

GUIDE TO
SCIENCE-BASED
PRACTICES

3

Principles of Substance Abuse Prevention

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Center for Substance Abuse Prevention
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Acknowledgments

This document was produced under the guidance of Stephen E. Gardner, D.S.W., project officer, and Paul J. Brounstein, Ph.D., Division of Knowledge Development and Evaluation, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention (SAMHSA/CSAP), through contract #282-98-0023 to ROW Sciences, Inc., Carol Winner, project director.

Principles of Substance Abuse Prevention is based on *A Guide to Science-Based Practices in Substance Abuse Prevention*, a seminal monograph developed and written by Paul J. Brounstein, Janine M. Zweig, and Stephen E. Gardner, with substantial contributions from Maria Carmona, Paul Florin, Roy Gabriel, and Kathy Stewart.

Special thanks go to a dedicated review panel composed of Eric Einspruch, Roy Gabriel, and Katherine Laws, RMC Research Corporation; Carol Hays, Illinois State Incentive Grant Program; Patricia Post, Central Regional Center for the Application of Prevention Technologies; and Mary Joyce Prudden, CSAP, who offered invaluable suggestions for improving the document.

The Department of Health and Human Services (DHHS) has reviewed and approved policy-related information in this document but has not verified the accuracy of data or analyses presented in the document. The opinions expressed herein are the views of the authors and do not necessarily reflect the official position of SAMHSA or DHHS.

DHHS Publication No. (SMA)01-3507
Printed 2001

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Foreword

Although recent reports show a leveling or decrease in substance use among our nation's youth, drug abuse remains a problem in our country. There were 14.8 million current users of illicit drugs in 1999. This figure represents 6.7 percent of the population ages 12 years and older. The 1999 National Household Survey also found increases in illicit drug use among adults ages 18–25. Although the rates for those 26–34 years old and 35 years and older have not changed significantly since 1994, overall statistics indicate that there is still work to be done in preventing substance abuse.

The Substance Abuse and Mental Health Services Administration's (SAMHSA) Center for Substance Abuse Prevention (CSAP) developed this series of products in response to the ongoing substance abuse problems. The three components in this series support CSAP's mission to provide resources that are based on science, with measurable outcomes, and designed to help community and state leaders formulate targeted programs.

CSAP is committed to sponsoring, accumulating, and integrating knowledge regarding scientifically defensible and effective prevention practices. The primary foci of each document in this series is CSAP grantees, constituent organizations, and the communities these groups serve.

We are pleased to release these findings on the risk factors for substance abuse in different domains and successful intervention strategies to prevent substance abuse, delay its onset, and reduce substance abuse-related behaviors. These results show that substance abuse develops in response to multiple influences, including the individual, family, peers, school/work, community, and society/environment. These domains interact with one another and change over time.

The research confirms that there are a variety of proven approaches to substance abuse prevention. The strategies highlighted in this booklet range from personal skill-building and opportunities for family bonding to community awareness and youth-oriented mass media campaigns. These findings provide an empirical knowledge base for practitioners and a guide to State and Federal agencies, local governments, and private foundations in their efforts to fund programs with measurable outcomes.

This booklet is one in a series of products developed to help key stakeholders structure and assess scientifically defensible programs. It is designed to serve practitioners, researchers, and policymakers as we all work together to develop innovative and effective methods of substance abuse prevention that respond to the unique needs of our individual communities.

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Principles of Substance Abuse Prevention

For more than a decade, the Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Prevention (CSAP) has supported demonstration programs designed to identify interventions that work with high-risk populations to prevent substance abuse, delay its onset, and reduce substance abuse-related behaviors. Research now confirms that interventions aimed at reducing the risk factors and increasing the protective factors linked to substance abuse and related problem behavior can produce immediate and long-term positive results.

Substance abuse prevention principles are basic truths, standards, and elements that effective interventions have in common and that have been identified through the careful evaluation of substance abuse prevention programs.

However, principles derive from programs and must be viewed in this context. They are best used to modify or adapt program core philosophy and content to specific situations or populations. The preventionist who constructs programs directly from principles without an eye toward content may have little to show as a result.

Effective interventions share certain principles that guide prevention providers in structuring client services. The princi-

ples appearing in this document have been identified through expert or peer consensus efforts such as consensus panels and meta-analyses. Many have also been published in peer-reviewed journals. Appropriate use of these scientifically defensible principles can assist prevention providers in designing services that are both innovative and effective, and in modifying proven models to respond to the specialized needs of individual programs.

Principles of Effective Substance Abuse Prevention

This section provides a brief listing of the scientifically defensible principles that can help service providers design and implement programs that work. The more detailed descriptions of each principle within each domain are contained in the text that follows.

Individual Domain

- I-1. Build social and personal skills.
- I-2. Design culturally sensitive interventions.
- I-3. Cite immediate consequences.
- I-4. Combine information dissemination and media campaigns with other interventions.
- I-5. Provide positive alternatives to help youth in high-risk environments develop personal and social skills in a natural and effective way.

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- I-6. Recognize that relationships exist between substance use and a variety of other adolescent health problems.
- I-7. Incorporate problem identification and referral into prevention programs.
- I-8. Provide transportation to prevention and treatment programs.

Family Domain

- F-1. Target the entire family.
- F-2. Help develop bonds among parents in programs; provide meals, transportation, and small gifts; sponsor family outings; and ensure cultural sensitivity.
- F-3. Help minority families respond to cultural and racial issues.
- F-4. Develop parenting skills.
- F-5. Emphasize family bonding.
- F-6. Offer sessions where parents and youth learn and practice skills.
- F-7. Train parents to both listen and interact.
- F-8. Train parents to use positive and consistent discipline techniques.
- F-9. Promote new skills in family communication through interactive techniques.
- F-10. Employ strategies to overcome parental resistance to family-based programs.
- F-11. Improve parenting skills and child behavior with intensive support.
- F-12. Improve family functioning through family therapy when indicated.
- F-13. Explore alternative community sponsors and sites for schools.
- F-14. Videotape training and education.

