support for team training had grown considerably. Due partly to Wichita's experience, but also to key program people whom many of you know, like Elaine Brady-Rogers and Cynthia Galyard, team training had become the number one prevention program funded by the State. Elaine and Cynthia were the chief propenents of team-training at the State level, especially at the beginning when the program was struggling for acceptance. When few other States would financially support evaluation of prevention programs, the Kansas Alcohol and Drug Abuse Services, through a series of directors including the present one, Andrew O'Donovan, has committed that support. Whether it is research and evaluation or program delivery, what happens does so because of people—individuals alone and individuals representing agencies. Their decisions, their commitments, and their efforts are what fundamentally make it all possible. For some reason, we seem to forget that prevention research is not just abstract, intellectual conclusions, but more important, it is people trying their best to solve problems whose consequences are severe.

Because of these people, the decision was made to apply the evaluation system developed for Wichita to those schools across the State utilizing the team-training method. We successfully did this for 2 years. During that time, we further refined the evaluation system. About 2 years ago, the State decided to revise completely its approach to prevention. After a thorough review of its activities, the State produced several regional prevention centers and also funded a statewide prevention evaluation. Since the team-training method is a framework or process that encompasses any specific prevention program, we adopted the statewide team-training evaluation. That evaluation system is being applied for the first time this school year.

The evaluation system is remarkable, important, and the unheralded success story I mentioned earlier. The most valuable lesson of this story is the importance of people and process. This system represents an ongoing dialog among school prevention people who see our successes and failures daily; State-level prevention people who struggle in the middle between political decisions and the local level; and those with expertise in evaluation and research. These three groups are our best hope for the future and are certainly responsible for what we have been able to accomplish with this evaluation system thus far.

Other presenters at this conference will provide you with information about the current state of prevention research results. I think, though, that one of the most important issues I can raise for both researchers and prevention professionals is the salience of the dialog approach. Researchers commonly say that too much program work is done with too little knowledge of research results. I would say that it is also true that too much research is done with too little practitioner knowledge. We need more dialog and less isolation.

The Evaluation System

I would like to describe briefly today's version of this evaluation system. I say "today's version" to emphasize that it is always changing and growing. With more schools added each year, we now have a computerized data base on 495 elementary and secondary schools. Of the 495 schools in the system, 252 participated in the student presurvey during this—our first year of operation. Based on what was learned this year, I think next year we will be able to increase substantially the percentage of participation. Personally, though, I think having 252 public schools participating in a common alcohol and other drug prevention evaluation system is a remarkable accomplishment and a substantial resource. The praise, though, is not for me; it is for those individuals I have mentioned and all those principals, teachers, and local and State-level prevention professionals who make it happen. It is truly their accomplishment and their evaluation system.

I could talk at length about the technical issues of our system, such as reliability, validity, sampling, and so forth. It is a complex but fascinating system. I think you would be impressed by the valuable prevention resource that has been built by hundreds of professionals and school staff. It is one of prevention's real success stories. No other social service field I know of has such a comprehensive impact evaluation. It is my hope that other States and school systems will be interested in participating in this process with us or will be interested in developing similar systems for themselves.

Results

I would like to talk a little about results, but first I need to explain briefly about team-training to prevent alcohol and other drug abuse. If you want to know a lot about this prevention model, you should talk to Galen Davis. My abbreviated summary of the model follows.

A team made up of three teachers, the principal, and a community representative is selected from each school and spends 1 week during the summer at a training session. The session is very intensive, running from early in the morning until late each night. The team is taught a teaming and a planning process, and each process is demonstrated by the staff. One of the primary assumptions of the model, different from most research-based prevention models, is that prevention works best when local people develop the solutions to local problems. This allows for local situations with different strengths and different needs to find solutions that fit. The local team may use Project Star, Students Against Drunk Driving (SADD), peer counseling, and so forth. During the week's training, the teams are taught the fundamentals of prevention and are introduced to several program possibilities. Additional renewal and instructional programs of 1 to 2 days are provided throughout the school year.

You can see from this description that our evaluation system—unlike many program evaluations—had to encompass not just a single program but a broad range of commonly implemented prevention programs. This was more difficult, but it also led to our setting up an evaluation system that could cover what is typical of most schools involved in real-world prevention programming. There is a whole range of prevention efforts: Some schools do one small prevention program...others virtually everything available, and the rest, any number in between. Our evaluation had to incorporate all of these. Thus, the system now covers 90 percent of the types of prevention programs commonly practiced throughout this country. This system is both generic and comprehensive.

The fact that we had schools doing all kinds of programs created a problem for us. How were we going to evaluate them? Figuring this out was a process involving people in the field and in evaluation. It started with asking the Wichita prevention staff what the 10 most important elements were that they thought distinguished those schools having an impact on alcohol and other drug use from those not having an impact. They listed which schools included the best of those elements. These ratings were compared to the independently derived residual gain scores. The prevention staff's rating of the schools was significantly correlated with student use differences. In other words, the schools that the prevention staff thought were doing the things that ought to be done were, on average, the schools that were having the most impact on student use. That original list of 10 has now evolved into two questionnaires (see appendix) on the types and extent of prevention activities.

Based on each year's experience, these questionnaires change somewhat, but the process has yielded what I would say is our most significant research-related finding. In a way, this finding is a commonsense one: Schools with high-prevention activity have a significant, measurable impact on student alcohol and other drug use when compared to schools with low-prevention activity. In a strict sense, that conclusion is limited to the context of this evaluation system. In the technical terms of good evaluation, it cannot be concluded that this finding is universally applicable. I must add, though, that we have replicated this finding over several years and over several hundred schools from large to small, urban to rural. It is my personal and professional opinion that it is a stable finding.

I am sure that some of you keyed in on the phrase "schools with high prevention activity" and wondered what I meant. High-activity schools are schools that make a substantial commitment to prevention and carry that commitment through the school year in a variety of ways. One key factor is that high-activity teams contribute an almost unbelievable number of volunteer hours to prevention in their schools. Low-activity teams do very little; what they do is episodic; and the commitment to prevention is minimal.

Let me give you a couple of comparisons to illustrate this difference. These numbers are taken from the 1986–87 school year evaluation. For elementary schools with only fifth and sixth graders tested, an average of 84.4 percent of the students in low-activity schools were abstinent from alcohol at the beginning of the school year. For high-activity schools, that average was 82.2 percent. As you can see there is a very small difference between the two at the beginning of the year: only 2.2 percent. At the end of the school year, the low-activity schools had dropped to an average of 74.3 percent. The high-activity schools dropped only slightly to 79.1 percent. The difference is obvious. The low-activity schools had dropped 10.1 percentage points. In other words, out of every 100 students, about 10 students moved out of alcohol abstinence into some level of use. The high-activity schools had dropped only 3.1 percentage points; out of every 100 students, they had lost only 3.1 to some level of alcohol use.

Here is an example from secondary schools—7th through 12th grades. An average of 69.3 percent of the students in low-activity secondary schools were abstinent from tobacco use at the beginning of the school year. For high-activity secondary schools, that average was 71.3 percent. Again, there is a very small difference between the two at the beginning of the year: just 2 percentage points. At the end of the school year, the low-activity schools had dropped to an average of 64.6 percent. The high-activity schools had averaged a slight increase to 72.1 percent. Again, the difference is obvious. The low-activity schools had dropped 4.7 percentage points. In other words, out of every 100 students, 4.7 students moved out of abstinence into some level of use. The high-activity schools had increased 0.8 percentage points; out of every 100 students, nearly 1 student was added to the abstinent group.

The high-activity schools, whether elementary or secondary, had not been able to decrease use levels significantly, but they had stopped the upward trend in use that happens as youth become older. Research has proven that this increase in use with increase in age is very powerful, but the high-activity schools had stopped it. In fact, our finding over several years, several drugs, and different sizes and types of schools, is that, while the high-activity schools can defeat the trend, on the average, they cannot reverse it. I think defeating the trend is a major accomplishment; reversing the trend would be even more exciting.

Briefly and more specifically, we found that for elementary schools, the more involved the school is in offering life skills, particularly self-esteem training, the more positive the impact on student alcohol and other drug use. The extent of team effort, including the sheer number of projects completed by a team, the frequency of meetings, and the number of volunteer hours, had a significant positive correlation with impact, as did the active participation of the principal on the team and the presence of strong, active "Just Say No" clubs. Schools that

had extensive cooperation with community prevention centers also had a significantly positive correlation with impact.

For secondary schools, the following factors were significantly correlated with positive impact across several drugs and levels of use: the overall extent of life-skills effort, especially decisionmaking skills; the extent of team effort, especially the number of volunteer hours; the participation of the team in redevelopment experiences; and the level of activity among children of alcoholics' groups. Other factors had a significant positive correlation with positive impact on specific drugs and levels of use: self-esteem programs were significantly correlated with impact on alcohol abstinence and regular use; student team programs were significantly correlated with impact on infrequent and regular users of marijuana; peer programs were significantly correlated with impact on regular use of alcohol; SADD programs were significantly correlated with impact on alcohol abstinence and regular use; and extensive school relationships with community prevention agencies were significantly correlated with impact on alcohol abstinence, infrequent use, and regular use.

This enumeration of specific findings raises an important question. Is each of these results reliable by itself? The answer is no. This is not an evaluation of separate and single programs. The real context of this evaluation in most schools is that there is mixed and varied prevention activity. The subsequent question is: Can this real-world situation of mixed and varied prevention activity work? I would answer yes with one very important caveat. That is, it works when the schools place a high priority on prevention and commit much time and effort to it. The good news is that not only is this possible, but also that many schools are doing it.

The interesting question, if high-prevention-activity schools do have a significant impact, is, Why? I think that norms are a critical part of the answer. If a school is making a strong, sustained, high-priority, multiple-program effort, the selection of specific prevention programs is less important than the strong, sustained, high-priority, multiple-program effort. This level of effort creates a very powerful environmental norm. Somewhere in the late sixties and early seventies, adults seem to have given up on setting and reinforcing definite norms for youth. I know that Andrew O'Donovan, the commissioner of the Kansas single State agency, is interested in the importance of such norms. I hope there are others out there with similar interests. I particularly hope there is an interest among researchers and the Federal agencies which fund research.

You can take the most cursory look at comparisons of different cultural norms and find that such norms control the context and use of drugs. I think that a school could make a strong commitment to clearly stated and frequently reinforced alcohol and other drug use norms with positive and, possibly, more efficient results than we get from many of our current prevention technologies.

It could even be said that the true effect of our technologies is such normalization, even though we have not usually conceptualized it this way. The key to the success of high-activity schools is implicitly the creation of norms, and the way to become more efficient and more powerful is to become explicit in our use of norms.

Conclusion

Let me conclude by repeating my main points. First, I believe that this evaluation system is an important prevention success story. Our many-person, several-year effort is evaluating real-world, school-based prevention. Second, rather than have researchers and practitioners divided, all would be better served by an open, ongoing dialog. If we are going to have a significant impact on a very serious problem, we, and our Nation's children, cannot afford anything less than equal sharing of knowledge and wisdom. Third, individual people make it all happen, whether we are looking at research or programming. Individuals count. If we look back at the history of any success, we find individuals who gave their commitment, their time and effort, their insight. Key people really do make a difference. Fourth, high-activity, real-world schools can have a positive impact on student alcohol and other drug use. Fifth and finally, the reason the high-activity schools succeed, I think, is that they are implicitly setting and reinforcing norms. We ought to explore this possibility.

Appendix A: Alcohol and Drug Prevention Activity Survey: Elementary Schools

Directions: The questionnaire seems longer than it is because the definitions are included. It has only 56 questions. It is extremely important that every question is answered. It is also extremely important that you provide answers that are as *candid* as possible. If no answer fits exactly, please choose the best fitting one. April 1989

I. COMPREHENSIVE ALCOHOL AND DRUG POLICY

1. **Does the school or the district have a formal, written, comprehensive alcohol and drug policy? Please rate that policy according to the following guidelines.**
   A. Level one: None.
   B. Level two: Currently formulating a policy.
   C. Level three: Has a minimal one.
   D. Level four: Has a fairly good one.
   E. Level five: Has an excellent one.

2. **How frequently does the school communicate the alcohol and drug policy?**
   A. Not at all
   B. Less than annually
   C. Annually
   D. Twice annually
   E. More than twice annually
3. **To whom is the alcohol and drug policy communicated?**
   A. No one
   B. Staff only
   C. Staff and parents
   D. Students only
   E. Staff and/or parents, and students
4. **Does the school or district provide in-services that are predominantly focused on the comprehensive alcohol or drug policy? Please rate the in-services.**
   A. Level one: None.
   B. Level two: Distributes a copy of the social policy but no real instruction or discussion of it.
   C. Level three: Inexperienced presenter, limited presentation, minimal discussion.
   D. Level four: Experienced presenter, good presentation, in-depth instruction and discussion.
   E. Level five: Same as "D" plus done in small groups of 25 or fewer people.
5. **How frequently does the school or district provide in-services on the policy?**
   A. Not at all
   B. Less than annually
   C. Annually
   D. Twice annually
   E. More than twice annually
6. **Please estimate what percentage of the school's staff usually participates.**
   A. None
   B. 1-25%
   C. 26-50%
   D. 51-75%
   E. 76-100%

II. INTERVENTION

7. Does the school or district have a formal, written intervention policy? (May be a facet of the comprehensive alcohol and drug policy or of a student assistance program.) Please rate the policy according to the following guidelines.

A. Level one: None.
B. Level two: Currently formulating a policy.
C. Level three: Has a minimal one.
D. Level four: Has a fairly good one.
E. Level five: Has an excellent one.

8. Is the intervention policy being utilized whenever there is an indication of an alcohol or drug problem?

A. No
B. Yes, but rarely
C. Yes, some of the time
D. Yes, most of the time
E. Yes, virtually all of the time

9. Does the school have a team that has participated in the State-sponsored intervention training? Please rate the team.

A. Level one: None.
B. Level two: Trained but little to no activity generated.
C. Level three: Made some effort to develop an intervention policy, provided one in-service for staff on intervention, some effort to institutionalize intervention.
D. Level four: Facilitated the development of a fairly good intervention policy, provided more than one in-service for staff, facilitated some institutionalization of intervention, interventions are being accomplished.
E. Level five: Facilitated the development of an excellent intervention policy, developed an ongoing plan for training of other staff, intervention process has become well institutionalized within school, interventions are occurring as needed.

10. Does the school or district provide in-services that predominantly focus on intervention? Please rate those in-services.

A. Level one: None.
B. Level two: Distributes a copy of the social policy but no real instruction or discussion of it.
C. Level three: Inexperienced presenter, limited presentation, minimal discussion.

D. Level four: Experienced presenter, thorough presentation, in-depth discussion.
E. Level five: Same as "D" plus done in small groups of 15 or fewer people.

11. How frequently does the school or district provide in-services on intervention?

A. Not at all
B. Less than annually
C. Annually
D. Twice annually
E. More than twice annually

12. Please estimate what percentage of the staff usually participates.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

13. Does the school have COA, co-dependency, other similar groups, or generic high-risk groups for students? Please rate it.

A. Level one: None.
B. Level two: Meets twice or less per semester, untrained or no adult leader, low or no advertisement of group to staff and students, oriented more toward didactic education than student participation.
C. Level three: Meets once a month on average, somewhat experienced leader, low level of advertisement to staff and students, somewhat participatory in orientation.
D. Level four: Meets on average twice a month; trained, experienced leader, moderate level of advertisement; solidly participatory in orientation.
E. Level five: Meets once a week; highly experienced, trained leader; substantial advertisement; very participatory in orientation; uses school time for meetings.

14. Does the school have a recovering students' support group? Please rate it. (A recovering group is for students who have completed treatment for an alcohol or drug problem and have now returned to school.)

A. Level one: None.
B. Level two: Meets twice or less per semester, inexperienced or no adult leader, low or no advertisement of group to staff, oriented more toward didactic education than student participation.

C. Level three: Meets once a month on average, fairly experienced leader but no training, low level of advertisement, somewhat participatory in orientation.

D. Level four: Meets on average twice a month, experienced and trained leader, moderate level of advertisement, solidly participatory in orientation.

E. Level five: Meets on average once a week, highly experienced, well-trained leader, substantial level of advertisement, very participatory in orientation, uses school time for meetings.

III. EDUCATION/CURRICULUM/INFORMATION/LIFE SKILLS

15. Does the school have an alcohol and drug curriculum? (Does not include Project Star; it will be covered later.) Please rate it.

A. Level one: None.

B. Level two: Isolated, one-shot presentations; done by less than a majority of the teachers, tends to be focused on information only.

C. Level three: Mostly information only, not integrated into the formal curricula of the school; short-term; no comprehensive planning or implementation; no more than half of teachers use it.

D. Level four: Integrated into the formal curricula; done by most of the teachers; comprehensive in scope with strong life-skills component but also includes others such as alternatives, disease concept, family roles, etc., almost all of the students are exposed to it.

E. Level five: Integrated into the formal curricula; virtually all of the teachers utilize it; comprehensive in scope including several of the following: information, life skills (self-esteem, refusal skills, decision-making, communication skills), alternatives, addicted family roles, disease process, general family issues; is provided to virtually all students.

16. Please estimate how many hours of exposure to the curriculum the students get.

A. None

B. 1-5

C. 6-10

D. 11-15

E. 16 or more

17. Please estimate what percentage of the students received this curriculum this year.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

18. Does the school or district provide *training* for their alcohol and drug curriculum? Please rate it.

A. Level one: None.
B. Level two: Distributes the curriculum but no real discussion, no real training of staff, no support.
C. Level three: One-half day or less of training, discuss curriculum but no hands-on practice, inexperienced trainer.
D. Level four: One day of training, in-depth discussion of curriculum, experienced trainer, some hands-on practice during the training.
E. Level five: Two days of training, thorough discussion of curriculum, excellent trainer, substantial hands-on practice.

19. How frequently does the school or district provide training on their alcohol and drug curriculum?

A. Not at all
B. Less than annually
C. Annually
D. Twice annually
E. More than twice annually

20. Please estimate what percentage of the staff usually participates.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

21. Does the school integrate life skills into alcohol and drug curriculum? (Includes self-esteem, decisionmaking, communication skills, problem solving, refusal skills but does not include Project Star.) Please rate it.

A. Level one: None.
B. Level two: Only one-shot efforts, done by only a few of the teachers, no comprehensive planning.

C. Level three: Only short-term efforts, done by less than half of the teachers, tend to cover only one life skill rather than several.

D. Level four: Integration into the formal curriculum, done by most of the teachers, covers several life skills, phased through most of the school year.

E. Level five: Fully integrated into formal curriculum, done by virtually all of the teachers, comprehensive coverage of life skills, phased throughout the entire school year.

22. Please estimate how many hours of exposure to the life-skills program the students get.

A. None

B. 1-5

C. 6-10

D. 11-15

E. 16 or more

23. Please estimate what percentage of the students were exposed to the life-skills program this year.

A. None

B. 1-25%

C. 26-50%

D. 51-75%

E. 76-100%

24. Does the school or district provide *in-services* on alcohol and drug information and/or life skills? Please rate it.

A. Level one: None.

B. Level two: Distributes some information handouts but no real instruction or discussion of them.

C. Level three: Inexperienced presenter, minimal presentation, minimal discussion.

D. Level four: Experienced presenter, thorough presentation, in-depth instruction and discussion, covers more than information.

E. Level five: Same as "D" but comprehensive in scope including several of the following: self-esteem, refusal skills, decisionmaking, and communication skills.

25. How frequently does the school provide the alcohol and drug information/life skills in-services?

A. Not at all
B. Less than annually
C. Annually
D. Twice annually
E. More than twice annually

26. Please estimate what percentage of the staff usually participates.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

IV. ALTERNATIVES

27. Does the school have a formal, alcohol- and drug-oriented alternatives program for the students? (Do not include "Just Say No" clubs; they will be covered later.) (Alternatives refer to activities that are an alternative to alcohol and drug use situations and companions, i.e., drug-free parties.) Please rate it.

A. Level one: None.
B. Level two: Isolated, one-shot events; no ongoing planning.
C. Level three: Some planning but two or fewer events per semester.
D. Level four: Good yearlong plan, successive events throughout the year, averages three events per semester, has some student input and leadership.
E. Level five: Comprehensive yearlong plan for alternatives, averages one event per month throughout the school year, has substantial student input and leadership.

28. Please estimate what percentage of the students are exposed to the alternatives program. (Do not include "Just Say No" clubs.)

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

29. Does the school have a "Just Say No" or similar program? Please rate it.

A. Level one: None.

B. Level two: Very little planning; very little student, parent, and community involvement; poorly advertised to students; minimal school staff leadership.

C. Level three: Very little planning, some student involvement, very little parent or community involvement, some advertising, fair amount of school staff leadership.

D. Level four: Good planning that precedes the event by a few months, good student involvement in planning and execution, some parent and community involvement, good advertising, active staff leadership.

E. Level five: Virtually yearlong planning; much student, parent, and community involvement; substantial advertising; enthusiastic staff sponsor; strong student participation in planning and execution.

30. Please estimate what percentage of the students participate in the "Just Say No" club activities.

A. None

B. 1-25%

C. 26-50%

D. 51-75%

E. 76-100%

31. Did the school participate in any statewide or nationwide "Just Say No" activities?

A. No

B. Yes

V. PARENT-SCHOOL COLLABORATIONS

32. Does the school have a formal prevention program that involves parents? (Does not include participation of parent in school team training.) Please rate it.

A. Level one: None.

B. Level two: Set-up solely by the school, one-shot or episodic, tends to be dominated by enforcement or information issues only.

C. Level three: Short-term, four to eight sessions, not schoolyear-long, limited scope, provides more than alcohol and drug information to parents, limited staff leadership.

D. Level four: Yearlong effort; parents involved in the leadership, planning and execution; provides comprehensive model of prevention to parents; active staff leadership; provides some training for parents.

E. Level five: Yearlong effort; parents substantially involved in the leadership; planning and execution; provides comprehensive model of prevention to parents; involves school staff, parents, and students together; brings parents into the classroom; highly active staff leadership; provides good training for parents.

33. Please estimate what percentage of the students are exposed to the formal parent-involved prevention program.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

34. Please estimate how many parents are involved in this program.

A. None
B. 1-5
C. 6-10
D. 11-15
E. 16 or more

VI. SCHOOL TEAM TRAINING FOR PREVENTION

35. Does your school have a team that has participated in the state-sponsored school team training for substance abuse prevention? Please rate it.

A. Level one: None.
B. Level two: Trained but not active, only one major project, other projects were fairly small, principal has minimal involvement, parent or community representative has little or no involvement.
C. Level three: Trained but only somewhat active, only two or three major projects, other projects were limited in scope, principal only somewhat involved, some participation by parent/community representative.
D. Level four: Active team, four to five major projects, principal has good involvement, parent/community representative has good involvement.
E. Level five: Very active, enthusiastic, cohesive team, six or more major projects, principal and community/parent representative highly committed.

36. Approximately how frequently does the team meet?

A. Not at all
B. Twice annually
C. Twice a semester
D. Once a month
E. Twice monthly or more frequently

37. Approximately how frequently does the team participate in redevelopment, renewal, or technical assistance activities?

A. Not at all
B. Annually
C. Twice annually
D. Three times annually
E. Four or more times annually

38. How many MAJOR projects did the team complete during the school year?

A. 1-2
B. 3-4
C. 5-6
D. 7-8
E. 9-10

39. How many of the school staff have participated in Kansas Team Leadership Training?

A. One
B. Two
C. Three
D. Four
E. Five

40. How many of those now on the team did *not* participate in the original training?

A. One
B. Two
C. Three
D. Four
E. Five

41. What year did the team receive its original training?

A. 1984 or earlier
B. 1985
C. 1986
D. 1987
E. 1988

VII. PEER-ORIENTED PREVENTION PROGRAMMING

42. Does the school have a formally trained student team? (Does *not* include SADD conference-trained teams.) Please rate it.

A. Level one: None.
B. Level two: Meets only part of year, minimal school staff leadership, leader has not attended school team training, no major projects, little commitment from principal.
C. Level three: Meets only part of year, fairly good but untrained leader, only one major project, minimal commitment from principal, little involvement of students in leadership.
D. Level four: Meets regularly throughout year; maintained enthusiasm most of the year; active, trained leader who participated in staff school team training; two or three major schoolwide projects; good commitment from principal; students actively involved in leadership of group.
E. Level five: Meets regularly throughout the year; maintained enthusiasm all year long; very active, trained, motivating leader who participated in staff school team training; four or more major projects; excellent support from principal; students very active in leadership.

43. Approximately how frequently does the team meet?

A. Not at all
B. Twice annually
C. Twice a semester
D. Once a month
E. Twice monthly or more frequently

44. Does the school or district have a formal program utilizing athletes for prevention? Please rate it.

A. Level one: None.
B. Level two: Episodic, mostly unplanned use, perhaps crises oriented; one-shot; minimal staff leadership; no student involvement in the planning; no advertisement of program to staff and students.

C. Level three: Short-term, minimal school staff leadership, minimal student involvement in the planning, minimal to no advertisement of program.

D. Level four: Planned for most of year, active staff leadership, good student involvement in the planning and leadership, some advertisement.

E. Level five: Comprehensive planning designed to phase implementation throughout the school year; repetitive exposure of students to the program; very active, enthusiastic, motivating staff leadership; substantial student involvement in the planning and leadership; good advertisement.

45. Please estimate what percentage of the students are affected by the formal athlete program.

A. None

B. 1-25%

C. 26-50%

D. 51-75%

E. 76-100%

46. Does the school have a formal peer-oriented prevention program besides student teams or athletes? (Includes natural helpers or other such programs.) Please rate it.

A. Level one: None.

B. Level two: Episodic, mostly unplanned use, perhaps crisis oriented; one-shot; minimal school staff leadership; no student involvement in the planning; no advertisement of the program to staff and students.

C. Level three: Short-term, some staff leadership, minimal student involvement in the planning, minimal to no advertisement.

D. Level four: planned for most of year, active staff leadership, good student involvement in the planning and leadership, some advertisement.

E. Level five: comprehensive planning designed to phase implementation throughout the year; repetitive exposure of students to the program; very active, enthusiastic, motivating staff leadership; substantial student involvement in the planning and leadership; good advertisement.

47. Please estimate what percentage of the students are affected by this program.

A. None

B. 1-25%

C. 26-50%

D. 51-75%

E. 76-100%

VIII. PROJECT STAR

48. Does the school have a Project Star program? Please rate it.

A. Level one: None.

B. Level two: Does not follow all of the lessons, occasionally being used by teachers who did not participate in the training, no or little use of peer leaders.

C. Level three: Mostly follows all of the lessons, occasionally being used by teachers who did not participate in the training, occasional use of peer leaders in classroom.

D. Level four: Closely follows all of the lessons, used only by trained teachers, good use of peer leaders including modeling by peer leaders, consistent use of homework component.

E. Level five: Closely follows all of the lessons, used only by trained teachers highly committed to the program, thorough and comprehensive use of peer leaders including modeling, good use of homework component, has program to introduce parents to Project Star at beginning of year.

49. Please estimate what percentage of the students are exposed to Project Star each year.

A. None

B. 1-25%

C. 26-50%

D. 51-75%

E. 76-100%

50. Have school staff participated in Star II training?

A. No

B. Yes

IX. PREVENTION PROGRAM NOT COVERED IN ANY OF THE ABOVE CATEGORIES

51. What is the rating of any prevention program not covered in any of the above categories?

A. Level one: None.

B. Level two: Very little staff commitment to the project, very little student commitment to the project, low administrative support.

C. Level three: Some staff commitment to the program, some student commitment to the program, some administrative support.

D. Level four: Good staff commitment to the program, good student commitment, moderate involvement of students in planning and execution, administrative support.

E. Level five: Strong, enthusiastic staff; administrative; and student commitment to the program; high student involvement in planning and execution.

X. MISCELLANEOUS

52. What is your best estimate of the quality of the relationship between the school and the Regional Prevention Center?

A. Level one: No relationship or no center in my area.

B. Level two: Minimal relation and/or poor services.

C. Level three: The quality and range of services provided by the Center is average at best.

D. Level four: The quality and range of services is fairly good.

E. Level five: The quality and range of services is excellent.

53. Does the school, not the district, have a staff person designated as responsible for prevention?

A. None

B. Yes, but not paid for the prevention work

C. Quarter-time pay for prevention

D. Paid, half-time

E. Paid, full-time

54. Does the school have staff who have a very outstanding commitment to prevention?

A. None

B. One person

C. Two

D. Three

E. Four or more

55. Please rate the commitment of the principal to prevention.

A. Level one: None.

B. Level two: Has virtually no understanding of prevention, no enthusiasm for prevention, minimal participation in related training or in-services, negative attitude toward the Center, minimal communication with the Center.

C. Level three: Believes prevention is information and enforcement only, minimal enthusiasm, some participation in related training or in-services, neutral attitude toward Center, some communication with Center.
D. Level four: Understands prevention to be more than information and enforcement, decent enthusiasm about prevention, good participation in related training or in-services, very positive attitude toward Center, good communication with Center.
E. Level five: Has a comprehensive understanding of prevention, strong enthusiasm about and commitment to prevention, frequent participation in related training or in-services, very positive attitude toward Center, excellent communication with Center including mutual planning efforts.

56. How would you best characterize the majority of parents of this school?

A. Welfare poor
B. Working poor
C. Blue collar skilled workers
D. White collar service workers
E. College educated or financially well-off

Appendix B: Alcohol and Drug Prevention Activity Survey: Secondary Schools

Directions: The questionnaire seems longer than it is because the definitions are included. It has only 60 questions. It is extremely important that every question is answered. It is also extremely important that you provide answers that are as *candid* as possible. If no answer fits exactly, please choose the best fitting one. Answer the questions only on the red answer sheet. *Please print your school's name and city on the red answer sheet.* April 1989

I. COMPREHENSIVE ALCOHOL AND DRUG POLICY

1. Does the school or the district have a formal, written, comprehensive alcohol and drug policy?

A. Level one: None.
B. Level two: Currently formulating a policy.
C. Level three: Has a minimal one.
D. Level four: Has a fairly good one.
E. Level five: Has an excellent one.

2. How frequently does the school communicate the alcohol and drug policy?

A. Not at all
B. Less than annually
C. Annually
D. Twice annually
E. More than twice annually

3. To whom is the alcohol and drug policy communicated?

A. No one
B. Staff only
C. Staff and parents
D. Students only
E. Staff and/or parents, and students

4. Does the school or district provide in-services that are predominantly focused on the comprehensive alcohol and drug policy? Please rate the in-services.

A. Level one: None.
B. Level two: Distributes a copy of the social policy but no real instruction or discussion of it.
C. Level three: Inexperienced presenter, limited presentation, minimal discussion.
D. Level four: Experienced presenter, good presentation, in-depth instruction and discussion.
E. Level five: Same as "D" plus done in small groups of 25 or fewer people.

5. How frequently does the school or district provide in-services on the policy?

A. Not at all
B. Less than annually
C. Annually
D. Twice annually
E. More than twice annually

6. **Please estimate what percentage of the school's staff usually participates.**
   A. None
   B. 1-25%
   C. 26-50%
   D. 51-75%
   E. 76-100%

II. INTERVENTION

7. **Does the school or district have a formal, written intervention policy? (May be a facet of the comprehensive alcohol and drug policy or of a student assistance program.) Please rate the policy according to the following guidelines.**
   A. Level one: None.
   B. Level two: Currently formulating a policy.
   C. Level three: Has a minimal one.
   D. Level four: Has a fairly good one.
   E. Level five: Has an excellent one.

8. **Is the intervention policy being utilized whenever there is an indication of an alcohol or drug problem?**
   A. No
   B. Yes, but rarely
   C. Yes, some of the time
   D. Yes, most of the time
   E. Yes, virtually all of the time

9. **Does the school have a team that has participated in the State-sponsored intervention training? Please rate the team.**
   A. Level one: None.
   B. Level two: Trained but little to no activity generated.
   C. Level three: Made some effort to develop an intervention policy, provided one in-service for staff on intervention, some effort to institutionalize intervention.
   D. Level four: Facilitated the development of a fairly good intervention policy, provided more than one in-service for staff, facilitated some institutionalization of intervention, interventions are being accomplished.
   E. Level five: Facilitated the development of an excellent intervention policy, developed an ongoing plan for training of other staff, intervention process has become well institutionalized within school, interventions are occurring regularly as needed.

10. Does the school or district provide in-services that predominantly focus on intervention? Please rate those in-services.

A. Level one: None.

B. Level two: Distributes a copy of the social policy but no real instruction or discussion of it.

C. Level three: Inexperienced presenter, limited presentation, minimal discussion.

D. Level four: Experienced presenter, thorough presentation, in-depth discussion.

E. Level five: Same as "D" plus done in small groups of 15 or fewer people.

11. How frequently does the school or district provide in-services on intervention?

A. Not at all

B. Less than annually

C. Annually

D. Twice annually

E. More than twice annually

12. Please estimate what percentage of the staff usually participates.

A. None

B. 1-25%

C. 26-50%

D. 51-75%

E. 76-100%

13. Does the school have COA, codependency, other similar groups, or generic high-risk groups for students? Please rate it.

A. Level one: None.

B. Level two: Meets twice or less per semester, untrained or no adult leader, low or no advertisement of group to staff and students, oriented more toward didactic education than student participation.

C. Level three: Meets once a month on average, somewhat experienced leader, low level of advertisement to staff and students, somewhat participatory in orientation.

D. Level four: Meets on average twice a month; trained, experienced leader; moderate level of advertisement; solidly participatory in orientation.

E. Level five: Meets once a week; highly experienced, trained leader; substantial advertisement; very participatory in orientation; uses school time for meetings.

14. Does the school have a recovering students' support group? Please rate it. (A recovering group is for students who have completed treatment for an alcohol or drug problem and have now returned to school.)

A. Level one: None.

B. Level two: Meets twice or less per semester, inexperienced or no adult leader, low or no advertisement of group to staff, oriented more toward didactic education than student participation.

C. Level three: Meets once a month on average, fairly experienced leader but no training, low level of advertisement, somewhat participatory in orientation.

D. Level four: Meets on average twice a month, experienced and trained leader, moderate level of advertisement, solidly participatory in orientation.

E. Level five: Meets on average once a week; highly experienced, well trained leader; substantial level of advertisement; very participatory in orientation; uses school time for meetings.

III. EDUCATION/CURRICULUM/INFORMATION/LIFE SKILLS

15. Does the school have an alcohol and drug curriculum? (Does not include Project Star; it will be covered later.) Please rate it.

A. Level one: None.

B. Level two: Isolated, one-shot presentations; done by less than a majority of the teachers; tends to be focused on information only.

C. Level three: Mostly information only, not integrated into the formal curricula of the school, short-term, no comprehensive planning or implementation, no more than half of teachers use it.

D. Level four: Integrated into the formal curricula; done by most of the teachers; comprehensive in scope with strong life-skills component but also includes others such as alternatives, disease concept, family roles, etc.; almost all of the students are exposed to it.

E. Level five: Integrated into the formal curricula; virtually all of the teachers utilize it; comprehensive in scope including several of the following: information, life skills (self-esteem, refusal skills, decision-making, communication skills), alternatives, addicted family roles, disease process, general family issues; is provided to virtually all students.

16. Please estimate how many hours of exposure to the curriculum the students get.

A. None
B. 1-5
C. 6-10
D. 11-15
E. 16 or more

17. Please estimate what percentage of the students receive this curriculum each year.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

18. Does the school or district provide *training* for their alcohol and drug curriculum? Please rate it.

A. Level one: None.
B. Level two: Distributes the curriculum but no real discussion, no real training of staff, no support.
C. Level three: One-half day or less of training, discuss curriculum but no hands-on practice, inexperienced trainer.
D. Level four: One day of training, in-depth discussion of curriculum, experienced trainer, some hands-on practice during the training.
E. Level five: Two days of training, thorough discussion of curriculum, excellent trainer, substantial hands-on practice.

19. How frequently does the school or district provide training on their alcohol and drug curriculum?

A. Not at all
B. Less than annually
C. Annually
D. Twice annually
E. More than twice annually

20. Please estimate what percentage of the staff usually participates.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

21. Does the school integrate life skills into its alcohol and drug curriculum? (Includes self-esteem, decisionmaking, communication skills, problem solving, refusal skills but does not include Project Star.) Please rate it.

A. Level one: None.

B. Level two: Only one-shot efforts, done by only a few of the teachers, no comprehensive planning.

C. Level three: Only short-term efforts, done by less than half of the teachers, tend to cover only one life skill rather than several.

D. Level four: Integration into the formal curriculum, done by most of the teachers, covers several life skills, phased through most of the school year.

E. Level five: Fully integrated into formal curriculum, done by virtually all of the teachers, comprehensive coverage of life skills, phased throughout the entire school year.

22. Please estimate how many hours of exposure to the life-skills program the students get.

A. None

B. 1-5

C. 6-10

D. 11-15

E. 16 or more

23. Please estimate what percentage of the students are exposed to the life-skills program each year.

A. None

B. 1-25%

C. 26-50%

D. 51-75%

E. 76-100%

24. Does the school or district provide *in-services* on alcohol and drug information and/or life skills? Please rate it.

A. Level one: None.

B. Level two: Distributes some information handouts but no real instruction or discussion of them.

C. Level three: Inexperienced presenter, minimal presentation, minimal discussion.

D. Level four: Experienced presenter, thorough presentation, in-depth instruction and discussion, covers more than information.