Peer Domain

- P-1. Structure alternative activities and supervise alternative events.
- P-2. Incorporate social and personal skills-building opportunities.
- P-3. Design intensive alternative programs that include a variety of approaches and a substantial time commitment.
- P-4. Communicate peer norms against use of alcohol and illicit drugs.
- P-5. Involve youth in the development of alternative programs.
- P-6. Involve youth in peer-led interventions or interventions with peer-led components.
- P-7. Counter the effects of deviant norms and behaviors by creating an environment for youth with behavior problems to interact with other nonproblematic youth.

School Domain

- S-1. Avoid relying solely on knowledge-oriented interventions designed to supply information about negative consequences.
- S-2. Correct misconceptions about the prevalence of use in conjunction with other educational approaches.
- S-3. Involve youth in peer-led interventions or interventions with peer-led components.
- S-4. Give students opportunities to practice newly acquired skills through interactive approaches.
- S-5. Help youth retain skills through booster sessions.
- S-6. Involve parents in school-based approaches.

S-7. Communicate a commitment to substance abuse prevention in school policies.

Community Domain

- C-1. Develop integrated, comprehensive prevention strategies rather than one-time community-based events.
- C-2. Control the environment around schools and other areas where youth gather.
- C-3. Provide structured time with adults through mentoring.
- C-4. Increase positive attitudes through community service.
- C-5. Achieve greater results with highly involved mentors.
- C-6. Emphasize the costs to employers of workers' substance use and abuse.
- C-7. Communicate a clear company policy on substance abuse.
- C-8. Include representatives from every organization that plays a role in fulfilling coalition objectives.
- C-9. Retain active coalition members by providing meaningful rewards.
- C-10. Define specific goals and assign specific responsibility for their achievement to subcommittees and task forces.
- C-11. Ensure planning and clear understanding for coalition effectiveness.
- C-12. Set outcome-based objectives.
- C-13. Support a large number of prevention activities.
- C-14. Organize at the neighborhood level.

C-15. Assess progress from an outcome-based perspective and make adjustments to the plan of action to meet goals.

C-16. Involve paid coalition staff as resource providers and facilitators rather than as direct community organizers.

Society/Environmental Domain

- S/E-1. Develop community awareness and media efforts.
- S/E-2. Use mass media appropriately.
- S/E-3. Set objectives for each media message delivered.
- S/E-4. Avoid the use of authority figures.
- S/E-5. Broadcast messages frequently over an extended period of time.
- S/E-6. Broadcast messages through multiple channels when the target audience is likely to be viewing or listening.
- S/E-7. Disseminate information about the hazards of a product or industry that promotes it.
- S/E-8. Promote placement of more conspicuous labels.
- S/E-9. Promote restrictions on tobacco use in public places and private workplaces.
- S/E-10. Support clean indoor air laws.
- S/E-11. Combine beverage server training with law enforcement.
- S/E-12. Increase beverage servers' legal liability.
- S/E-13. Increase the price of alcohol and tobacco through excise taxes.
- S/E-14. Increase minimum purchase age for alcohol to 21.
- S/E-15. Limit the location and density of retail alcohol outlets.

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- S/E-16. Employ neighborhood antidrug strategies.
- S/E-17. Enforce minimum purchase age laws using undercover buying operations.
- S/E-18. Use community groups to provide positive and negative feedback to merchants.
- S/E-19. Employ more frequent enforcement operations.
- S/E-20. Implement “use and lose” laws.
- S/E-21. Enact deterrence laws and policies for impaired driving.
- S/E-22. Enforce impaired-driving laws.
- S/E-23. Combine sobriety checkpoints with positive passive breath sensors.
- S/E-24. Revoke licenses for impaired driving.
- S/E-25. Immobilize or impound the vehicles of those convicted of impaired driving.
- S/E-26. Target underage drivers with impaired-driving policies.

Why Use Scientifically Defensible Principles?

Prevention programs today must produce tangible results. State and federal agencies, local governments, and private foundations are interested in funding programs with measurable outcomes. The new emphasis on performance means that prevention practitioners must show that the programs they propose achieve the results predicted. The prevention field now has an empirical knowledge base to assist practitioners in selecting proven approaches for their programs. Using scientifically defensible principles will help practitioners respond to demands for

accountability and will simultaneously ensure that program participants receive the most effective services available.

The Role of Domains

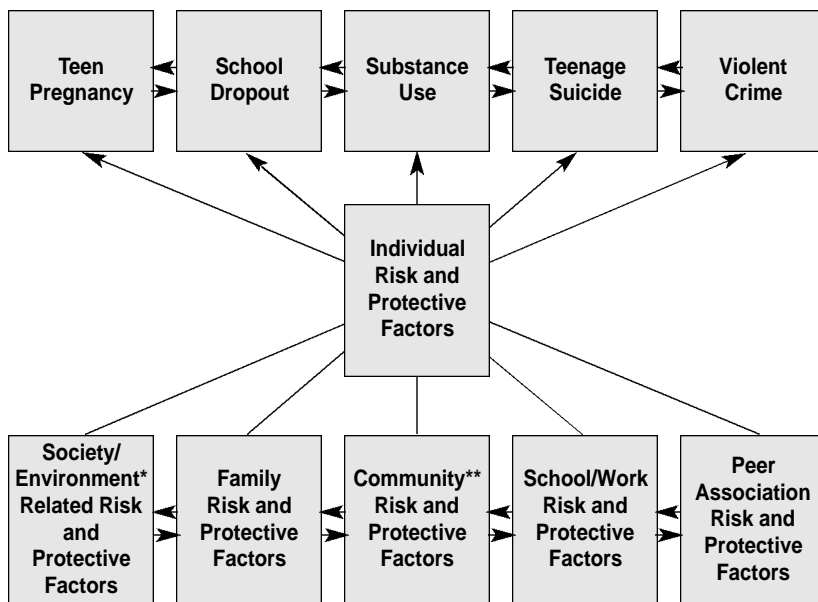
Substance use is a complex problem that develops in response to multiple influences. These spheres of activity—typically called domains—include the individual, family, peers, school, community, and society/environment.

Characteristics and conditions that exist within each domain of activity also function as risk or protective factors that help propel individuals to or safeguard them from substance abuse. As such, each of these domains presents an opportunity for preventive action.

Research indicates that as individuals develop, their interactions within and across domains of activity change over time. The Web of Influence model (figure 1) illustrates that these dynamic and complicated relationships can result not only in substance abuse, but also in other problem behaviors such as violent crime and suicide.

Risk and protective factors are drawn from a large body of literature (Bry, 1983; Hansen, 1997; Hawkins, Catalano, & Miller, 1992; Newcomb & Felix-Ortiz, 1992; Reynolds, Stewart, & Fisher, 1997). As applied by CSAP and depicted in the Web of Influence, risk and protective factors function as an interactive model. A risk factor such as delinquency, for example, can also become an outcome if an intervention aimed at preventing or changing the development of that behavior fails to achieve its objective. In the same way, if an intervention succeeds in strengthening a protective factor such as

Figure 1
Web of Influence



*Society/Environment: Refers to the total complex of external social, cultural, and economic conditions affecting a community or an individual.

**Community: Refers to the specific geographic location where an individual resides and to the conditions within that particular area.

family bonding, improved family bonding can become a positive outcome.

Substance Abuse Prevention and Treatment Block Grant Strategies

In the Substance Abuse Prevention and Treatment (SAPT) block grant legislation, Congress defined six strategies that prevention programs can use to increase protective factors and reduce the impact of risk factors, as follows:

Information dissemination to increase knowledge and change attitudes about substance use and abuse through activities such as classroom discussions and media campaigns.

Prevention education to teach participants important social skills such as drug resistance and decision making;

Alternatives to offer opportunities for participation in developmentally appropriate drug-free activities to replace, reduce, or eliminate involvement in substance use-related activities;

Problem identification and referral to recognize individuals with suspected substance use problems and refer them for assessment and treatment;

Community-based processes to expand community resources dedicated to preventing substance use and abuse through activities such as building community coalitions; and

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Environmental approaches to promote policy changes that reduce risk factors and preserve or increase protective factors such as stepped-up enforcement of legal purchase age for alcohol and tobacco products.

To obtain funding from CSAP through the SAPT block grant, States must identify the strategies that will be used in their proposed interventions.

Why Use This Booklet?

Principles of Substance Abuse Prevention organizes scientifically defensible principles by domain and links them to the prevention strategies identified in the SAPT block grant. Service providers can refer to it for ideas about what works, to identify proven principles in a particular domain, and to justify the use of one or more principles in a program. Because each principle is cited, it is relatively easy to locate the full article for more detailed information. Grant reviewers, evaluators, and funders may also find *Principles of Substance Abuse Prevention* useful as a quick overview of the state of the art in prevention programming and as a tool for determining whether a program is using scientifically defensible principles.

Some Caveats

Before one begins to use the principles highlighted in this booklet, it is important to remember that:

- This list is not exhaustive, and it will grow as additional principles undergo evaluation. CSAP encourages program planners and providers to build on the information in this booklet to develop the foundation for new and innovative approaches to substance abuse prevention.
- Although this booklet groups principles by domain, planners and providers should not feel constrained by this approach because many principles work well in more than one domain.
- Principles identified in this booklet may not relate to substance abuse problems directly. Instead, they may influence the risk and protective factors that contribute to or guard against problems (Hansen, 1997; Reynolds et al., 1997).
- Although CSAP recommends a comprehensive approach to substance abuse prevention, increasing the number of principles used in a program does not necessarily increase its effectiveness. It is important to select scientifically defensible principles that best meet the needs of program participants, support program objectives, and complement one another.
- Likewise, while scientifically defensible principles may improve some outcomes, they cannot compensate for or salvage a poorly designed or implemented program.
- Combining a series of substance abuse prevention principles does not necessarily make for an effective prevention program. Principles are best used to modify and enhance existing prevention programs and efforts, rather than create new programs from scratch.
- Successful, scientifically defensible interventions rely on strong implementation and continuous, rigorous evaluation to determine if benchmarks and standards have been met and if desired outcomes have been achieved. Such implementation and evaluation are, in themselves, important for substantiating the scientific defensibility of prevention principles (Morrissey et al., 1997; Reynolds et al., 1997).

Prevention Interventions by Domain

Individual Domain

Among the risk factors for substance abuse in the individual domain are lack of knowledge about the negative consequences associated with using illegal substances, attitudes favorable toward use, early onset of use, biological or psychological dispositions, antisocial behavior, sensation seeking, and lack of adult supervision (Bry, 1983; Hawkins et al., 1992; Scheier & Newcomb, 1991). Most interventions aimed at the individual are designed to change knowledge about and attitudes toward substance abuse with the ultimate goal of influencing behavior.

Linking Skills Development with Information

Life Skills Training (LST) Program demonstrates that linking key skills development with information targeting social influences to use, and reinforcing these strategies with booster sessions, can produce durable reductions in use.

Research shows that whether provided by trained teachers, health professionals, or peer leaders, research shows that LST can lower levels of tobacco, alcohol, and marijuana use among white, African American, and Hispanic/Latino youth by 59 to 75 percent and reduce multidrug use by as much as 66 percent (Botvin et al., 1994, 1995).

Research has shown the following:

I-1. Social and personal skills-building can enhance individual capaci-

ties, influence attitudes, and promote behavior inconsistent with use. These interventions usually include information about the negative effects of substance use (Bell, Ellickson, & Harrison, 1993; Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995; Ellickson, Bell, & McGuigan, 1993; Hansen, 1996; Pentz et al., 1990; Schinke & Cole, 1995; Tobler, 1986, 1992).

I-2. To be effective, interventions must be culturally sensitive and consider race, ethnicity, age, and gender in their designs (Botvin, Schinke, Epstein, & Diaz, 1994; Center for Substance Abuse Prevention (CSAP), 1996).

I-3. Youth tend to be more concerned about social acceptance and the immediate rather than long-term effects of particular behaviors. Citing consequences such as stained teeth and bad breath has more impact than threats of lung cancer, which usually develops later in life (Flay & Sobel, 1993; Flynn et al., 1997; Paglia & Room, 1998).

I-4. Used alone, information dissemination and media campaigns do not play a major part in influencing individual knowledge, attitudes, and beliefs, but they can be effective when combined with other interventions (Flynn et al., 1992, 1997; Flynn, Worden, Secker-Walker, Badger, & Geller, 1995).