E. Level five: Same as "D" but comprehensive in scope including several of the following: self-esteem, refusal skills, decisionmaking, and communication skills.

25. How frequently does the school provide the alcohol and drug information/life skills in-services?

A. Not at all
B. Less than annually
C. Annually
D. Twice annually
E. More than twice annually

26. Please estimate what percentage of the staff usually participates.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

IV. ALTERNATIVES

27. Does the school have a formal, alcohol- and drug-oriented alternatives program for the students? (Do not include Project Graduation or SADD; they will be covered later.) (Alternatives refer to activities that are an alternative to alcohol and drug use situations and companions, i.e., drug-free parties.) Please rate it.

A. Level one: None.
B. Level two: Isolated, one-shot events; no ongoing planning.
C. Level three: Some planning but two or fewer events per semester.
D. Level four: Good yearlong plan, successive events throughout the year, averages three events per semester, has some student input and leadership.
E. Level five: Comprehensive yearlong plan for alternatives, averages one event per month throughout the school year, has substantial student input and leadership.

28. Please estimate what percentage of the students are exposed to the alternatives program. (Do not include Project Graduation or SADD.)

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

29. Does the school have a "Project Graduation" or similar program? Please rate it.

A. Level one: None.

B. Level two: Very little planning; very little student, parent, and community involvement; poorly advertised to students; minimal school staff leadership.

C. Level three: Very little planning, some student involvement, very little parent or community involvement, some advertising, fair amount of school staff leadership.

D. Level four: Good planning that precedes the event by a few months, good student involvement in planning and execution, some parent and community involvement, good advertising, active staff leadership.

E. Level five: Virtually yearlong planning, much student, parent, and community involvement; substantial advertising; enthusiastic staff sponsor; strong student participation in planning and execution.

30. Please estimate what percentage of the students participate in the activities created by Project Graduation.

A. None

B. 1-25%

C. 26-50%

D. 51-75%

E. 76-100%

31. Did the school send a group to the State-level Project Graduation training?

A. No

B. Yes

32. Does the school have a SADD chapter? Please rate it.

A. Level one: None.

B. Minimal: Meets only part of the year, minimal school staff leadership, low or no advertisement of club to students, only one or two projects.

C. Level three: Meets only part of the year, somewhat active school staff leader, low level of advertisement, only three or four major projects.

D. Level four: Meets regularly throughout year, active school staff leader, moderate level of advertisement, five or six major projects.

E. Level five: Meets regularly throughout the year; very active, motivating school staff leader; substantial level of advertisement; seven or more major projects.

33. Approximately how frequently does the SADD chapter meet?

A. Not at all
B. Twice annually
C. Twice a semester
D. Once a month
E. Twice monthly or more frequently

34. Please estimate what percentage of the students are affected by the SADD chapter.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

35. Did students from the school attend the annual SADD conference?

A. No
B. Yes

V. PARENT-SCHOOL COLLABORATIONS

36. Does the school have a formal alcohol and drug prevention program that involves parents? (Does not include participation of parent in school team training.) Please rate it.

A. Level one: None.
B. Level two: Set-up solely by the school, one-shot or episodic, tends to be dominated by enforcement or information issues only.
C. Level three: Short-term, four to eight sessions, not schoolyear-long, limited scope, provides more than alcohol and drug information to parents, limited staff leadership.
D. Level four: Yearlong effort; parents involved in the leadership, planning and execution; provides comprehensive model of prevention to parents; active staff leadership; provides some training for parents.
E. Level five: Yearlong effort; parents substantially involved in the leadership, planning and execution; provides comprehensive model of prevention to parents; involves school staff, parents, and students together; brings parents into the classroom; highly active staff leadership; provides good training for parents.

37. Please estimate what percentage of the students are exposed to the formal parent-involved prevention program.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

38. Please estimate how many parents are involved in this program.

A. None
B. 1-5
C. 6-10
D. 11-15
E. 16 or more

VI. SCHOOL TEAM TRAINING FOR PREVENTION

39. Does your school have a team that has participated in the state-sponsored school team training for alcohol and drug prevention? Please rate it.

A. Level one: None.
B. Level two: Trained but not active, only one major project, other projects were fairly small, principal has minimal involvement, parent or community representative has little or no involvement.
C. Level three: Trained but only somewhat active, only two or three major projects, other projects were limited in scope, principal only somewhat involved, some participation by parent/community representative.
D. Level four: Active team, four to five major projects, principal has good involvement, parent/community representative has good involvement.
E. Level five: Very active, enthusiastic, cohesive team; six or more major projects; principal and community/parent representative highly committed.

40. Approximately how frequently does the team meet?

A. Not at all
B. Twice annually
C. Twice a semester
D. Once a month
E. Twice monthly or more frequently

41. **Approximately how frequently does the team participate in redevelopment, renewal, or technical assistance activities.**
    A. Not at all
    B. Annually
    C. Twice annually
    D. Three times annually
    E. Four or more times annually

42. **How many MAJOR projects did the team complete during the school year?**
    A. 1-2
    B. 3-4
    C. 5-6
    D. 7-8
    E. 9-10

43. **How many of the school staff have participated in Kansas Team Leadership Training?**
    A. One
    B. Two
    C. Three
    D. Four
    E. Five

44. **How many of those now on the team did *not* participate in the original training?**
    A. One
    B. Two
    C. Three
    D. Four
    E. Five

45. **What year did the team receive its original training?**
    A. 1984 or earlier
    B. 1985
    C. 1986
    D. 1987
    E. 1988

VII. PEER-ORIENTED PREVENTION PROGRAMMING

46. Does the school have a formally trained alcohol and drug prevention student team? (Does *not* include SADD conference-trained teams.) Please rate it.

A. Level one: None.

B. Level two: Meets only part of year, minimal school staff leadership, leader has not attended school team training, no major projects, little commitment from principal.

C. Level three: Meets only part of year, fairly good but untrained leader, only one major project, minimal commitment from principal, little involvement of students in leadership.

D. Level four: Meets regularly throughout year; maintained enthusiasm most of the year; active, trained leader who participated in staff school team training; two or three major schoolwide projects; good commitment from principal; students actively involved in leadership of group.

E. Level five: Meets regularly throughout the year; maintained enthusiasm all year long; very active, trained, motivating leader who participated in staff school team training; four or more major projects; excellent support from principal; students very active in leadership.

47. Approximately how frequently does the team meet?

A. Not at all

B. Twice annually

C. Twice a semester

D. Once a month

E. Twice monthly or more frequently

48. Does the school or district have a formal program utilizing athletes for alcohol and drug prevention? Please rate it.

A. Level one: None.

B. Level two: Episodic, mostly unplanned use, perhaps crises oriented; one-shot; minimal staff leadership; no student involvement in the planning; no advertisement of program to staff and students.

C. Level three: Short-term, minimal school staff leadership; minimal student involvement in the planning; minimal to no advertisement of program.

D. Level four: Planned for most of year, active staff leadership, good student involvement in the planning and leadership, some advertisement.

E. Level five: Comprehensive planning designed to phase implementation throughout the school year; repetitive exposure of students to the program; very active, enthusiastic, motivating staff leadership; substantial student involvement in the planning and leadership; good advertisement.

49. Please estimate what percentage of the students are affected by the formal athlete program.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

50. Does the school have a formal peer-oriented alcohol and drug prevention program besides student teams or athletes? (Includes natural helpers or other such programs.) Please rate it.

A. Level one: None.
B. Level two: Episodic, mostly unplanned use, perhaps crises oriented; one-shot; minimal school staff leadership; no student involvement in the planning; no advertisement of the program to staff and students.
C. Level three: Short-term, some staff leadership, minimal student involvement in the planning, minimal to no advertisement.
D. Level four: Planned for most of year, active staff leadership, good student involvement in the planning and leadership, some advertisement.
E. Level five: Comprehensive planning designed to phase implementation throughout the year, repetitive exposure of students to the program; very active, enthusiastic, motivating staff leadership; substantial student involvement in the planning and leadership; good advertisement.

51. Please estimate what percentage of the students are affected by this program.

A. None
B. 1-25%
C. 26-50%
D. 51-75%
E. 76-100%

VIII. PROJECT STAR

52. Does the school have a Project Star program? Please rate it.

A. Level one: None.
B. Level two: Does not follow all of the lessons, often being used by teachers who did not participate in the training, no or little use of peer leaders.

C. Level three: Mostly follows all of the lessons, occasionally being used by teachers who did not participate in the training, occasional use of peer leaders in classroom.

D. Level four: Closely follows all of the lessons, used only by trained teachers, good use of peer leaders including modeling by peer leaders, consistent use of homework component.

E. Level five: Closely follows all of the lessons, used only by trained teachers highly committed to the program, thorough and comprehensive use of peer leaders including modeling, good use of homework component, has program to introduce parents to Project Star at beginning of year.

53. Please estimate what percentage of the students are exposed to Project Star each year.

A. None

B. 1-25%

C. 26-50%

D. 51-75%

E. 76-100%

54. Have school staff participated in Star II training?

A. No

B. Yes

IX. PREVENTION PROGRAM NOT COVERED IN ANY OF THE ABOVE CATEGORIES

55. What is the rating of any prevention program not covered in any of the above categories? (This applies to any alcohol and drug prevention program not specifically covered above.)

A. Level one: None.

B. Level two: Very little staff commitment to the project, very little student commitment to the project, low administrative support.

C. Level three: Some staff commitment to the program, some student commitment to the program, some administrative support.

D. Level four: Good staff commitment to the program, good student commitment, moderate involvement of students in planning and execution, administrative support.

E. Level five: Strong, enthusiastic staff; administrative and student commitment to the program; high student involvement in planning and execution.

X. MISCELLANEOUS

56. How would you rate the services provided by the state sponsored Regional Prevention Center in your area?

A. Level one: No relationship or no center in my area.
B. Level two: Minimal relation and/or poor services.
C. Level three: The quality and range of services provided by the Center is average at best.
D. Level four: The quality and range of services is fairly good.
E. Level five: The quality and range of services is excellent.

57. Does the school, not the district, have a staff person designated as responsible for prevention?

A. None
B. Yes, but not paid for the prevention work
C. Quarter-time pay for prevention
D. Paid, half-time
E. Paid, full-time

58. Does the school have staff who have a very outstanding commitment to prevention?

A. None
B. One person
C. Two
D. Three
E. Four or more

59. Please rate the level of importance the principal assigns to alcohol and drug prevention in terms of the application of personnel, resources, and dollars.

A. Level one: None.
B. Level two: Has virtually no understanding of prevention, no enthusiasm for prevention, minimal participation in related training or in-services, negative attitude toward the Center, minimal communication with the Center.
C. Level three: Believes prevention is information and enforcement only, minimal enthusiasm, some participation in related training or in-services, neutral attitude toward Center, some communication with Center.
D. Level four: Understands prevention to be more than information and enforcement, decent enthusiasm about prevention, good participation in related training or in-services, very positive attitude toward Center, good communication with Center.

E. Level five: Has a comprehensive understanding of prevention, strong enthusiasm about and commitment to prevention, frequent participation in related training or in-services, very positive attitude toward Center, excellent communication with Center including mutual planning efforts.

60. How would you best characterize the majority of parents of this school?

A. Welfare poor
B. Working poor
C. Blue collar skilled workers
D. White collar service workers
E. College educated or financially well-off

Theory and Implementation of the Social Influence Model of Primary Prevention

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Introduction

Since we began working on cigarette smoking prevention in the mid-1970's (Evans et al. 1978), the Social Influence Model has increasingly received support as a strategy to prevent the onset of the use of tobacco, alcohol and other drugs. Several researchers have employed one or more of the components as a major feature of successful smoking prevention programs (Botvin 1986; Flay 1985). Recent evidence suggests that the use of other drugs may also be effectively prevented through the implementation of the model (Perry et al., in press; McAlister et al. 1980; Tobler 1986). Despite this promise, there has been doubt about the effectiveness of the programs and about the quality of the research that has served as the basis of hope for the model's proponents (Moskowitz, unpublished manuscript; Schuster 1987).

The purpose of this paper is twofold. First, while there is much written about the potential effectiveness of the Social Influence Model, the dynamics that form its basis are not particularly well documented. Second, serious questions that go beyond "Does it work?" must be asked concerning the Social Influence Model. A variety of implementation situations require consideration. Every program has its applications and its limits. In the second section of this paper, these concerns will be addressed.

Elaboration of the Model

Programs such as those in The Minnesota Youth Health Promotion Program (Arkin et al. 1981; Perry et al., in press; Murray et al., in press); Botvin's Life Skills Training (Botvin and Eng 1982; Botvin 1986; Botvin et al. 1983; Botvin 1985; Botvin et al. 1984; Botvin, Baker, Renick, et al. 1984), Rand's Project ALERT (Polich et al. 1984), and our own Project SMART (Hansen et al. 1988) that have been derived from the model are being slowly disseminated but are by no means universally adopted. Further, one can now find some of the model's concepts and catch-phrases in many popular (albeit unevaluated) programs. For example, many of the second-generation programs that started with other

goals—enhancing self-worth, teaching facts about drugs—now include peer pressure as part of their *modus operandi.*

As one examines the content of these programs, one discovers that the same terms are applied in quite different ways. For example, the administration's "Say No" campaign might be viewed as a good, peer pressure-oriented program. However, other than the word "no," there is almost nothing in common between that campaign and curricular approaches like Project SMART and other research-based prevention programs. Indeed, many of us who have been doing research on prevention wonder how we get lumped together.

The underlying principles of the Social Influence Model have their roots in four areas: behavioral epidemiology, developmental psychology, social psychology, and education.

Behavioral Epidemiology

The onset of alcohol and other drug use has proven to be quite predictable. Over the past decades, several large-scale investigations (e.g., NIDA 1987) have revealed that a sudden rise in use of drugs occurs during the early teenage years. For example, from our work in Los Angeles, we find that at fifth grade (roughly age 10), only 9 percent of our students report having ever used alcohol (more than a sip), only 6 percent report having ever tried tobacco (more than a puff), and only 2 percent report having ever used marijuana. When use in the past 30 days is questioned, 2 percent report some use of alcohol (more than a sip), 1 percent report some use of tobacco, and less than 1 percent report some use of marijuana.

As young people progress through school—especially when they enter new schools—the rates of use begin to increase rapidly. By 12th grade, Johnston, O'Malley, and Bachman (NIDA 1987) report that nearly everyone (92 percent) has used alcohol, and about 70 percent have done so in the past 30 days. About 70 percent have tried smoking cigarettes, and about 30 percent claim to have done so in the past 30 days. Marijuana use has also become extensive by the senior year in high school: 60 percent report having tried it at some time and one-third having used it in the past 30 days. In most strata of our society, the period during which the greatest onset occurs is between the sixth and ninth grades.

In designing a strategy that targets preventing alcohol and other drug use—either by substantially delaying onset or eliminating it altogether—attention first turns to this period of dramatic increase. What do we know about the correlates and predictors of use among this age that can guide the development of a strategy?

Hundreds of correlational studies have been completed. While the cataloging and summary analysis of these studies remain to be completed, it is not difficult to find a number of consistently strong predictors. The strongest predictor from study to study has been the reported use of drugs among one's group of friends (Collins et al. 1987; Hansen et al. 1987; CDC 1987). If a young person thinks that his or her friends use drugs, he or she is also likely to use or to begin using. Young people who use also perceive that use is widespread and generally accepted (Chassin et al. 1985; Sherman et al. 1983). Those who do not yet use or will not use generally view the prevalence of use to be substantially lower.

Parents who use alcohol and other drugs or parents who manifest attitudes that are tolerant of use have also been consistent predictors and correlates of use by young people (Hansen et al. 1987). Parenting style is also suspect. Youth who are not supervised after school have twice the rate of use compared to supervised adolescents. Finally, rebelliousness and risk taking have been consistent predictors of alcohol and other drug use (Jessor and Jessor 1977).

Developmental Psychology

Given the fact that the period of onset corresponds to a particular developmental period of life, there ought to be similarities between the observed predictors and correlates of alcohol and other drug use and developmental phenomena; indeed, several pertinent phenomena occur during this same time period. For example, during adolescence, the peer group emerges as a dominant force in determining choices. Fads in dress and music seem to affect young people profoundly—social status often accompanies conforming to the latest trend. At the same time, adolescence often bothers parents (Dangel and Polster 1984), who start to lose the perception of control, and who, despite many sincere efforts, often find communication difficult with their teenagers. Young people begin striving for independence and adulthood and, as a consequence, occasionally rebel against authority figures (Jessor and Jessor 1977).

Social Psychology

In developing the Social Influence Model of prevention, researchers have relied extensively on concepts originally developed in social psychology, a field that has made two important contributions to our understanding of phenomena that help explain the corollaries of alcohol and other drug use onset. The first contribution has been extensive explanations regarding the nature of interpersonal influence on attitudes, beliefs, and behavior. The second contribution regards how people perceive the social world.

Many theoretical formulations have addressed the nature of social influence. Among the most widely quoted theories are the Social Learning Theory (Bandura 1977; Bandura et al. 1977); Attribution Theory (Heider 1958; Jones

et al. 1971); Attitude Belief Theory (Fishbein and Ajzen 1975); and the Bonding Theory (Hirschi 1969). While theoretical formulations tend to be rather abstract and will not be described in detail here, each predicts particular conditions under which external social actions will change or maintain an individual's behavior. For example, individuals will frequently imitate the behaviors of admired others, especially when there is potential reinforcement and perceived self-efficacy for doing so. Expectations of esteem from others, the adoption of roles, and attributions about the motivations of another have all been shown to be factors that can influence behavior. Research on group influence has also clearly demonstrated that within social groups, leadership that directly influences behavior emerges. A number of remarkable studies have clearly demonstrated that the influence of a powerful person can persuade individuals to participate in risky and self-injurious behaviors (Milgram 1965).

One of social psychology's great contributions that is relevant to understanding alcohol and other drug use has to do with the imperfect nature of our perceptions of social phenomena (Heider 1958). Far from being accurate, social perceptions are frequently biased by seemingly irrelevant attributes (Jones and Goethals 1971). With the appropriate interventions, perceptions can be manipulated—particularly when an objective truth can be introduced.

Education

Since the goal of prevention among young people is the voluntary maintenance of nonuse behaviors, several novel strategies for education have been included in program delivery. Those who are at risk of using alcohol and other drugs include the rebellious and those who are not achievement oriented. Normal educational efforts, such as didactic presentations, lectures, and films, have a low probability of reaching these individuals. Preaching by adult authority figures would be expected to be counterproductive in many cases. Consequently, classroom activities have focused on open discussions, the use of the Socratic method, a reliance on admired peers or admired older adolescents, role playing, behavioral rehearsals, and devil's advocacy.

The Social Influence Model

The Social Influence Model has two core elements (see figure 1). One concerns resisting situational pressures to use alcohol and other drugs (resistance training); the other focuses on normative education. Additional elements may be included, but are considered peripheral. These elements may augment effectiveness but are not considered central to programs of instruction.

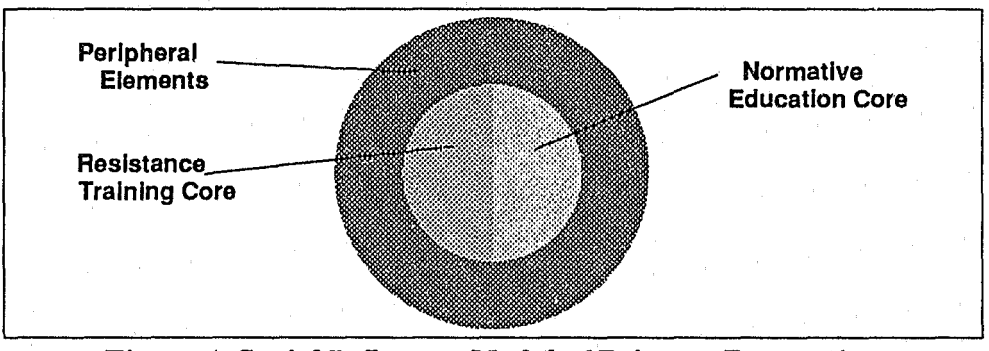

Figure 1. Social Influence Model of Primary Prevention

Resistance Training

Given our experience and knowledge of the predictors and correlates of alcohol and other drug use, two social influence hypotheses were developed. The first hypothesis concerning peer pressure was formulated to provide an example of social influence. Briefly stated, the peer pressure hypothesis postulates that in the context of striving for social acceptance, adolescents experience pressure to conform when they encounter an explicit opportunity to use alcohol or other drugs. The nature of opportunities range from offers made in a friendly and sincere manner to rather hostile actions, and may include tricks, dares, threats of violence, threats of ostracism, nagging, and so forth. The opportunity for use may not be interpreted as "pressure" *per se* by the adolescent.

From this hypothesis, a strategy to teach students to resist social influences was conceived. The essential focus of resistance training is on (1) identifying and labeling social influences and pressure situations and (2) developing behavioral skills for resisting such influences. These influences may come from diverse sources, consequently, skills to resist various types of pressures (including peer pressure and such social influences as advertising and entertainment) have been included in many programs. During the identification and labeling phase of instruction, students are taught labels that apply to various forms of pressure. For example, in Project SMART, students are taught to identify the following forms of peer pressure: "friendly pressure," "tricks, dares, and lies," "teasing," "threats" (physical and social), and "silent pressure." Programs tend to vary in the labels that are attached to various forms of pressure. Typical examples of each kind of pressure are demonstrated.

Students are then taught strategies for resisting pressure. Particular strategies are labeled and described, then modeled or demonstrated. Students practice and observe others practicing each resistance strategy; they engage in playing roles to develop personal competence in executing each strategy. Assertiveness training is often used to assist students in improving their perform-

ances. The goal of skill development is (1) to rehearse and refine performance, (2) to increase behavioral self-efficacy—one's belief that he or she can resist pressure successfully and in a socially acceptable manner, and (3) to provide an experiential reference for pressure situations. Many of the strategies employed are derived from McGuire's strategy for social inoculation (1967). Analogous to biological immunizations, small, nonlethal forms of threat are introduced to encourage the development of an internal resistance to future challenges.

Additional components have been included in many recent programs that fit within the resistance training core. For example, many programs identify and discredit advertising. Another example is the involvement of parents. Our recent research suggests that parents play an important role in the selection of friends (Hansen et al. 1987). Parents can assist with resistance training by being aware of social pressures to conform and by playing a proactive role in encouraging the development of positive friendships.

Normative Education

The research on social perception and the relationship between alcohol and other drug use and erroneous perceptions of prevalence and acceptability, suggested a different hypothesis—the normative beliefs hypothesis. This explanation focused on processes that were nonsituational. In other words, due to perceptions that label alcohol and other drug use as part of normal and acceptable behavior, adolescents may be more inclined to use alcohol and other drugs should the opportunity present itself. Those who perceive alcohol and other drugs to be normal and acceptable may even feel compelled to seek out opportunities to use. They may also feel pressure to conform in situations where the pressure is vague or nonexistent. For example, they may feel awkward or out of place if they are among a group that is thought to use whether use is taking place or not.

From this hypothesis, a strategy for correcting erroneous perceptions of prevalence and acceptability and for establishing a conservative norm has emerged (Hansen et al. 1988). As a group, adolescents make errors in their estimates of the prevalence of behavior—almost always in the direction of overestimating the prevalence and acceptability of use among their peers as well as among older adolescents (Sherman et al. 1983). The first component of normative education focuses on correcting these misperceptions. While the goal is rather straightforward, the programmatic strategies that have been developed have not been simplistic. Information about age-specific norms for society at large is met with resistance and disbelief. The use of innovative strategies offering believable feedback about local use (e.g., at the school level) appears to be more effective (Hansen et al., submitted for publication). Since erroneous perceptions are pandemic and include the misperception of use even

by one's close friends, the correction of these perceptions at several levels is most desirable.

Adolescents' typically erroneous perceptions of the acceptability of alcohol and other drug use are also addressed. Individuals perceive the group norm to be tolerant and even admiring of alcohol and other drug use. However, as individuals, the vast majority of adolescents find alcohol and other drug use unacceptable, especially before active use has become widespread. Normative education strategies that address this goal use open discussion, the Socratic method, and devil's advocacy to demonstrate a prevailing conservative norm.

The final component of normative education is the development of proactive and conservative normative expectations within the school. Peer opinion leaders are identified, recruited, and fostered. Through training, the delegation of responsibility in the program, praise, and the attribution of responsibility to serve as good examples, peer opinion leaders can provide the catalyst to establish conservative norms. In addition to the use of peer opinion leaders, programmatic discussions also provide the opportunity for the identification of conservative expectations regarding alcohol and other drug use. Parents are also involved in expressing their beliefs about the acceptability and nonacceptability of alcohol and other drug use and nonuse. Through debate that focuses on acceptability (rather than consequences), attitudes and behaviors that are incompatible with the prevailing conservative normative expectations are criticized and labeled as inappropriate. Students work together to develop slogans or songs that embody the conservative norm.

Peripheral Elements

Within the past decade, a wide variety of educational programs aimed at alcohol and other drug use have been developed. Given the centrality of peer pressure in students' use of alcohol and other drugs, anything that does not address developing resistance skills and conservative norms is considered secondary. Addressing only peripheral elements has a low probability of success (Mauss et al. 1987). Nonetheless, such programs are not incompatible with the Social Influence Model and can augment programmatic quality in a number of important ways. For example, nearly all programs that have been developed and tested in the context of the Social Influence Model of prevention have included discussions of information about the short-term health and social consequences of using tobacco, alcohol, and other drugs.

Additional areas that may be beneficial to add to the Social Influence Model's core include decisionmaking and problem-solving training, stress management, programs that assist students in setting personal goals and becoming achievement motivated, self-worth enhancement activities, and values clarification activities. Educators have long favored these types of approaches, and, based on

the tables of contents of many of the curricula that are advertised, it appears that the approaches have been widely adopted. While all areas have the potential to enhance programmatic effects, there is always the possibility that additional programmatic elements may be counterproductive as well. For example, we have found that scare tactics and stressing severe consequences result in a great deal of personal denial (Hansen and Malotte 1986). Focusing on smoking and cancer is probably less effective than discussing breathlessness, carbon monoxide poisoning, or bad breath. Nonetheless, when appropriately constructed, such additions are effective (Flay et al., in preparation).

Current Status of the Model

The Social Influence Model for the primary prevention of alcohol and other drug use focuses on intervening in processes that appear to offer the most promising approaches. It includes an understanding of the onset of alcohol and other drug use and developmental, social, and psychological theories. Since the model was developed in 1975, a number of prevention studies have been conducted; most focus on tobacco use, but more recent ones have included alcohol and marijuana use as well.

Effectiveness

The purpose of this paper is not to provide a comprehensive review of the findings of these studies. However, some assessment of the effectiveness of social influence programs is warranted. The research that is being conducted is becoming more and more sophisticated methodologically; during the past 13 years, significant gains have been made in the credibility of the results (Flay 1985). However, insofar as research on school-based programs is concerned, there will never be a perfect study. Group comparability, subject selection, behavior assessment, attrition from the study, inadequate numbers of schools, absolute control over program delivery, and myriad other methodological concerns will never all be absolutely controlled within a single study. A methodological critic will always find something in every study that will be questionable. However, when each study examined is seen in light of other studies, and when sufficient convergence can be found, a basic belief in the potential of the Social Influence Model emerges.

By far, the majority of evaluations of programs based on this model have provided evidence that the model offers effective strategies for prevention (Arkin et al. 1981; Botvin and Eng 1982; Botvin et al. 1983; Evans 1978; Flay et al. 1985; Flay et al. 1987; Johnson et al. 1986; McAlister 1979; McAlister et al. 1980). Effects of programs delivered in seventh grade have been seen as long as 4 and 5 years after the delivery of the program (Hansen et al. 1988; Murray et al., in press). In the most successfully delivered programs, a reduction in the onset of smoking by 50 percent is common.

Marijuana has been added as a drug which Social Influence Model programs have addressed, although few programs have yet been completed (Botvin 1986; McAlister 1979). Project SMART showed modest effects in preventing marijuana use onset (Flay et al., in preparation; Hansen et al. 1988). More recently, we have observed strong significant effects in the Midwest Prevention Project in Kansas City (Project STAR; Pentz et al., in press). In this study, a clearly observable 45-percent reduction in the onset of marijuana use has been noted after 2 years.

Of all the drugs researched, alcohol has been the least consistently affected. Several studies have failed to find strong program results (Hansen et al. 1988; Hansen et al. 1988; Pentz et al., in press). However, more recent reports do document some effectiveness of programs that are based on the Social Influence Model (Botvin et al. 1984; Perry et al., in press; Flay et al., in preparation).

Parameters Determining Effectiveness

It is these differences in effects regarding alcohol use that raise concern about the general effectiveness of programs that have been developed to address social influences. One possible explanation is that in a climate where the majority do not use, it is normative not to use tobacco and marijuana. In such a climate, resistance training can effectively operate by itself to reduce the incidence of experimentation with these two drugs. Alcohol, on the other hand, is more prevalent, and limited use appears to be acceptable to a majority of adults. In this situation, resistance training alone may not be sufficient to reduce onset. Indeed, most of the programs that have not had the hoped-for reduction in alcohol use have focused efforts primarily on resistance training and have placed relatively less emphasis on normative education.

When examining the cause for success and failure, several alternatives need to be considered. First, a program may fail or succeed because of its characteristics. Programs that focus on aspects that are irrelevant to the onset of alcohol and other drug use behaviors clearly will have less chance of success than programs that alter influencing processes. The program design can determine what happens in the program. Even programs that espouse a correct model may fail if the translation from model to program is flawed.

Early programs that focused on increasing knowledge were successful at changing the awareness of, and information about, alcohol and other drugs. When these programs proved to be unsuccessful (Schaps et al. 1981), there was insistence on looking at behavior, not knowledge. Programs using the Social Influence Model have had just the opposite difficulty. Through examining results, less effort was applied to documenting charges in mediating variables. An effective resistance training program should change resistance skills, knowledge about peer pressure, and the perceived benefits of and competence

to resist offers. An effective normative education program should correct perceptions of prevalence and acceptability and should foster conservative normative beliefs. There is recent evidence that programs are achieving changes in variables that correspond to hypothesized mediating processes necessary for prevention (Hansen et al., submitted for publication; Rohrbach et al. 1987).

A second area that greatly influences success or failure is the integrity of program implementation. The education of young people, especially using novel teaching strategies, requires teacher performance. Teachers inevitably face a number of challenges. Under the best of circumstances, program delivery is rarely optimal. With such approaches as the Socratic method, devil's advocacy, role playing, and open discussion that utilize student as well as teacher ability, there is great room for error. Many teachers were not originally trained to use these methods, and many may not understand, be able to perform, or be motivated to perform what is asked of them by program guides. Training, feedback, and support may be essential to successful implementation. We have found in the Adolescent Alcohol Prevention Trial (Hansen et al., submitted for publication) that the quality of implementation significantly mediates behavioral skills, knowledge of resistance strategies, and beliefs about the acceptability of alcohol use.

The receptiveness of the target population is another characteristic that determines the effectiveness of a program. There have been mixed results of program effectiveness on males and females, ethnic minorities, and students from lower socioeconomic strata. Programs may work, but not work as well for a particular subgroup. In part, one would expect this...given the known enabling and restricting characteristics of different groups. While high-risk groups are the focus of much current work, little is yet known about the differences and similarities of these subgroups that can help programmers design more effective interventions.

Conclusion

The Social Influence Model of prevention is based on relatively well-documented evidence that the processes that account for youthful use of alcohol and other drugs are rooted in the dynamics of interpersonal relations and social normative beliefs. The model holds promise for several reasons. There is mounting evidence that the onset of alcohol and other drug use may be deterred as a result of the program. There is evidence that the mediating processes the programs have targeted for change are indeed changing; however, there is also room for improvement. We are just now beginning to understand the dynamics of intervention. No program based on the Social Influence Model or any other model will be entirely effective for all drugs or problem behaviors and among all groups. Clearly, school-based efforts will be more successful if linked to efforts within the entire community, particularly efforts that directly involve

parents. Nonetheless, the logic of the model and research completed to date is promising and holds hope for the eventual reduction of alcohol and other drug use by youth in our society.

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Challenges to Prevention Programs in Schools: The Thousand Flowers Must Bloom

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Introduction

Public concern over alcohol and other drug use by youth and adults has grown more or less steadily over the last 3 decades. As treatment costs rise and the health/wellness movement grows, citizens are becoming increasingly interested in applying prevention strategies to reduce drug use in youth.

President Reagan declared his war on drugs at the First National Institute on Drug Abuse (NIDA) and National Institution on Alcohol Abuse and Alcoholism Substance Abuse (NIAAA) Prevention Conference in the fall of 1986. It was clear then that a national mandate would provide prevention specialists the opportunity to demonstrate what they could do to lick the problem. The subsequent passage of Public Law 99-570, The Anti-Drug Abuse Act of 1986, has provided increases in funding for primary and secondary prevention to public schools, prevention agencies, and communities.

Supply Reduction vs. Demand Reduction Approaches

The primary prevention field, however, was disappointed with the small percentage of funding for demand-side reduction versus supply-side reduction. Out of the total Anti-Drug-Abuse Act authorization of $1.7 billion, only about 17.5 percent has gone for primary and secondary prevention, with 11.7 percent to the public schools, 2.4 percent for the Office for Substance Abuse Prevention's (OSAP) high-risk youth demonstration programs, 3 percent for the Bureau of Indian Affairs, and 3 percent to ACTION. Approximately 200 times more money is spent on reducing the supply of drugs into the country and drug enforcement within the country than on reducing the demand.

Unfortunately, many specialists in prevention believe that there is enough evidence to conclude that supply-reduction techniques are not as effective as demand-reduction techniques. The most recent Rand Corporation report on *Strategies for Controlling Adolescent Drug Use* (Polich et al. 1984) concludes that supply-reduction techniques are ineffective in decreasing drug use and occasionally are counterproductive. Goodstadt (1987) has pointed out that these demand-reduction strategies "seem more appropriate to wars of liberation and

resistance to an outside oppressor than to moderating an historically pervasive behavior."

Challenging Time for Prevention

The eyes of parents, educators, and public officials are focused on the effectiveness of this new prevention funding in reducing alcohol and other drug problems. As a consequence, this is a challenging time for the field. We need to prove our worth or the funding and hope will quickly dry up, and prevention will be later remembered as a passing fad and a naive idea that did not work. This paper will address the history of prevention in the schools, current challenges for school-based prevention, criteria for effective prevention programs, and promising approaches.

This paper is not written to document that "School drug education gets an F," as reported by *U.S. News and World Report* on October 13, 1986, but to steer school prevention specialists away from the approaches that are not likely to be cost-effective (or may even have detrimental effects) and toward more promising approaches—such as comprehensive, targeted, locally adapted prevention programs. The author is a pessimist about certain "one-size-fits-all" approaches and an optimist about other comprehensive, locally adapted approaches.

History of School-Based Prevention

The Important Role of Schools in Alcohol and Other Drug Use Prevention

Educational access to children and youth traditionally has been achieved through the public schools. School prevention programs have been targeting younger and younger youth. The first alcohol and other drug prevention programs were designed for high schools and later junior highs. More recently, the battleground has switched to elementary schools because the average age of first use of alcohol and other drugs has moved to the 11- to 13-year age group, depending on the area of the country and the type of drug. In addition, longitudinal research studies suggest that youth who use tobacco and alcohol have a later, higher risk of using illegal drugs (Catalano et al. 1985; Kandel and Yamaguchi 1985; Kandel et al. 1986; Kandel 1980). Youth who initiate use early may have a higher genetic vulnerability for alcohol problems as found by Cloninger and associates (1981) (see Kumpfer 1987 for a complete review of vulnerability research). Former Department of Education Secretary Bennett was reported in *U.S. News and World Report* (Oct. 13, 1986) as warning that "the drug plague is seeping into lower and lower grades. Students today identify drugs as a major problem among their schoolmates as early as fourth, fifth, and sixth grades" (Levine 1986).

Parental Concerns Are Increasing

Despite the fact that drug use, particularly marijuana, may be decreasing in youth today (Johnston et al. 1987), use is beginning at earlier ages. Parents have become increasingly worried. A 1986 Gallup Poll showed that drugs used in elementary school topped the list of parental worries with 27 percent of parents rating this first. A 1988 Gallup Poll shows that Americans support a variety of anti-drug measures in the school: 90 percent desire required instruction about drugs, and 78 percent support permanent expulsion of drug users (see figure 1).

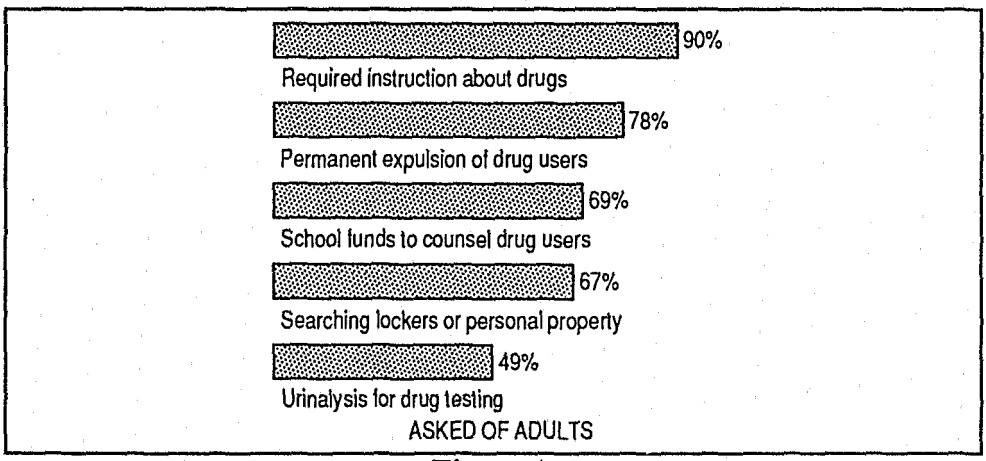

Figure 1.