I-5. Alternatives such as organized sports, involvement in the arts, and community service provide a natural and effective way of reaching youth in high-risk envi-

ronments who are not in school and who lack both adequate adult supervision and access to positive activities. Positive alternatives can help youth develop personal and social skills inconsistent with substance use (CSAP, 1996; Tobler, 1986).

- I-6. Effective programs recognize that relationships exist between substance use and a variety of other adolescent health problems—such as mental disorders, family problems, pregnancy, sexually transmitted diseases, school failure, and delinquency—and include services designed to address them (Compas, Hinden, & Gerhardt, 1995).
- I-7. Incorporating problem identification and referral into prevention programs helps to ensure that participants who are already using drugs will receive treatment (Brounstein & Zweig, 1996; Johnson et al., 1996).
- I-8. Providing transportation to treatment programs can encourage youth participation (Brounstein & Zweig, 1996).

Family Domain

Family domain risk factors include parental and sibling drug use or approval of use, inconsistent or poor family management practices—including lack of supervision, lack of parental involvement in children’s lives, family conflict, sexual or physical abuse, economic instability, and lack of attachment to parents, often called low family bonding (Hawkins & Catalano, 1992). For immigrant families, problems adapting to the mainstream cul-

Use of Incentives To Promote Program Participation

The Strengthening Families Program, aimed at 6- to 10-year-old children of substance abusers and their parents, used incentives such as movie/sporting event tickets and vouchers for groceries and other household items as well as transportation to engage and retain parents in the program. This approach spans cultures and has been successfully adapted for and evaluated with Hispanic/Latino, Asian/Pacific Islander, African American, and white families (Kumpfer & Alvarado, 1995; Kumpfer, Molgaard, & Spoth, 1996; Kumpfer, Williams, & Baxley, 1997).

ture can also be a serious risk factor (Szapocznik et al., 1997). Research has shown the following:

- F-1. Interventions targeting the entire family—parents as well as children—can be effective in preventing adolescent substance use (Dent et al., 1995; Dishion, Andrews, Kavanagh, & Soberman, 1996; Hawkins et al., 1992; Kumpfer et al., 1996; Pentz et al., 1989; Walter, Vaughn, & Wynder, 1989).
- F-2. Retaining parents in family-based programs can also be difficult (Botvin et al., 1995; Dent et al., 1995). Helping to develop bonds among parents in a program (Cohen & Linton, 1995; *Creating Lasting Family Connections*, 1998; Resnik & Wojcicki, 1991); providing meals, transportation, and small gifts; sponsoring family out-

ings; and ensuring that programs are culturally sensitive can help to improve retention (Kumpfer & Alvarado, 1995).

- F-3. Interventions that help minority families respond to cultural and racial issues can produce positive effects. Issues include the role of the extended family, influence of immigration or circular migration, different language abilities within families, influence of religion and folk healers, influence of voluntary and social organizations, and stresses experienced by families as a result of socioeconomic status and racism (Kumpfer & Alvarado, 1995; Kumpfer et al., 1997; Szapocznik et al., 1997).

■ Family strategies that are effective include the following:

- F-4. Focus on developing parenting skills rather than simply offering information about parenting (Bry & Canby, 1986; Kumpfer et al., 1996; Szapocznik et al., 1988).
- F-5. Emphasize family bonding through opportunities for joint parent-child participation in activities (Dishion & McMahon, 1998; Szapocznik et al., 1988).
- F-6. Offer sessions in which parents and youth learn and practice skills both separately and together (Brounstein et al., 1996; DeMarsh & Kumpfer, 1986; Dishion & McMahon, 1998; Kumpfer & Baxley, 1997).
- F-7. Train parents to both listen and interact in developmentally appropriate ways with their children (Brounstein & Zweig, 1996; Kumpfer et al., 1997).

Interactive Techniques Help Promote Family Communication

Creating Lasting Connections' *Getting Real* training for parents, youth, and families emphasizes role-playing to help participants identify the responses they use most in talking with family members, improve their ability to express feelings and ideas clearly, and establish new patterns of interactions to enrich family relationships. Because adults and children respond differently to interactive techniques such as role-play, the program trains parents and youth separately. It is also careful to limit the age range with youth to a three-year span (e.g., ages 9 to 11) and frequently separates groups by gender. Careful implementation ensures that activities occur in a safe place, a condition important for successful interactive interventions (Brounstein & Zweig, 1996; *Creating Lasting Family Connections*, 1998; Johnson et al., 1996).

- F-8. Train parents to use positive and consistent discipline techniques and to monitor and supervise their children (DeMarsh & Kumpfer, 1986).
- F-9. Interactive techniques, including modeling, coaching, rehearsal, and role-playing, can help to promote the development of new skills in programs aimed at improving family communication (Dishion & McMahon, 1998; Patterson & Chamberlain, 1994; Szapocznik et al., 1988; Webster-Stratton & Herbert, 1993).

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- F-10. Recruiting parents for family-based prevention programs can be difficult. Incentives that can help overcome resistance include providing transportation and child care, offering rewards for participation such as cash payments, and scheduling programs at times most convenient for parents (Kumpfer & Alvarado, 1995).
- F-11. With intensive support (at least 12 to 15 sessions of counseling and skills-building), substance-abusing parents can improve their parenting skills and as a result improve their children's behavior and reduce both their own and their children's levels of substance use (Bry, 1994; Kumpfer et al., 1996; Olds, 1997).
- F-12. For families of juvenile offenders, family therapy can improve family functioning, increase family skills, and reduce recidivism (DeMarsh & Kumpfer, 1986; Kumpfer et al., 1996).
- F-13. Since schools in some communities may not be highly regarded or accessible during nonschool hours, exploring alternative community sponsors and sites such as churches and community recreation centers can enhance participation in family-focused interventions (Johnson et al., 1996; Kumpfer et al., 1996).
- F-14. Videotaped training and education can be an effective and cost-efficient tool to teach parenting skills (Webster-Stratton, 1990; Webster-Stratton & Herbert, 1993).

Peer Domain

The principal risk factors associated with the peer domain are peer use, peer norms favorable toward use, and peer activities conducive to use. Research has shown the following:

- P-1. Structured alternative activities and supervised alternative events (e.g., sober prom and graduation parties) can offer peers an opportunity for social interaction in settings antithetical to substance use (CSAP, 1996; Williams & Perry, 1998).
- P-2. Alternative activities that incorporate social and personal skills-building opportunities can be effective with youth in high-risk environments who may not have adequate adult supervision or access to a variety of activities, or who may have few opportunities to develop the kinds of personal skills needed to avoid behavioral problems (Tobler, 1986).
- P-3. Effective alternative programs tend to be intensive and include both a variety of approaches and a substantial commitment of time on the part of their participants (Schaps, DiBartolo, Moskowitz, Palley, & Churgin, 1981; Shaw, Rosati, Salzman, Coles, & McGeary, 1997; Tobler, 1986).
- P-4. Alternative events can communicate peer norms against use of alcohol and illicit drugs and can serve as community statements in support of no-use norms (CSAP, 1996; Rohrbach, Johnson, Mansergh, Fishkin, & Neumann, 1997).

Exercise Caution When Grouping Very High-Risk Youth

Experience with the peer component of the highly regarded Adolescent Transitions Program (ATP) suggests some caution in applying peer-oriented principles. ATP found that when very high-risk youth are grouped together, even for a supervised intervention, a contagion effect can occur and problem behaviors can increase. More mixed or heterogeneous environments may be needed to counter the impact of deviant norms and behavior (Dishion et al., 1996; Dishion & McMahon, 1998).

- P-5. Involving youth in the development of alternative programs can increase the appeal of the activities offered and enhance participation (Armstrong, 1992; Komro et al., 1996).
- P-6. Peer-led interventions or interventions with peer-led components can be more effective than adult-led approaches (Komro et al., 1996; Tobler, 1986, 1992).
- P-7. Placing peers whose behavior is deviant into the same group can be problematic. More heterogeneous environments may be needed to counter the effects of deviant norms and behavior (Dishion et al., 1996; Dishion & McMahon, 1998).

School Domain

The risk factors associated with the school domain include lack of commitment to education, poor grades or school failure, lack of attachment to school, negative

school climate, and lenient school policies with regard to the use of some substances (e.g., tobacco). Many researchers believe that student-based risk factors develop or become more pronounced when students are unable to experience some satisfaction from their academic efforts. For this reason, academic skills-building has become an important component of many after-school, alternative activities (CSAP, 1996; LoSciuto, Rajala, Townsend, & Taylor, 1996; Tierney, Grossman, & Resch, 1995). In much the same way, lack of attachment to school may relate to students' inability to set future-oriented goals, particularly those that depend on education for their achievement. Mentoring programs have been designed, in part, to respond to that problem (CSAP, 1996; LoSciuto et al., 1996).

School climate is another factor contributing to the lack of attachment to school. Together, teachers' instructional methods, classroom management techniques, class size, student-teacher ratios, classroom organization, and educators' attitudes toward students affect the climate in a particular school (Battistich, Schaps, Watson, & Solomon, 1996; Felner et al., 1993; Flay, 1987). Drug testing and the use of drug-sniffing dogs are other practices employed by some schools. However, those approaches have not yet been extensively evaluated to determine effectiveness in countering risk factors or reducing levels of substance use at school (Paglia & Room, 1998).

Research has found the following:

- S-1. When used alone, knowledge-oriented interventions designed to supply information about the negative consequences of substance use do not produce measurable

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- and long-lasting changes in substance use-related behavior or attitudes and are considered among the least effective educational strategies (Tobler, 1986).
- S-2. While interventions to correct misconceptions about the prevalence of use can change attitudes favorable toward use (Errecart et al., 1991; Hansen & Graham, 1991), they are most effective in reducing substance use when combined with other educational approaches such as fostering social skills (Shope, Kloska, Dielman, & Maharg, 1994).
- S-3. Interventions for youth that are peer led or include peer-led components are more effective than adult- or teacher-led approaches (St. Pierre, Kaltreider, Mark, & Aitkin, 1992; Tobler, 1986, 1992).
- S-4. Interactive approaches, such as cooperative learning, role-plays, and group exercises that give students opportunities to practice newly acquired skills (and that are characteristic of social skills and peer-led interventions), help to engage and retain youth in prevention education programs (Botvin et al., 1994, 1995; Brounstein & Zweig, 1996; Komro et al., 1996; Walter et al., 1989; Williams & Perry, 1998).
- S-5. Booster sessions help youth retain skills learned in prevention education programs over time (Botvin et al., 1994, 1995).
- S-6. School-based approaches that also involve parents can be effective in preventing adolescent substance use (Dent et al., 1995; Dishion et al., 1996; Kumpfer et al., 1996; Pentz et al., 1989; Walter et al., 1989).
- S-7. School policies that communicate a commitment to substance abuse prevention include formal no-use policies for students, teachers, administrators, and other staff; training for teachers and administrators; and a health education program based on validated principles (Paglia & Room, 1998).

Involving Parents in School-Based Programs Fosters Effectiveness

The Child Development Project's *Homeside Activities* give parents a window into what their children are learning in school. This innovative intervention introduces activities in the classroom that students complete at home with parents and then incorporate into a follow-up classroom activity or discussion. Parents are also connected to the school through Family Read-Aloud and other activities designed to create an inclusive school environment that, in turn, helps to prevent or delay substance abuse and other problem behaviors (e.g., involvement in gangs, carrying weapons) among young people (Battistich et al., 1996).