Drug use in America's youth is a major issue in any election campaign because of this increasing public concern. Candidates are trumpeting their own war on drugs, and the Senate unanimously approved an amendment to the annual budget resolution to increase anti-drug funding by $2.6 billion.

Not Enough Flowers

Unfortunately, there are historical precedents in the school prevention field that may make it difficult for effective prevention programs to grow. One problem is that the school-based prevention field is prone to a single variety bandwagon phenomenon. Why this has happened is not entirely clear. Possibly, the Department of Education (DoEd) and the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) have performed the job of disseminating information on what was thought at the time to be promising models and approaches. There appears to be excellent networking and technical assistance to school-based prevention specialists, partly through the National Prevention Network and the National Association of State Alcohol and Drug Abuse Directors—and prior to that, the State Prevention Coordinator's network and conferences. Possibly the field was so young that everyone was eager to implement

any new, promising approach. In addition, there is big money to be made in marketing school prevention programs, and a few curricula have been well-promoted.

Unfortunately, this has meant that few approaches have been evaluated and tested for efficacy. Several major school-based approaches will be reviewed below. A more complete review may be found in Bukoski's chapter on school-based prevention in *Childhood and Chemical Abuse: Prevention and Intervention* (Ezekoye et al. 1986).

Drug Education Programs

The earliest approaches of providing knowledge about the consequences of alcohol and other drug use failed partly because of an emphasis on "scare tactics" that was not credible to youth (Bukoski 1979; Wepner 1979). Knowledge retention has been found to be better under low fear appeal as compared to high fear appeal conditions and certainly better with a credible communicator (Williams et al. 1985). Johnston and others (personal communication 1988) have suggested that the use of credible messages focusing on short-term consequences and risk factors may be effective approaches. The most recent reduction in cocaine use in youth has paralleled increased awareness of the dangers of cocaine; therefore Johnston suggests that knowledge of consequences may work for some youth and that knowledge programs should not be prematurely abandoned until techniques are perfected.

Affective and Interpersonal Education Programs

These programs aim to reduce alcohol and other drug use by increasing a youth's self-concept and skills in order to cope with negative feelings and interpersonal and life problems. Though this would appear to be a promising strategy, many earlier evaluations have not demonstrated effectiveness of these programs in decreasing intentions to use or in delaying the onset of use (Huba et al. 1980; Goodstadt 1980; Moskowitz 1983; Moskowitz et al. 1984).

This author believes that these affective programs are heading in the right direction and are rarely detrimental. The major problem is generally that they are not intensive enough to teach all the affective and interpersonal skills that a youth would need to reduce multiple coping skills deficiencies, particularly a high-risk youth.

Alternative Programs

These strategies aim to reduce alcohol and other drug use by involving youth in alternative "highs" or activities to reduce boredom and enhance bonding with communities, school, or groups (also, they teach new interpersonal and vocational skills). In Schaps and associates' (1981) review of 127 drug prevention programs, only 12 were found grounded in the alternatives philosophy. The

evaluations were mixed, with five having positive impact and seven reporting no impact. It appears that some alternative activities tend to increase use, particularly those that increase a high-risk youth's association or bonding with people who use alcohol and other drugs, such as those in the entertainment field, construction trade, sports, some professions, and so forth. Swisher and Hu (1983) have found that alternatives, which involve youth in active hobbies, academic activities, and religious activities, help them to bond with nonusers and thus decrease alcohol and other drug use.

Behavioral Prevention Programs

These programs attempt behaviorally to train students to resist peer pressure to use drugs through social learning, reciprocal determinism, and efficacy theory (Bandura 1977, 1986). There are three major social competency approaches to prevention: (1) the "social influences" approach developed initially by Evans and his associates (1978, 1981) into social inoculation and peer resistance social skills training programs; (2) social modeling or training in health-promoting behaviors; and (3) the broader "life/social skills" approaches developed by Botvin and Eng (1980, 1982, 1986).

These programs appear to have some effectiveness in delaying the onset of tobacco use in junior high school students, though Moskowitz (1987) points out that the "patterns of effects are inconsistent across studies even of the same program." In a recent meta-analysis of social skills prevention programs, Tobler (1986) concluded that the weight of the evidence is that these programs are effective. However, the reason for the delayed onset is unknown because of the large number of variables mediating these programs.

The effectiveness of currently evaluated behavioral programs in reducing alcohol and other drug use in youth is less well substantiated. Very few school-based programs have attempted to use these approaches, which were originally designed for smoking prevention. One of the few programs designed to apply social inoculation and peer resistance social skills training to alcohol and marijuana prevention—Project Smart and the larger Project Star—have had very disappointing results, particularly for high-risk students. When the experimental schools were compared with the control schools, this program failed to prevent any significant number of youth from initiating alcohol or marijuana use (Johnson et al. 1985). When percentages are translated into real numbers, the program may have prevented a small number of youth from initiating use for one year. Youth in the Los Angeles area who have never had a sip of alcohol or used marijuana by junior high school are low-risk youth for use. The most troubling problem with this approach is the impact on the high-risk youth—those who are already users. There are suggestive data from this project that those users in the experimental schools increased their drug use as a result of the program. Why these school programs are having a

detrimental effect on high-risk youth requires study so that the same elements are not repeated. Possibly, these school programs increase the salience of alcohol and other drug use as an indicator of group membership and belonging. In this type of school climate, youth who already use may become more alienated from nonusing youth or feel a need to use more drugs to prove they are not like those "Just Say No" youth.

The evaluations of Project Star in Kansas City, Missouri, and Indianapolis, Indiana, also support the lack of positive impact on high-risk youth, particularly Black students. At the First National Conference on Prevention Research Findings, Hansen (1988) reported increases in alcohol use in the high-risk students in schools using these programs.

Coordinated, Comprehensive School Approaches

The earlier approaches relied on a primary single strategy approach. Recently, the prevention field has become more interested in the "thousand flowers approach"—many different prevention components or programs that are coordinated, enduring, and adapted to local needs (Kumpfer et al. 1986). The evaluations of the multicomponent community prevention programs have been encouraging and suggest that a synergistic effect, as well as a consistency in message, occurs with a broader-scale community campaign (Flay et al. 1982; Wallack 1986).

This coordinated, multicomponent approach is currently being used in most school-based prevention programs. The application of many different approaches seems likely when different funding sources and personnel get involved. However, few of these new approaches are well thought out to meet known needs and are rarely coordinated or evaluated for effectiveness. One of the few programs exempt from this criticism is Project PATHE, which will be discussed later in this paper. This program organizes all school prevention activities through a school prevention coordinator and a core school team. The basic philosophy of the program is the improvement of school climate, school involvement and bonding, and increased academic performance. This program was effective in reducing alcohol and other drug use in junior and senior high school students and increasing academic performance (Gottfredson 1986).

Challenges to School Prevention Specialists

School drug prevention specialists will face a number of special tasks in the next few years. These challenges must be met if prevention programs are to be successful and address the concerns of the American public. These challenges are discussed below:

- **To develop effective prevention programs that impact not only on the general population of school students but also the**

high-risk youth, who contribute most to the high cost of alcohol and other drug problems. Last year, approximately $850 per person in the United States was lost to reduced economic productivity and social services costs due to alcohol and other drug abuse and use. Many Americans will not buy U.S.-manufactured products because the costs are too high or the products are of inferior quality. Alcohol and other drug abuse in the labor force contributes to the lack of quality goods and, hence, to the economic imbalance of trade.

- **To maximize impact on the reduction of alcohol and other drug use in youth with few dollars.** Prior to the passage of the 1986 Comprehensive Drug Abuse Prevention, Treatment, and Rehabilitation Act, only about 77 cents was being spent *per capita* on demand-side prevention (i.e., school and family-focused prevention programs) to solve this $850 *per capita* problem. Currently, States spend amounts that vary from approximately $1 to $3 *per capita*. This still is a drop in the bucket for demand-side prevention. Hence, school prevention specialists should be creative in multiplying their funds through the use of volunteers and community donations and through the selection of prevention activities that meet the needs of local students.

- **To document the effectiveness of additional model programs before public disenchantment occurs.** Doing this evaluation will require funding research on model demonstration programs. The "thousand flowers" may bloom through the new OSAP and DoEd initiatives, but some mechanism for evaluating the outcome of these programs is needed. From the "thousand flowers," several promising species must be identified and outcome and impact evaluations conducted. If this is not done, existing prevention programs will have little basis on which to select the most promising approaches for youth. Also, it will be difficult to justify the continued cost to Congress and State legislatures.

- **To design and implement school prevention programs based on criteria for effective programs,** such as those listed below.

  Tailored programs. Prevention programs that meet the special needs of local youth and are tailored to the particular community characteristics should be implemented. We are discovering that one size does not fit all. In choosing or modifying an existing model program or curriculum, prevention specialists need to consider the following: (1) characteristics of the users (i.e., age appropriateness in terms of cognitive, social, and moral development, ethnic and cultural appropriateness, and community appropriateness); (2) types of drugs used (i.e., whether legal or illegal, severity of use, routes of administration; (3) types of users and percentage in each school of nonusers, occasional users, and heavy users as different approaches will be

needed for each type; (4) causes of use or abuse in the local youth, including history of use and reinforcers for use; and (5) resources available for successful implementation (i.e., school cooperation, funding, sources of staff and volunteers).

Well-implemented and enduring programs. Prevention programs should be well-implemented so they will last even if the funding is decreased. Early prevention programs were often one-shot assemblies or activities that did not consistently convey a "no use" message. In addition, the prevention program must be of adequate strength to have an effect on youth. Staffs must be creative in using demonstrated, effective implementation technology such as: (1) videotapes, computer-interactive video systems, films; (2) student and parent manuals with homework; (3) student involvement in the prevention program through peer counseling, tutoring, lecturing, or theater troupes; (4) adequate leader or teacher training with monitoring of the process and content of the prevention activities; and (5) sufficient staff, supplies, and funding to implement the program.

Programs with a well-defined theory and goal focus. The selection of a school prevention program should be based on well-defined assumptions about the underlying theory of etiology or causes of use in the local youth and an implementation theory to promote changes. A number of underlying assumptions should be discussed with all parties involved because these program premises are often assumed or at a subconscious level. Though almost all citizens agree that alcohol and other drug abuse and use must be stopped, people designing and implementing programs have different backgrounds in, and understanding of, the causes of drug abuse and the proper focus. Decisions should be made about the following:

1. Should the focus be on stopping any abuse, use, or both?

2. Should the program stress nonuse of any type of mind-altering drug, including legal drugs, such as tobacco, alcohol, and prescription drugs used nonmedically or overused?

3. Should the program stress alcohol and other drug use as a health issue (including education about the disease concept, genetic vulnerability, and health/wellness concepts), an economic issue, a social and family issue, and/or a moral issue?

4. Should the program be focused on just the low-risk youth in the general student body or should special activities be designed for the high-risk youth, who are not using (i.e., children of alcoholics and drug abusers or with a positive family history of abuse, minority youth, depressed youth or socially anxious and shy youth, and

others) and those who likely are already using (i.e., delinquent and acting-out youth, youth frequently absent from school, and those self-identified as problem and non-problem users through violation of school policy on nonuse at school and self-disclosure)?

5. Should the program seek to improve the school's climate by removing high-risk youth or youth who use from the school or attempt to involve them more in the school? Is the program goal to reduce use in the school or in the community? One very effective method for reducing drug use in schools is to expel all users. However, this approach is extremely detrimental to the community and society at large.

6. Should the program focus just on youth in school or also attempt to involve parents and the total community? Youth will likely resent programs that imply that they are the only ones who need to stop their use of alcohol and other drugs. This looks like scapegoating, particularly since young adults are the largest group of drug users, and older adults are often those most readily identified as abusers needing treatment.

Prevention programs grounded in evaluation research. Those in a position to decide which prevention program or activities to implement should always be aware of the findings of any program evaluations that have been conducted. If expertise in evaluation is lacking on the selection committee, it will be worth hiring an expert to review research publications or program evaluations with a fine-tooth comb. Program marketers may fail to mention unintended negative effects, or if they got positive effects, the potential sources of bias in the evaluation. Important questions include:

1. What is the theoretical model underlying this program? Are intermediate, mediating variables measured to lend credence to the posited theoretical model? Could the ultimate outcomes of reduced drug use have been caused by external, uncontrolled factors?

2. What are the program objectives? Are they broken down into immediate program objectives (activities), intermediate client objectives, and ultimate client or community impact objectives? Are the objectives measurable, realistic, changeable within the program, and specific to the theoretical model for the targeted youth? A back-step analysis may help program planners determine where the most cost-effective point would be to interrupt a causal chain of hypothesized factors that lead to use or abuse.

3. Were process data collected to tell whether the program was implemented as planned? Program evaluations of good model

programs may show poor results, not because the model program is worthless, but because it was not implemented as designed.

4. Is the sample of sufficient size to permit reasonable confidence in the research results? Knowledge of confidence intervals helps here.

5. Is the sample representative of the student body with all groups included? Generally, this means a random sample of all students in the school with a high participation rate of 80 percent or more of those randomly selected. If high-risk students are omitted, then the sample is biased.

6. Is there differential attrition at the post-test, with more of the high-risk students dropping out of the sample because of moving away or dropping out of school? If so, the improvements may be due simply to fewer using students in the post-test sample.

7. Are the test instruments reliable and valid? Are there repeated questions to check for consistency in answers? Are standardized and normed scales or tests included in the test battery? Are demographic data included to determine the impact of the program for different types of students?

8. Are the data collection techniques standardized and protected from potential bias? What percentage of missing data occurred? How many completed tests had to be omitted because students could not read, could not understand the questions, or chose not to answer many of the questions accurately?

9. Is there triangulation of data sources? In other words, have several different people (i.e., students, teachers, administrators, parents, independent observers, and so forth) been asked for information on the same variables?

10. How cost effective is this program? How many students (numbers, not percentages) were stopped from becoming users and/or abusers and for how long? A program touting a 50-percent reduction in initiation may be talking about keeping small numbers of students (say 2 to 20) from initiating use for 1 year. Is this worth the cost to the taxpayer?

11. Are there control groups to check for baseline changes in matched students? Some programs show very few positive changes when compared to natural improvements due to other community changes. Other programs may look like failures because more youth were using drugs at the post-test. However, when compared to control schools, the experimental programs actually may have prevented more students from using.

12. What is the effect size and significance of the results? Does a statistically significant difference translate into the changes in measured variables of sufficient size to warrant replication of the program?

13. What happens to the high-risk students and the current users after this program is implemented? Hence, what are the real cost savings to society if this program is implemented?

Challenges to Alcohol and Other Drug Abuse Prevention Specialists

Implementing prevention programs within schools is a difficult and challenging task. Schools are overcrowded, underfunded, and becoming dangerous in some areas of the country. Schools are asked to do so much in addition to basic education of youth that administrators and teachers are reluctant to have precious time spent in testing and prevention activities.

Hence, personal challenges to the prevention specialist in the school often include:

- Institutional frustrations, in terms of inflexible regulations, rules, and procedures;
- Interpersonal frustrations, in terms of overworked and overstressed teachers and administrators, parental over- or underconcern, and student uninvolvement;
- Personal frustrations, in terms of long hours and a lack of adequate compensation or immediate rewards. A person cannot be in this field to make a lot of money: the reason must be to satisfy an inner sense of contributing to society.

Promising Approaches: Coordinated, Comprehensive Programs

This author is optimistic that coordinated, school-based programs can and do have a positive impact on youth and should be continued. Not enough funding has been allocated to prevention evaluations to prove that these programs do or do not work. The summary of past programs should give the reader some idea of more and less promising approaches.

This author's recommendations for school-based prevention programs are included in the report on *Assessment of the Research on School-Based Prevention Programs*, which senior author Michael Klitzner and others prepared for DoEd's

1988 Report to Congress. The short-term recommendations included implementing coordinated school- and community-wide prevention efforts with the assistance of advisory committees composed of school and community members.

This coordinated and comprehensive school prevention approach has been evaluated in a number of schools by the Office of Juvenile Justice and Delinquency Prevention (OJJDP). Coordinated and comprehensive programs like the Project PATHE combined school and parent project, evaluated by Gottfredson (1986) and Hawkins (personal communication 1987) have been shown to have a positive effect. Gottfredson and Gottfredson (1986) found reductions in alcohol and other drug use and problem behaviors in low-risk students. They also noted reductions in risk factors for use (such as lack of commitment to education, lack of school involvement, dropping out of school, failure to graduate, and poor standardized achievement scores) in high-risk students. Staff and student morale is reported to increase as the programs are received and implemented by school staff.

The basic philosophy of these programs is to promote a sense of belonging and attachment to the school by improving the general social climate and enforcement of school policies. These comprehensive programs assume that delinquency and alcohol and other drug use have multiple causes. Hence, targeting only selected aspects of the youth's environment would be ineffective; comprehensive programming addressing multiple risk factors by multiple agents is called for. These programs combine individual-ameliorative approaches with environmental-structural approaches in trying to create a climate of mutual respect, cooperation, and sense of belonging among teachers, administrators, students, and parents.

The approach being advocated is in many respects not a program *per se*, but an internal planning and implementation process for grassroots involvement. The steps in this planning process include (1) create a school coordination or advisory committee from existing groups of students, teachers, administrators, and parents; (2) conduct a needs assessment with standardized, quantifiable information from students, teachers, parents, and administrators; (3) develop local objectives and plans to implement many different prevention programs or activities to meet the needs of high- and low-risk students; (4) implement plans and monitor the progress and impact; (5) evaluate the impact with matched control schools and a post-test; and (6) refine and continue those elements that are working best.

This coordinated school process is being implemented in high schools by the author with funding from DoEd. The new project is called Project HI PATHE because of the special emphasis on activities to engage high-risk students. The school needs assessment has just been completed, and the school teams met to develop plans in June 1988 (after school was out and time was available). The

new activities will be implemented when the school year starts. We are hopeful that this project will increase the knowledge of the prevention field on what is effective for both high- and low-risk students.

Summary

This paper has discussed the current issues facing the alcohol and other drug abuse field, the history of early prevention programs, the challenges to the field, and recommended strategies. It is hoped that this information will help practitioners implement prevention programs more successfully and reduce the emotional hurt to many families, as well as the economic losses to the country caused by alcohol and other drug abuse.

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CHAPTER 4

Community-Based Prevention Programs

Summary

Speakers explored community-based prevention models, including both comprehensive and targeted prevention approaches. They also discussed alcohol- and other drug-related problems, such as teen pregnancy, youth suicide, child abuse, domestic violence, school drop-outs, and violations of the law.

They discussed such specific areas as parent education from a community perspective; the limitations of social network systems; the potential for school/community partnerships; prevention research needed in the community; and the need to translate community psychology research to the "real world"—research versus reality.

Speakers stressed that community-based prevention is comprehensive: It targets multiple systems and uses multiple strategies. A framework of a basic understanding of community prevention was provided—what community-based prevention is, who is involved, why it should be done, where it came from practically and theoretically, and how to do it. They emphasized the importance of collaboration and building trust for effective community-based prevention.

In addition, speakers explored the social stress model of alcohol and other drug abuse. This model integrates the emphasis on individual and family system variables with recent research on competency and coping. It also seeks to address the broader sociological factors that influence adolescent behavior.

Finally, they reviewed various processes to induce change—the empowering process, which helps people create resources for themselves; the adaptive process, which encourages the development of a diversity of competencies; the boundary-breaking process, which sanctions boundary spanning as a work role; and the renewal process, which generates social support for coping with the tensions of balancing visions with constraints. The four major phases of the collaborative effort the speakers described were entry, engagement, commitment/ownership, and renewal.

An Overview of Community-Based Prevention

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Introduction

The clarion call for prevention at the community level has been sounding for many years, in many fields, and by many researchers and practitioners. Perhaps the quotation "prevention is an approach whose time has come," is apt for community-level prevention as well. The time seems right—certainly a sense of urgency appears to be growing in the human service and public policy area—for advocating and facilitating the development of community prevention programs focused on alcohol and other drug abuse and use—as well as the interrelated social problems of school failure/dropping out, teen pregnancy, child sexual abuse, and delinquency/crime. As prevention advocates, policymakers, program planners, and practitioners, we need a shared basic understanding of community prevention: what it is, who is involved, why we should do it, where it came from practically and theoretically, and how to do it.

The purpose of this paper is to help establish this framework by providing a brief overview of community prevention in terms of definition, rationale, historical antecedents and theory bases, program models, and the types of programs now in the field.

Community-Wide Prevention Defined

The topic of this section of the conference is listed as "community-based" prevention. But the term is not only inadequate for describing the community prevention approach—it is also misleading. It suggests that a single prevention activity emanating from a single community group or agency is community prevention. Instead, the term "community-wide" prevention better describes the phenomenon under discussion. Community-wide prevention refers to the systematic application of prevention strategies throughout the community in a sustained, highly integrated approach that simultaneously targets and involves diverse social systems such as families, schools, workplaces, media, governmental institutions, and community organizations. Inherent in this definition are three critical attributes that distinguish community-wide efforts from other prevention efforts.

First, community-wide prevention is *comprehensive*; that is, it targets *multiple systems* (families, schools, workplaces, media, governmental institutions,

and community organizations) and uses *multiple strategies*. The following five strategies have been identified as the foundation for effective efforts against alcohol and other drug abuse and use—as well as other interrelated social problems:

(1) **Involving and training impactors**. Impactors include significant individuals and role models in the community. Their involvement strengthens the total prevention support system within a community.

(2) **Providing information**. To achieve the greatest impact, information and educational materials must be appropriate to each audience, geared to specific needs, and used in conjunction with all the other strategies.

(3) **Developing life skills**. Life skills promote healthy personal functioning and include, but are not limited to, the following intra- and interpersonal skills: self-awareness, communication techniques, decisionmaking/problem solving, friendship, stress management, assertiveness, resistance/refusal, consumer awareness, and low-risk choicemaking.

(4) **Creating alternatives**. By providing positive and constructive means for addressing feelings of boredom, frustration, pain, and powerlessness; for rite-of-passage marking; and for having fun, health-risk behaviors such as alcohol and other drug abuse and use can be diminished.

(5) **Influencing policy**. Family, school, governmental, community, and media policies—both formal (such as laws and regulations) and informal (such as values and norms)—must provide clear and consistent messages regarding alcohol and other drug use (or sexuality, school achievement, and so forth), and promote social and economic changes that create more opportunities for education, employment, recreation, and self-development.

The matrix in figure 1 is a simple but useful tool in conceptualizing the comprehensiveness of community-wide effort.

An ideal community-wide effort would have each of the squares filled in with the appropriate prevention activity.

Systems / Strategies	Families	Schools	Work places	Media	Government	Community
Involving & Training Impactors						
Providing Information						
Developing Life Skills						
Creating Alternatives						
Influencing Policy						

Figure 1.

A second attribute of community-wide prevention is an emphasis on the *program development process*. While the literature abounds with various planning models, the common, generic ingredients include identification of community leaders and organizational structure; assessment of needs (problem identification); the development of realistic, multiple, and measurable long-term goals and shorter-term objectives; the coordinated implementation of activities and tasks; and program management, evaluation, and replanning.

The third distinct attribute of community-wide prevention is that it is *collaborative*. While implied in the above two attributes, the active participation of representatives of all involved systems—parents, school personnel, youth, local businesses, religious institutions, media, local government, human services, law enforcement, and other community organizations—in the actual program planning and implementation process is essential in carrying out a community-wide prevention effort. The development of a collaborative community base ensures the availability of community resources to support the program as well as community ownership of the program. According to Pentz (1986), previous research suggests that these latter two factors, along with the "sequential use of multiple channels for community program delivery" (i.e., using multiple systems), "determine successful entry, implementation, and institutionalization of a community-based prevention program" (Pentz 1986).

Rationale

Given the above definition and attributes of community-wide prevention, we can see that it does not provide a "quick fix" or "silver bullet" to doing prevention, but, rather, demands a long-term commitment and a high degree of involvement and participation on the part of many people. The practical and logical question then follows, why bother? Why focus on community-wide approaches to alcohol and other drug abuse prevention? According to Cheryl Perry (1986), while "the answers may be obvious to prevention researchers and practitioners, it must be noted that the community prevention approach only recently has emerged and only now is being studied to determine its efficacy."

The rationale for *community-wide* prevention of alcohol and other drug abuse problems (beyond the rationale for prevention itself) is basically twofold. First, from over a decade of prevention research—both correlational and programmatic—the most important conclusion we can make is that the causes of drug abuse and other interrelated social problems are multiple—involving personality, environmental, and behavioral variables—and that prevention efforts focused on a single system and a single strategy will probably fail (Jessor and Jessor 1977; Perry and Jessor 1985). We have witnessed this failure in our almost unilateral, single-strategy/single-system approach to adolescent drug use prevention—providing information in the school classroom. Some researchers, such as Lloyd Johnston (1986), who conducts the National Institute

on Drug Abuse's annual high school-senior survey, claim the decline in prevalence of marijuana and other drug use by adolescents over the last few years is attributable, in part, to these school drug education programs. However, the continued, stabilized, high level of adolescent alcohol problems (especially in the binge drinking category), testifies to the ineffectiveness of these programs in preventing either the onset of alcohol use or problems. Alcohol is the drug that one out of every three Americans says affects the family adversely, according to Gallup polls. In addition, evaluations of numerous alcohol and other drug prevention programs and even of popular alcohol prevention curricula have found no changes in alcohol and other drug use behavior (DiCicco et al. 1984; Mauss et al. 1988; Hopkins et al. 1988; Goodstadt 1986; Hansen 1988).

While it is beyond the scope of this paper to consider the limitations and the possibilities of school-based prevention, a concurrence has existed in the literature for some time that to be effective, school-based prevention should be part of a larger community-wide effort (Hopkins et al. 1988; Pentz 1986; Pentz et al. 1986; Perry 1986; Benard et al. 1987). The recent disappointing evaluation, by Hopkins et al. (1988), of a popular alcohol education curriculum states, "Surely any school-based program hoping to have any appreciable impact will have to be embedded in a *comprehensive, community-wide* prevention effort directed at all the major social influences and institutions that shape our youth."

Other prevention experts claim that as long as alcohol use is encouraged and glamorized in our culture (especially by the media) as the only way to have fun, relax, be cool, or be grownup, adolescent drinking will continue to be a problem. Perry (1986) states, "Drug abuse is social behavior and such behavior is embedded in the larger framework of community norms and social support systems that regulate the occurrence of these behaviors." Similarly, Griffin (1986) cautions: "Current social norms about chemical use are a reflection of the community. The community is a fertile, powerful, and necessary environment for changing norms. If chemical use problems of young people are to be reduced, community-based prevention programs also must challenge adults to reflect on their patterns of chemical use.... Prevention cannot be a task assigned by the community to the school and focused only on youth. It is a shared responsibility."

Ultimately, if we actually hope to impact youthful alcohol and other drug use behavior, we must encourage low-risk choicemaking around alcohol/drugs in all the social systems in our environment—families, schools, workplaces, media, and community.

A second rationale for a community-wide prevention orientation is not alcohol and other drug-specific but, rather, addresses some underlying variables (like societal alienation, loneliness, or lack of purpose) that correlate with various problem behaviors throughout the lifespan. According to this rationale, if we are to prevent the occurrence of problem behaviors like alcohol and other drug

use, school failure/dropping out, teen pregnancy, child sexual abuse, delinquency/crime, and so forth, we must promote and build physically and psychologically healthy communities that *empower* people to have control over their lives.

The social, economic, and technological changes since the late 1940's have played a significant role in our sense of geographical and psychological community. Communities have become more fragmented, resulting in breaks in the naturally occurring *linkages* among the social systems; linkages that provide support and nurturance to individuals and create opportunities for them to participate meaningfully in their community. Protective factor research has studied individuals who succeed in spite of adverse environmental conditions; often, a major contributing factor has been the presence of environmental support from even one social system—one family member, one teacher, one school, and so forth, that facilitated a bonding with that system (Werner and Smith 1982; Rutter 1984).

According to this rationale, community-wide prevention efforts must focus on building collaborative linkages among systems and within systems in our community. The following represent some of the intersystem linkages possible in community-wide efforts:

Family-School
Family-Workplace
Family-Community
Family-Government
Community-University
Community-Government
Community-Social Services
School-Workplace
School-University
School-Social Services
School-Government
School-Community
Workplace-University

According to Rutter (1984), preventive interventions need to address this issue of intersystem linkages. Since human development is, he says, a "question of linkages that happen within you as a person and also in the environment in which you live, ...our hope lies in doing something to alter these linkages, to see that kids who start in a bad environment do not go on having bad environments and develop a sense of impotency." Similarly, Werner and Smith (1982) see that the key to effective prevention efforts is to reinforce within every arena the intrasystem linkages, the "natural social bonds" (between young and old, between siblings, between friends, and so forth), "that give meaning to one's life and a reason for commitment and caring." To neglect these bonds, according to the authors, is to "risk the survival of a culture."

History / Theory Bases

Having defined and established a rationale for community-wide prevention, it seems appropriate to give a simplified summary of some of the historical and theoretical antecedents to this approach.

Historically, for the most part, two fields have focused on the community as an *arena* for preventive interventions: public/community health and mental/community mental health. The former has had a lengthy tradition in community planning agencies, beginning in the 1920's with local health and welfare councils, and progressing through comprehensive health planning agencies in the 1960's and the federally mandated Health Systems Agencies (HSA) in the 1970's (Sofaer 1988); and internationally, with community development programs in nonindustrialized countries during the 1960's and early 1970's. However, according to Sofaer, with the demise of the HSAs last year, "Health planning is now largely limited to individual institutions [businesses] that plan programs for specific health problems and target groups, but these individual institutions are not accountable for their impact on overall community health."

In the field of mental health, interventions in the community also have a tradition in the United States dating to the community psychopathic hospital of the 1890's and developing into the community clinic movement and the citizens' mental hygiene movement of the early 20th century. After World War II, efforts of large State mental health institutions to effectively treat patients failed. This fact, combined with the development of tranquilizing drugs, the therapeutic community, and geographic decentralization of State mental hospitals, set the stage for the emergence in the 1960's of the community mental health center movement. In 1963, President Kennedy proposed a national mental health program to Congress that included the establishment of comprehensive community mental health centers that would provide service to the *total* community, use rational planning in management, and identify stress-inducing aspects in the community (Bloom 1984).

While the recent history of the community mental health movement is beyond the scope of our discussion, it is sufficient to note that for numerous and often complex political reasons, according to Bloom (1984), "The accomplishments of the nearly two decades of the community mental health center movement have fallen far short of the original hopes of most of its vocal proponents...." In the three areas of most concern to the concept of community-wide prevention, "...development of a concern for the total population, development of preventive services, and reduction of community stresses and enhancement of community strengths...," the "...community mental health center program has done most poorly." Today, most community mental health centers provide mainly clinical services. According to a 1983 survey of these centers, "Services reporting the greatest decreases are consultation/education, prevention, and evaluation" (Larsen 1987).

As you can see, both community health and community mental health *settings*, for the most part, have failed to provide "homes" for community-wide prevention efforts. What we see happening in the 1980's, with the withdrawal of Federal impetus and funding for community-wide health and mental health

prevention, is the extension of practice—especially as consultation—in both fields, into other settings: business, industry, human service organizations, and community organizations.

However, while these two areas may have failed to serve as the structures for the practice of community prevention, the two disciplines of public/community health and psychology have furnished research support and theoretical bases validating this approach.

We find a rich, in-depth research and theoretical heritage in the public health subspecialty of community health education. According to Steckler (1985), theory and practice in this field have basically two roots: the community studies literature and the planned change literature. He identifies the former category as including the Lynds' *Middletown* studies of the 1920's and 1930's, Vidich and Bensman's *Small Town in Mass Society*; Warner's *Democracy in Jonesville*; Dollard's *Caste and Class in a Southern Town*; Warren's *Studying Your Community*; Dahl's *Who Governs?*; Hawley and Wirt's *The Search for Community Power*; and Hunter's *Community Power Structure*. He gives as examples of planned change Paul's *Health, Culture, and Community*; Spicer's *Human Problems in Technological Change*; Bennis, Benne, and Chin's *The Planning of Change*; Etzioni's *Social Change*; Goodenough's *Cooperation in Change*; Lippitt's *The Dynamics of Planned Change*; Rothman's *Planning and Organizing for Social Change*; Alinsky's *Rules for Radicals*; and Biddle's *The Community Development Process*.

In the 1970's, the community health literature, reflecting the move away from intervention largely based on the community, began to focus on program planning and evaluation "drawn more from general systems theory, research methodology, health planning, epidemiology, and to a lesser extent, planned change for its conceptual and theoretical foundations" (Steckler 1985).

Looking now at the research and theoretical bases for community-wide prevention in the field of psychology, the Swampscott Conference on the Education of Psychologists for Community Mental Health of 1965 is hailed as the event marking the birth of the subfield of community psychology. "Particularly emphasized as primary concerns for community psychology were prevention and the need to examine social institutions, systems, and settings as determinants of the emotional well-being of individuals" (Felner 1983). Current prevention concepts such as stressful life events and transitions, empowerment, mutual help, social support, community ecology, working in natural settings, and collaboration have emanated from this field.

However, the concept of prevention "has now moved far from the Swampscott Conference and an almost exclusive home in community psychology" (Jason et al. 1983) and is now being incorporated into the practices of developmental, organizational, social, and health psychologists (Albino 1983). Similar to the

trend in community health, these subfields of psychology are being extended into nonclinical settings as well—into business, industry, human service organizations, and the nonprofit community organization sector. With this extension, we see, as in community health, a concomitant emphasis in the literature on program planning and evaluation.

Since the late 1960's and 1970's, the two fields have borrowed back and forth theoretically, with the public health concept of prevention and risk factors being incorporated into psychology, and with numerous psychological concepts and theories—especially from behavioral psychology (such as social learning, social inoculation, contingency management, and so forth)—being infused into public health programming (Elder et al. 1985).

Furthermore, incorporated into this cross fertilization of public health and psychology have been theoretical contributions from other fields, especially from communications research: Rogers' diffusion of innovations theory (1983), McGuire's (1968) communication-persuasion theory, Festinger's (1957) cognitive dissonance theory, Kotler's (1980) social marketing approach, and numerous other concepts and theories of mass communication (Flay 1986).

The end result in the 1980's has been the development of several integrative models for reducing health-compromising behaviors and for promoting health-enhancing behaviors. At the community-wide level, two research-based approaches for alcohol and other drug abuse prevention offer particular promise as models for future prevention programming.

Models

The University of Southern California's (USC) Comprehensive Drug Abuse Program. The USC model, developed by the Institute for Health Promotion and Disease Prevention Research, combines two approaches: a state-of-the-art resistance skills approach to prevention of alcohol and other drug use at the critical middle school transition for youth; and a community organization planning process to involve all systems in the community—family, media, workplaces, local government, and other resources. This model is based on several large-scale, community-wide heart disease prevention programs initiated in the early 1970's—in the United States and elsewhere, that found significant reductions in the risk factors associated with the onset of negative health behavior, the behaviors themselves, and related morbidity and mortality (Johnson and Solis 1983). These programs were characterized by the following:

- Family involvement
- Specific skills
- Intensity (multiple prevention strategies)

- Positive evaluations (especially in smoking cessation and maintenance)
- Continuity (3 to 7 years' duration).

Research on social-psychological models of adolescent smoking prevention, which reduced the incidence of cigarette smoking in adolescents by at least 50 percent, also served as a rationale for the USC model. Additional research found this approach effective in preventing the onset of alcohol and marijuana use (Johnson and Solis 1983).

This 1984 USC model was implemented as Project Star in Kansas City, Missouri, in 15 school districts (conceptualized as the community unit) and began this year as a county-wide Project I-Star in Indianapolis, Indiana. These two projects hold much promise for community-wide prevention programming because they incorporate the following characteristics:

- A state-of-the-art resistance skills program (Hansen 1988)
- An integrated model of community organization (Pentz 1986)
- Long-term intervention (5 to 6 years)
- Ongoing process evaluations and actual *impact* evaluations.

In addition, these two projects meet the three major criteria for community-wide prevention.

First, they are *comprehensive.* They engage multiple systems and strategies. In a sequential manner, these projects begin with a school program and subsequently progress to parent and community organization and health policy programs.

Second, they emphasize the *program development process.* A unique contribution of the USC approach is the integrated community organization/program development model developed by Mary Ann Pentz (1986). Her schema for initiating, implementing, and maintaining a community-wide prevention effort incorporates Rothman's (1979) model of community organization, Green's (1985) model of system-centered community health education, Rogers' innovations-decision process model (1983), and Watzlawick's model of planned change (Pentz 1986). See figure 2.

In the development of Project Star, this planning model was used sequentially as each new system was targeted (trained and involved). The systems were the school, family, media, and health professions, and businesses, workplaces, and community agencies.