Community Domain

Community domain risk factors include lack of bonding or attachment to social and community institutions, lack of community awareness or acknowledgment of substance use problems, community norms favorable to use and tolerant of abuse, insufficient community resources to support prevention efforts, and inability

to address the problem of substance abuse. Community institutions such as churches, Boys and Girls Clubs, YMCA and YWCA, and Boy and Girl Scouts often provide individuals with opportunities to develop personal capacities and interact with prosocial peers in constructive endeavors (Brounstein & Zweig, 1996; CSAP, 1996; St. Pierre et al., 1992; Tierney et al., 1995). Workplaces within the community, media, and community coalitions are other vehicles for addressing and reducing community domain risk factors. Specifically, research has found the following:

- C-1. One-time community-based substance abuse prevention and education events alone are unlikely to affect participants' behavior, but they can be effective as part of an integrated, comprehensive prevention strategy. In that context, such events show that a community supports no-use norms, draw public and media attention to substance use issues, and help increase awareness and support for other important prevention efforts (Paglia & Room, 1998; CSAP, 1996).
- C-2. Controlling the environment around schools and other areas where youth gather helps to reinforce strong community norms against substance use. Controls include restrictions on the number of alcohol and tobacco outlets, required setbacks for alcohol and tobacco outlets, restrictions on advertising near schools including billboards, and the designation of drug-free zones that set standards for adult as well as youth behavior (Davis, Smith, Lurigio, & Skogan, 1991; Eck & Wartell, in press; Gruenewald, Ponicki, & Holder, 1993).
- C-3. Mentoring programs that provide structured time with adults can increase school attendance and positive attitudes toward others, the future, and school and can reduce substance use (Brounstein & Zweig, 1996; CSAP, 1996; LoSciuto et al., 1996).
- C-4. Community service can increase positive attitudes toward others, the future, and the community and can provide youth with opportunities to give back to their community (Brounstein et al., 1996; CSAP, 1996; LoSciuto et al., 1996).
- C-5. Highly involved mentors usually achieve greater positive results than those who are less committed (Brounstein et al., 1996; LoSciuto et al., 1996).
- C-6. Emphasizing the costs to employers of workers' substance use and abuse can encourage companies to become more active in prevention efforts. Costs include lost productivity and increased health care premiums to cover substance-abusing employees and their dependents (Cook, Back, & Trudeau, 1996; Frankish, Johnson, Ratner, & Lovato, 1997).
- C-7. Communicating a clear company policy on substance abuse can help change workplace norms about substance use and abuse (Ames & Janes, 1987; Cook et al., 1996).

Mentoring Can Increase Positive Attitudes and Reduce Substance Use

Across Ages: An Intergenerational Approach to Drug Prevention carefully matches adult mentors, ages 55 and over, to sixth-grade African American, Asian, Latino, and white students in three Philadelphia middle schools. Recognizing the importance of continuity, Across Ages encouraged mentoring relationships that encompassed parents and teachers as well as students and extended past the school year and throughout the summer. Across Ages' multidimensional approach to mentoring brought community residents into the schools and improved school attendance. Students with deeply committed mentors changed their attitudes toward older people, school, and the future and developed increased capacity to resist peer pressure to use drugs (Brounstein & Zweig, 1996; CSAP, 1996; Johnson et al., 1996; LoSciuto et al., 1996).

- C-8. Community coalitions that work include representatives from every organization that plays a role in fulfilling coalition objectives. For example, if comprehensive service coordination is the objective, community agency leadership needs to be involved (Christenson, Fendley, & Robinson, 1989; Edelman & Springer, 1995; Warren, Rodgers, & Evers, 1975). If the objective is raising community awareness and stimulating community action, grassroots activists and community citizens must be involved (Chavis & Florin, 1990; CSAP, 1997a, 1997b; Warren et al., 1975). Community linkage coalition models require a mix of both types of community members (CSAP, 1997b).
- C-9. Effective coalitions retain active members by providing meaningful rewards for participation such as opportunities for organizational leadership, distribution of resources to home agencies, and accomplishment of highly valued personal, organizational, and community goals (Join Together, 1996; Nistler, 1996).
- C-10. Effective coalitions define specific goals and assign specific responsibility for their achievement to subcommittees and task forces, rather than spending time on elaborating organizational structures and procedures (Christenson, 1989; Join Together, 1996; Rohrbach et al., 1997).
- C-11. Planning is critical to coalition effectiveness and begins with a clear understanding, drawn from

- validated empirical evidence, of the substance-related problems it seeks to change (Armstrong, 1992; Gabriel, 1997; Join Together, 1996; Reynolds & Fisher, 1997).
- C-12. Effective coalitions set outcome-based objectives that are used to develop specific strategies and subsequent activities (Forster, Hourigan, & McGovern, 1992; Join Together, 1996; Reynolds, Stewart, & Fisher, 1997).
- C-13. Effective coalitions support a large number of prevention activities, rather than focusing on a single project (CSAP, 2000).
- C-14. Residents are more likely to participate in community partnership activities if they are organized at the neighborhood level, where volunteers can see how they will affect their own situations (CSAP, 2000).
- C-15. Effective coalitions routinely assess progress from an outcome-
- based perspective and make adjustments to the plan of action to meet their goals. Success is a function of strategies and activities, not a reflection of a coalition's organizational structure or design (CSAP, 1997b, 2000; Forster et al., 1992; Gabriel, 1997; Join Together, 1996; Keay, Woodruff, Wildey, & Kenney, 1993).
- C-16. Paid coalition staff can function more effectively as resource providers (such as communications, coordination, and administrative expertise) and facilitators than as direct community organizers (Join Together, 1996). It is important for paid staff members to serve as catalysts for action and ensure that community participants receive credit for program success (CSAP, 2000).

Planning Is Essential to Coalition Effectiveness

The Day One Community Partnership devised the Alcohol Sensitive Information Planning System (ASIPS) to assess the extent to which local criminal activity was alcohol related and to provide a foundation for community planning activities. As one outgrowth of this assessment effort, Day One was able to marshal the data needed to convince the city to use city zoning to regulate retail availability of alcohol and tobacco and to conduct a decoy purchase program (Rohrbach et al., 1997).

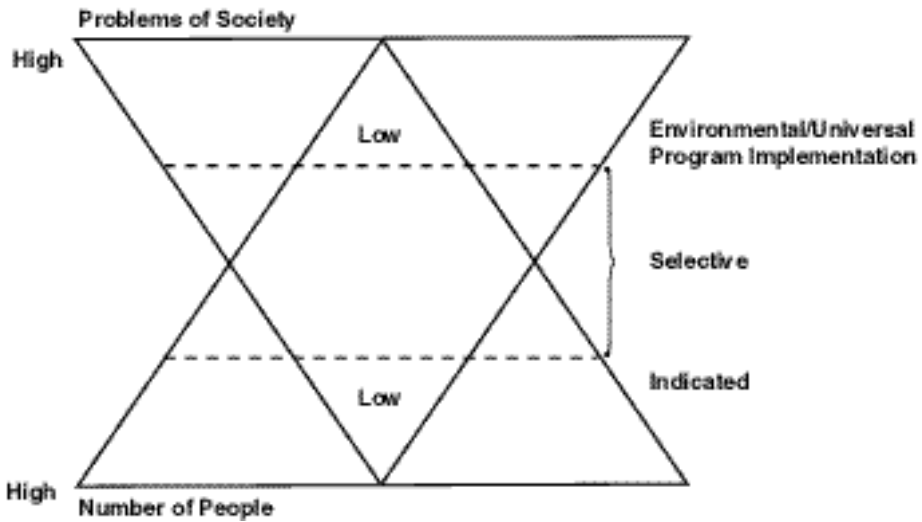
Society/Environmental Domain

Risk factors in the society/environmental domain include norms tolerant of use and abuse, policies enabling use and abuse, lack of enforcement of laws designed to prevent use and abuse, and inappropriate negative sanctions for use and abuse.

Since long-lasting effects should accrue from changing school, family, and societal norms that promote and maintain drug abuse in youth, many prevention specialists are trying to incorporate a focus on both individual change and changes in the systems or environmental contexts that promote or hinder use. This expansion will have a positive impact on larger numbers of people than has our reliance on more individually targeted programs that focus more on persons with a greater likelihood of becoming problem

Figure 2

Program Targets and Potential Impacts



abusers. The impact of this environmental focus on society as a whole may be substantial, and societal/environmental systems change efforts may form an important first line of defense in fighting the spread of substance abuse. (Figure 2)

Research has found the following:

- S/E-1. Community awareness and media efforts can be effective tools for increasing perceptions regarding the likelihood of apprehension and punishment for substance-related violations and can reduce retailer noncompliance (Lewit, Coate, & Grossman, 1981; Schneider, Klein, & Murphy, 1981).
- S/E-2. Appropriate use of mass media can enhance community awareness and influence community norms about substance use (Paglia & Room, 1998). Effective, youth-oriented mass media campaigns identify target audiences. They

also recognize that audience perceptions and capacities to understand media messages may vary based on gender, culture, and stage of cognitive development (Flynn et al., 1992, 1997).

- S/E-3. Effective mass media campaigns set objectives for each message delivered; for example, to increase positive expectations for nonuse or to correct assumptions about the number of youth who use (Flynn et al., 1997).
- S/E-4. Youth-oriented mass media campaigns that are effective with youth in high-risk environments avoid the use of authority figures. Instead, they use young models who appeal to the target group (Flynn et al., 1992).
- S/E-5. Effective campaigns broadcast messages frequently over an extended period of time. For example, an effective media cam-

Changing the Community Environment Can Reduce Underage Use of Alcohol

Responsible beverage-server training for retail outlets and bars and compliance checks of age-of-purchase laws (coordinated with local police departments and sheriffs' offices) were among the many integrated components of Project Northland, the largest randomized community trial ever conducted for the prevention of adolescent alcohol use. Project Northland confirms the importance of applying long-term environmental interventions as well as interventions oriented to individuals to reduce underage alcohol use. It also showed that it is possible to mobilize community support for norms reinforcing the unacceptability of underage use (Williams & Perry, 1998).

paign in Vermont aired 540 television broadcasts of 36 different spots and 350 radio broadcasts of 17 different spots per year over four years (Flynn et al., 1997).

- S/E-6. Mass media messages that are effective are broadcast through multiple channels at times when members of the target audience are likely to be viewing or listening (Flynn et al., 1992, 1997).
- S/E-7. Counteradvertising campaigns that disseminate information about the hazards of a product or the industry that promotes it may help reduce cigarette sales (Chaloupka & Grossman, 1996; Flay, 1987; Flynn et al., 1992) and tobacco consumption (Chaloupka & Grossman, 1996; Flynn et al., 1992; Wallack & DeJong, 1995).
- S/E-8. The limited research on alcohol warning labels suggests that while they may affect awareness, attitudes, and intentions regarding drinking, they do not appear to have a major influence on behavior (Barlow & Wogalter, 1993; Hilton, 1993; Laughery, Young, Vaubel, & Brelsford, 1993). Studies have suggested that more conspicuous labels would have a greater effect on awareness and behavior (Laughery et al., 1993; Malouff, Schutte, Wiener, Brancazio, & Fish, 1993).
- S/E-9. Restrictions on tobacco use in public places and private workplaces (also known as clean indoor air laws) can be effective in curtailing cigarette sales (Chaloupka & Saffer, 1992) and tobacco use among adults and youth (Chaloupka, 1992; Chaloupka & Pacula, 1997; Evans, Farrelly, & Montgomery, 1996; Ohsfeldt, Boyle, & Capilouto, 1999; Wasserman, Manning, Newhouse, & Winkler, 1991).
- S/E-10. Clean indoor air laws can reduce nonsmokers' exposure to cigarette smoke and help to alter norms regarding the social acceptability of smoking (DHHS, 1994).
- S/E-11. Education and training programs teach beverage servers about alcohol-related laws, the penalties for violation, the signs of intoxication and false identification, and techniques for refusing sales. However, when used alone, these programs usually do not produce

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substantial and sustained shifts toward compliance with the law (Altman, Rasenick-Douss, Foster, & Tye, 1991; DiFranza & Brown, 1992; DiFranza, Savageau, & Aisquith, 1996; Skretny, Cummings, Sciandra, & Marshall, 1990).