Finally, the two projects are *collaborative.* Project Star is an example of a collaborative effort on the part of a university research team, a private-sector business, a nonprofit foundation, a Federal agency, the schools, families, media,

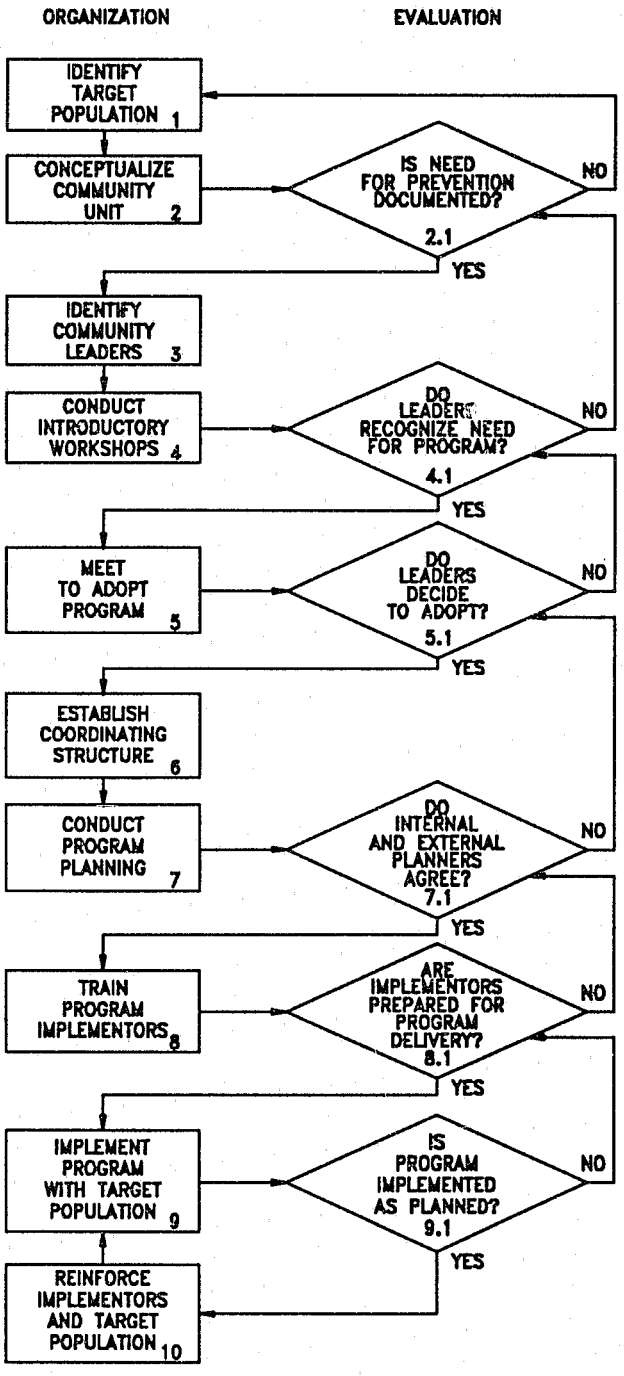

Figure 2. Steps to Community Organization and Evaluation

health-planning organizations, and other community agencies, including a baseball team.

The field of prevention of alcohol and other drug problems can look to this model as an exemplar of well-coordinated, community-wide programming that seeks not only to reduce actual drug use by youth but also to create a community environment that *supports* drug-free lifestyles.

The Minnesota Heart Health Program. The Minnesota Heart Health Program (MHHP) is actually one of the comprehensive community heart disease prevention programs from which the USC model evolved. It is currently under way as part of a 10-year education program in three northern midwestern communities. All of these programs are aimed at changing smoking prevalence, eating patterns, physical activity levels, and hypertension management in the entire community—children, adolescents, adults, and the elderly (NIDA: Perry and Jessor, 1983). To achieve its goals, the MHHP is organized around three major strategies: health behavior campaigns, educational interventions, and community organization programs. Youth are considered a specific target group within the larger program. The three strategies are specifically designed for youth (see figure 3) and are based on Jessors' extensive etiological research on adolescent drug use and other problem behaviors.

Each intervention focuses on one set of risk factors for problem behaviors and has as its goal to "delay the onset, minimize the consequences, and prevent the abuse of drugs as well as promote the adoption of health-enhancing alternatives

Health Behavior Campaigns	Target Group Interventions: Youth	Community-Based Programs
• Kwit Smoking This Year Interviews	• Heart Health Centers	• Community Steering Committee
• Quit and Win	• Hearty Heart and Friends	• Task Force on Smoking
• Dining a la Heart	• Keep It Clean I, II	• Student Health Representatives
• Get Ready for the 21st Century	• Slice-of-Life Health Skills Program	• Peer Leadership Training
• Jog 'n Log		
• Volksmarche		
• T.V. Premiere		

Source: Perry and Jessor 1983.

Figure 3. Minnesota Heart Health Program: Intervention Modalities

to drug use" (Perry 1986). Developing these latter alternatives is achieved through:

- Health behavior campaigns that focus on changing impersonal environmental risk factors (role models in mass media, parent and peer approval of drug use, and opportunities to use drugs) and that use mass media campaigns;
- Educational interventions that focus on changing personality risk factors (tolerance for drug-use behavior and risk-taking or rebelliousness) and that emphasize life-skills training; and
- Community organization interventions that focus on changing risk factors in the more immediate social environment (community role models, parent and peer approval of drug use, and opportunities to use drugs) and that emphasize task force organization, community-initiated projects, peer leadership training, and social policy change.

Besides satisfying the criteria for a community-wide prevention program (i.e., comprehensiveness, emphasis on program development process, and collaboration on the part of a university research team, the National Heart Lung and Blood Institute, and local communities), the MHHP can be expected to serve as an exemplary model in several ways:

- First, it represents an alcohol and other drug abuse prevention effort incorporated into a broader health-promotion effort that considers the concept of health "as including not only the physical domain but the psychological, social, and personal as well" (NIDA: Perry and Jessor 1983). As a consequence, this model emphasizes the strengthening of health-enhancing behaviors (i.e., alternatives) along with the reduction of health-compromising ones.
- Second, MHHP is a community-wide effort focused not only on reducing alcohol and other drug use by youth, but also on building healthy behaviors and reducing unhealthy ones among *all* age groups.

The USC Comprehensive Drug Abuse Prevention Program and the Minnesota Heart Health Program represent research-based models for doing community-wide prevention that hold promise for replication in other communities. Yet, as David Murray, the director of one of the three MHHP sites, warns, replication "will not occur without considerable investment of time and dollars, and it must be remembered that community-based interventions provide no magical solution for health promotion problems. However, the early evidence from MHHP and similar trials suggests that this strategy can help to organize a community around a health promotion issue and to increase the level of preventive activity in the community" (Murray 1986).

The "Field"

Now that we have looked at two models for doing community-wide prevention, I would like to comment briefly on the state of the field. Most of "what is out there" falls short of fulfilling the attributes of community-*wide* prevention in terms of *comprehensiveness* and a *collaborative planning process*. Some would better be referred to as community-*based* programs. However, there are literally hundreds of programs in the prevention field of alcohol and other drug use, teen pregnancy, dropping out, latchkey children, child sexual abuse, and delinquency. They are characterized by a great diversity in the linkages/systems on which they focus; this probably and properly reflects the unique political, social, and economic conditions of their respective communities, which ultimately impact the critical issue of *sponsorship* and impetus for local change. We can categorize these programs according to their system linkages and their sponsorship.

Linkages

Referring to the list of infrasystem linkages listed earlier, I'll make a brief mention of representative programs or issues involved in each linkage.

Family-School. This is a linkage that has received and continues to receive much attention in both research and the public policy area. Involving parents in both the content and structure of the school has been identified as a critical ingredient in the literature on school effectiveness. Also, using the school as a setting for educating parents in the problems of alcohol and other drugs, teen pregnancy, child abuse, and school failure is a major prevention focus. Given the critical role parents and schools play in the development of children and the ease of access and nonstigmatizing nature of the school as a setting, it should come as no surprise that this is a major emphasis. Research programs, like the Perry Preschool Project, Missouri's New Parents as Teachers, the Seattle Social Development Project, and the New Haven Primary Prevention Project, which have actually found reduced levels of problem behaviors (delinquency, teen pregnancy, drug problems, school failure) or in the precursors to these behaviors, have all emphasized the family-school linkage.

Family-Workplace. This linkage is beginning to get more attention, especially in the area of public policy, since the majority of families no longer have a "mom" at home to provide the support and nurturance for either young children or aging parents. We are seeing some efforts in the workplace to provide child care, as well as more flexible and part-time employment schedules (Anonymous 1984). Also, in the area of alcohol and other drug abuse, Employee Assistance Programs (EAPs) are beginning to broaden their scope to include family members as well in their programming. This is an area that should be quite productive in the future as a prevention research and programming focus.

Family-Community Organizations. Building family strength has been a major thrust of numerous community-based organizations involved in the Family Resource Movement. For example, the Ounce of Prevention Fund in Illinois is a "public-private partnership which promotes the well-being of children by working with families and communities to foster good child development" (*Ounce of Prevention Fund Magazine* 1987).

Family-Government. After much neglect at the Federal and State levels, family issues, especially child care, are really at the forefront of policymaking. Until this year's proposed legislation, child-care legislation has not even been discussed nationally since 1971. There just might possibly be a correlation with this neglected issue and the number of at-risk youth.

School-Workplace. A number of issues are involved in this linkage. First, a rising concern has been the need for school-to-work transition and mentorship programs to promote future employment for high-risk youth. Second, local businesses are becoming increasingly involved financially with schools to help ensure an educated, qualified, future workforce. Third, adult (parent) literacy programs in the workplace are increasingly being seen as fundamental to helping break the cycle of illiteracy and school failure that trap a great number of youths.

University-School, -Workplace, -Community. A critical issue in these areas is one of technology transfer—getting research-based prevention models to prevention arenas. Considering that the naturally occurring social systems of the family, school, workplace, and community are increasingly providing the forum for community psychology and community health research, we are beginning to see programs like Project Star that are collaborative community-university efforts.

School-Social Services. This linkage is critical to early intervention dealing with children from dysfunctional families characterized by alcoholism or drug abuse. Programs like the Cambridge and Somerville Program for Alcoholism Rehabilitation and student assistance programs, which set up a referral structure and provide access to treatment resources, are becoming more common.

School-Government. Report after report documenting the very pressing issue of at-risk youth cites the urgent need for enough resources to be allocated at the Federal, State, and local levels to encourage the development of *quality* elementary, middle, junior, and senior high schools that provide both academic and social support. This involves reforms too numerous to mention here.

School-Community. Like the family-school linkage, the necessity of schools and communities collaborating to reduce problem behaviors and create more supportive social environments is clearly established (Killip et al. 1987). As we discussed earlier, years of prevention research have documented the need for

schools and communities to work together. Project Star is a good example of such an effort.

Community-Social Services, -Government Services. What we are looking at ultimately in this linkage is a coordinated system of human services delivery at the local level—be it prevention, early intervention, or treatment. Community task forces, coalitions, networks, collaborations—call them what you will—are the mechanism for achieving this. Washington, D.C.'s task force on health planning for prevention (1985) is a fine example of this attempt at human services coordination.

Sponsoring System

We can also categorize community-based prevention programs according to their sponsoring system (see figure 4).

Levels / Sponsors	National/ Federal	State	Local/ Community
Government			
Professional Organizations/ Associations			
Citizen			
Business/ Foundations			

Figure 4.

Some community-based programs have as their impetus and funding source a *governmental* mandate. For example, Head Start programs and some job training programs have a *Federal* mandate. Soon, we will probably have some form of leave program so people can care for small children or aging parents. In the alcohol and other drug abuse field, the Office for Substance Abuse Prevention has been a key motivator in encouraging the development of community-wide programs with its comprehensive community grants.

State governments, whether at the executive or legislative level, have played perhaps the major role the last few years in initiating programs to address at-risk youth, especially for the problem behaviors of teen pregnancy, alcohol and other drug use, and dropping out/school failure. While a majority of these efforts involve statewide programming mandates (such as Missouri's New Parents as Teachers), some offer matching funds or grants for communities to

develop their own local programs (such as Nebraska's and Colorado's community prevention teams approach). Illinois' community network-building approach is another example of a statewide effort. An extremely positive development has been the creation of State offices of prevention (as in California, Arizona, Virginia) to coordinate State policies that affect community prevention efforts.

At the city government level, we see some exciting community-wide efforts such as Seattle's Kid's Place, a citywide youth empowerment effort. Increasingly, latchkey, drop-out, and alcohol and other drug programs are also being sponsored at the local governmental level (i.e., school district).

Another impetus for community prevention has come from professional organizations and associations. At the national level, we are looking at groups like the National Education Association and Association for Curriculum and Development, both of which sponsor innovative school-community projects; the Children's Defense Fund (including the Adolescent Pregnancy Clearinghouse), which focuses on changing social policy to build more supportive environments for youth; and certainly the National Prevention Network, which hopes to create a national agenda for alcohol and other drug abuse prevention. The list can go on and on: National Association of Chief State School Officers, National Governors' Association, Prevention Task Forces of the American Mental Health Association, the American Psychological Association, and the National Council of Community Mental Health Centers. We even have several examples of coalitions among national groups that have organized around and funded a project to encourage community prevention. The Chemical People Project is a vivid example of this collaboration. Most of these professional organizations have no funding resources; but, they are nonetheless major advocates of social policy change. Their potential for collaborating with other funding systems is great.

Looking across our chart at the State and local level, these professional organizations/associations and their State and local affiliates can—and sometimes do—provide an impetus for prevention at the community level. Statewide coalitions formed around teen pregnancy, AIDS, drop-outs, and so forth, are becoming fairly common phenomena. At the local level, coalitions have been formed by professional organizations and associations along with State human service organizations to promote both health and mental health in their communities. The 1985 Washington, D.C., Mental Illness Prevention Working Group Report documents this comprehensive planning approach. Similarly the Houston-Galveston Health Promotion Consortium (DeFrank and Levenson 1987) and the Brooklyn Teen Pregnancy Network (Canada 1986) exemplify the diverse and numerous local professional coalitions that exist to promote healthy development and prevent health-compromising behaviors at the community level.

Citizen Involvement

While we tend to focus on prevention programs that are evaluated by research teams whose findings are published, there exists a whole genre of citizen-initiated community task forces and parent groups "out there" in places like Mulberry Grove, Illinois, that were initiated and have been maintained by a core group of concerned parents and citizens. Many of these programs have come and gone, losing momentum once they realize prevention is not quick, easy, or cheap. Increasingly, they are joining national organizations like the National Federation of Parents for Drug-Free Youth or the National Coalition of Citizens in Education or, at the State level, organizing affiliations (like the Illinois Drug Education Alliance) or becoming part of statewide governmental initiatives like Colorado's Community Teams for Drug-Free Youth or Illinois' InTouch system. As a consequence, many of these groups have received extensive training in community development and alcohol and other drug abuse prevention. The end result, of course, is that we are seeing an increasing understanding and awareness of prevention as well as increased skills in doing community prevention.

Last, but far from least, is the business/foundation level, where we are witnessing a tremendous growth of interest in, and funding for, both alcohol and other drug abuse prevention and education for at-risk youth at the community level. A Lou Harris poll conducted early in 1987 found that of 1,000 grantmakers surveyed, over half said they had supported alcohol and other drug abuse prevention programs in 1986. The figure was 65 percent for company-sponsored foundations (Fuerst 1988). Similarly, foundations are concerned with funding education programs for at-risk youth because, according to one grantmaker, "As families collapse and child-protective services look less and less attractive, the schools seem to be all there is left...." and also because "Corporations want to ensure a steady flow of well-qualified and educated workers...." (Olson 1988). Instead of making specific or categorical grants, as was often the case in the past, "These foundations are aiming their efforts at sweeping organizational change. The hope is that such initiatives will lead to deeper and more lasting school reform and to system change. Consequently, they are committing sizeable sums of money, often over long periods of time" (Olson 1988). An exciting aspect of these new initiatives, such as the Annie E. Casey Foundation's $50 million "New Futures" program, is that the emphasis is on school-community partnerships that require matching grants from each city and emphasize collaborative planning processes involving "key sectors of the community..." (Olson 1988). With only a little imagination, we can see the tremendous potential of innovative, collaborative funding arrangements for community-wide prevention.

Conclusion

While the majority of programs "out there" in the field address only one or two of the above linkages simultaneously and are not community-wide, the

potential for their becoming comprehensive exists. Through the mechanism of a task force, a coalition, or whatever you choose to call it, representatives from diverse but narrowly focused prevention efforts can engage in a collaborative, long-range, community planning process. According to Cooper (1980), "Collaborative planning, funding, and programming at the Federal, State, and local levels must be accomplished if we are to succeed in prevention."

As prevention professionals and advocates, we must encourage the development of these collaborative efforts to accomplish our goals of actually reducing problem behaviors like alcohol and other drug abuse and of creating environments that support and nurture the development of not only children but also adults, families, and the elderly. The problems of alcohol and other drug abuse, delinquency, child abuse, and teen pregnancy are all rooted in the community (Garbarino 1980; Miller and Ohlin 1985). We will find solutions in the community.

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Designing Prevention Research as a Collaborative Relationship Between Citizens and Social Scientists

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In doing prevention research, valid and lasting prevention programs must be implemented in the local community that (1) benefit citizens, (2) create opportunities for citizens to design their own prevention programs, (3) enable the local community to create its own resources to develop prevention programs, and (4) generate social policies that can enhance the maintenance of prevention programs.

To accomplish these four goals, a research process can be created so that planning, carrying out, and implementing the research becomes a collaborative relationship between the research staff and citizens (Kelly 1986; Kelly et al. 1986; Kelly et al. 1988).

The following comments offer guidelines for initiating a collaborative relationship when doing prevention research.

Criteria for Defining the Collaborative Relationship

Before discussing the stages of initiating a collaborative relationship, I will present some assertions that anchor my point of view for thinking about that collaboration.

Assertion I: Help citizens create resources for themselves. The aim of prevention work is not only to test the effectiveness of techniques and methods but also to enable citizens to adapt those techniques and methods for their own uses. More importantly, the aim of the collaborative relationship is to help citizens access the financial, scientific, professional, and political resources needed to activate and maintain a long-standing prevention program. Carrying out a prevention program often involves promoting a change in values and lifestyle; these changes, in turn, often assume and rely on the availability of multiple resources and social support. The research staff makes this issue explicit by becoming a resource and a source of support for citizens. This process can be called the *empowering process* (Rappaport 1981; Rappaport and Hess 1984).

Assertion II: Encourage the development of a diversity of competencies among citizens working on the prevention program. The viability of a prevention program depends upon citizens in the community acquiring a repertoire of such skills as chairing public meetings, testifying before elected representatives, negotiating contracts with participating groups, applying for funds from local foundations, understanding the needs of persons from another cultural group, interpreting Federal policy statements, and reaching consensus on program goals. A particular individual may be able to develop only one or two of these competencies. But the group as a whole can benefit from access to these competencies when demands, opportunities, and crises arise that affect the design and implementation of a prevention program.

The social scientist provides emotional support and tangible aid to those citizens invested in prevention work as they develop new competencies. This can be called the *adaptive process* (Kelly et al., in press).

Assertion III: Invest in understanding, and communicating with, key community organizations. The larger the number of citizens who can and do communicate with persons from other health service organizations, ethnic groups, and business and social organizations, the greater the opportunity for implementing and sustaining a prevention program.

This assertion emphasizes that there is a pragmatic benefit when citizens can span organizational and community boundaries and can understand the values, needs, aspirations, and ways of life of people who are members of other organizations and different cultures in the community. Investing in the establishment of relationships with people in other organizations and groups expands opportunities for networking, which, in turn, can increase the potential to create a constituency that supports prevention work.

The support of and collaboration with other organizations and groups is needed to implement a prevention program. Making connections to other organizations and groups is the first step citizens and the social scientist can take to create a common agenda with other organizations that share the same goals with the citizens and social scientists working on the prevention program. This can be termed the process of *boundary spanning* (Kelly et al., in press; Aldridge 1979; and Scott 1981).

Assertion IV: Balance vision and constraints in developing prevention services. The design of prevention services often generates resistance and anxiety from both opponents and allies. The steps taken between developing the idea and implementing research programs are at times uncertain, always ambiguous, often unpredictable, and certainly frustrating. Everyone involved in the design of prevention programs depends upon the activation and maintenance of social support systems for themselves. Such social support systems are particularly helpful in balancing the ideals, hopes, and expectations for the prevention program with the ever-present demands and frustrations inherent to carrying out prevention work. Social support can balance the tensions between realizing visions and coping with constraints. It can reduce cynicism and burnout, and can have an energizing effect on those who develop and maintain prevention programs. This can be termed the *renewal process* (Kanter 1983; Drexler and Sibbet 1987).

Each of these four assertions supports the design process as a plausible and authentic undertaking. They make it explicit that the ultimate goal of a prevention program is that it be owned by the community, integrated within the lifestyle of the community, and advocated by the community.

Three concepts can help guide the formation and sustenance of a collaborative relationship: (1) resources, (2) social settings, and (3) process. Let me describe each briefly.

Resources

Resources comprise the variety of personal and environmental supports needed to propel the planning. These include not only community or organizational sanctions and financial assistance but, more importantly, the energy and commitment of the participants (Kelly and Hess 1987).

Social Settings

Social settings include the variety of specific places and occasions where citizens and researchers can meet, interact, and give symbolic and real meaning to the work of the collaborative relationship (Kelly 1987; Sarason 1972; Barker 1968, 1987).

Process

The collaborative relationship goes through various phases in sequence from the initial idea to the realization of program accomplishments (Kelly 1979; Kelly et al., in press). This is the process.

Resources, social settings, and processes become part of a fluid, dynamic, synergistic, and multidirectional relationship among activating resources, creating new settings and moving to the next phase of work.

Process: The Collaborative Relationship

At least four major phases of the collaborative relationship impact upon the citizen and the research investigator as they create an active prevention program together, out of their resources and social settings. These phases can be termed entry, engagement, commitment and ownership, and renewal.

The following comments illustrate how these four stages can affect the collaboration between the citizen and social scientist.

Entry

When the collaborative relationship is just beginning, the major resource for the design of prevention work is the energy that both scientists and citizens bring to the relationship. It is at this point that each participant attempts to answer for himself or herself, "Why am I involved?" "What will this cost me?" "What can I learn from this activity?" Helping to make this phase go smoothly is the effort that participants give to dissipating stereotypes about scientists and citizens. When social scientists can put aside stereotypes about citizens, citizens can be perceived as "intelligent," "committed," and "adventuresome." When citizens can put aside stereotypes about social scientists, the social scientists can be viewed as "practical," "committed," and "able to learn."

The anxieties that both citizens and scientists have about forming a working relationship and about revealing their mutual inadequacies can be a real resource for deepening the working relationship. Creating informal work settings encourages participants to express these anxieties with humor. Humor is a rich resource that can reduce stereotypes. When citizens and social scientists begin an explicit collaborative process they can develop shared agreements and expectations for what is a "successful" prevention research activity. They also can develop a shared meaning of the benefits of collaboration.

The social settings in which the collaborative relationship process takes place require sufficient structure for the group to arrive at realistic objectives and enough informality for the participants to respond openly and honestly to their anxieties. Social settings can energize the collaborative relationship.

Engagement

Social settings for this phase of the process create opportunities in which the participants can be open and explicit and can put their "hidden agendas" on the table. In this phase, the participants learn to listen acutely, to critique, and to share observations openly. They develop as a group and address the tasks to be dealt with as a group. In the early stages of forming a collaborative group, there may be a tendency for the participants to buy in too quickly to the group process in an effort to alleviate the anxiety of being a partner in an open-ended, ambiguous, but tough enterprise. It is essential during the engagement process for all participants to create opportunities to generate grounded expectations for attaining realistic goals.

A marker for this phase of the relationship is the number of opportunities that both parties create to elaborate and redefine initial topics of interest. When this phase has been achieved, both participants have "listened," and there is a sense of trust that the participants will do what they say they will do and that

they actually believe what they say. The collaborative relationship is now ready for serious work to begin.

Commitment and Ownership

During this phase, social settings are created to facilitate and expedite the work to be carried out. All of the various tasks related to the design of a community-based prevention program are addressed: the selection of topics, generation of variables, recruitment of participants to receive the program, measures to be used, the various ways in which data will be collected and analyzed, and so forth. It is in this phase that the collaborative process is clearly realized. As the social scientist provides background information for the different options available to assess the particular topic, and as citizens become more informed and confident about the research undertaking, extended exchanges occur, and a mutually supportive working alliance is formed.

The evolution of this phase depends upon the participants' success in working through the previous stages of entry and engagement. If the previous stages have not been achieved, it will be difficult to have genuine and frank exchanges of information and mutual problem solving will not be realized. In this case, the working relationship will consist of the scientist and citizen working in parallel but not together.

One outcome or benefit of working through this phase of the collaborative relationship is that participants can begin to create a network with other key organizations that are developing similar projects both within and outside the local community. Networking not only has the potential of increasing communication opportunities with other key resources, but it also increases vitality and provides validation for the participants' work. They begin to see that they are "on the right track." This process increases their self-confidence and purpose. Commitment and ownership are further deepened.

Renewal

Along the way, as the participants go through each of these phases, it is highly desirable that they take time out to acknowledge each other, their accomplishments, and how far they have progressed since the inception of the idea. The renewal process can be expressed spontaneously. The important marker is that the working relationship and the hard work that went into its development are acknowledged. In this particular phase, the participants create a social process that adds to their sense of well-being, namely, the opportunity to generate a sense of solidarity, a sense of connectedness about what they have all experienced and accomplished. The renewal process serves as a watershed to generate both a new work cycle and expanded meaning for the collaborative relationship. It is on such renewal occasions that the participants can experience

a feeling of reciprocity from their collaborative work. They have, together, created a social structure that provides a sense of identity and integration in their own lives. The collaborative relationship is an example of the processes that all of us go through as we acquire a more satisfactory role in our communities. The participants learn firsthand just what is involved in developing social processes, where work is an outgrowth of process, and where work leads to self-definition of one's preferred roles via group membership. One effect of the renewal process is that the participants are further encouraged and motivated to create constituencies with other resources in their community. The creation of a constituency further validates and embeds the prevention activity in the community.

Taking time out to acknowledge each other offers additional opportunities to learn more deeply and more intimately how many resources (i.e., competencies, points of view, knowledge of other organizations, aspirations, and energies) each of the participants has contributed to the collaborative enterprise. Awareness and appreciation of personal contributions continue to enhance the cycle of solidarity and innovation in the evolution of prevention activities.

Conclusion

Prevention research as a community-based activity can be carried out as a collaborative activity of citizens and social scientists. The benefit of the collaborative relationship is that the community gains the capacity to initiate and be in control of resources to promote health. This type of collaborative enterprise is in the tradition of public health approaches for the promotion of health.

Through the use of such concepts as resources, social settings, and processes, citizens and scientists together work through four stages of collaboration—entry, engagement, commitment and ownership, and renewal. Working through these stages as a collaborative enterprise is one approach that can generate prevention research in the community. The very process of collaboration can widen the impact of research. In this sense, the scientific process itself can become a community resource.

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The Social Stress Model of Alcohol and Other Drug Abuse: A Basis for Comprehensive, Community-Based Prevention

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Introduction

Alcohol and other drug use among youth is a complex problem that presents a significant challenge to mental health professionals. Meeting this challenge involves incorporating our current knowledge concerning the development of adolescent drug use into comprehensive primary prevention strategies. This chapter will discuss the theoretical base of current alcohol and other drug abuse prevention efforts and present a model and rationale for more comprehensive, community-based approaches to prevention of alcohol and other drug use among youth.

Theories and models guiding most current prevention efforts tend to emphasize individual personality and coping variables and the ways these factors interact to contribute to alcohol and other drug problems. These theories and models, which include problem behavior theory (Jessor and Jessor 1977), social learning theory (Bandura 1977), stage theory (Kandel 1980), and the biopsychosocial model (Wills and Shiffman 1985), have focused on a spectrum of personal characteristics that may place youth at risk. The characteristics that have been identified include low religiosity, low self-esteem, lack of clear value positions, poor interpersonal relations, poor coping strategies, and difficulties countering pressures to use drugs. The various social competence approaches that derive from these theoretical frameworks focus on slightly different presumed causes of drug use, although all are consistent in viewing the problem as a deficit in the potential user's development. A concentration on social competence deficits has led to the development of standardized person-oriented social competence programs that can be implemented in classrooms.

Although this focus on individual social competence training has facilitated dissemination and evaluation, the approach does have limitations. Not all

children who are unskilled or socially incompetent become alcohol and other drug users. Similarly, some socially competent children begin to use drugs. In these cases, it may not be a deficit in social competence that accounts for the behavior but other factors in the adolescent's home, school, or community.

A statement by Blau (1960) with reference to social science research made over a quarter century ago is, regrettably, still timely for psychosocial research in alcohol and other drug abuse:

> Researchers have provided much information regarding the influence of attitudes of individuals and their social systems on human behavior, but they have contributed little to our knowledge of the structural constraints exerted by common values and status distributions in groups and communities.

In other words, while current theories and models provide a comprehensive account of the personal qualities and interrelations of youth and their families, they may underemphasize the influence of broader community variables such as discrimination and the inequitable distribution of resources.

Social Stress Model of Alcohol and Other Drug Abuse

Although each theory and model emphasizes somewhat different factors and processes, all view alcohol and other drug abuse as stemming from the interaction of personality, environmental, and behavioral factors. In this chapter, we introduce a social stress model as an alternative approach to the study of adolescent alcohol and other drug use. This model, which is derived from Albee's (1982) model of psychopathology, integrates the emphasis on individual and family systemic variables with the recent research on competence and coping. Additionally, in contrast to most theoretical approaches, the social stress model seeks explicitly to address the broader ecological factors that influence adolescent behavior.

According to the social stress model, adolescents initiate alcohol and other drug use as a means of coping with a variety of stressors. Stress may arise from within the family, the school, the peer group, or the community. Adolescents will be less likely to engage in problematic early usage as a means of coping with these stressors if they have made positive social networks with their families, teachers, and peers. In addition, the risk for use will be reduced if youth have developed adequate social competence to offset the stressors of adolescence and have sufficient resources, role models, and opportunities to exercise these skills.

Alternately, adolescents may have less confidence in their ability to cope with stress and will more likely turn to drugs if:

- The process of developing positive social attachments has been interrupted by uncaring or inconsistent parents or teachers;
- External stressors exceed the adolescent's ability to cope effectively; or

- The school and community offer few resources and models for success.

Although we are focusing on the etiology and maintenance of alcohol and other drug use among children and adolescents, this general framework can be extended to additional problem behaviors such as delinquency or other excessive risk taking. These behaviors can also be viewed as ineffective strategies for coping with the stressors of adolescence.

According to the model, the risk for alcohol and other drug problems can be conceptualized as a fractional equation with stress in the numerator and positive social networks, social competence, and resources in the denominator (see figure 1).

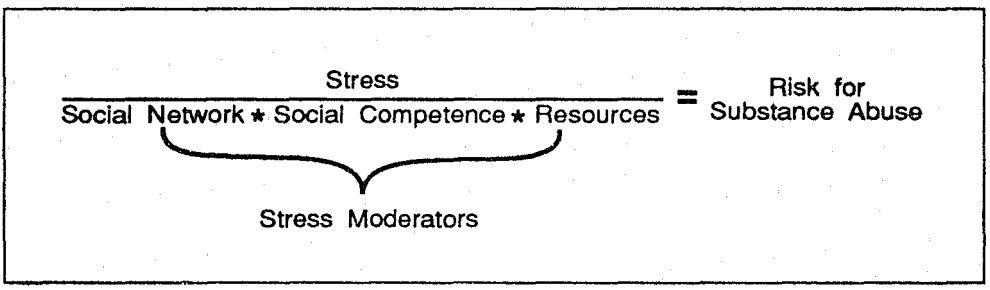

Figure 1. Social Stress Model of Alcohol and Other Drug Abuse

We can better understand how this equation can predict a youngster's drug usage if each component is briefly reviewed.

Stress

Researchers have identified several categories or levels of stress; they have examined the role of these stressors in the development of problem behaviors (Tolan in press; Wills and Shiffman 1985). These levels include major life events (e.g., car accident, death of a parent) (Dohrenwend and Dohrenwend 1981); daily hassles (e.g., frequent arguments with parents) (DeLongis et al. 1982); enduring life strains (e.g., lack of privacy, inadequate housing, or school conditions); life transitions (e.g., parental divorce, transferring to a new school); and developmental stresses (e.g., pressures to fit in with peers and adhere to norms, low self-esteem, strivings toward independence). Taken together, the stressors in an adolescent's life can strongly affect the decision to use drugs or engage in other problem behaviors (Bry et al. 1982; Vaux and Ruggerio 1983; Tolan, in press). We will now examine the quotients in the denominator of figure 1 that can offset the negative impact of these stressors.

Social Networks

Children who have not identified with parent figures or incorporated their values and standards may be at increased risk for alcohol and other drug use. With gaps in social attachments to adult model figures and dissatisfaction with support received at home, these youngsters are at risk for associating with youth experiencing similar difficult home lives. Hawkins and Weiss (1985) explain this process in their social developmental model of behavior. According to this model, social networks are generally formed within the family, the school, and the peer group. In each context, three variables influence behavior patterns: (1) the opportunities and influences to which one is exposed; (2) the skill with which one performs; and (3) the relative balance of rewards one receives. These variables determine whether a youth's participation in that context will contribute to the development of a positive social network with the family, school, and peer group and the likelihood that a youth will develop a sense of efficacy and control in his or her interactions.

Social Competence

The social stress model posits that possession of a broad repertoire of coping strategies (e.g., decisionmaking, communications, peer pressure resistance) and the ability to use them to cope with stress will lower the risk that children and adolescents will engage in alcohol and other drug use. Social Competence enables the adolescent to generate and utilize effective strategies to avoid or escape high-risk situations.

Resources

Youth readiness to take risks is also affected by community resources. The school and neighborhood are constant sources of information that influences behavior both directly and indirectly. Youth with deficient resources are probably at greater risk for alcohol and other drug use than those with adequate resources. Youth living in poverty areas often do not earn basic educational credentials and thus have few employment opportunities. Dropout rates in many inner-city schools are staggering, and the unemployment rates in these poverty areas are excessive, particularly among Blacks. Without such resources and positive role models in the community, these youth may be more at risk for using drugs.

Transactional Relationships Among the Variables

The variables reviewed above can be conceptualized within the transactional model offered by Sameroff and Chandler (1975). From this perspective, the development of the child is the product of the dynamic interaction of the child and the experience provided by his or her family and social context. Alcohol and other drug use and other problem behaviors can be understood as the result of

a "synergistic transaction" involving individual constitutional factors that impact on environmental conditions, which affect the individual—who then influences the environment.

From this perspective, the variables reviewed above transact with each other to offset the impact of stress. For example, consistent and caring parents and teachers may help children acquire effective coping skills and facilitate the development of hardy, resilient youth. Hardy youth interpret threats as challenges, view their environment and stressors as within their control or influence, and have a sense of personal commitment (Kobasa 1979). They perceive difficulties as less threatening and cope with stress more effectively than do other, less competent youth (Hobfoll, in press). Similarly, healthy developmental functioning and positive relations with parents have been shown to be contributing factors in making some high-risk youth more resilient and skilled at handling the deleterious effects of stress (Werner and Smith 1982). Finally, the ways in which one interprets and copes with stress may influence the ability to access resources in the community and select appropriate models of success (Lazarus 1977) (see figure 2).

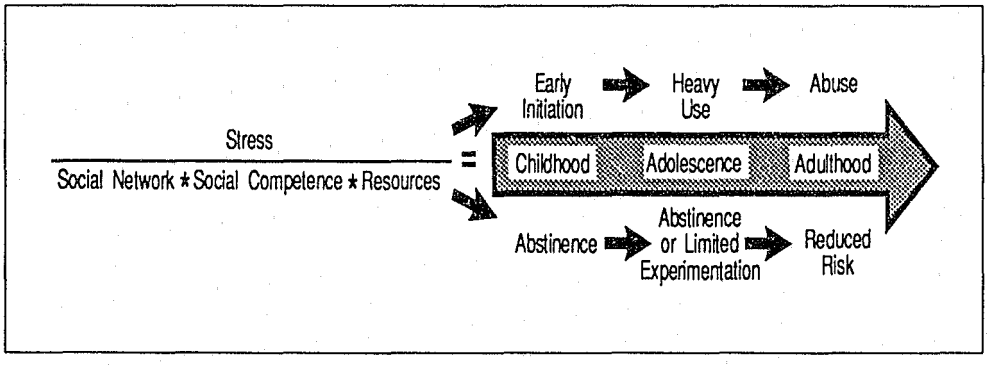

Figure 2.

Some children may engage in early drug use to reduce stress arising from poor relations with parents and teachers, deficient social competence, or inadequate resources in the school and community (see figure 3). The use of drugs under such circumstances may temporarily alleviate stress. In fact, preliminary studies on adolescents have provided some support for this model by showing decreases in anxiety or depression following drug use, at least for drug use assessed over periods of 6 months or less (Aneshensel and Huba 1983). If initial experimentation leads to more regular usage, however, there are increases rather than decreases in stress over the long term. If youngsters use drugs as a coping mechanism, they are inhibited from learning more adaptive social competence (Pentz 1985). In addition, chronic use is likely to preclude close social networks to parents, teachers, and prosocial peers, as well as access to

positive resources in the community. Thus, social competence and adaptive behaviors are expected to decrease as a consequence of heavy drug use (Wrubel et al. 1981).

Alternately, youth who are experiencing lower levels of stress, or have sufficient social networks, social competence, and resources to effectively offset the impact of stress, may be less likely to begin alcohol and other drug use in childhood and early adolescence. These youth may use drugs later in adolescence as a function of social pressures and experimentation (see figure 3). This later initiation is typically associated with more limited patterns of usage and a reduced risk for later serious abuse and use (Robins and Pryzbeck 1985) (see figure 3). Of course, later initiation does not always preclude more serious problems, nor does early initiation necessarily lead to problems. These two pathways, however, are far less likely and predictive of the final outcome than are the general pathways described in figure 3 (Robins and Pryzbeck 1985).

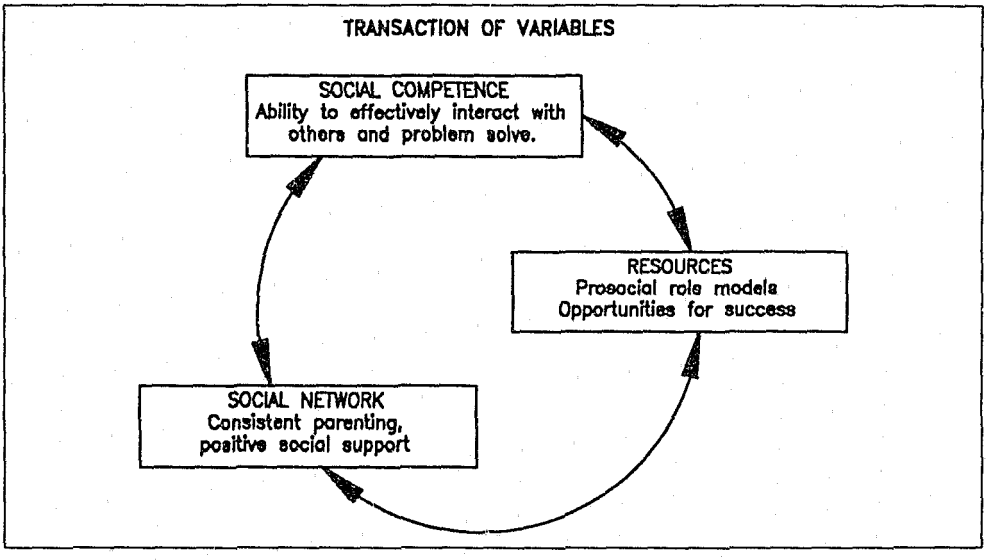

Figure 3.

The two more likely pathways described above suggest that alcohol and other drugs may serve different functions for different adolescents. For those who are under severe stress or cannot effectively cope with stress, early alcohol and other drug use often functions as a coping mechanism. Our model suggests, however, that if the youngster continues to use drugs as a coping mechanism, rather than progressing to more limited use, a cycle of problems may emerge that further alienate the youth from the very contexts that may provide resources and competent models of coping. For adolescents who have developed prosocial networks, who generally cope well with stress, and who have sufficient resources

to offset the impact of stress, drugs may be used later in adolescence as a way to handle normative social and developmental pressures.

The social stress model suggests that, in addition to focusing on individual, family, and peer variables, we need to examine the larger social, political, and economic issues that may impact on alcohol and other drug use. The school and community can have profound influences on youthful behavior. Thus, our efforts should also be focused on influencing school and social policies, even though such efforts often seem overwhelming and futile. Indeed, some leaders in prevention have argued that mental health professionals should avoid "vague, ponderous, infeasible giant steps" and concentrate instead on "concrete, achievable, baby steps" (Cowen 1977).

The social stress model of alcohol and other drug use suggests that both baby steps and giant steps are important. Concrete steps that could enhance youths' ability to interact within their social contexts and successfully cope with the stressors of adolescence can reduce the risk for problem behavior. Programs that enhance youths' ability to cope with stress and resist peer pressure, for example, have been positively evaluated for their ability to decrease drug use among youth (see NIDA: Botvin 1985). At the same time, our model suggests that we should more closely examine the broader social context and attempt to influence it in such a way as to minimize the social and institutional obstacles that inhibit adjustment. For example, efforts could be taken to improve the quality of school systems.

Broader variables, such as socioeconomic status (SES), race, school environment, and community resources, have rarely been considered of central interest by researchers involved in the field of alcohol and other drug problems. These variables, however, can provide important information concerning the adolescents' risk for such problems. For example, in an extensive review, Rutter and Gilder (1986) found SES to be a significant factor in understanding problem behavior among youth. They suggested that a lower SES can increase the impact of other stressors. Levels of drug use have also been related to race or nonmajority ethnicity. Higher rates of drug use and problems have been found among Hispanic and Black adolescents (Padilla et al. 1979), and the rate of drug use among Native Americans is between two and three times higher than for other adolescents (Bobo 1986).

There is also evidence that a school's climate can influence both academic achievement and student behavior (Felner et al. 1982; Hawkins and Lam 1987). The Safe School Study (National Institute of Education 1978) concluded that some schools have adopted policies that have lowered rates of problem behavior. Those schools that have been successful have had the following characteristics: Their courses are relevant and interesting, students are recognized for their achievements, student-teacher contact is at high levels, and students have more

control over what happens to them. What these findings suggest is that in addition to looking at individual, family, and peer variables, we should also consider the influences and limitations imposed by societal factors (Simcha-Fagan and Schwartz 1986).

The social stress model is consistent with the existing empirical evidence regarding the etiology of adolescent drug use and problems. It also provides a framework for proposing and assessing interventions that aim to delay the onset of drug use, prevent regular use, and prevent alcohol and other drug problems among adolescents. The model suggests comprehensive strategies that may be implemented at all levels of the problem. Efforts can be taken to reduce the level of stress that youth must cope with. At the same time, interventions designed to facilitate the formation of social networks with the family and school system and to enhance social competence can offset the harmful effects of stress. Finally, efforts can be made to influence social policy and institutions that impact on youthful drug use. In the following section, we will present an example of a comprehensive, community-based prevention strategy.

Community-Based Prevention

Community-based programs attempt to influence not only the adolescent, but also the environmental variables that influence alcohol and other drug use. By integrating preventive efforts in the family, school, community, and media, this approach addresses the individual and the broader social and environmental quotients of the drug use equation.

Moving beyond the classroom and the individual is conceptually appealing given the enormous influence of the family, community, and mass media. Adolescents spend a majority of their time outside of school, and most drug use occurs outside of school. Those young people at highest risk of using drugs are least likely to be at school on the days that prevention curricula are delivered (Johnson and Solis 1983). Absenteeism and dropout rates are highest among adolescent drug users (Friedman 1985). Youngsters spend most of their time in the home (as much as 17 hours per day, more on weekends); here, poor family management and communication can lead to drug problems. In addition, many youth spend a large portion of their time watching television (averaging about 4 to 6 hours per day), where sexuality, drug-taking, and other risk-taking activities are often positively portrayed.

For these reasons, we might need to consider programs that move beyond the individual and the classroom to address more directly the family, media, and community variables. These programs may hold the greatest promise of affecting youths' decisions to use drugs and experience problems. For example, a recent study by Davis and Jason (1988) found that approximately half of elementary and high school students said they had seen children and adoles-

cents receiving free cigarette samples. In addition, Jason and Wiedenfeld (manuscript in preparation) found that 83 percent of stores sold cigarettes to minors. Minors' easy access to cigarettes probably does lead to increased use among this segment of our population. That laws prohibiting giving or selling cigarettes are not enforced indirectly conveys a message to children that cigarettes are not very harmful. An expanded, community-based perspective would identify new targets for our prevention initiatives, ones that might specifically involve community organizations and concerned parents in exerting more pressure on businesses that sell or freely distribute cigarettes to minors and that would generally encourage them to become involved in comprehensive prevention efforts.

Family Involvement in Prevention

Families have enormous influence on child and adolescent behavior, yet they are rarely included in alcohol and other drug prevention programs. Bry (1985), who reviewed current research on this topic, concluded that family involvement is very important, if not essential, for positive outcomes in prevention programs. She found that when families are included in school- or media-based interventions, risk factors can be reduced, family-management practices can be modified, and early signs of problems can be reversed. For example, Bien and Bry (1983) identified students at high risk for drug abuse (based on low grades and attendance rates). These youth were randomly assigned to one of two conditions: (1) regular goal-setting teacher conference or (2) teacher conferences plus regular contact with parents. (This latter component was added so that parents could be informed about progress in school and encouraged to recognize progress at home.) At the end of the school year, only the group with regular family contacts had significantly improved grades and attendance. More recently, Bry et al. (1986) demonstrated that 3 months of targeted family problem-solving training reduced drug use and school failure by the end of a 16-month followup, while control behaviors remained stable.

Media Involvement in Alcohol and Other Drug Use Prevention

Flay and Sobel (1983) studied the role of mass media in preventing alcohol and other drug problems among adolescents. Their findings suggest that media campaigns must not only give information but also provide youth with skills to resist other media influences (e.g., prodrug messages, TV advertising, etc.). A comprehensive prevention campaign might combine mass media programming, involvement of families, training of teachers, and advocacy efforts by children. For example, children in schools throughout an entire community could draw posters concerning antidrug topics or write letters to media personalities asking them not to smoke on television. The children could share their experiences with

their families and could ask parents who smoke to participate in an ongoing media smoking cessation effort. A television station could arrange to reward school children (e.g., an award for the best essay or drawing). Community groups could also participate through advocacy campaigns (e.g., find stores that sell cigarettes to minors and publicize the findings to stop this practice). Such a broad-based media prevention effort, in combination with a school-based social competence program, might represent a more potent approach in activating an entire community in the types of comprehensive changes needed for us to deal with the alcohol and other drug abuse and use problems affecting our communities.

Jason et al. (1986) provides evidence for the effectiveness of a comprehensive media campaign, although one that is more limited than the example above. The researchers worked with several Chicago agencies to implement a "Freedom From Smoking in 20 Days" program that was broadcast on the city's evening news. Approximately one-half million viewers watched this 3-week program. Over 50,000 self-help manuals were distributed to the public. In addition to the media campaign, twice-weekly meetings were held at work sites for employees. Overall, 41 percent of the participants who used the manuals, watched the series of televised smoking cessation programs, and attended support groups at work stopped smoking at the program's end. Only 21 percent of those provided only the media program and the self-help manuals quit by the end of the program.

We have reviewed several programs that focus not only on the youth, but also on their families and communities. Ideally, community-based approaches should be comprehensive and integrated, providing social competence training to the adolescent as well as making efforts positively to influence the family, school, and community.

Comprehensive community-based strategies have been well developed for heart disease prevention: the Stanford Five City Project (Farquhar et al. 1984); the North Karelia Project (Puska et al. 1982); the Minnesota Heart Health Program (Blackburn et al. 1984); and the Pawtucket Experiment (Lasater et al. 1984). The above programs and other major ongoing, community-based primary prevention programs have components that have been designed specifically for children and adolescents. These components have the potential to create and sustain healthy habits in children and adolescents; they also are an important vehicle for transmitting information and influencing the health behaviors of parents and other adults.

The following discussion will examine the Minnesota Heart Health Program as an example of an exemplary approach to community-based prevention for youth.

The Minnesota Heart Health Program

The Minnesota Heart Health Program (MHHP) is a population-wide, community-based cardiovascular disease prevention program, developed by researchers at the University of Minnesota (Blackburn et al. 1984; Perry et al., in press). The entire population in three participating cities is targeted in a 5-year educational program aimed at encouraging healthful changes in eating habits, exercise, and the control of smoking and high blood pressure. The program uses several strategies to help community members adopt healthier lifestyles, including: (1) mass communication through television, print media, and radio; (2) direct education, through instruction and health kits; (3) risk-factor screening education programs that have successfully recruited over 60 percent of the community's population; (4) health professional education; (5) community-based activities implemented by task forces on smoking, exercise, and eating patterns; and (6) youth education programs (Perry et al., in press).

Age-appropriate educational materials have been developed to reach children and adolescents. Youth and their families are invited to the community's risk-factor screening center. In this way, the youngsters are recognized as important members of their family for changing health behaviors. Children and adolescents are also provided with family lifestyle education kits with the assumption that they, in turn, will motivate their parents' participation. Youngsters are trained to become peer leaders and healthy role models for their classmates and are also encouraged to take active roles in community-based activities such as quitting-smoking contests. The primary training for children and adolescents, however, is accomplished within the schools. Developmentally appropriate interventions have been designed for youth in the 3rd through 10th grades to strengthen health-enhancing behaviors. It is hoped that in modifying their health behaviors, the youth will also influence the behaviors of their parents and other adults (Perry et al., in press).

To enhance the sense of ownership, and ultimately to empower the communities, the researchers actively collaborate with the community participants. A youth education coordinator is selected from each community to facilitate daily contact with all participating school districts. Responsibilities of the coordinator include (1) making the initial contacts with the schools; (2) establishing working relationships; (3) organizing and implementing teacher-peer leader training sessions; (4) assisting teachers in program implementation; (5) facilitating program evaluation; and (6) conducting retraining sessions. This program represents a novel approach to community-wide strategies for youth. Given the prevalence of cardiovascular disease in the United States, the probable cost-effectiveness of moderate lifestyle changes, and the benefits of community involvement, this program is an important advancement in our health promotion efforts. The strategies that have been developed and implemented in

this and other community-based cardiovascular disease prevention programs are applicable to comprehensive community-based alcohol and other drug abuse prevention programs. In the next section, we will review such a program.

Operation Snowball

Operation Snowball is an alcohol and other drug use prevention program that was designed by Illinois' students, teachers, parents, and community members and first implemented in 1977 (Rhodes and Jason 1988). Currently, there are over 70 local Operation Snowball chapters in the State. These chapters sponsor 3-day retreats for high school students who receive training in methods of problem solving and social competence. Followup activities are conducted throughout the school year.

Operation Snowball Retreat

The retreats, held in rural locations, are organized and implemented by a community task force, parents, teachers, and students. The students receive scholarships from local corporations to defray their registration fee. Each chapter's retreat includes general and small group social competence training sessions, miniworkshops, and recreational activities.

Overall, the weekend is viewed as a lever for extensive alcohol and other drug prevention activities in both the junior and senior high schools, the family, and the community (Resnick and Gibbs 1983). When they return to their respective schools, program participants, along with parents, teachers, and community members, are encouraged to engage in followup activities. The activities may include an intensive social competence training seminar for all students in the school system. Other activities are planned: day-long events within the high school, several drug-free dances, social competence training workshops at the junior high schools, and junior high school Operation Snowflake retreats that follow the same basic structure as the Operation Snowball programs (i.e., general and small group sessions and recreational activities).

Taken together, the social competence curriculum and the followup events are the primary means by which the effects of the Operation Snowball programs are expected to apply to students, teachers, parents, and the community. An evaluation, designed to assess the effects of Operation Snowball on students, teachers, parents, and community members, is currently under way in two Chicago school systems. Operation Snowball is part of an extensive prevention network across Illinois, the Illinois Network to Organize the Understanding of Community Health (InTouch). InTouch works closely with schools and communities to coordinate a system of community-owned prevention programs, such as Operation Snowball. This coordination facilitates implementation, avoids duplication, and maximizes prevention resources. Overall, Operation

Snowball seeks to enlist the support of teachers, parents, and community members to enhance the students' social competence and modify the environmental context in which drug use occurs.

Summary

Community-based programs attempt to blend the knowledge of the mental health professional with the strengths and needs of the school and community participants. In Operation Snowball, as in other community-based programs, participants are encouraged to become active owners of both the process and the content of the program (Kelly 1987). By working with the community at all stages of the prevention process, the programs influence not only the youth but also their schools and communities. Participants become empowered, resources remain within the community, and behaviors and social competence are more likely to be maintained beyond the classroom setting. The social stress model provides a needed basis for a more comprehensive, ecological approach to prevention. Among the multiple factors that can potentially influence adolescents' alcohol and other drug problems, comprehensive *community-based prevention programs* are, in our view, the next logical step.

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CHAPTER 5

Health Promotion and Wellness

Summary

Panelists explored the relationship between research and practical implementation, discussed behavior change research and the ethical considerations involved, examined the relationships between health promotion and disease prevention, described research findings, talked about the health promotion perspective on the drinking and driving problem, and looked at various health promotion activities and their appropriateness for different target populations.

Americans today, panelists noted, are far more likely to die from lifestyle disease, a disease we bring upon ourselves by the way we live, than from any other cause. They discussed seven key health practices related to physical health status and death. The new frontier in health improvement involves the individual's taking responsibility for his/her own health. Panelists described the Independence, Missouri, Health Education Project and presented the results of the program.

Speakers covered the importance of handling the alcohol-impaired driving problem in the United States from a public health perspective, including the procedure of screening arrested alcohol-impaired drivers and providing needed treatment. They discussed the "Wellness Scale" and suggested that high-risk populations are not receiving the anti-drinking-driving messages. Few States have organized drinking and driving task forces that analyze progress in this area and reevaluate strategies. What we do best with alcohol-impaired drivers is arrest and prosecute them. We have generally forgotten to treat the alcohol-impaired person involved in the problem.

Panelists described a program that teaches coping skills to high-risk youth, identifying several characteristics of this group. If these students learn to cope better with some of these stressors, that is, if their behavior changes, alcohol and other drug use (and related problems) may be prevented.

Health Promotion and Disease Prevention: The Independence, Missouri, Health Education Project (I'M HEP)

John B. Amadio, Ph.D.
Director
Independence Department of Health

Introduction

Today, Americans are far more likely to die from diseases they bring on themselves, because of the way they live, than from any other cause.

The killers of the 1980's are often called "lifestyle" diseases. Today's top three causes of death (heart disease, cancer, and stroke) are all influenced by the way we live.

Living habits most often associated with disease risk are cigarette smoking, alcohol abuse, lack of exercise, stress, and improper eating habits.

Professors Berkman and Syme studied the effects of health practices on a large population in California for 9 years. They found seven key health practices related to physical health status and death:

- Never smoking cigarettes
- Participating regularly in physical activity
- Using alcohol moderately (four to five drinks/month), or not at all
- Sleeping 7-8 hours regularly
- Maintaining proper weight (plus or minus 10 percent ideal)
- Eating breakfast
- Not eating between meals.

They also found that people lived up to 11 years longer by following at least six of the seven above health practices. Evidence also shows that the quality of life is much improved by good health habits.

The opportunities for physicians or the Government to improve our health with medication have almost been exhausted. The new frontier in health improvement lies in individuals taking responsibility for their own health. Doing something about individual health is part of the emerging concept of wellness.

A person is on the road to wellness when he or she:

- Knows the importance of early detection and prevention of disease;
- Learns how lifestyles affect health; and
- Becomes involved in healthy behaviors to eliminate or reduce harmful habits.

Taking responsibility for health includes habits, environment, and the lifestyle of the whole person—body, mind, and emotions.

Chapman (1982) has listed 10 steps to changing behavior:

1. Adopt a clear, positive change goal.
2. Make a strong, long-term commitment.
3. Set out incremental steps toward the change.
4. Plan personal rewards along the way.
5. Set up accountability with someone else.
6. Use a "support" group.
7. Start thinking differently about "You."
8. Revise your goal periodically.
9. Get important "others" to support the change.
10. Change your "space" accordingly.

General Description of I'M/HEP

The Independence, Missouri, Health Education Project (I'M/HEP) is based on the premise that an individual is responsible for his/her own health. The project has successfully demonstrated that a majority of individuals take positive action to improve their health when they understand their current health status, what can be done to improve it, and how to make those improvements.

The overall goal of I'M/HEP is to involve the people of Independence, Missouri, in a planned program of health-promotion/risk-reduction education and personalized services in health risk appraisal, health counseling, decision-making, and followup support. (See figure 1.) The aim is to motivate a majority to make significant changes in their lifestyles so that their risk factors related to heart disease, cerebral vascular accidents (strokes), cancer, and chronic diseases are measurably reduced.

Facilitators

Independence Health Dept.
MO Dept. of Health
Independence Junior High PTSA
Independence Breakfast Sertoma Club
American Red Cross E.J.C. Chapter
Gracemend College, Nursing Division
Independence School District
Palmer & Bridger Jr. High School
Kansas City School District
Nowlin Jr. High School
Ft. Osage School District
Ft. Osage Jr. High School
Ft. Osage Votech
Area Vocation School of Kansas City
Voluntary Action Center
Metro. Official Health Agencies of the Kansas City Area, Inc.

Participants

SENIOR ADULTS
Senior Wellness Project

ADULTS
Neighborhood Health Promotion Project

JUNIOR HIGH STUDENTS
School Health Screening and Health Promotion Education Project

FUNDING SOURCES:
Missouri Department of Health, City of Independence, Matching Contributions/Services of Providers/Facilitator Agencies.

Screening Clinics

- Health Risk Screening
- Lifestyle Assessment
- Health Consultation
- Reinforcement of Positive Health Behavior
- Goal Setting
- Rescreening As Necessary

Followup Health Promotion

- Way to Wellness Class for Teens
- Growing Younger Workshop for Seniors
- Growing Wiser Workshop for Seniors
- Stress Management
- Nutrition Education
- Physical Fitness Promotion
- Goal Setting
- Peer Support Groups

Goal

A People with Lifestyles that Optimize Their Health

Figure 1. FM/HEP Independence Missouri, Health Education, Project

Health is more that the absence of disease. Health is having energy, enthusiasm, and interest to reach self-fulfillment and to enjoy life.

Youth Services

The youth phase of I'M/HEP is usually referred to as school health. Basically, it consists of the 10 coordinated steps shown in figure 2.

For several reasons, including absenteeism, requirement for parental consent forms for some segments of the project, and the students' fundamental freedom of choice, not all students participate in every step of the project. Usually, however, all are involved to some degree.

1. *Provider/facilitator training* in risk-reduction/health-promotion techniques.
2. *Teacher workshops* on presenting their phase of the "Know Your Body Program." (The New York-designed model of "Know Your Body" was adapted to the teachers' assigned grade level to be taught in conjunction with their science or health class curriculum.)
3. *Teacher and I'M/HEP staff presentations* to students regarding:
   (a) Alcohol and other drug use
   (b) Nutrition
   (c) Health lifestyles
   (d) Health decisionmaking
   (e) Risk reduction
4. *Teen Wellness Check Test* completed by students who are then prepared for an I'M/HEP screening. (Parents' consent secured, and so forth.)
5. *I'M/HEP Screening* clinic or fair.
6. *Classroom discussion* regarding things learned at the health screening (personal, class, and school). Question-answering period and discussion to reinforce previous information given in Step 3.
7. *Remedial and support workshops* made available to students who desire them.
8. *High-risk youth and their parents* referred to appropriate medical or other resources.
9. *Followup survey*, completed by students 1 month after screening, of their personal health goal completion progress. Further learning reinforcement and support given immediately following this survey.
10. *Physical improvements* of high-risk youth checked 3 months after screening, and other specific followup plans initiated if necessary.

Figure 2. I'M/HEP Model School Health Steps

Computerized Health-Risk Appraisal for Youth. While the students are learning about health risks, they are given the opportunity to get a personal, computerized health-risk appraisal of their current health behaviors. This appraisal is based on the Rhode Island State Health Department Teen Health-Risk Appraisal. The computers are provided by the Metropolitan Official Health Agencies of the Kansas City Area Shepherd Project (which was originally funded by the Victor Speas Foundation).

Each student receives a personalized, confidential, computer-generated printout praising good health habits and making suggestions as to where improvements can be made. He or she also receives information relating to positive decisionmaking with regard to the following questions:

- Shall I use tobacco or not?
- Shall I do drugs or not?
- Shall I use alcohol or not?
- Shall I be sexually involved or not?
- Shall I take my life or not?

Topics such as those dealing with peer pressure, personal and health consequences, and resources for decisionmaking are all printed out for their reference.

The computerized health-risk appraisal has proven to be a powerful motivational tool with youth. Students readily accept advice from a computer without the normal youthful resistance to authority. When asked, "Did you change any health habits because of information from the computer printout?" 788 students answered, "Yes." This represents 67.9 percent of the 1,159 students responding to the question.

Profile of Health-Risk Behaviors for Youth. The I'M/HEP computer calculates and prints group profiles of health-risk behaviors in addition to the confidential personalized computer printout given to each student. The health-risk profile for the combined schools' 1,682 students appraised in FY 1987 is shown in figure 3. Participating teachers are given a profile for each of their classes, a combined profile for all their classes, and a combined school profile for comparative discussion and lesson planning. This information is helpful for the teachers and principal in measuring success and noting needs for added emphasis. The 36 youth, (17 and 18 years old) shown in the group, represent vocational education students at Ft. Osage High School who helped with the computer printing process. All other participants are seventh graders.

PROFILE OF HEALTH RISKS FOR FY 1987 I'M/HEP (TEEN)

From Oct. '86 thru Mar. '87 the teen wellness health-risk appraisal was administered to 1,682 teens in your group. This report will help you determine their need for risk reduction in key areas. The percent and number of respondents by sex, age, and risk categories are given below.

FY 1987 I'M/HEP:

Sex	Respondents Percent/Number		Age	Percent/Number		Risk Category	Percent/Number	
Female	51	861	13	94	1580	Excellent	62	1039
Male	49	821	14	4	62	Fair	38	632
			15	8	4	Risky	1	11
			16	0	0	Hazardous	0	0
			17	2	29			
			18	0	7			

Selected risk factors below are based on an analysis of data collected from your group. For each factor, the percent of total and number of respondents are given. A bar chart is also printed with asterisks indicating the percent of total exhibiting the particular risky behavior.

Risk Factor	Bar Chart	Your Group Percent/Number	
Don't eat a variety from four food groups daily	**********	81	1369
Don't brush teeth daily	****	19	320
Are not fully immunized (or) don't know	*******	37	622
Don't get 20 minutes of aerobic exercise at least 3 times weekly	******	29	486
Smoke cigarettes	*	4	72
Smoke and do not plan on quitting		1	12
Consume 7 or more alcoholic beverages weekly		0	0
Consume alcoholic beverages at any level	**	11	181
Mix alcohol and other drugs seldom, occasionally, or often	*	7	113
Drive while alcohol-impaired or ride with alcohol-impaired driver sometimes/often	**	9	159
Don't always wear seat belt	**********	73	1226
Hitchhike or pick up hitchhikers seldom, sometimes, or often	*	5	78
Don't know how to swim	*	6	108
Exhibit two or more signs of stress	***	14	241
Females not doing breast self-examination monthly	**********	86	740

Figure 3. Sample of Health-Risk Profile Print Out

The computer analysis gives each student a numerical score based on his/her level of risk-taking behavior. The higher the score, the lower an individual's risks. The computer also ranks health-habits risk by four categories: excellent, fair, risky, and hazardous. Table 1 shows the combined rankings for seventh grade students' health-risk behaviors in the four participating schools in FY 1987. These results reflect the general conservative nature of Independence as a community. The proportion of students in the risky and hazardous categories is considerably lower in Independence than for other areas known to the program staff.

Table 1. Computer Analysis of Health-Risk Behavior Rankings of 7th Grade Students in Independence, Missouri, Schools During School Year 1986–87

Computer-Designated Health-Habits Risk Appraisal Category	Number of Students		Schools			
	Total	%	Bridger	Ft. Osage	Nowlin	Palmer
Excellent	1,033	61.4	368	268	216	181
Fair	636	37.8	166	168	226	76
Risky	13	0.8	0	3	6	4
Hazardous	0	0.0	0	0	0	0
Total	1,682	100.0	534	439	422	261

Health-Risk Conditions. After the classroom discussions on health risks and their effects on the body systems, the students may participate in an I'M/HEP screening or health fair. At a screening, each student collects personal data about his/her own health status; information is recorded on a health passport.

The total number of risks found exceeded the number of persons at risk because some had two and three risks each. (See table 2.) Poor physical fitness was the number one problem found. In this age group, which is usually one of the most active age groups, this finding is cause for concern. A total of 435 out of 1,296 screened scored fairly or poorly on the fitness test. Thus, we found an average of 34 percent of the seventh graders in Independence not physically fit.

Table 2. Health Risks Found, By Type, Sept. 1, 1986 – Aug. 31, 1987

Statistic	Combined Number of Students	School			
		Ft. Osage	Nowlin	Palmer	Bridger
Total Number Persons With Risks	588	202	121	157	108
Total Screened	1,296	453	318	313	212
Percent at Risk	46.0	44.6	38.0	50.2	51.0
Number of Risks					
0	708	251	197	156	104
1	463	164	99	121	79
2	120	36	20	35	29
3	5	2	2	1	0
Number Risks by Type					
Weight (20% over/under ideal)	188	57	47	47	37
Poor or Fair Fitness	435	168	89	130	48
High Blood Pressure	16	3	6	6	1
High Blood Sugar	2	1	0	0	1
Low Hematocrit	28	11	2	8	7
Risky Habits on Computer Appraisal	13	0	3	6	4
Total Risks Found	682	240	147	197	98

Goal Setting. After students complete all screening stations, they individually discuss, with a nurse or health educator at the health consultation desk, screening results from the health passport, as well as health behaviors. At this time, the student sets a 1-month health goal and signs a "Contract for Wellness." One month later, each screening participant is given followup surveys to evaluate whether the student achieved the goal, needs help to achieve it, or wishes to set a new goal. Classroom discussions and teacher reinforcement are an important part of the youth phase of I'M/HEP.

Almost all students set goals to do things they have learned to improve their health risk situation. Table 3 gives a breakdown of the goals-accomplishment statistics for the four junior high schools in Independence for the 1986–87 school year. Some students set more than one goal each. A total of 1,581 goals to improve their health was set by 1,172 students. Goals were completed 100 percent by 293 students. The overall average achievement for all students in all goals was 62.75 percent. Since approximately 10 percent of the students made no attempt to work on their goals, the percent of students who made significant progress on their goals again exceeded 80 percent.

Table 3. A Comparison of the One-Month Health Goal-Setting and Accomplishment Statistics for 7th Grade Students in Independence, Missouri, During School Year 1986–87

	School				
Goal Items	Bridger	Ft. Osage	Nowlin	Palmer	Total
Number Goals Set/Checked	596	404	318	263	1,581
Number Goals 100 Percent Accomplished	118	62	73	40	293
Average Percent of Achievement	67.0	61.0	62.0	62.0	62.75
Number of Students Setting Goals	412	300	262	198	1,172

Goal Achievement. This year, for the first time, students were asked to quantify what they had done towards achieving a goal 1 month after they set it. The goal achievements were grouped into common areas and tabulated by schools. Table 4 shows the common goals and the level of success the various student groups reported. The feedback of this information to the schools and the students had two positive impacts: (1) These 12 to14-year-old youths discovered that they had the ability to plan the destiny of their own health. They learned to set goals, both short- and long-term, and gained a desire to achieve something that has a lasting and satisfying impact on their futures. They also learned the meaning of the old cliche, "If you fail to plan, you plan to fail." (2) As the excitement and enthusiasm spread, the schools themselves became natural rivals with the pride of student achievement and with heightened anticipation toward next year's screenings.

The fact that almost 21 percent of individual students achieved 100 percent of their goals; and that the four schools participating showed an overall achievement rate of more than 65 percent is remarkable. This achievement is even more noteworthy when one realizes that less than 5 percent of all Americans of any age ever set a long-range goal to do anything (e.g., plan for retirement, save for a "rainy day"). Madison Avenue motivational experts consider themselves successful if they reach even a 3 to 5 percent motivation achievement rate for industrial product sales.

Table 5 indicates where the students received help to achieve their goals. The most significant factor for all schools, after individual effort, was the involvement of parents. The next most significant was the involvement of friends or siblings. The statistics confirm the important impact this close support can have in achieving health goals.

Table 4. A Comparison of Student Goals and Their Average Percent of Achievement within 1 Month, as Reported by 7th Grade Students in Independence, Missouri, Selected Junior High Schools, in School Year 1986–87

Student Goals	School				Total Students; Average Percent
	Bridger	Ft. Osage	Nowlin	Palmer	
Physical Fitness					
Increase Aerobics	134/67	79/62	88/58	64/64	365/62.75
Increase Calisthenics	17/64	6/67	11/57	4/83	38/67.6
Play Team Sports	9/89	7/74	2/50	4/50	22/73.5
Nutrition					
Increase Iron	36/71	24/73	31/75	13/63	104/72.0
Increase Milk	22/75	13/73	11/66	2/38	48/50
Increase Fruits & Vegetables	68/66	27/64	21/51	18/63	134/62.8
Eat Breakfast	27/79	19/69	16/63	15/68	77/66.5
Use Four Food Groups	60/77	51/55	46/63	27/71	184/67.1
Decrease Salt	1/100	2/88	3/66	NA	6/78.8
Decrease Junk Food	16/63	8/65	4/63	9/73	37/65.6
Decrease Sweets	35/58	37/61	4/64	18/57	94/59.3
Weight					
Gain	10/65	13/45	15/73	8/43	46/58.0
Loss	30/51	27/56	28/54	26/49	111/52.9
Hygiene					
Brush Teeth	44/61	22/65	10/63	14/65	90/62.7
Floss Teeth	57/64	40/63	14/61	27/56	138/59.0
Safety					
Use Seatbelts	30/64	22/48	6/92	7/79	65/78.3
Other	—	7/43	8/58	6/50	21/51.0
Put Reflectors on Bike	—	—	—	1/100	1/100
Total Goals Set/ Overall Average Percent Achievement	596/67	404/61	318/62	263/62	1581/65.9

In answer to the question, "Was the work on the goal more difficult or less difficult than they expected," 436 (37.5 percent) students said, "Yes." A total of 723 (62.3 percent) reported that they found it less difficult to accomplish their goals essentially by themselves with the information they had received in the class and during the counseling and screening sessions.

Table 5. A Comparison of Sources of Help for Health Goal Achievement, Used by Students in Independence, Missouri, Junior High Schools in School Year 1986–1987

Source of Goal Help	School				Totals
	Bridger	Ft. Osage	Nowlin	Palmer	
Self	294	53	158	129	634
Parents	137	42	88	67	334
Sister/Brother	18	12	25	20	75
Friends	35	22	26	24	107
Teacher/Counselor	4	1	7	1	13
Other	18	9	14	8	49

Almost all students decided to continue working on their current goals or to select new goals to work toward as a direct result of their I'M/HEP experience.

The 1-month followup questionnaire also gave the students an opportunity to indicate whether they needed further counseling or help in their efforts to improve their health. Twenty-four percent (199 students) indicated they were interested in more help in improving their health status. This service is currently not available in the I'M/HEP program, but it is a need that should be addressed in future years. The Independence School District has recently commissioned the Health Education Curriculum Task Force to study the district's needs for a wide variety of learning associated with health. The I'M/HEP findings were a major impetus to creating this task force.

Adult Health

In FY 1985, 2,475 individuals received 16,538 health-promotion-related services for $1.64 per service. Adults between 19 and 60 years of age comprised 374 of this total. These adults had 260 health risks. An unusually high percentage of the adults (31 percent) were not aware of their risk factor before the screening. Table 6 shows the risk factors by type, as well as the level of previously unknown risks for the adult group.

Older Adult Health Promotion. The computerized wellness assessment was very popular with older adults. Many seniors needed help to fill out their computer cards; generally, they were not familiar with this type of answer sheet. Volunteers admirably filled this concerned helper role. The counseling sessions brought out some surprises in the health knowledge and health interest of older

Table 6. Number of Persons, by Type of Health Risk, Found at Adult I'M/HEP Health Screening Fairs, Independence, Missouri, Sept. 1, 1984, to Aug. 31, 1985

Type of Health Risk	Number Persons Screened	Number Risks Found	Percent with Risk	Number Referred	Number Persons Whose Risk Was Not Known Before Screening	Percent Risks Newly Discovered
High Blood Pressure	374	136	36	74	59	43
Low Hematocrit	374	35	9	26	16	46
High Blood Glucose	374	12	3	8	2	17
20% + Overweight	374	77	21	37	4	5

adults. Many expressed appreciation for the professional guidance and interest shown by the exit counselors. They complained that their physicians did not listen to them and were careless. They asked intelligent questions about what they could do to improve or maintain their health and were surprisingly willing to set and keep new lifestyle goals. The Older Adult Health Promotion Project used risk identification to assist the client in setting measurable, achievable behavioral change goals. These goals are related directly to the known prevention measures for reducing the incidence of heart disease, cancer, stroke, and accidental injury. Ninety-nine percent of the participants set improved lifestyle goals.

Those older adults with significant health risk factors are followed by both objective and subjective means to determine their progress in achieving their goals. The followups occur after 1 month, 3 months, or 1 year, depending on the health risk and goals presented.

When the older adult lifestyle improvement aspect of this project was first suggested, there was considerable skepticism regarding the elderly response. The adage, "You cannot teach an old dog new tricks," was often quoted. This fear proved to be misplaced for those older adults who participated in this project. All showed considerable interest in their health status. Approximately 85 percent of participants were sufficiently motivated to make actual changes in their behavior. This level of motivation matched that shown for other age groups participating in similar screening and counseling services in I'M/HEP.

Fourteen percent of the participants were underweight and 55 percent were 20 percent or more overweight.

The most common health risks associated with this group of older adults are shown in table 7.

Table 7. Most Common Health Risks in 1,000 Independence, Missouri, Residents Over 60 Years, Found During the Older Adult Wellness Assessment, Mar. 1 – Aug. 30, 1985

Risks	Percent
Diabetes	8
High blood pressure	37
History of health problems	26
Last physical exam over 3 years ago	17
No diphtheria/tetanus booster in past 10 years	72
Very low physical activity level	99
Heavy use of alcohol	1
Smoking	20
Failure to use seat belts	46
Failure to look for safety hazards in home	8
Improper diet	54
Depression	10
Grief	16
Worry	13
Symptoms of cancer	17
Symptoms of arthritis	34
Symptoms of heart disease	26
Symptoms of diabetes	35
Three or more medications daily	23
Women Only	
Failure to do breast self exam monthly	78
Three or more years since last pap test	40

Generally, it was found that this group practices many good health habits that would, in part, account for their longevity. Most do not drink alcoholic beverages. The few who do, do so only moderately. Most do not smoke; most look for safety hazards in their home, have a good diet, and get moderate exercise. Lack of aerobic exercise and poor diet were the most common bad health habits. The number of people who break most of the good health preservation rules in this group was very small—less than 10 percent.

Summary

The Independence, Missouri, Health Education Project is unique in that it is not directed by health professionals. The PTSA, neighborhood, or other sponsoring organization members decide what *their* own health goals are. They accept guidance and suggestions from the I'M/HEP staff, but the end project is their own. They run it and staff most of it. The I'M/HEP staff helps by providing training, guidance in the planning process, consultation on health risks, and identification of health needs. They also do the work of accumulating health resources needed to meet those needs and provide services the neighborhood or organization thinks necessary.

Health-risk screening and wellness assessments are used as tools to educate and motivate participants to want to do something about their health status. Screening participants are offered a one-on-one interaction with trained staff who provide immediate feedback concerning screening results. Within this uniquely caring and supportive counseling environment, participants are encouraged to make positive decisions about their health.

Usually, 98 percent of participants set meaningful, measurable, personal goals for improving their health through behavioral change. As a result of the I'M/HEP activities in school year 1986–87, 1,297 students received the nine I'M/HEP learning steps, and 1,682 students completed a computerized analysis of their health-risk behaviors. Among 588 students, it was found that 679 health risk factors needed correcting. Followup information obtained 1 month after each screening showed that 293 of 1,172 students (21 percent) who set goals achieved 100 percent of their goals. An average of all schools showed an overall goal achievement rate of 65.9 percent.

The percentage for adults and senior citizens who set goals and made significant progress toward achieving them almost matched those for students.

In July 1988, the project administrator, Independence City Health Department, was notified that I'M/HEP was considered one of the top projects in the Nation and had been selected to receive the prestigious Community Health Promotion Award for Excellence from the Secretary of the U.S. Department of Health and Human Services.

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Secondary Prevention: A School-Based Coping-Skills Training Program for High-Risk Youth

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In the past few years, health promotion programs have become increasingly visible in community, industrial, and school settings. These programs are intended to develop behaviors and lifestyles that enhance emotional and physical well-being. A large body of literature identifies alcohol and other drug use as a health-compromising behavior with respect to both physical and emotional health. Thus, prevention programs can be viewed within a health-promotion context.

Schools have been the most popular setting for alcohol and other drug use prevention programs. Current high incidence rates, negative health consequences, and the fact that most alcohol and other drug use begins during adolescence, indicate the need for prevention programs for the adolescent population. Schools provide easy access to adolescents and employ personnel who have the basic professional training necessary for implementing prevention programs.

Recently, school-based alcohol and other drug use prevention programs that focus on training in personal and social coping skills have received empirical support. These programs initially were evaluated with respect to preventing cigarette smoking; however, more current evaluation efforts have extended to an examination of alcohol and other drug use prevention programs. These programs teach a range of coping skills that can be used to deal with the diverse factors, both personal and social/environmental, that may influence drug use. The skills taught in such programs provide adolescents with strategies they can use in alcohol- and drug-related situations and that are helpful in a variety of other potentially stressful situations. Thus, these personal and social coping skills programs can be conceptualized as health-promotion efforts because (1) their primary objective is to prevent alcohol and other drug use; and (2) the training typically deals with a variety of problem situations and teaches general coping strategies; it therefore may also reduce other health-compromising behaviors and diminish negative reactions to stress.

The personal and social coping skills training program having the most empirical support with respect to smoking prevention as well as alcohol and marijuana use prevention is Botvin's Life Skills Training (LST) (Botvin 1983). This program has an alcohol and other drug information component as well as

components that foster skills in decisionmaking, anxiety management, social behavior, communication, and self-improvement.

LST was initially evaluated with respect to preventing the onset of cigarette smoking. After participation in an LST program, secondary school students had lower rates of smoking onset and made more positive changes in cognitive, attitudinal, affective, and social measures than did no-treatment control group students. The experimental group maintained changes at a 1-year followup (Botvin and Eng 1982; Botvin et al. 1980; Botvin et al. 1983). In addition, in a study examining the impact of LST on alcohol and marijuana use, significant treatment effects were found for alcohol and other drug use, knowledge, attitudes, locus of control, and influenceability (Botvin et al. 1984).

The most recent 5-year investigation completed on LST (NIDA:Botvin 1987) indicated these findings: That at initial post-test and 1-year followup, students participating in a peer-led LST group were significantly different from control group students with regard to tobacco, alcohol, and marijuana use, as well as on several mediating variables; and students participating in a teacher-led intervention did not differ significantly from those in the control group. Results were maintained at 1- and 2-year followups, while booster sessions were implemented. The importance of continued intervention through booster sessions was also illustrated by this investigation. After the 2-year followup, booster sessions were terminated. One year after termination, no effects were present.

Although some might interpret these findings as an indictment of coping skills training, they can also be viewed as an illustration of the importance of continuous efforts to maintain behavior change when environmental conditions are not conducive to maintenance of the behavior. Prevention of alcohol and other drug use by adolescents, in a social environment that still seems to condone and encourage use, is not likely to occur without continuous sustained effort.

Almost all prevention research conducted to date with respect to broad-based coping skills training has focused on primary prevention programs designed to deter adolescents from initiating alcohol and other drug use by providing a curriculum for the general student population, many of whom may not be at risk. Surprisingly, a minimal amount of published research has addressed the issue of secondary prevention programs for those students most at risk for drug problems. These are students who have characteristics that have been found to be related to drug problems or who have begun to experiment with drugs. Project SCCOPE—the South Carolina Coping Skills Project, funded by the National Institute on Drug Abuse—is currently evaluating a broad-spectrum coping-skills training approach to drug use prevention for high-risk adolescents.

Project SCCOPE's participants are middle and high school students typically referred to the project by school personnel. These students were identified by

the referral source as having two or more of the following characteristics that have been found to be possible precursors to alcohol and other drug problems: (1) alcohol and other drug problems in family members; (2) alcohol and other drug problems in most friends; (3) school discipline problems; (4) low self-esteem; (5) high anxiety; (6) social withdrawal; (7) excessive unexcused absences or tardinesses; or (8) poor grades. In addition, students who were known to be using alcohol and other drugs were included in the program.

Project SCCOPE is investigating a three-pronged approach to behavior change through coping-skills training. This includes school-based training for the adolescent, school staff training, and parent training. It was felt that a multilevel intervention would be necessary to affect the behavior of high-risk adolescents and to increase the probability of obtaining behavior change outside of the small-group training setting.

The student training component is a broad spectrum program based on Botvin's (1983) LST. It consists of 10 weekly 2-hour small-group training sessions during the school day. The training is based on behavioral and cognitive-behavioral procedures. The objective of the training is to teach constructive methods of dealing with problems and stress so that adolescents can resist pressure to use alcohol and other drugs—and will not turn to them in an inappropriate attempt to cope with daily problems.

During the 10 training sessions, students learn coping skills in four major areas: behavioral self-management, emotional self-management, decisionmaking, and interpersonal communication. In addition, drug use information is addressed.

Behavioral self-management skills are presented as a means of improving self-image. Students learn what self-image is, how it is formed, how it relates to behavior, and how it can be changed through behavioral self-management strategies. These strategies include setting goals, specifying behaviors, using reinforcers, controlling stimuli, and charting progress. In addition, students use these procedures in a self-management project they implement throughout the training period.

Emotional self-management skills addressed in the training include relaxation, cognitive change, and self-instructional techniques. Three types of relaxation procedures are taught: deep muscle relaxation, deep breathing, and imagery. The cognitive change and self-instructional training unit teaches students how thoughts influence their feelings and how they can change their thoughts to help them deal with negative emotions. Common irrational beliefs of adolescents are discussed, and students are taught a self-instructional sequence that can be used in potentially stressful situations.

During the decisionmaking unit, students are taught what decisions are, how others attempt to influence their decisions, and how good decisions can be made through a series of decisionmaking steps. These steps include problem definition and consideration of alternatives and consequences.

The interpersonal communication component includes skills training in assertiveness, peer resistance, communication, and social interaction. In the assertiveness segment, students learn to differentiate passive, aggressive, and assertive behavior and to use verbal and nonverbal assertive techniques. The communication skills segment includes training in active listening and avoidance of misunderstandings. The social skills segment focuses on conversational skills that can be used to make and maintain friendships, including how to initiate, maintain, and terminate a conversation.

The section on alcohol and other drugs imparts information on tobacco, alcohol, and marijuana. Incidence rates and reasons for alcohol and other drug use are explored, as well as short- and long-term consequences of alcohol and other drug use.

Instructional methods vary, using didactic presentations, modeling, role playing, discussion, rehearsal, homework assignments, and feedback. The skills are presented within the context of alcohol and other drug use problem situations, as well as a variety of other problem situations that adolescents encounter.

The objective of the school staff training component is to enhance generalization by teaching school personnel to encourage use of coping skills in the classroom and school setting on a daily basis. The teacher training is accomplished in a 3-hour inservice session during which each coping skill is reviewed. Teachers are also presented with ideas for encouraging students to use the skills through three methods: (1) modeling, (2) cueing, and (3) reinforcing. Teachers are also provided with a take-home manual that reviews workshop information.

The parent training component, which consists of five weekly 2-hour sessions, has three objectives. The first is to teach parents about the coping skills their children are learning in the student groups. Again, the purpose is to enhance generalization because previous research indicates that individuals are more likely to actually use what they have learned in a group training experience (if significant others encourage them to use their new skills). Parents learn that they can complement the student groups and become "trainers at home" by modeling, cueing, and reinforcing the coping skills. In addition, since the coping skills are actually useful for people of all ages, parents are encouraged to use these skills to deal with their own problems and stresses.

The second objective is to teach parents some behavior management skills, in particular, contingency contracting. This is included because a number of

studies have indicated family management problems to be a correlate of adolescent alcohol and other drug use.

The third objective is to provide a support system. By meeting in a group, parents will realize that they are not alone in dealing with alcohol and other drug-related problems, as well as other types of adolescent behavior problems. In a group setting, parents can encourage each other to take positive, constructive action regarding their adolescents.

To evaluate the effectiveness of these strategies, Project SCCOPE is comparing three training conditions: (1) school intervention: student training in coping skills plus training for all professional staff at the school; (2) school plus parent intervention: student training in coping skills, school staff training, and parent training; and (3) comparison control: a 10-week structured group for students that provides attention and focuses on creating self-awareness and building a cohesive support group.

Thirty secondary schools were matched in groups of three on the basis of size, percent of students receiving free lunch, racial composition, and secondary level (middle school versus high school). They were then randomly assigned to the three conditions.

The design of the study includes pre-treatment, post-treatment, and 1-year followup assessment of students. Outcome measures are of six major types:

1. Self-report measures of alcohol and other drug use, knowledge, and attitudes;
2. A physiological measure of tobacco use (gas chromatography analysis for the nicotine derivative cotanine in saliva samples);
3. Personality questionnaires, including assertiveness, locus of control, social anxiety, self-esteem, self-confidence, and influenceability;
4. A role-play test of coping skills acquisition;
5. School archival data, including number of disciplinary incidents, school attendance, and grade point average; and
6. Teacher ratings of classroom behavior and parent ratings of home behavior as measured by the Achenbach Child Behavior Checklist (Achenbach and Edelbrock 1983).

At present, 278 students have completed the 20-hour group and the pre- and post-treatment assessments. The mean age of these students is 14.09 years. Sixty-three percent of these students are male, 37 percent female. Seventy-three percent are white, 25 percent are Black, and 2 percent are another minority. Fifty-seven percent come from two-parent homes, while 43 percent live with

only one or neither parent. Thirty-four percent wish their parents drank less, and 22 percent feel their parents' drinking causes problems for them. Four hours of booster training and 1-year followup data collection procedures are currently being implemented for these students.

A post-training knowledge and utilization questionnaire was completed by 1,019 teachers. This will allow for evaluation of the teacher training component.

Sixty-four parents, representing 40 percent of all eligible parents, participated in the parent training program. Forty-three of these parents completed all training sessions as well as a pre- and post-training knowledge test and post-training utilization questionnaire.

Data analysis is currently under way. The results should provide valuable information on the efficacy of a school-based, broad-spectrum coping-skills approach with high-risk adolescents, as well as the additive effects of parent involvement.

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Environmental and Family-Focused Prevention: The Cinderellas of Prevention Want To Go to the Ball, Too

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Introduction

Public Concern with Drug Abuse

Preventing alcohol and other drug abuse is a difficult but critically needed activity. The abuse of drugs is not a new phenomenon. Use, misuse, and efforts to control the use of drugs, primarily through education and legal sanctions, are apparently as old as civilization itself.

The public's perception of the extent of drug problems (as promoted by the mass media, parents, and special interest groups) and the general political climate help to determine the amount of public interest in prevention. In recent years, there has been increasing interest in taking a proactive stance in the war on drugs. Part of this interest developed through the general prevention movement stemming from the health/wellness philosophy in health care. Prevention has been endorsed by national political agenda setters as a promising method for reducing the rapidly rising cost of national health care. The idea that prevention costs less than treatment was used to sell policymakers on primary prevention.

Public Policy Response

Increasingly, citizens gauge the "health of the Nation" by the barometer of drug use in youth; increasingly, they are willing, as taxpayers, to fund prevention. Despite concerns with Gramm-Rudman and a balanced budget, citizens supported Congress and President Reagan to pass a $1.7 billion Anti-Drug Abuse Act in 1986. Though only about 17.5 percent of this money was spent on primary prevention activities to reduce demand for drugs, the Senate unanimously approved an amendment to the annual budget resolution to increase antidrug funding by $2.6 billion.

The issue of youth drug use is shaping up as a major presidential campaign issue. A recent article (Stengel 1988) asserted that leading political candidates are "riding the drug issue." The article points out that, "Assailing crack and coke is a little like supporting apple pie and motherhood—except that voters rarely get passionate about apple pie." The drug issue is a primary emotional issue

that all types of voters can understand; it is not abstract like the trade deficit or the national debt. Some of this political background will help the reader understand the public's concern with drug abuse, the window of opportunity, and the importance of prevention specialists using the best known information about the causes of drug abuse and the best methods for prevention.

Causes of Drug Abuse Are Complex

The reasons why youth or adults use or abuse legal or illegal drugs (see figure 1) are complex; they are influenced by genetic, *in utero*, and temperament variables, and by family, peer, and cultural environments. This Biopsychosocial Model of Drug Abuse (Kumpfer 1987) covers all of the major causes of drug abuse. It organizes risk factors in the environment along two dimensions: values/attitudes and stressors/coping resources. According to this model, a high-risk individual is one with cognitive values or attitudes that support the use of drugs, who is experiencing increased stress (either due to increased stressors or reduced coping resources). This diagram demonstrates that many variables contribute to alcohol and other drug use; it follows, therefore, that effective prevention activities must address many factors. Because one-shot educational efforts are rarely enough to modify all of these factors, comprehensive prevention programs are now being called for. (See Kumpfer 1988 for a review of school-based approaches and the need for comprehensive prevention programs.)

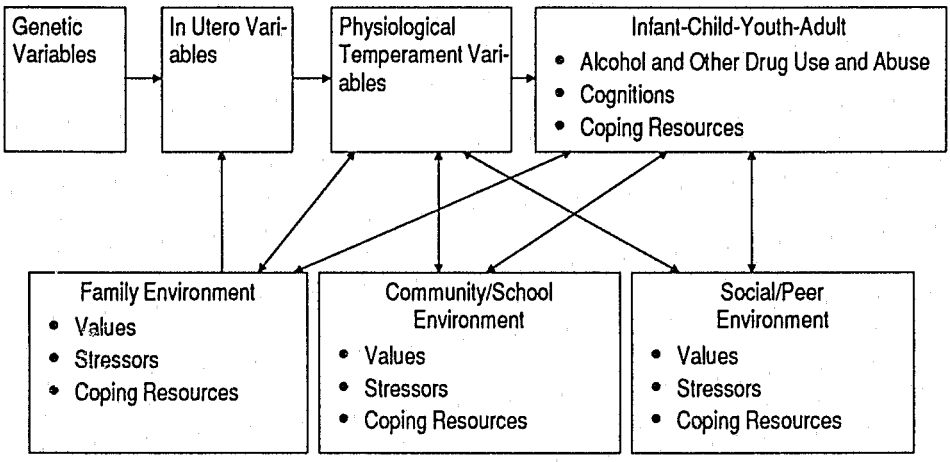

Figure 1. A Biophysical Vulnerability Model

Focus of This Paper

Both environmental and family-focused approaches to the prevention of alcohol and other drug abuse will be discussed in this paper. Why both of these topics will be discussed in the same paper should be explained, because I am best known for family approaches. When I was asked to speak at this conference, I told the conference organizers that I was most interested in speaking on family-focused prevention approaches. I was told that no research panel was addressing that topic; hence, they would put me in the section on "public policy and prevention." I prepared a paper on family approaches, which is my major area of expertise. When I arrived in Kansas City, I was told that since Harold Holder was not coming, they needed to have me also cover public policy approaches to prevention. I certainly cannot do justice to that field as could Harold Holder, Joel Moskowitz, Alex Wagenaar, Jim Mosher, Larry Wallack, or any of the outstanding and dedicated prevention researchers in the field advocating environmental and regulatory approaches to drug abuse.

However, in my coedited book *Childhood and Chemical Abuse: Prevention and Intervention* (Ezekoye et al. 1986), my colleagues and I did review (Kumpfer et al. 1986) these environmental approaches. So I will discuss the positive results found in the literature for reducing alcohol and other drug abuse through social environmental approaches.

After much thought the night before the paper was to be delivered (at 4 a.m., to be specific), I finally came up with a way to tie environmental and family approaches together. That idea was to discuss why they are both the *stepchildren of alcohol and other drug abuse prevention, but, we hope, also the Cinderellas*. Researchers in both family and environmental approaches have supported each other in promoting these areas, which are historically underfunded by State and Federal sources because of agency policy and often neglected in reviews and conferences like this one. Researchers and practitioners in both these fields have hoped that eventually there will be enough evidence in the research literature to convince the general public that these are important and viable methods for drug abuse prevention. Like the stepchild Cinderella, practitioners in this field have watched the bulk of attention and support go to school-based and community-based prevention.

Public Policy Preferences for School-Based Prevention

Why has public opinion dictated for so many years that schools are the major vehicle for social change and socialization of the child? Goodstadt (1987) says that "society's readiness to seek educational solutions for social ills reflects the value it attaches to education *per se*, and its commitment to the notion of education based upon rational arguments and evidence." Drug use is not entirely based on rational thought, however, but also on genetic vulnerabilities, self-

medication, unfortunate stress-coping patterns and attitudes, subconscious modeling and imitation, irrational behavior habits; and eventually, it is guided by addiction.

The popularity of school-based prevention programs rests with the notion that schools are the primary route for accessing all youth equally. Yet, despite this love affair with education as the major way to reach *all* youth equally, many high-risk youth are not in school. About 25 to 28 percent of American youth who begin high school do not graduate. High-risk youth are also less likely to attend school regularly and to participate in prevention activities. For these reasons, the family and the total society (including music, television, magazines, comic books, and other elements of the mass media) are major socialization vehicles for vulnerable youth.

Recent Public Policy Preferences for Community-Based Approaches

As the problems with earlier school-based education models of prevention became known through consistently negative program evaluations (Goodstadt 1986), the prevention community and an aware general public turned to community approaches. Community-based approaches are defined in many ways, but generally involve programs that coordinate several segments of the community to deliver a consistent message. Generally included are parent groups, community groups (i.e., religious groups, public service clubs), social services agencies, schools, and the media.

Positive support for the efficacy of this approach is gleaned from evaluations of multicomponent community program approaches for heart disease prevention and health promotion, such as the North Karelia Youth Project in Finland (McAlister et al. 1982; Vartiainen et al. 1983), the Oslo Study (Holme et al. 1982), and the Stanford Three Community Study (Maccoby 1976; Solomon 1982).

This coordinated approach, applied to alcohol and other drug use prevention, is comparatively new, so few evaluations have been conducted. Flay et al. (1983 a, b, and c) did find positive results from a multicomponent program for smoking prevention or cessation that involved the school, media, and written homework assignments to be completed with parents. The Kaiser Family Foundation has funded a number of such community prevention programs in the western United States, but the evaluations have not been completed yet. The National Institute on Drug Abuse has spent the majority of its prevention funding on community prevention approaches in one or two major projects. However, these projects involve more school-based, "social influences" projects than community media, family, and business components. The major extent of their community involvement appears to be that funding for all of the implementation and for some of the evaluation comes from private corporate foundations (Cormack personal communication 1987).

The Cinderellas Need A Fairy Godmother

As seen in figure 2, A Conceptual Model of Prevention Programming, six major realms of influence affect a person's alcohol and other drug use. Four of these realms of influence have been represented at this conference: the individual level, the peer level, the school level, and the community level. The two levels not clearly focused upon by the conference planners are the family level and the social environmental level. Neither stepchild will get to the ball unless championed by the general public. Both of these realms of influence do have a major impact on youth, and the small amount of research conducted in these fields shows amazingly positive results. One reason for this impact is that changes in (a) family relations, (b) media portrayals of alcohol or other drugs, (c) alcohol availability through regulatory changes, and (d) other environmental approaches are *not one-shot approaches*; they are pervasive and enduring in their influence. Both family and social influences are more likely to have an impact on high-risk youth than are schools (whose major goal in some districts is to remove high-risk youth to preserve the major educational mission of the school). All youth spend more time out of school than in it, and high-risk youth spend an even greater amount of time out of the classroom.

This paper will first discuss environmental prevention approaches and then family-focused approaches.

The Cinderella of Alcohol Abuse: Environmental Approaches to Prevention

For a number of years, specialists in the alcohol field have advocated numerous environmental and regulatory approaches to prevent alcohol-related problems. Recommended measures that have shown positive impact on alcohol use include:

- Increasing excise taxes and prices (Mosher 1982; Grossman at al. 1984);
- Regulating the content of alcoholic beverage advertising (Mosher and Wallack 1981);
- Increasing counteradvertising via industry funding (Wallack 1984);
- Increasing the accuracy of portrayals of the consequences of alcohol use in the mass media (Wallack 1984); and
- Decreasing availability by:
  - — increasing the minimum age for legal purchase (Wagenaar 1981, 1982, 1984 in press; Vingilis and DeGenova 1984; Williams and Lillis 1985);

— reducing the number of outlets selling alcoholic beverages for off-premise consumption (MacDonald and Whitehead 1983; Hooper 1983);

— eliminating alcoholic beverage sales from gas stations; and

— restricting sales at public events (Wittman 1985).

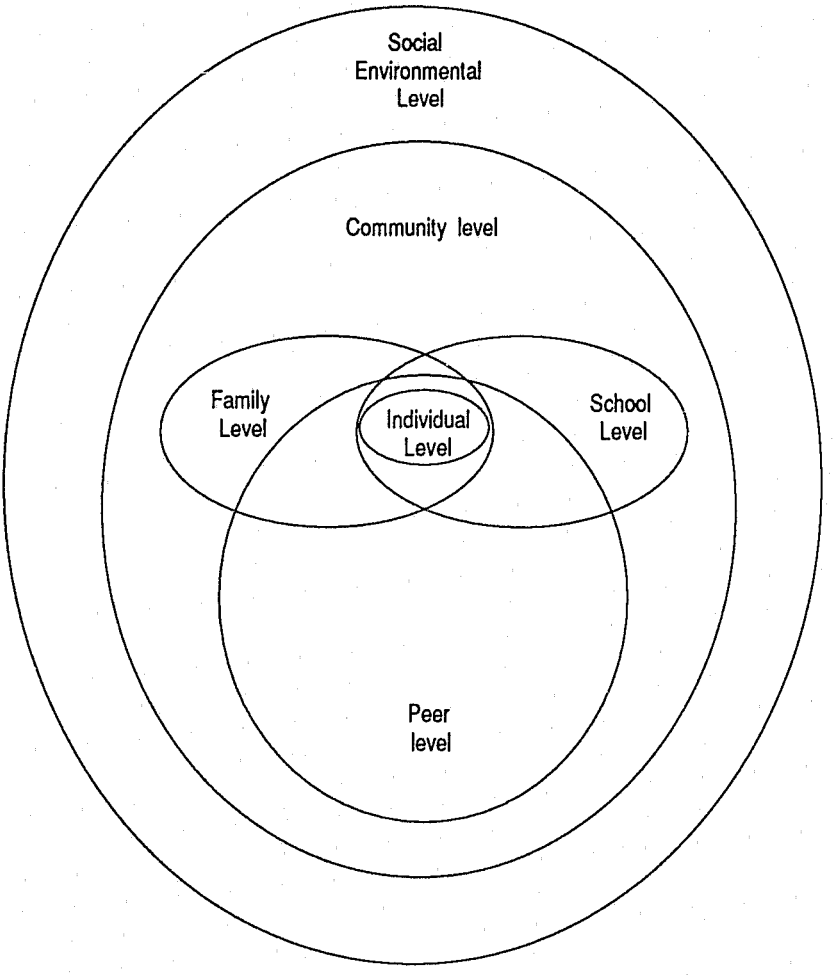

Figure 2. A Conception Model of Prevention Programming

Because many of these prevention strategies entail legislative changes in public policy, they are appropriate only for the prevention of controlled legal drugs like alcohol or prescription medications. Some approaches mainly affect supply reduction, not demand reduction. Supply-reduction methods, such as current attempts by Gorbachev in Russia or Prohibition in the United States during the 1920's, are largely a failure. Without simultaneous demand-reduction prevention efforts, attempts to reduce supply tend to promote illegal production and distribution of alcohol and other drugs and to increase public resentments with control. Because some of these environmental and regulatory approaches tend to legislate personal choice, they often face public and private resistance (Bell and Levy 1984) and raise ethical and moral questions as well (Roffman 1982).

Many environmental approaches involve little direct cost in the direct intervention. Those necessitating changes in legislation are not entirely free when the costs of legislative organizing and law enforcement are included. However, some approaches generate income that more than offsets the costs. Prevention specialists have in the last 10 years become more vigilant and vocal about requesting that State legislatures earmark funding from increased alcohol excise taxes for primary prevention programs.

Environmental Research Issues

Many of these approaches have produced positive results, though it is often difficult to determine the direct causes of the observed behavioral changes. Often a "chicken-or-egg" phenomenon occurs: it is hard to say whether changes in public opinion occurred first and facilitated the changes in public policy and concomitantly in alcohol use, or whether the public policy changes caused the changes in public opinion and decreased alcohol use.

Another problem in conducting research on environmental change approaches is that the approaches generally involve naturally occurring experiments. Researchers often do not have the lead time to submit Federal grants to do pre- and post-change evaluations of the impact of proposed regulatory bills in their State legislatures. Although such interventions are essentially free—a very cost-effective approach—the evaluations are difficult and often involve collecting comparative data on matched control states. To capitalize on these naturally occurring experiments, researchers in this field have suggested a "swat team" that operates from a pool of money set aside at the Federal level to quickly mobilize national research teams to collect data.

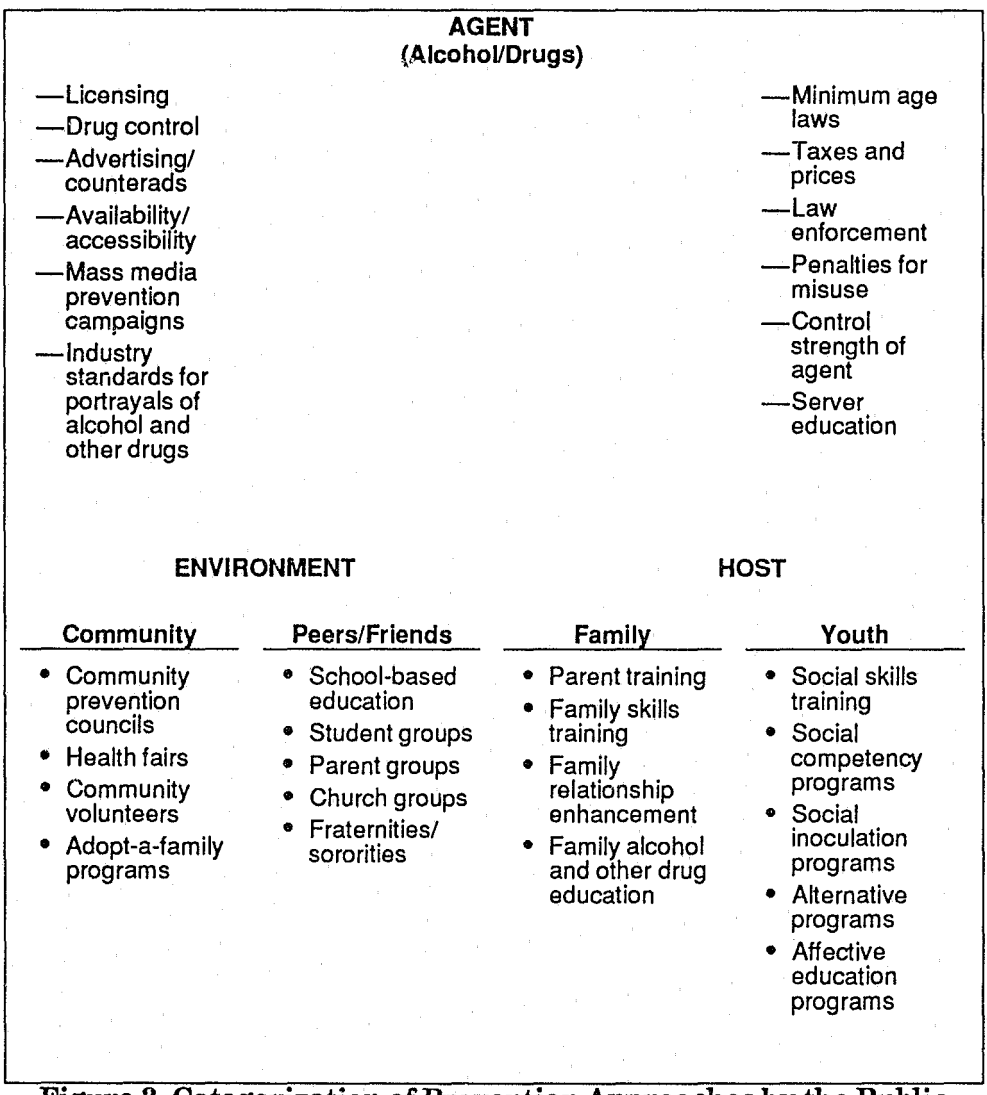

Figure 3. Categorization of Prevention Approaches by the Public Health Service Model

Public Health Service Prevention Model and Environmental Approaches

The Public Health Service (PHS) model of prevention—a triad of agent, host, and environment—provides a method for specifying the sites of influence of the different environmental approaches. Figure 3 (taken from Kumpfer) depicts the primary sites of influence for various environmental approaches. These can be

conceptualized as occurring along the agent-environment continuum or the agent-host continuum.

Placed on the agent-environment axis are (1) Approaches that attempt to influence the availability or accessibility of alcohol and other drugs (through licensing, drug control, prescriptions in triplicate, limiting sales outlets, prohibiting sales in fast food stores or gasoline stations); and (2) Attitudes and normative behaviors of society in relation to alcohol and other drugs (such as those seen in advertisements and as portrayed in the mass media (Wallack 1986)). Placed on the agent-host axis are (1) Prevention strategies that work to decrease youths' interest or motivation to use alcohol and other drugs (by increasing penalties for use of illegal drugs, drinking while driving, and underage drinking; increasing cost and taxes; increasing law enforcement); or (2) Prevention strategies that work to decrease amount consumed (by decreasing strength of alcohol or other drugs and enforcing server education and liability).

Traditional Prevention Program Approaches

Most prevention approaches, including those that the general public considers prevention, lie along the environment-host axis. The VASC Model of Substance Abuse (Kumpfer and DeMarsh 1986) situates etiological influences along this axis on a continuum: from the most distal—national, State, and local community; to the intermediate—coworkers, peers, friends, role models, and teachers; to the proximal—family of origin and the immediate family or spouse (Kumpfer and DeMarsh 1984). Chemical dependency programs can also be located along this traditional prevention axis by the primary site of influence: community, social network or school, family, or youth, as shown in figure 3.

Multicomponent Programs

Some prevention programs have multiple sites of influence. For instance, national media counteradvertising campaigns (primarily classified as a community environmental approach) could have broad influence across the entire environment/host and environment/agent continuum. Training those who serve alcoholic beverages in ways to prevent their patrons or guests from becoming impaired, or at least from driving while alcohol-impaired (Mosher 1983), can affect several points on the environment/host continuum (e.g., local lounges, taverns, and restaurants; public events, business socials, fraternities/sororities; and friends or family members who regularly use alcohol and other drugs to entertain). In addition, school-based programs that seek to involve the students' families through homework assignments and televised smoking cessation programs (Flay et al. 1982; 1983a and b) or through volunteer efforts will affect multiple sites of influence.

Environmental Risk-Reduction Strategies

Environmental prevention programs attempt either to reduce the causes of alcohol and other drug abuse or to buffer the consequences. Some prevention specialists in the alcohol field advocate removing the adverse consequences of alcohol use by creating low-risk environments through technological and social engineering. They seek better ways to decrease the approximately 100,000 deaths (Ravenholt 1984) and hundreds of thousands of injuries that occur each year due to encounters between drinkers and high-risk environments. Advocates of this approach (Wittman 1985; Moore and Gerstein 1981) point out that current prevention policy often places the onus for alcohol and other drug abuse problems solely on the individual despite scientific information clearly implicating the environment (Beauchamp 1976; Ryan 1972).

Environmental risk-reduction strategies have been quite successful in the public health field. Removal of lead from paint to protect babies from lead poisoning and control of air pollution are examples of cost-effective, risk-reduction strategies. In the alcohol field, recommended measures to mitigate alcohol-related motor vehicle crashes include (a) mandatory seat belt and airbag laws, (b) ignition starter control devices that require skills to drive safely, (c) increasing the penalties and enforcement for driving while alcohol-impaired, (d) increasing liability and education of servers (Mosher 1983), and (e) Students Against Drunk Driving (SADD) contracts for parents to drive home teenagers who have been using alcohol and other drugs. Other environmental risk-reduction policies include public intoxication legislation, which attempts to remove alcohol-impaired persons from parks and abandoned buildings and to house them in safe, supervised settings like walk-in and detoxification centers (Moore and Gerstein 1981).

The Cinderella of Drug Abuse Prevention: Family-Focused Approaches

Importance of the Family in Alcohol and Other Drug Use Prevention

Recently, prevention research specialists have shown increasing interest in the family's contribution to chemical dependency in youth. There is expanding evidence that alcohol and other drug use is a multigenerational phenomenon with substantial familial (genetic and environmental) correlates (Goodwin 1985). Coleman (1980) portrays the family as heavily implicated in the initiation, maintenance, cessation, and prevention of drug use (e.g., see Harbin and Maziar 1975; Klagsbrun and Davis 1977; Seldin 1972; Stanton 1979). Glynn (1981) argues that research has only begun to reflect the importance of the family's influence on drug use. In a review of the adolescent correlates, Young

and West (1985) conclude that the family has the greatest influence on alcohol and other drug use. Family influences were cited as correlated with alcohol use in 52 percent of the articles reviewed, 46 percent of the time in marijuana use, 80 percent of the time in illicit drug use, and in 59 percent of the studies of general drug use. Obviously, correlational studies do not prove cause and effect relationships; however, many family variables have strong, positive correlations with youthful alcohol and other drug use.

Public Policy and Advocacy for High-Risk Youth and Families

Who cares about high-risk youth? Who is the natural *political* contingency? High-risk youth generally have parents who are not active politically. Social service workers involved with these families and youth generally are not a significant political voice.

When the economic costs of alcohol and other drug use are considered (approximately $850 per capita), it does become clear that all citizens need to be concerned with high-risk youth. These youth generally do not come to the attention of social service agencies until it is too late for prevention. The major strategies for dealing with "those kids" are isolation from other kids in resource classes, expulsion from school, alternative schools, group homes, institutions, and incarceration. If the youth are using drugs, then public policy strategies involve legal sanctions and supply-reduction tactics.

Juvenile and human service agencies can do only so much for high-risk youth to compensate for the high level of parenting skills required to socialize these children. Thus, special programs for strengthening families of high-risk children are needed to address the social, cognitive, and behavioral deficits these children exhibit. Until this multigenerational cycle is broken and high-risk parents are supported in their efforts to improve their parenting and family relationship skills, the deviancy or vulnerability syndrome (Kumpfer 1987a) is likely to continue with high human, social, and economic costs to society.

Family-Focused Prevention Programs for High-Risk Children

Until recently, many people believed that nothing could be done for these multiproblem families. However, as more parenting (Kumpfer et al. 1984; Kumpfer et al. 1984; Kumpfer 1987a) and child abuse programs (Bavolek et al. 1983; Wolfe et al. 1981) have demonstrated positive results even with multiproblem families, prevention specialists have become more optimistic.

Unfortunately, most alcohol and other drug use prevention programs, including many of the standard parenting programs, have been developed for low-risk, white, middle-class youth. This has occurred despite the fact that the application of parent training and family skills training programs to other problems in children have been highly effective (Patterson et al. 1975; Miller 1975; Gordon

1970; Dinkmeyer and McKay 1976; Forehand and McMahon 1981; Guerney 1964; L'Abate 1977).

Family-focused programs that improve parenting and family management skills are promising prevention strategies for alcohol and other drug use. One reason for the effectiveness of family-strengthening programs is that parents or other caretakers can be trained to be effective change agents, and their effect will be enduring and powerful. Parent training is now considered a necessary component of any comprehensive prevention plan (Alvy 1985) that can affect a wide range of social and health problems, including child abuse and neglect (Helfer and Kempe 1976), juvenile delinquency (Fraser and Hawkins 1982), childhood mental health and behavior problems (Jenson and staff 1980), and drug use (Rose et al. 1984). A number of parenting specialists (Cohen 1982) supported the implementation of parent education courses for the prevention of drug use.

Family-focused prevention programs include such approaches as parent training, family skills training, family relationship enhancement, and family alcohol and other drug education programs, as discussed in the DeMarsh and Kumpfer article in the Ezekoye et al. (1986) book on prevention entitled *Childhood and Chemical Abuse: Prevention and Intervention.* Many of these programs for building parenting and family skills are adaptable to a wide variety of settings (e.g., community agencies, treatment and rehabilitation agencies, schools, homes, and religious institutions). Most programs were developed by mental health professionals to improve the effectiveness of their therapy with children by training parents to carry out the same therapeutic strategies in their homes. Parents are generally taught in small groups of 5 to 10, in 8 to 14 weekly sessions. The training includes such principles of effective parenting as attending, reinforcement, appropriate discipline, communication, empathy, and nurturing. Trainers use highly structured lectures and group assignments, group exercises, reading assignments, films, videotapes, and parent games to provide instruction in skills and supervised practice and homework assignments to ensure skill acquisition (Fraser et al., in press).

Phases of Family-Focused Prevention Programs

In the 1960's, parenting programs were significantly advanced by behavioral therapists and therapists working in child mental health. Nationally, clinics and programs were developing to work with children manifesting emotional, educational, and behavioral problems. Powerful cognitive behavioral technologies were successful in modifying and improving behavioral problems in children when in clinics; however, the results did not generalize to the home or school. Clinicians and researchers (Hawkins et al. 1966; Patterson et al. 1967; Wahler 1969) argued that behavioral gains would be maintained only if the parents were taught parenting skills. A number of behavioral therapists initiated the develop-

ment and evaluation of parent training programs to achieve this goal (Tighe and Elliott 1968).

The parent training field has evolved through three phases in the last 20 years. In *Phase I: The Early Child Focus* (1960–1970), the parenting programs focused primarily on changes in the child. Often, the child was considered to be the problem, and through an analysis of the child's behavior and the application of behavioral principles, the parents could act as therapists and correct the child's problems. Most parenting programs were developed for normal parents with mentally retarded or emotionally or behaviorally disturbed children.

During *Phase 2: The Mid-Period of Parent Focus* (1970–1980), the field turned the focus more on the problems of parenting in high-risk families. The parent trainers became more aware of the need for special parenting programs for parents with problems. Hence, the special needs of the parents were considered in the design of the programs along with those of the children. These high-risk parent focus programs often include more time for group process, continuing parent support groups, newsletters, psychological screening and evaluation of parenting attitudes and behaviors, increased program incentives for parents to change, as well as more sessions for parents to learn the parenting principles.

However, neither of these types of programs considered the critical integration of the whole family, which is the focus of *Phase 3: Family Focus Programs* (1980–present). These parenting programs explore the impact of the training techniques on the behavior of both parent and child and the interaction in the family. Programs that include sessions for the child only, the parents only, and the family together (i.e., the Kumpfer and DeMarsh Strengthening Families Program and the Bavolek Nurturing Program) are growing in popularity because they address all three of these realms of influence.

A number of program designers have recently tailored parenting programs for specific types of high-risk parents, such as drug abusers (Kumpfer et al. 1984); neglectful parents, abusive parents (Barth et al. 1983; Bavolek et al. 1983; Wolfe et al. 1981), inner-city minority parents (Alvy 1985; Alvy et al. 1980; Torres, A.M. 1982; Torres, I.A. 1987), low-income single parents (Dachman et al. 1984), and low SES rural parents (Wahler and Dumes 1984). Some programs are so far refined as to have marketed parent and trainer manuals, video aids, and even complete parenting programs on videotape (Golub et al. 1987).

Evaluations of Family-Focused Prevention Programs

There is little question that parenting or family relationship programs can reduce risk factors for alcohol and other drug use (namely: noncompliant, aggressive, and antisocial behaviors) and increase protective factors (social skills and academic achievement). In a 1978 review of research on the effectiveness of parent training programs, Briar and Conte (1978) reported that many

different research designs (i.e., single-subject designs, multiple baseline or reversal designs, no treatment control, placebo control, and alternative treatment control group designs) have demonstrated the effectiveness of parent training in reducing problem behaviors in children. Other evaluations of parent training programs reporting similarly positive results may be found in Einstein et al. (1971); Blum (1980); and Krasnegor (1979).

In a recent meta-analysis of parent training programs, Loeber and Stouthamer-Loeber (1986) report that numerous studies have shown that parents can be trained to modify the problem behaviors of their children. Parent training has been used to effectively reduce a number of problem behaviors in young children that are precursors of drug use and delinquent behaviors in adolescence, such as noncompliant behaviors, stealing, fighting, and disruptive behaviors at school and at home (Patterson 1974a, 1974b). Parent training can also be used to increase protective factors for delinquency, such as increased school achievement, social skills, and bonding to prosocial friends and family members.

Though parenting and family skills training programs appear to be powerful change technologies, there is little research literature evaluating the longer-term impact of these changes in risk and protective factors on ultimate alcohol and other drug use or delinquency. The author's research provides some suggestive data for an immediate impact on the older youth who were already using drugs; however, no followup data are available to support the durability of the results. Hence, though intermediate variables are clearly affected, little is known about the degree to which parenting and family strengthening programs will actually produce sustained reductions in youth drug use. This evaluation problem is due more to the lack of funding for such longitudinal followups of family-focused drug use projects than to problems with technology. It is highly likely that changes in family relations and parenting styles will have an enduring impact on youth.

Family-Focused Programs for the Prevention of Alcohol and Other Drug Use

In the late 1970's and early 1980's, specialists began considering parenting and family therapy as important for the prevention of alcohol and other drug problems, particularly for high-risk youth. In 1982, Fraser and Hawkins submitted a report called "Parent Training for Delinquency Prevention: A Review" to the Office of Juvenile Justice and Delinquency Prevention (OJJDP) supporting the use of parent training as a promising prevention strategy for high-risk youth. Earlier research had increasingly pointed the finger at poor parent/child relations and poor family management skills in parents who raise children with chronic childhood conduct disorders and subsequent delinquent and drug prob-

lem behaviors (Patterson and Dishion 1985). This research showed that children at highest risk have parents or caretakers who:

- Provide little parental supervision and monitoring for the child's behaviors and feelings;
- Do not communicate clear expectations and rules for the child's behaviors;
- Provide inconsistent, lax, or harsh discipline (Baumrind 1985);
- Provide few opportunities for parent/child interaction, communication, and bonding; and
- Provide little teaching of appropriate social skills, prosocial values, and life skills.

The research of family-focused investigators in the alcohol and other drug abuse field has found these same patterns of poor family management skills and lax parenting skills in parents with drug abuse problems (Kumpfer and DeMarsh 1985; Booz Allen and Hamilton, Inc. 1974; and Sowder and Burt 1978). Patterson's (1986) causal modeling data suggest that failure "by parents to effectively deal with garden variety, coercive behavior sets into motion coercive interactions sequences that are the basis for training in aggression." Aggressive behaviors, noncompliance with parents, and juvenile delinquency are often precursors of drug use.

Both the National Institute on Alcohol Abuse and Alcoholism (NIAAA) (1983) and the National Institute on Drug Abuse (NIDA) (Rose et al. 1984) have convened researchers (including the author), to examine the possibility of using parent training or family skills training to reduce alcohol and other drug use. However, few parenting research programs have been funded to explore the efficacy of preventing alcohol and other drug use with the use of family-focused programs. (See DeMarsh and Kumpfer (1986) for a review of these programs.) Recently, NIDA has supported several family-focused prevention programs, namely, Strengthening Families Program (DeMarsh and Kumpfer 1986; Kumpfer and DeMarsh 1986) for children of drug abusers in treatment; Alvy's Confident Parenting Program (1985) for parents of Black youth; and Szapocznik's Family Effectiveness Training (1983) for parents of high-risk Hispanic adolescents.

The Kumpfer and DeMarsh Strengthening Families Program

The author developed and tested three different types of family-oriented prevention programs—a parent training program, a children's social skills training program, and a family skills training program—to determine their effectiveness in reducing risk factors and alcohol and other drug use in children ages 6 to 12 years. Each curriculum contains 14 sessions. The complete three-

part program is called the Strengthening Families Program, when all programs are run simultaneously. The parents and children spend the first hour in their own groups and the second hour together in the family program. Transportation (as well as a meal) is provided if the agency can afford this additional expense.

Preliminary analyses of the pre- and post-test data suggest that all three programs were successful in reducing the risk factors in the children, though each program's effect depended on its intended goals. Hence, the behavioral parent training program was successful in reducing the children's problem behaviors and improving the parent's ability to discipline the children; the family skills training program improved the family relationships and some of the children's problem behaviors; and the children's social skills program improved the children's social skills. Only in the complete Strengthening Families Program, which combines all three interventions, was alcohol and other drug use actually decreased in the older children (Kumpfer 1987b). A proposed longitudinal study is needed to determine which of these changes in the long run will be most successful in preventing drug problems in the younger children. Another important finding of this research is that regardless of their dysfunctionality, most parents can be coached and assisted in developing more effective parenting styles that will affect risk factors in their children.

Family Therapy

A number of agencies are using family therapy as a prevention or early intervention strategy for high-risk children and youth. Following the discovery by Klein and her associates at the University of Utah (Klein et al. 1977) that functional family therapy had a preventive effect on delinquency in the younger siblings of delinquents, family therapy approaches became more popular as prevention strategies for delinquency. A number of family therapy approaches can be used and would need to be explored as possible ways to strengthen the families' ability to deal with the high-risk youth. Szapocznik developed culturally relevant family therapy for Hispanic families of Cuban descent. Maldanado and his associates have successfully used their family therapy model as an early intervention strategy for conduct-disordered Hispanic (Spanish and Mexican descent) first offender youth with alcohol and other drug problems (Courtney 1984; Kumpfer et al. 1985). After a national search, the National Coalition of Hispanic Health and Human Services Organizations concluded that family therapy was the most effective strategy for prevention of delinquency and drug use (Torres personal communication 1988).

Recruitment and Attrition Problems

Though considerable evidence exists that prevention programs can be enhanced through the involvement of the parents and the family, it is often difficult to recruit and maintain the involvement of the parents who often need training

the most (Bry 1983). Recruitment and attrition problems can threaten both the cost and outcome effectiveness of parenting programs (e.g., see Alegre-Jurado 1976; Stanton 1979; Stanton and Todd 1981).

Many alcohol and other drug abuse professionals have commented on these issues, including Seldin (1972) who has called it a monumentally discouraging task. Even when parent or family training programs are offered in public schools, community centers, or agencies, only a small number of parents choose to become involved.

The preceding cautionary paragraph is not intended to discourage, but to identify an area of concern so that preliminary steps may be taken to minimize the effect of recruitment problems and high attrition rates. Stanton and Todd (1981), for instance, identify nine areas to consider and suggest some recruitment principles for each. Other suggestions to minimize recruitment and attrition problems—many of which target fathers—may be found in Alegre-Jurado (1976), Berg and Roseblum (1977), Davis (1977–78), Sager et al. (1968), and Vaglum (1973). Selecting a time when most parents are free of job or other family responsibilities or offering alternate times for sessions and free child care increases participation rates.

Need for Family-Focused Programs for High-Risk Youth and Families

Interest in family-focused programs for the prevention of alcohol and other drug use has increased with the new Anti-Drug Abuse Act of 1986. The Office for Substance Abuse Prevention (OSAP) has funded a number of programs that have multiple prevention components, including family programs. The author is currently involved in one of these via an adaption and evaluation of her Strengthening Families Program with poor, rural Black families in Alabama.

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) is specifically charged in the legislation with alcohol and other drug use prevention for high-risk youth and families. Based on the increasing knowledge that many problem behaviors in youth could be prevented with improved parenting skills, OJJDP has funded a special cooperative agreement with the author to develop and disseminate several model family strengthening programs. This project will involve a national search for the best parenting and family programs for the prevention of delinquency. The project will help to disseminate information through a monograph on promising programs, papers, and onsite training data in several areas of the country.

Conclusion

Theoretically based models and clinically based reports argue for the inclusion of family units in prevention activities designed to assist young, high-risk populations from developing delinquent and alcohol and other drug use behaviors. Unfortunately, there are few longitudinal outcome evaluation studies of family-focused prevention programs to confirm these arguments.

However, the author believes that the current lack of supporting data is indicative of the current state of prevention research and not a trait of family-oriented prevention programs. Given: (1) the growing consensus that antisocial behavior and drug dependency is a "family affair," (2) the positive outcome effectiveness of family-oriented treatment for psychotherapy in general and alcohol and other drug use in particular, (3) disappointing outcomes of other prevention or early intervention programs, and (4) the large number of identified high-risk precursors addressed by these family programs, family-oriented prevention efforts appear to hold great potential for decreasing the high rates of adolescent delinquency and drug problems in this country. When targeting early childhood for prevention efforts, the importance of enlisting the family's help in decreasing risk factors becomes even more apparent, since the family is the major socialization agent for children.

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CHAPTER 6

Public Policy Prevention Programs

Speakers for this section explored alcohol policy issues, such as under-21 law enforcement; drinking-driving prevention models; warning labels, advertising, consumption/taxation/availability; and research findings and applications. They also covered cultural and social policy norms that are in conflict with States' policies and laws and prevention programming for high-risk youth.

In addition, speakers described the characteristics of a chemically dependent family: high stress and chaos; high levels of social isolation and inadequate social networks for support; low family cohesion; high emotional neglect; high family conflict; low family management skills; few family rituals; little community and religious involvement; little respect for tradition; high development expectations; lax, harsh, or inconsistent discipline; abdication of parental responsibility; and many family secrets. These factors, they pointed out, impact on children of alcoholics through fewer friends, loneliness, lack of social skills, poor parent/child relationships, difficulty expressing feelings, problems in relationships, low self-concept, fear of abandonment, and poor conflict resolution skills. Speakers also reviewed family-focused prevention (including parent training, family skills training, family therapy, and family self-help groups), as well as multiple-component prevention and environmental approaches.

One speaker discussed the topic "Learning from Prevention Policy: A Management-Focused Approach." Other speakers reviewed these subjects: the current ability to derive useful lessons from past policy efforts; mechanism for improving our ability to learn from immediate program activities; major barriers to effective development of policy lessons through evaluation research, communication and dissemination, the policy process, and program implementation.

Finally, they discussed two views of the purpose of evaluation (management focus and research focus).

The Drinking and Driving Problem: A Health-Promotion Perspective

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It is, indeed, an honor and pleasure to be addressing you. In the next 20 minutes, I will share with you the opinions of someone who has been involved in research, program implementation, and the politics of drinking and driving prevention efforts for the past 10 years. There are two schools of thought when you are an unknown speaker addressing a powerful national group like this one. The advice most associated with longevity is to find out what the audience wants to hear and tell them. I have always found the other school of advice more appealing: "Be honest and give the audience the best advice you can." I plan to be honest with you and to give you my best advice, even though I am reminded that Socrates was known as an honest man who always gave the Greeks his best advice, and they poisoned him.

I would like to begin by talking about the problem. It has been my experience that many people, including well-intentioned health prevention specialists, are so eager to apply the strategies of their discipline that they often forget one important step: *taking the necessary time to study the problem*. I am convinced that this has been the case in the drinking and driving prevention field.

It is healthy for prevention people to become intrigued and fascinated by the problem, whatever it is, before they allow themselves to rush into premature solutions. When is a problem really a problem? Is it a problem when all the people view it as a problem or just all the really smart people who happen to agree with you? Can a problem be serious if nice people, and even some of your friends, have the problem? Drinking and driving falls into this fuzzy zone, implying that it is not a *really* bad activity as long as you do not do it too much or too vigorously and, of course, you do not get caught.

Drinking and driving is a lot like cheating on your taxes. Many people engage in both activities, yet real public outrage usually occurs only after a serious accident happens, or a major tax cheat is discovered.

My point is that our society is wishy-washy about drinking and driving and unsure that it truly wants to prevent that from occurring. Consequently, we try to discourage the behavior with soft messages such as "do not drink and drive." How effective can this message be if I associate it with other soft messages such as "do not litter," "do not speed," "do not be egocentric," "do not begin your day

without a good breakfast"? After all, many of us are observers and participants in the violation of these health-oriented messages on almost a daily basis.

I am convinced that if you are not really sure what the problem is and how you want people to behave, you suggest that you do not want them to do something. Our campaigns of "do not overeat," "do not abuse alcohol," and "do not abuse drugs" are not working well for the millions of people who are obese, alcoholic, or dependent on other drugs. I would like to suggest that we initiate a prevention campaign here this weekend to prevent the use of the words "do not" by health prevention professionals.

I am spending a lot of time discussing the problem because our lack of attention to it, or of studying and understanding it, is most problematic to me. If you want people to change something, then you must tell them exactly what it is that needs changing. Do we want social drinkers to stop drinking and driving? If we do, then why do many anti-drinking-driver campaigns distribute manual drink/drive calculators? If you do not want me to do something, then why are you giving me a little calculator to figure out how to do it safely? Or do we really want to prevent alcoholics from drinking and driving? Now I know if you hand a drink/drive calculator to an alcoholic, he will smile. He is really happy. Thanks to you, he now has a little calculator to help control his drinking.

Prevention programs present problems when they do not have a concise definition and quantified description of the problem or problems they are trying to prevent. The problem the anti-drinking-driving movement is trying to prevent is not drinking and driving. It is too difficult to measure accurately the extent of drinking and driving behavior, and we also have to be realistic in recognizing that too many people do it. However, we are pretty good at measuring how many alcohol-related crashes occur each year. Not only can we measure the number of alcohol-related crashes in most States, but we also have the technology to gather age and blood alcohol concentration data on those individuals involved in serious crashes. Therefore, it would appear that a more realistic approach would be to address the problem we can define and measure. Based on this reasoning, I suggest that prevention strategies should be developed and evaluated on their ability to reduce alcohol-related crashes.

Automobile crashes are caused by people driving while impaired by alcohol. Yet most of the prevention effort to date has been focused on arresting alcohol-impaired drivers rather than arresting people for abuse and dependence on alcohol.

Alcohol-related fatalities are again on the rise. This reversal in the trend regarding alcohol-related traffic fatalities has many people concerned. After all, considerable energy and money have been devoted to support the arrest and prosecution of alcohol-impaired drivers. This approach focuses on the symptom rather than the cause of the problem.

Those individuals who believe driving while impaired by alcohol is the real problem rather than a symptom of the problem will usually support these initiatives:

- get-tough, anti-drinking-driving laws;
- additional personnel to increase and streamline arrest and conviction procedures; and
- increased fines and more severe sentences.

For the most part, we have followed this course of action and consequently have become a society that is very good at arresting, prosecuting, and criminalizing alcohol-impaired drivers. As a Nation, we are approaching 2 million convictions annually, making this the number one prosecuted crime in our society. Yet, with this rather aggressive criminal justice approach, alcohol-related crashes remain a serious and unchecked problem.

Perhaps our strategies would have been quite different if our national prevention campaign were focused on reducing the problems associated with the alcohol-related crash. I suspect that the first things we would want to know are: Who is involved, or overinvolved, in an alcohol-related crash, and what is the problem?

Research would indicate that two populations are dramatically overinvolved. The first group includes 18-, 19-, and 20-year-old males whose involvement in alcohol-related crashes exceeds the rest of the driving population by a factor in excess of 3 to 1. It was this research in States such as New York that proved helpful in winning over advocates to support legislation setting 21 as the legal purchase age.

The second group that is dramatically overrepresented is persons with alarmingly high blood-alcohol concentrations. Their blood-alcohol concentrations are so high as to suggest that many of these individuals are alcoholic. The correlation between high blood alcohol concentrations and fatal crashes is not new. The National Highway Traffic Safety Administration (NHTSA) in the late 1970's reported on research that concluded that approximately two-thirds of alcohol-related fatal crashes involved problem drinkers.

NHTSA further suggested that in a typical jurisdiction, about two-thirds of the persons arrested for driving while intoxicated were identified either clearly or marginally as problem drinkers. It appears that alcohol-related crashes are caused predominantly by alcoholics who drive, with the remaining one-third caused by young males and the social drinkers. So what do we do if we think we know what the problem is and who is causing most of it?

Our history indicates that arresting, convicting, and jailing alcohol-impaired people has not been an effective way to treat alcoholism. Perhaps until we find a way to prevent intoxication and alcoholism we will need to concentrate on ways to prevent alcohol-impaired individuals from becoming involved in alcohol-related crashes.

One approach is to promote a prophylactic device that prevents the alcohol-impaired person from operating the motor vehicle. This is not a far-fetched idea; there is increasing interest in exploring the use of ignition interlock systems. Unfortunately, most of the interest is focused on managing the repeat offender rather than exploring the prevention potential of the technology.

Another choice we have is to change the way we do business. Rather than being content with the criminalization of alcohol-impaired driving, it would be more humane and surely more cost effective to identify and treat all the alcoholics arrested. Unfortunately, the mentality has been that alcohol-impaired driving is bad, and so such drivers must be bad people. Consequently, the emphasis has been on the prosecution and punishment of these bad people. Alcoholism treatment services are often looked upon as an afterthought or luxury that we cannot afford to support at this time because we are too busy combating the problem—or should I say the symptoms.

I do not want to leave you with the impression that alcoholism treatment would solve the alcohol-related crash problem. It would not. Even if all individuals who were arrested for this were successfully treated, the alcohol-crash problem would not be dramatically changed in the following year. The reason is that our enforcement system can detect only a very small percentage of the at-risk population drinking and driving on our highways. In New York State, we arrest only one-half of 1 percent of the licensed driving population each year.

However, if we successfully treated all alcoholics arrested for driving while impaired, we theoretically could substantially reduce enforcement, prosecution, probation, and jail costs. In New York State, 28 percent of the arrested and convicted alcohol-impaired driving population comprises individuals who have been convicted for the same charge within the past 10 years. Most of these people were neither identified nor appropriately treated for their alcoholism problem following their first and in some cases second arrest. One reason for the severity of this problem in New York State is that there is no mandatory screening and rehabilitation requirement for first-time offenders.

I would like to focus the remainder of my presentation on health promotion and wellness concepts as they relate to our prevention effort. Obviously, the criteria one uses to measure a prevention program are of utmost importance. If the alcohol-related crash is used as the sole criterion, one might suggest that the national prevention campaign has produced questionable results.

An optimist may stress that we have made great strides in changing the drinking and driving behavior of social drinkers. My reaction would be, "That is great, but social drinkers were not and are not causing most of the alcohol-related destruction on our highways."

The prevention specialist, who is more often an optimist than a skeptic, may comment about the drinking-driving prevention effort as follows: "Who knows how bad the problem would be if we did not have this prevention effort?" I do not believe this statement serves to help the prevention profession; and I do not believe this thinking is going to sell in the 1990's.

So what could account for the questionable and, at best, limited success with the national drinking and driving prevention program? Perhaps we are doing all the right things but we just are not trying hard enough. Here the principle is, "I have got to work harder rather than smarter." Another common justification for less-than-desirable results is the comment that maybe we are not spending enough money. Perhaps a more enlightened viewpoint would be to realize that some prevention programs do not work because financially it is not realistic to want to solve the problem. The financial repercussions of a totally successful drinking-driver prevention program would prove catastrophic to the tavern and auto body repair industries. Other businesses surely affected by a successful drinking and driving prevention campaign would be the auto industry, alcohol beverage industry, legal profession, and those who construct new jails.

And, of course, we have to keep in mind that maybe some prevention programs fail because we really do not understand the nature of the problem, thus leading to confusion regarding what exactly we are trying to prevent.

I am reminded of a history lesson that is certainly appropriate here. I am told the French Government spent approximately $500 million trying to build the Panama Canal and failed. The reason given for the failure was cited as the malaria problem. The U.S. Government spent $400 million and built the Panama Canal. Thanks to researchers, the people responsible for building the canal were told that the problem was not malaria but rather mosquitoes. The canal builders solved the mosquito problem, which, in turn, took care of the malaria problem, which resulted in a successful canal project.

Another important aspect of this story is that policymakers and program people had the wisdom to consult and listen to the researchers. Unfortunately, because the prevention field has been neglected (or at best treated like the unwanted child) for far too many years, too much energy goes into promoting strategies for problems that are neither clearly defined nor understood.

It is important for the prevention profession to realize that our training and professional affiliations influence our perceptions of problems. The alcohol-

impaired driving problem can be viewed quite differently by different professions. The educator wants more money so he can teach more people about the hazards of drinking and driving. Transportation officials may stress that the real problem is the need to develop a safer car or more forgiving highways. The criminal justice advocate would focus on personnel needs, stressing that more police officers, district attorneys, probation officers, and jail personnel are needed to bring the problem under control. The legislator is eager to pass tough laws and usually pleases the criminal justice people by appropriating more money for enforcement and prosecution efforts. The tavern owners see this as a direct threat to their livelihood.

Unfortunately, alcohol and other drug abuse professionals have been reacting to the national drinking-driving prevention campaign rather than taking a proactive role. The demands for more treatment services have been so great that many alcohol and other drug abuse professionals have been content to let other disciplines take the lead.

I feel very strongly that before we can expect to make progress in preventing the alcohol-related crash, we must first realize that we are dealing with a major public health problem. The alcohol-related crash need not be a criminal justice issue, although we have successfully made alcohol-impaired driving a major criminal justice problem. Likewise, I contend that we will continue to be confused if we think of alcohol-impaired driving as a transportation problem and proceed to correct the problem in the same manner we attempt to reduce speeding on our highways. I am not convinced that the majority of people who speed are sick, yet I am convinced that the majority of drinking drivers are in the early, middle, or late stages of alcoholism. We have to realize that alcohol-impaired driving is predominantly caused by a disease, and it would make sense to look to the health profession for solutions.

So how can health-promotion and wellness concepts help us prevent the destruction associated with drinking and driving? Whenever I think of health promotion, I think of the five dimensions of the person. These are the physical, social, intellectual, emotional, and ethical/spiritual person. Our goal in health promotion is to help individuals be all that they can become in each of the five dimensions.

What can be done to help the physical dimension advance toward optimum health and at the same time prevent and/or substantially reduce a person's chances of being an alcohol-impaired driver? First, we need to recognize that not everyone is at equal risk. You are at no risk of being such a driver if you do not drink and never drive. Your risks are minimal if you never exceed two measured drinks preceding a driving event. Your risks are considerable if you are dependent on both alcohol and your own transportation for entertainment.

We can develop a wellness scale (see figure 1) to plan and evaluate our progress. This scale forces us to define acceptable and unacceptable behaviors.

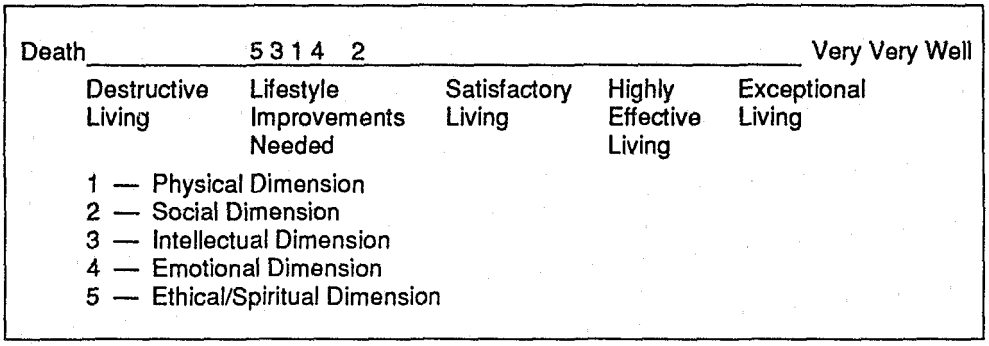

Figure 1. The Wellness Scale

The wellness scale can be divided into five major segments. To the extreme left, there is destructive living; and advancing to the right there is lifestyle improvements needed; next, satisfactory living; then highly effective living; and last, exceptional living. Few of us reach this exceptional living region; those who do fluctuate back and forth between highly effective and exceptional living, depending on what books we read and the research findings currently in vogue.

The wellness scale does carry with it some responsibilities. To help people locate their various dimensions on the wellness scale, we need to provide them with accurate information defining what is high-, low-, and no-risk behavior. For the most part, we have not provided accurate information to people concerning what is unacceptable, satisfactory, and exceptional health behavior with respect to drinking and driving. Perhaps we have not done this because the alcoholic beverage, hospitality, and advertising industries are more powerful than we care to admit; perhaps we have not done so because there has been no clear conceptual model.

I do not believe we have accomplished much to improve the physical dimension of humans with regard to drinking and driving behavior. In a sense, we are like the education system in that we seem to be doing the best job with those who need our services the least. The social drinkers are apparently receiving the anti-drinking-driving messages, but unfortunately the high-risk populations have not gotten them. Obviously, my rating is subjective, but I would have to place our progress with the physical dimension in the lifestyle improvements needed region.

My sense is that the social dimension has probably been most improved by our drinking and driving prevention efforts. Far fewer hosts and party goers are as tolerant or as entertained by the alcohol-impaired guest. Certainly, many

taverns and restaurants have substantially changed the way they do business with regard to the overimbibing patron. In many communities, "drink and drown night" and other questionable promotion schemes are becoming events of the past. My rating for the social dimension would be satisfactory. Please keep in mind that my rating is not as important as the fact that I am forcing myself with this process to define acceptable and unacceptable behavior and, based on these definitions, locate this behavior on a measurement scale.

Advancements in the intellectual and emotional dimensions with regard to drinking and driving have been limited at best. Our intellectual approach is clouded with emotion and our emotions run high, especially when the alcohol-related driving is destructive. Many people still equate the "do not-drink-and-drive" message with messages such as "do not speed" or maybe more precisely "do not get caught." Some people feel good about all the attention alcohol-impaired driving is receiving while others feel helpless and frustrated.

If you happen to be one of the 1.5 million drinking drivers arrested last year, you probably do not feel very good about the event. You do not feel good that you may have hurt or killed someone. If you were lucky and there was no accident involved, you do not feel good that you got caught, and you are not eager to add a criminal record to your resume. If you live in a State that does not require mandatory alcoholism screening and treatment for needy first-time offenders, chances are very good that you will receive no treatment for your alcoholism, and that you stand a 100-times greater chance of being rearrested for the same crime. The second and third arrests certainly do not help the yet-untreated alcoholic's state of mental health. The public's perception is often that we now have the really bad guy who has been arrested two or three times over the past 10 years. To compound his alcoholism problem, which incidentally was most likely diagnosable at his first arrest, we now have an individual who is a convicted felon in many States. I would like to go out on the limb here and suggest that the emotional dimension is in need of improvement.

Most people are aware that alcohol-impaired driving is not as acceptable as it was in the 1960's and 1970's, but it still baffles me that most attorneys and judges and highway safety officials in control of the drinking-driving money are not convinced that most of these drivers are sick people. An average blood alcohol concentration of 0.17 percent is not indicative of normal drinking; and it does not represent the behavior of bad people. Rather, it represents people who are dependent on both alcohol and motor vehicles.

I am suggesting that we need to rethink our prosecution strategies to include mandatory alcoholism screening and treatment, in conjunction with the other criminal justice sanctions. I firmly believe that we must hold people accountable for their crimes; however, we have an obligation not to compound the crime by ignoring the existence of health problems.

I am not overly impressed with our intellectual approach to the problem. The NHTSA was involved in some exciting research in the mid-1970's. I hope we have not institutionalized our prevention approach to the point where new research and new ideas have become threatening to the institutions. I am not aware of many States that have organized task forces to analyze their progress to date and to perhaps reevaluate some of their strategies. Even though the alcohol-related crash fatalities appear to be on the increase, my sense is that most States will continue to approach the problem by using the same strategies that have been in place for the past few years. Based on my rather biased assessment, I would have to rate our intellectual approach as less than satisfactory on the wellness scale.

I also feel that we have failed to take into consideration the ethical/spiritual dimension when addressing the problem. What we do best is to arrest and prosecute individuals. We have put so much emphasis on these two activities that in most localities such an arrest and prosecution border on a science. From an ethical/spiritual perspective, I feel the anti-drinking-driving campaign has resulted in a great disservice to many alcoholics. Unfortunately, we have been so busy criminalizing this behavior that we forgot to screen and treat the alcoholics involved in the problem. Consequently, many county jails and probation departments are already overwhelmed with demands for more space and services for multiple offenders. The criminal justice approach is a costly strategy to prevent public intoxication. From this approach, we learn that if you do not provide alcoholism treatment in the jail, and when the person returns to the community, the problem will not go away; it is just halted for as long as we can afford to keep the individual in jail. I believe we need to reevaluate how ethical our emphasis on criminalization has been.

Learning from Prevention Policy: A Management-Focused Approach

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It is increasingly evident that proactive prevention programs must augment traditional treatment and rehabilitation if the devastating personal, social, and economic effects of alcohol and other drug abuse are to be reduced. Growing public concern and recent public commitments, such as the Anti-Drug Abuse Act of 1986, have provided an opportunity to develop and improve publicly supported prevention policies and programs. In an area of new and necessarily innovative policy such as prevention, devising mechanisms for identifying and disseminating promising policy approaches can play a crucial role.

The following discussion (1) addresses the current ability to derive useful lessons from past policy efforts and (2) suggests a mechanism for improving our capability to learn from immediate program activities. More specifically, the following section assesses evaluation research as the conventional mechanism for policy feedback. Four major barriers to the effective development of policy lessons through evaluation research are identified. A subsequent section proposes "management-focused" evaluation as an alternative model for using research to improve prevention programs (Springer and Phillips, in press). The final section provides an example of the application of management-focused evaluation methodology. The example is based on a project sponsored by the Office for Substance Abuse Prevention (OSAP) and administered through the California Department of Alcohol and Drug Programs.

Prevention Evaluation: Promise and Performance

Learning from past experience requires a method for determining the effectiveness of past policy efforts and for identifying the implications of past performance for future actions. Program evaluation has been developed as a field of applied research that is intended to help provide this learning capability. With regard to alcohol and other drug abuse prevention programs, French and Kaufman (1981) are optimistic about the ability of evaluation to advance knowledge and its application:

> The benefits of evaluation are becoming increasingly apparent. Evaluation can suggest areas for program improvement and provide a rational basis for allocating limited resources. It can develop a sound body of prevention knowledge concerning theory, modality, and technique, and ways of pinpointing target populations.

While enthusiastic advocates have high hopes, the concrete results of evaluation for prevention policy are difficult to cite. "A substantial amount of evaluation of drug abuse prevention efforts has been accomplished, but the impacts of these studies on prevention strategies and program activities are not readily identifiable" (Springer and Phillips, in press). Prevention evaluation has not fulfilled its potential for reasons related to (1) evaluation methodology, (2) communication of findings and recommendations, (3) the processes of making policy, and (4) the implementation of prevention policies.

Barriers Related to Research Design

Evaluating the effects of policy efforts is at best a difficult undertaking. Isolating changes in behavior or social conditions that can be attributed to policy initiatives rather than to other causes is a demanding research endeavor. When the intent is to *prevent* behavior that has not yet occurred, the research problem is made even more difficult. Problems of adequate research design constitute one serious obstacle to developing a solid base of generalizable knowledge that grows from evaluations of past prevention efforts.

More specifically, reviews of the prevention evaluation literature have found three major areas of deficiency:

Measurement. The first area of deficiency follows from the difficulty of directly measuring the major objective of prevention programming—the prevention of behavior that would have occurred without the policy effort. Without expensive, long-term, carefully controlled studies, this dependent variable is simply unobservable. As a result, most studies "stop short of measuring behavior outcomes, and rely on indicators of knowledge or drug-related attitudes" (Springer and Phillips, in press). The result is a lack of agreement on dependent variables—the objectives of program activity. As noted by Kinder et al. (1980), "The literature contains about as many measures as there are studies."

Data Sources. Schaps et al. (1981) reviewed 127 evaluations of drug abuse prevention programs and found that 95 percent of these studies relied on paper-and-pencil questionnaire responses for their source of data. Only 15 percent utilized more than a single data source. The heavy reliance on questionnaires makes much of the prevention evaluation literature vulnerable to the biases and distortions that can accompany "obtrusive" measurement—the fact that respondents may misrepresent their real beliefs and/or behaviors to protect themselves or their image. This can be a particular problem when investigating areas such as alcohol and other drug abuse or intentions regarding these.

Experimental Design. Methodological discussions of evaluation research typically stress the importance of adequate experimental (or quasi-experimental) design for determining program effectiveness. However, a minority (31 percent of the studies reviewed by Schaps et al. 1981) utilized random assign-

ment to control groups. Furthermore, ethical objections can be made to the assignment of potential program participants to control groups where they are deprived of services that may help them avoid the personal devastation of alcohol and other drug abuse. Even if adequate experimental design were achieved, it would not overcome the problems in measuring future behavior. In sum, though lack of adequate experimental design has been cited as a major deficiency in the evaluation of prevention programs, a case could be made that the effort and cost of experimental design often do not justify the return—either ethically or technically.

One consequence of the complex research challenge posed by the evaluation of prevention programs is that few widely recognized, generalizable policy lessons have emerged from the literature. A second is that much of the literature is dismissed as inconclusive because of inadequate research designs.

Advocates of evaluation who find the literature wanting usually urge practitioners and funding agencies to reorient themselves to more rigorous, large-scale, and expensive evaluation projects. The approach recommended in this paper is different. A certain portion of evaluation effort certainly is appropriately allocated to rigorous analysis oriented to broadly generalizable findings; however, this is not the only model for learning through evaluation. Later sections of this paper offer an alternative, or complementary, evaluation methodology that is oriented toward quick, management-focused results.

Barriers Related to Communication and Dissemination

If evaluation research is to produce knowledge that has widespread impacts on prevention policy, that knowledge must be communicated to relevant decisionmakers in a form that makes the results applicable for their purposes. While recent years have brought much greater attention to disseminating knowledge through technical assistance, the communications network for publicizing policy-relevant information remains inadequate.

The communication problem is twofold. First, effective communication means effective preparation of the message. Research findings are primarily reported in journals and other largely academic forums. The emphasis on the message tends to be technical and abstract; policy implications are not typically emphasized.

Second, there is not a well-developed network of communication that makes potentially policy-relevant information available to practitioners on the local level—few of whom have the time or inclination to regularly review journals and synthesize the diverse information within them. In sum, communication and dissemination of current research efforts are deficient on two counts: in the preparation of the message and in its transmission.

Barriers Related to the Policy Process

Producing policy lessons from research presumes that decisions are made based upon knowledge and information about what works, what may be effective. This is an overly simplified view of the realities of policy and program decisions. Many pressures and influences motivate, or require, decisions that are not grounded in a base of knowledge concerning effectiveness. The following example highlights the point.

Several States and localities (e.g., California, Oregon, New York, Florida, Cincinnati) have recently implemented, or are in the process of implementing, pilot programs for utilizing "in-vehicle alcohol testers" (IVATs) as a condition of probation in driving while intoxicated convictions. The ostensible objective of these programs is to prevent future alcohol-impaired driving incidents through installation of a device that requires the driver to take an alcohol breath test without which the car cannot be started. A blood alcohol content (BAC) over a calibrated level will prevent the driver from starting the engine.

Several private corporations have developed IVAT units and are working cooperatively with local jurisdictions to establish procedures for renting or selling, installing, and maintaining the units for probationers.

IVATs represent a classic case in which policy decisions and program implementation precede the development of knowledge concerning policy effectiveness. The IVAT technology is brand new and still evolving. Its use has been motivated by escalating concern that something be done about drinking and driving and the necessity of utilizing alternatives to incarceration. The lack of knowledge concerning effectiveness of the units is manifest in the variety of policies adopted for their use.

In some jurisdictions, the use of IVATs has been targeted exclusively for multiple offenders or offenders with very high BAC levels. Use of the device only for these probable problem drinkers implies that its major utility is that it will prevent them from driving when they are intoxicated. Detractors of this policy argue that the devices can be circumvented, and these are precisely the people who will do that.

In other jurisdictions, the devices are reserved for first-time offenders or offenders with low BAC levels. This contradictory policy is based on the implicit theory that IVATs will serve as a reminder and aid in developing responsible drinking behavior.

The point is that IVAT policies are being widely adopted with little or no knowledge of their effects. Frequently, policy decisions are driven by public demands, need, technical advance, or other opportunities, not by any knowledge of how effective the policy will be. In these instances, the development of

generalizable evaluation knowledge is a long-term undertaking. Quick feedback for policy refinement requires other strategies.

Barriers Related to Program Implementation

"Effective programs depend upon skillful implementation of planned activities" (Springer and Phillips, in press). In the highly decentralized delivery system that typifies prevention programs, uniform and effective implementation is difficult to achieve. When we attempt to assess the outcome of policies that have not been effectively implemented, we run the risk of drawing conclusions about policies that literally were never put in place.

The literature on prevention evaluation supports the importance of proper implementation for program effectiveness and the prevalence of poor implementation as an explanation of failure. In a study of educational prevention programs, Schaps et al. (1982) conclude:

> Among the many plausible explanations for...failure...the one which must be considered first is the likelihood of an "implementation failure," that is, an improperly implemented program.

Other studies have demonstrated the crucial importance of the processes of program implementation for program effects (Williams et al. 1985; Matthews 1975; Smith 1973). If evaluations are to provide information relevant to improving prevention policies and programs, the quality of implementation activities cannot be ignored.

In sum, effective evaluation must be able to overcome a number of barriers to the production of information that is relevant and useful for program improvement. These barriers relate to the methodological difficulties in evaluating prevention policies, the inadequacy of communication between researchers and local decisionmakers, the multiple influences (other than knowledge of effectiveness) on policy decisions, and the importance of effective implementation. The following section describes an approach to evaluation that has the potential to surmount these barriers.

Management-Focused Evaluation: An Alternative Approach to Policy Lessons

Advocates of the usefulness of evaluation foresee a broad range of benefits—from an improved foundation of prevention theory to providing concrete information suitable for management decisions. While specific evaluation studies may be designed to achieve some portion of these potential benefits, no single evaluation study can achieve the full range. Current evaluation practice needs to be augmented by an approach that can (1) maximize information useful to local practitioners in planning, implementing, and developing effective

programs for meeting local needs and objectives and (2) provide appropriate resources and skills for the State and local organizations. Evaluation activities that meet these requirements cannot produce the full range of potential evaluation benefits, nor can they redress all of the deficiencies of past evaluation studies. The following discussion provides a framework for identifying an appropriate course of action by distinguishing between "research-focused" and "management-focused" approaches to evaluation.

Criteria for Successful Evaluation: Alternative Views

Evaluation is expected to improve functions that are essentially managerial (e.g., program improvement and rational allocation of resources) and to build a sound body of research-based prevention knowledge (e.g., confirmed knowledge about theory, modality, and technique). However, each of these areas requires a distinct research approach.

Table 1 summarizes some of the major characteristics of "management-focused" and "research-focused" evaluations.

Table 1. Purposes Of Evaluation: Alternative Views

Management-Focused	Research-Focused
• Decision-oriented	• Theory-oriented
• Process-oriented	• Outcome-oriented
• Utility criteria	• Technical criteria
• Short-/medium-term	• Long-term
• Recognizes resource limits/tradeoffs	• Assumes resource adequacy
• Evaluator/management team	• Evaluators aloof/objective

Research-Focused Evaluation

Research-focused evaluation includes studies that "seek to determine the effectiveness of program models and test theories of prevention...; [it] tends to focus primarily on the potential effects of new policies or programs" (Moberg 1984). Research-focused evaluation has the objective of examining program efforts to determine whether they produce desired results, to identify the reasons for success or failure, and to develop a body of theoretical understanding that can guide future program development in drug abuse prevention.

The predominant characteristics of this perspective on evaluation reflect this emphasis. There is a greater concern with adequately measuring outcomes and impacts, since program effectiveness is the ultimate dependent variable in theory development. The criteria for determining whether an evaluation is successful are primarily technical: Is the study design technically adequate to render a valid judgment about the causal links between exposure to the program and impacts on behavior?

From the research-focused perspective, time and resource constraints are not incorporated as fully into evaluation design or management as they are in the management-focused approach. Good theoretical knowledge takes a long time to build, and adequate experimental design requires significant expenditures of research dollars. These are simply the inevitable costs of developing sound, general knowledge. Designing evaluations primarily to produce generalizable knowledge also requires that the evaluator exercise significant control over the design of program operations (e.g., the experimental manipulation of treatment modalities). The requirements of adhering to a design also limit the extent to which evaluation information can be used to modify the program midstream (because this would alter the experimental treatment).

Because of the concern for generalizable policy findings, research-focused evaluation is not responsive to the idiosyncratic problems of a particular program or a particular program setting; evaluators are relatively removed from the day-to-day concerns of program managers.

While research-focused evaluation has an important role in prevention policy development, it entails all of the barriers to providing relevant policy lessons that were identified in the preceding section of this discussion. Furthermore, a local or State agency's responsibilities and resources limit its ability to directly and aggressively pursue achieving the criteria and implementing the procedures necessary to this approach. Research-focused prevention evaluation requires several conditions that are not compatible with the role of State or local agencies.

In any case, systematically building this knowledge base is a long-term research endeavor, one ill-suited to the more immediate responsibilities of service delivery. In sum, research-focused evaluation is an inappropriate model for producing reasonable timely input that program decisionmakers can use.

Management-Focused Evaluation

Management-focused evaluation "seeks to generate information which is useful to ongoing program planning, development, and administration...; [it] describes program accomplishments, processes, and problems" (Moberg 1984). This type of evaluation is intended to serve as a management tool for practitioners. Simply stated, evaluation as a management tool is expected to aid

managers in setting clear and achievable objectives, assessing whether planned activities actually take place, and gaining feedback on whether expected results were achieved.

Some of the associated characteristics of management-focused evaluation are listed in the first column of table 1. Evaluation activity is assumed to take place within the context of specific programs, and therefore to provide information for specific decisions that must be made with respect to that program. The evaluator is seen primarily as providing information useful for the ongoing process of program implementation. This orientation means that evaluations will emphasize process questions, and that the criteria of success will emphasize whether the study produces information that managers can use. This useful information must be relevant to questions that lie within the responsibility and authority of the decisionmakers.

Management-focused evaluations recognize the public manager's time and source constraints. The information they provide is meant to yield continuous feedback so that it may be incorporated into daily decisions. It is also recognized that evaluation dollars compete with program dollars, and that evaluation efforts must reflect an expenditure commensurate with total program resources.

Finally, management-focused evaluations presume an interactive, team relationship between evaluator and manager. The evaluator is not present to pass judgment on the program, but to provide analytic and informational support for improved program performance. Indeed, management-focused evaluation as outlined here is largely self-evaluation carried out by local program staff. It is evaluation *by* the program, not evaluation *of* the program by outside analysts.

When a program wants to implement a management-focused evaluation, certain priority problems may arise that are quite different from those associated with the research-focused perspective. These problems can be revealed by a review of past evaluations. Techniques used in past evaluations that would inhibit continuous, usable feedback related to program decisions would receive prime attention. Thus, the diversity of program efforts and the lack of explicit objectives and explicit strategies in many programs would require attention. Without these explicit statements of intent, management decisions aimed at greater program effectiveness become impossible. Similarly, the general absence of detailed process evaluations in the literature would be a concern. Studies that treat program implementation as a "black box" without analyzing internal activities do not provide information on how to improve that implementation.

Management-focused evaluation provides an appropriate model for State agencies to promote among local prevention programs. As elaborated in the final section of this paper, management evaluation can be adapted to local needs and

provide information on use to local program managers and the State. It is possible with limited resources.

Evaluation Responsibilities: Doing and Using

To facilitate the use of management-focused findings, State agencies should establish a clearinghouse function through which current findings are made accessible to local programs in the planning process. Periodic literature reviews that summarize and interpret research might provide a vehicle for this purpose.

Once the distinction between research-focused and management-focused evaluation is made, progress toward identifying appropriate evaluation responsibilities is possible. Federal agencies and academic and professional organizations should have the prime responsibility for doing research-focused evaluations. Local prevention programs should have the prime responsibility for doing management-focused evaluations. State agencies should promote the use of research-focused findings by providing a clearinghouse function and disseminating information to local agencies and programs. At the same time, State agencies should encourage and facilitate local management-focused evaluation through guidelines and technical assistance where appropriate.

Management-Focused Prevention Evaluation: An Example

The management-focused model of evaluation is based upon the idea that evaluation is not a "research" process separate and distinct from the implementation of programs. Figure 1 graphically depicts the management-focused concept. The model brings research activities and the evaluation perspective into the planning and management processes. Evaluation activities are part of a constant feedback loop that involves planning, administration, assessment of outcomes, and program development.

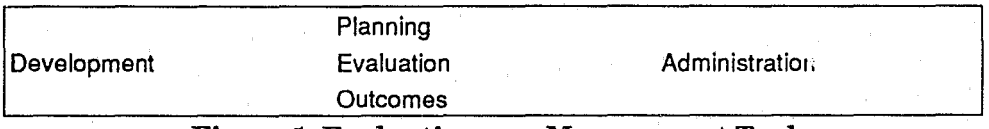

Figure 1. Evaluation as a Management Tool

As with many concepts, the real challenge to practitioners is how to put management-focused evaluation into practice. The final section of this paper demonstrates one way in which this might be done by briefly discussing a project currently being implemented in California. The project involves five community-based prevention programs and explicitly incorporates the management-focused evaluation approach.

The Example: Community-Based Prevention

The project described here is a cooperative partnership between the California Department for Alcohol and Drug Programs (ADP) and five local programs for community-based prevention. The programs represent a variety of communities, needs, and explicit prevention programs. They are all similar in being newly funded community-based programs that target high-risk youth. The ADP program is funded by the Office for Substance Abuse Prevention (OSAP); evaluation services are provided by EMT Group Associates, Inc.; and a technical assistance component is organized through the Center for Human Development (CHD).

The evaluation component of the project is explicitly designed to be management-focused. Specifically, it provides for (1) involving evaluators early in the planning process; (2) assisting the program in identifying *achievable* goals and objectives and explicitly considering the rationale behind them; (3) assisting the program in establishing ongoing data collection to monitor program progress; (4) conducting periodic feedback sessions with individual programs; and (5) providing a mechanism for sharing experiences among the programs in the context of a learning community.

The Procedure

To achieve these objectives, EMT has established an iterative procedure of monitoring and feedback with the local programs. In the very first weeks of funding, EMT met with directors and staff of each program for purposes of incorporating evaluation activities into program management and planning. In the initial meetings, two exercises were completed:

- A "success exercise" that asks program managers to envision the last day of their project and to describe how the project has been successful. This exercise was designed to initiate an orientation to thinking about outcomes and to emphasize the necessity of planning in realistic, achievable terms.
- A more conventional "goals and objectives" planning session. This session was essentially a clarification and expansion of the individual program funding proposals.

After initial sessions, EMT assisted the programs in refining their management plans and established a schedule for interaction between the evaluator and the programs. This schedule is the basis for continuous data collection and feedback and constitutes the core of the management-focused approach. Contact between evaluator and programs will be flexible, but generally the schedule alternates between periodic telephone interviews and site visits.

Telephone interviews are used to maintain contact and monitor progress toward the goals and objectives established in initial planning sessions. A standard but general protocol is used in telephone interviews with project directors. The protocol generally addresses activities with respect to each program goal during the reporting period. More specifically, it asks about progress toward goals and about opportunities and barriers that have been encountered with respect to each.

After each telephone interview, the evaluator completes two tasks. First, a memorandum is written to the monitoring file for that program summarizing interview results. Second, the results are used to plan for a site visit that will be scheduled for 2 or 3 weeks after the telephone contact. Interviews and site visits will be alternated throughout the 3-year duration of the cooperative project.

Site visits provide the opportunity for two sets of activities. The first is a feedback session in which the evaluator (a) provides feedback to the program on findings from the ongoing project-monitoring and from other programs when applicable; (b) helps managers identify areas in which planning clarification is needed and assists in this clarification; and (c) identifies possible areas in which the program may seek technical assistance from CHD.

The second area of site-visit activities focuses on ongoing data collection. This may include interviews and brief observations for monitoring purposes. The main focus, however, will be on assisting program staff to establish procedures for monitoring their own activities (e.g., intake forms, questionnaires). Upon completion of the site visit, the evaluation staff prepares another memorandum to the program file and uses results of the site visit to structure the next telephone interview (which will take place in 2 or 3 weeks depending on the volume of activity in the program).

The major emphasis of evaluation activity is this feedback loop to individual programs. However, several general sessions will be held during the project to share the experiences and lessons of different programs. Comparative analyses of the program files will identify similarities and differences in programs, as well as strategies that may help specific programs. These results will be presented and discussed in sessions involving staff from all five programs.

This management-focused evaluation project is just under way; details of its implementation are still being resolved. The management-focused approach is not a substitute for ongoing efforts at research-based evaluation that are important to the long-range improvement of prevention policies. Nevertheless, management-focused evaluation represents an approach to overcoming the barriers to immediate application of the eventual findings of research-based efforts. We hope that management-focused evaluations will help ensure that the current best knowledge concerning policy is implemented as effectively as possible.

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Prevention Research at NIAAA: Confronting the Challenge of Uncertainty

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The National Institute on Alcohol Abuse and Alcoholism (NIAAA) is a research enterprise (Gordis 1988). Implicitly, if not explicitly, all the research it funds has potential relevance to prevention—relevance to the prevention of alcoholism as a disease and the prevention of social and personal problems induced by alcohol consumption. Yet this general orientation leaves something to be desired, a need to stimulate research specifically focused on prevention *per se*.

Recognizing this need, NIAAA began funding a prevention research center dedicated to exploring environmental approaches to prevention (Gordis 1988). Begun in 1983, this extramural center in Berkeley, California, uses an integrated systems perspective to examine a series of environmental issues such as the structure and function of alcohol beverage control agencies, worksite factors that increase the risk of alcohol problems, and the impact of television portrayals of alcohol.

Within the last year, NIAAA gave added prominence to prevention research by establishing the Prevention Research Branch (PRB) within a new division of clinical and prevention research. Because the Prevention Research Branch is part of an extramural division, we fund the research of investigators external to NIAAA. We do not have our own research laboratory. However, we play an important proactive and reactive role in prevention research. We help identify crucial research issues and participate in translating these issues into concrete research questions. We establish research priorities through requests for grant applications, requests for contract proposals, program announcements, and interagency agreements. We work with consultants and other government agencies in defining and summarizing the state of the art and the state of science from a methodological standpoint. Within appropriate limits, we offer guidance to investigators and serve liaison and protagonist functions with respect to other public and private organizations, health care providers, concerned citizens, and experts in the field.

As you are undoubtedly aware, NIAAA draws a sharp distinction between administrative and review responsibilities. Although we shape research agendas, PRB staff are neither judges nor jurors in the review process for grant or contract funding. On the other hand, we are not simply impotent bystanders.

We recommend appropriate members for standing review committees; we help triage prevention applications to the most germane review groups; we request *ad hoc* review panels when standing committees are inadequate; and we fund some projects out of priority-score sequence to fill gaps in the science of prevention.

To avoid any confusion, let me make it very clear that the Prevention Research Branch has a *research* mission. We are not in the business of supporting prevention services or demonstration projects unless these activities are part and parcel of a research endeavor. This is one of the differences between the Prevention Research Branch of NIAAA and the Office for Substance Abuse Prevention (OSAP) in the Alcohol, Drug Abuse, and Mental Health Administration (Gordis 1988; DHHS 1987a).

Defining Prevention Research

In planning prevention research in the alcohol arena, investigators can choose from a wide spectrum of endpoints relevant to drinking behavior, addiction, sequelae of alcoholism (such as cirrhosis), and deleterious consequences of alcohol abuse (such as traffic crashes, violence, and absenteeism) (DHHS 1987b). Regardless of the choice of outcome measures, alcohol prevention research has common underlying themes. Such research constitutes:

- A systematic quest for effective strategies to reduce the incidence and prevalence of alcohol abuse and alcoholism; and/or
- A systematic quest for mechanisms to ensure the diffusion and adoption of effective prevention strategies.

The emphasis on incidence and prevalence deviates somewhat from prevention orientations of both the cancer and heart institutes where mortality is frequently the preferred endpoint measure (Greenwald and Sondik 1986; The Steering Committee 1988). If one were focusing on traffic crashes within the category of alcohol abuse, it might be appropriate to substitute mortality for incidence and prevalence in the above definition. But when addiction and alcoholism are to be confronted, the concept of mortality as an outcome measure can move the goal and attendant energies toward so-called tertiary prevention (i.e., treatment) rather than primary or secondary prevention. It is better to stop a disease or problem from occurring in the first place than to deal with it after the fact. This is particularly true for illnesses that are as difficult to cure as alcoholism and for alcohol-induced problems like traffic injuries and child abuse that may cause irreparable harm.

It is legitimate to include in definitions of primary prevention a sense that the target population is quite global, ultimately encompassing everyone who is potentially at risk for the illness or problem even if currently asymptomatic.

Thus, NIAAA's Sixth Special Report to Congress states that "prevention measures are addressed to large populations, including those who may not yet drink" (DHHS 1987b). Similarly, the National Cancer Institute (NCI) stresses the importance of geographically defined populations in prevention research to minimize bias and facilitate extrapolation (National Cancer Institute 1986). Yet NCI recognizes that prevention research does not necessarily begin in large populations (Greenwald and Cullen 1985). Hypothesis testing, methods development, and controlled intervention trials are likely to involve relatively small groups of subjects who may not be representative of the population at large.

Where primary prevention strategies to reduce alcohol abuse constitute changes in the law and law enforcement, prevention experiments may by definition be geographically based. (In this respect, i.e., the relevance of legal controls and community sanctions, infectious disease prevention models may be more applicable to alcohol prevention research than are certain chronic disease models that rely on voluntarism to achieve their goals.) Of course, the choice of target groups depends to a great degree on the concept of risk. From a scientific and pragmatic standpoint, it is logical to be as selective as possible. For example, studies of fetal alcohol syndrome (DHHS 1987b) must necessarily focus on women of child-bearing age who are not abstainers. But even with that restriction, the relevant population encompasses millions.

Research Phases

As indicated, prevention research involves at least two phases: the quest for effective strategies and the quest for mechanisms to ensure their adoption. Clearly, there is a natural progression from phase one to phase two. There is also a change of endpoints. Let me illustrate from cancer-control research. For many years, we have known that annual screening of asymptomatic women age 50 and older using mammography and breast palpation substantially reduces mortality from breast cancer. Yet widespread adoption of this combination of strategies is still to be realized. Proof notwithstanding, physicians and women at risk have resisted the use of mammography as a screening tool (Howard 1987). The burning research question is not, "Does mammography work?" It is, "How can we increase its usage?" And the immediate endpoint for prevention research shifts from mortality rates to usage rates.

Analogies can be drawn from alcohol research. It has been argued that the most effective programs to deter alcohol-impaired driving have been those that raised the drivers' perceived risk of arrest and punishment (Reed 1981). Therefore, diffusion research in this area would identify mechanisms of affecting law enforcement and manipulating perceptions of enforcement activity. School curricula and media campaigns aimed at enhancing resistance skills or intentions are other alcohol examples (Olson and Gerstein 1985; Hochheimer 1981). Phase-one research would seek resistance strategies that effectively reduce

alcohol abuse; phase-two research would seek means of ensuring their successful diffusion.

The two-phase model for prevention research is not meant to be exhaustive. The Food and Drug Administration has a three- and four-phase model, moving from small-scale studies of clinical pharmacology and then efficacy to larger scale simulations of real-world uses of the drug. The NCI divides cancer-control research into five phases, terminating with dissemination studies (DHSS 1987a). Although different levels of abstraction are possible in conceptualizing phases of prevention research, there is an underlying tendency to connote orderly movement in certain specified directions: from more basic to more applied research; from studies of select groups and volunteers to cross-sectional studies; and from laboratory research to the real world, with its dynamic complexity and multiplicity of uncontrolled variables. Diffusion research is characteristically a late or final phase because it signifies technology transfer to the relevant world at large.

Research Directions

Given limited resources and an expanding list of salient research questions, the PRB must be highly selective in shaping its research agenda. Priorities reflect pragmatic as well as scientific and policy considerations—directives from the Department of Health and Human Services, opportunities to use set-aside funds, opportunities to collaborate with other agencies, identified gaps in the knowledge base, weaknesses in the breadth of the research portfolio, and possibilities for ultimate behavioral change.

Each professional within the PRB has at least one domain of expertise, and the portfolio of grants receives staff oversight in accordance with their areas of competence. The research foci include prevention strategies for youth (e.g., educational approaches); interventions for middle-age and elderly adults (e.g., driver counseling); community and environmental issues (e.g., traffic safety, legal strategies, alcohol availability, and media promotion); worksite issues (e.g., the role of employee assistance programs); populations with special problems (women and minorities); and alcohol-related behavior that increases the risk of acquired immune deficency syndrome (AIDS) (NIAAA 1988).

Developing these content areas is not the only task at hand. Equally important is the development of appropriate methodologies for conducting prevention research. As the context of research moves from the laboratory to the community, study designs must take into account the potential synergistic impact of multiple uncontrolled variables and the inevitability of anticipated and unanticipated change. The unit of analysis may shift from individuals to groups and collectivities (e.g., classrooms, factories, neighborhoods, and townships) without obviating the need for comparisons between those exposed to the

intervention and controls. The study's sample size must be large enough to permit detection of important beneficial and adverse effects of the prevention strategy and to allow real effects to be distinguished from chance.

To maximize the value of the study for future tactical planning, investigators must try to understand the reasons for success or failure. They should measure relationships between strategies and outcomes in a dynamic model that permits them to study and evaluate process variables. The technology for this kind of research is still rudimentary and vulnerable to misuse by investigators who lack the objectivity of true scientists. In randomized clinical trials of medical technologies, the ground rules for research are fairly well established (e.g., rules of randomization, blinding, etc.) (Friedman et al. 1981). But in trials of behavioral or social technologies, controls against bias are harder to impose because the human element is an integral part of the intervention.

There is probably no functional equivalent of the placebo in alcohol primary prevention research, since some degree of rhetoric against alcohol abuse and alcoholism is ingrained in the culture in which any new prevention strategy must be tested. Thus, the control group or collectivity is analogous to control groups of patients who receive "usual" care rather than placebos. Background interventions can, however, interact with experimental strategies to produce desired outcomes. For example, media campaigns may become more salient when they are combined with other community actions (Hochheimer 1981). Therefore, it is important to encourage the selection and adaptation of designs and methods that exploit and measure interactional effects. Such methodological tools might be borrowed from studies concerned with similar behavioral change (e.g., community trials of strategies to reduce heavy smoking or to alter eating habits).

Among the most challenging of tasks is the development and perfection of research technologies that capitalize on so-called "natural experiments" (Blose and Holder 1987) in alcohol prevention. Investigators need to know in advance the pros and cons of various types of control groups (including historical controls) and how much contamination can be tolerated before baseline studies get under way. Time constraints can force compromises in design and execution that may undermine the scientific integrity of a study. Thus, it would be helpful to construct an appropriate set of methodologies in anticipation of changes in laws, regulations, and policies that constitute natural experiments. (Natural experiments could also occur as a consequence of highly publicized unexpected tragedies caused by alcohol use, such as the recent death of the fraternity pledge at Rutgers University from an alcohol overdose.) It might even be possible to establish specialized research teams (modeled after the Epidemiology Intelligence Service) and expedited funding mechanisms to permit more rapid responses to these research opportunities.

Participation of States

Every prevention program has the potential of contributing to the knowledge base if a properly designed research component is included. To be useful, such research must be an integral part of the prevention effort, not merely an evaluation add-on. Unless the research is carefully conceived and built into the entire intervention process, it may actually be harmful. There is a realistic danger that the investigators will draw false or biased conclusions and that their publicized findings will misdirect the actions of others.

States and municipalities can play a crucial role in expanding the knowledge base for informed prevention efforts. They can contribute to the research endeavor in a wide variety of ways: by funding studies that evaluate intervention outcomes, by directly managing the testing process, by sharing data and information with the larger research community, and by publicizing failures as well as successes. They can also participate by disseminating the research findings of others, identifying and utilizing experienced consultants, compiling banks of relevant data and ensuring easy retrieval, monitoring prevention activity and highlighting research opportunities, replicating studies that suggest positive outcomes, and manipulating the process of natural change to facilitate systematic experiments.

Prudence Versus Proof

Ideally, prevention programs should reflect and build upon the state of the art. They should be guided by existing research findings and, if possible, carry the inquiry further. Unfortunately, there is a dearth of proven strategies for the primary prevention of alcohol abuse and alcoholism. And, thus, administrators who are committed to prevention activity must frequently choose between less-than-preferred options: They can delay intervention until the evidence for one or another strategy becomes more convincing; they can undertake expeditious or long-term research in preparation for intervention; they can select an intervention on the basis of promise rather than proof; or they can conduct a natural experiment, intervening and testing at the same time. Obviously, any of these options constitutes action, but the time period for the implementation of prevention strategies (as opposed to research) will vary with the choice. In the first two cases, intervention might be postponed indefinitely.

Since proof is elusive and rarely closes the door to reasonable doubt, it is helpful to consider criteria for the selection of prudent rather than proven prevention strategies. The following guidelines appear relevant:

- *Evidence indicating beneficial effects of the proposed intervention needs to be strongly suggestive that the results were not a function of chance.* Even if tested strategies have not consistently shown statistically sig-

nificant benefits, the data may clearly point in the positive direction. Because the goal of prevention programs is behavioral change, positive placebo effects (i.e., from the intervention process *per se*) might also be considered beneficial. And possible spin-off effects of the intervention for the general health and well-being of the target population should be taken into account. Inferences can be drawn from studies in related areas of research such as drug abuse prevention as long as pertinence can be justified on empirical or theoretical grounds.

- *Persuasive evidence must show that the intervention will not cause deleterious behavior or that the possibility of harm pales in comparison to anticipated benefit.* The admonition to "first, do no harm" that applies to physicians should guide the actions of prevention strategists as well. Interventions aimed at reducing alcohol consumption can backfire among certain target groups, strengthening the very activities the strategies are trying to curtail (Moskowitz 1987). Moreover, the diversity of endpoints in alcohol prevention permits success and failure to occur simultaneously. It is conceivable, for example, that designated-driver campaigns may reduce alcohol-impared driving while legitimizing the addictive behavior of nondrivers. It is also important to consider adverse consequences of stopgap prevention programs. Premature actions may negate opportunities to introduce more effective strategies at a later time.

- *Financial costs of the proposed intervention must be evaluated in the context of uncertain outcomes.* The willingness of legislative and administrative bodies to fund prevention programs will undoubtedly be affected by the perceived probability of success. Ambiguity is likely to breed financial caution, and it should. Indirect as well as direct costs of the proposed prevention activity should be considered, such as the costs of adjudicating alleged violations of new laws to control alcohol abuse. Long-term costs of booster interventions (e.g., in school curricula) are also relevant. In some situations, specific prevention efforts may be mandated by another public authority with a contribution of set-aside funds. The availability of financial aid might make prudent options more appealing, particularly if the monies could not be used for other purposes. By the same logic, States or municipalities may adopt a prudent strategy because funds for other programs (e.g., highway construction) are contingent on their doing so.

- *The longer the perceived waiting time is for proof of benefit to be established, the greater the attractiveness of prudent rather than proven prevention strategies.* Other factors being equal, the value of prompt prudence may outweigh the value of delayed proof. In crisis situations where immediate administrative response is demanded by the "community," any pause for research might be criticized as irresponsible action. The speed with which convincing answers can be obtained from research will

depend in part on the endpoint. Changes in knowledge or attitudes may occur sooner than do changes in behavior or disease states, but the first set of outcomes need not be predictive of the second.

- *Possible consequences of a potential credibility gap should be considered in implementing prudent strategies.* The more tenuous the evidence supporting a prudent course of action, the greater the likelihood that it will later prove to be ineffective. Reactions of the public will then depend on factors that may not be known in advance, such as the visibility and price of failure. Perhaps the public will be more accepting of failure if the intervention is initially described as an experiment—and—if self-correcting mechanisms are put in place (e.g., milestones and contingency plans).

- *Where prudent prevention strategies can additionally become the impetus for a real experiment, the compatibility of objectives should be considered.* The potential value of an intervention for controlling alcohol abuse and alcoholism may be independent of its value as a catalyst for research. If prudent strategies are selected for the double purpose of implementing and testing a prevention program, the experimental component may be inordinately vulnerable to cooptation and bias. To protect the integrity of the research endeavor, the evaluators of program results (i.e., outcomes of the intervention-experiment) should be completely devoid of program responsibilities. In fact, they should have no vested interests in the prevention effort whatsoever.

- *Prudent prevention strategies should be appraised in terms of their possible intrinsic value.* The implementation of prevention interventions of any kind (prudent or proven) carries a message of concern about alcohol problems; and, reciprocally, the absence of prevention efforts may legitimize problem-inducing behaviors. Thus, it may be prudent to take some sort of normative action simply to go on record against inertia. At the least, such "statements" heighten the background rhetoric and may facilitate placebo effects. At best, they can be self-fulfilling deterrents to alcohol abuse.

- *Prudent interventions necessarily reflect assessments of political realities.* Prevention constituencies in the alcohol arena have a multiplicity of concordant and discordant objectives. Moreover, the liquor and service industries have their own sets of stakes in the prevention dialogue. In choosing a viable prevention strategy, decisionmakers must confront these political realities, ultimately translating debate into compromise, consensus, and controllable conflict. To be effective, interventions must be acceptable to the significant populace. Correctly determining who qualifies as significant is an important measure of prudence.

Conclusion

Although prudent prevention strategies can be a logical response to problems caused by alcohol abuse and alcoholism, it is preferable to choose interventions on the basis of proven effectiveness. Thus, NIAAA approaches the issue of prevention from a research perspective. The Prevention Research Branch, in collaboration with consultants, is laying out research agendas that will broaden and strengthen the knowledge base for informed prevention activity.

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Closing Remarks

Ketty H. Rey

Every society has customs. In ours, it is customary at the end of a gathering to thank our guests, to summarize, to make future plans, and to say goodbye.

The National Prevention Network, the National Association of State Alcohol and Drug Abuse Directors, the Office for Substance Abuse Prevention, and the cosponsors are pleased today to follow this custom. Now that we have reached the final lap of our program, we hope that we have accomplished the goals set forth. The content met our expectations and has been stimulating. The process initiated will go far beyond Kansas; building a relationship and partnership between researchers and prevention specialists is our goal. It is a critical issue for both fields.

We thank each and every one of you for being here. We would like to express our appreciation to the hosts from Kansas, the directors of State agencies, Commissioner Andrew O'Donovan and Lois Olson and their staff, and the cosponsors: Project Star, Project I-Star, the Kaufmann Foundation, and Dr. Cal Cormack for their invaluable contribution.

For taking time out to share their findings, the speakers also deserve a great deal of thanks.

I want to acknowledge, in a special way, Dr. Alvera Stern, NPN Chair; Elaine Brady-Rogers; Chris Faegre; Dr. Mort Silverman; and Rich Hayton for the ongoing advice and input. Without them, this conference would not have been possible.

In thanking all of you for being here, we also wish to mention some of the recommendations we heard repeatedly, loud and clear, throughout the conference:

- Acknowledge an urgent need for another research conference focusing on special populations.
- Identify minority researchers.
- Disseminate research information.
- Plan sensitized approaches to multicultural issues and differences regarding high- or at-risk populations when designing research, developing programs, or selecting projects related to prevention.
- Establish a partnership with researchers.

- Expand prevention networking activities.
- Encourage more research.
- Develop strategies for the evaluation of prevention programs.
- Increase the involvement of ethnic populations in research and technology transfer.
- Translate research findings and program evaluations into political language.
- Reinstitute training systems for prevention experts.

A fully edited set of recommendations will be provided with the conference evaluation that we have asked each of you to fill out.

Although expected, the recommendations left me somewhat overwhelmed—so much to be achieved, so many issues to be resolved—all so well highlighted in the regional reports. These recommendations cannot emphasize enough the need for long-term planning, predictable funding streams to offset the high rate of turnover in the prevention field, further research in the area of minorities, and so forth. We have already accepted the challenge. We are moving. Prevention is dynamic. As said so well by Alvera Stern, let us be "visionaries." We know that the time for prevention to be recognized as a cost-effective mechanism has arrived.

Like our clients, let us live one day at a time, and live by Nancye Sims' creed:

A Creed to Live By

Don't undermine your worth
by comparing yourself with others.
It is because we are different
that each of us is special.
Don't set your goals by what
other people deem important.
Only you know what is best for you.
Don't take for granted the things
closest to your heart.
Cling to them as you would your life,
for without them life is meaningless.
Don't let your life slip through your fingers
by living in the past or for the future.
By living your life one day at a time,
you live all the days of your life.

Don't give up when you still have
something to give.
Nothing is really over...
until the moment you stop trying.
Don't be afraid to admit that
you are less than perfect.
It is this fragile thread
that binds us to each other.
Don't be afraid to encounter risks.
It is by taking chances that
we learn how to be brave.
Don't shut love out of your life
by saying it's impossible to find.
The quickest way to receive love
is to give love;
the fastest way to lose love
is to hold it too tightly;
and the best way to keep love
is to give it wings.
Don't dismiss your dreams.
To be without dreams is to be without hope;
to be without hope is to be without purpose.
Don't run through life so fast
that you forget not only where you've been
but also where you're going.
Life is not a race,
but a journey to be savored
each step of the way.

Nancye Sims

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