- S/E-11. Combining beverage-server training with enforcement of laws against service to intoxicated patrons and against sales to minors is much more effective than training alone in changing selling and serving principles (Cummings & Coogan, 1992; Feighery, Altman, & Saffer, 1991).
- S/E-12. Increasing beverage servers' legal liability for alcohol-related crashes can reduce injuries and fatalities (Wagenaar & Holder, 1991).
- S/E-13. Increasing the price of alcohol and tobacco through excise taxes can be an effective strategy for reducing the prevalence of use and the amount consumed (Chaloupka & Grossman, 1996; DHHS, 1989, 1992; Edwards et al., 1994; Evans et al., 1996).
- S/E-13. Price increases can reduce alcohol-related problems, including motor vehicle fatalities (Cook, 1981), driving while intoxicated, rapes, robberies (Cook, 1981; Cook & Moore, 1993; Cook & Tauchen, 1984), cirrhosis mortality (Cook & Tauchen, 1982), and suicide and cancer death rates (Sloan, Reilly, & Schenzler, 1994).
- S/E-14. Increasing the minimum purchase age for alcohol to age 21 has been effective in decreasing alcohol use among youth (O'Malley & Wagenaar, 1991; Wagenaar, 1993), particularly beer consumption (Berger & Snortum, 1985), and in reducing alcohol-related traffic crashes (General Accounting Office, 1987; National Highway Traffic Safety Administration, 1995; Safer & Grossman, 1987; Toomey, Rosenfeld, & Wagenaar, 1996; Wagenaar, 1993).
- S/E-14. Increasing the minimum purchase age for alcohol to age 21 is associated with reductions in other alcohol-related problems, including suicide, pedestrian injuries, other unintentional injuries (Jones, Pieper, & Robertson, 1992), and youth homicide (Parker & Rebhun, 1995).
- S/E-15. Limitations on the location and density of retail alcohol outlets may contribute to reductions in

Neighborhood Antidrug Strategies Can Disrupt Illicit Drug Markets and Reduce Alcohol and Tobacco Sales to Minors

The Community Coalition for Substance Abuse Prevention and Treatment in South Central Los Angeles fought successfully to control the rebuilding of liquor stores in neighborhoods scarred by civil unrest. Its Neighborhoods Fighting Back project also forced absentee landlords to board up an abandoned house used for cocaine trafficking. Other partnership efforts led to a new ordinance that levies financial penalties on those selling tobacco to underage youth (CSAP, 2000).

- alcohol consumption (Gruenewald, 1993), traffic crashes (Gruenewald & Ponicki, 1995b; Scribner, MacKinnon, & Dwyer, 1995), and other alcohol-related problems, including cirrhosis mortality (Gruenewald & Ponicki, 1995a), suicide (Gruenewald, Ponicki, & Mitchell, 1995), and assaultive offenses (Scribner et al., 1995).
- S/E-16. Neighborhood antidrug strategies such as citizen surveillance and the use of civil remedies, particularly nuisance abatement programs, can be effective in dispersing dealers, reducing the number and density of illicit drug markets, and possibly reducing other crimes and signs of physical disorder within small geographical areas (Davis et al., 1991; Eck & Wartell, 1998; Green-Mazarolle, Roehl, & Kadleck, in press; Lurigio et al., 1993; Rosenbaum & Lavrakas, 1993; Smith, Davis, Hillenbrand, & Goretsky, 1992).
- S/E-17. Enforcement of minimum purchase-age laws against selling alcohol and tobacco to minors by using undercover buying operations (also known as decoy or sting operations) can substantially increase the proportion of retailers who comply with such laws (Cummings & Coogan, 1992; Feighery et al., 1991; Forster et al., 1998; Jason, Billows, Schnop-Wyatt, & King, 1996; Jason, Ji, Anes, & Birkhead, 1991; Preusser, Williams, & Weinstein, 1994).
- S/E-18. Undercover buying operations conducted by community groups that provide positive and negative feedback to merchants can also increase retailer compliance (Biglan et al., 1995; Lewis, Huebner, & Yarborough, 1996).
- S/E-19. More frequent enforcement operations can reduce retailer noncompliance (Lewis et al., 1996; Preusser et al., 1994).
- S/E-20. "Use and lose" laws, which allow suspension of the driver's license of a person under age 21 following a conviction for any alcohol or drug violation (e.g., use, possession, or attempt to purchase with or without false identification), can increase compliance with minimum purchase-age laws among youth (Preusser, Ulmer, & Preusser, 1992).
- S/E-21. Deterrence laws and policies for impaired driving can reduce the number of alcohol-related traffic crashes and fatalities among the general population and particularly among youth. Reducing the legal blood-alcohol content (BAC) limit to 0.08 or lower can reduce the level of impaired driving (Kloeden & McLean, 1994) and alcohol-related crashes (Hingson, Heeren, & Winter, 1994; Johnson, 1995).
- S/E-22. Enforcement of impaired driving laws can increase public perception of the risk of being caught and punished for driving under the influence of alcohol (Voas, Holder, & Gruenewald, 1997).
- S/E-23. Used alone, sobriety checkpoints are not effective in detecting large numbers of drinking drivers (Ferguson, Wells, & Lund, 1995; Jones & Lund, 1985).

- S/E-23. Combining sobriety checkpoints with passive breath sensors that allow police officers to test a driver's breath without probable cause can substantially increase the effectiveness of sobriety checkpoints (Ferguson et al., 1995; Jones & Lund, 1985).
- S/E-24. Administrative license revocation for impaired driving, which allows an arresting officer to confiscate a driver's license if the driver is arrested with an illegal BAC or if the driver refuses to be tested, can reduce the number of fatal traffic crashes (Hingson, 1993; Klein, 1989; Ross & Gilliland, 1991; Zador, Lund, Fields, & Weinberg, 1989) and also reduces recidivism among driving-under-the-influence (DUI) offenders (Stewart, Gruenewald, & Roth, 1989).
- S/E-25. Immobilizing or impounding the vehicles of those who have been convicted of an impaired-driving offense can significantly reduce DUI recidivism rates for multiple DUI offenders (Voas, Tippetts, & Taylor, 1997, 1998). Deterrence effects from marking license plates of DUI offenders have been mixed (Voas, Tippetts, & Lange, 1997).
- S/E-26. Impaired-driving policies targeting underage drivers—particularly zero-tolerance laws setting BAC limits at 0.00 to 0.02 percent for youth and graduated driving privileges, in which a variety of driving restrictions are gradually lifted as the driver gains experience and maturity—can significantly reduce traffic deaths among young people (Blomberg, 1993; Hingson et al., 1994; Hingson,

Heeren, Howland, & Winter, 1993; National Transportation Safety Board, 1993; Sweedler, 1990).

Additional Resources

CSAP has developed a series of products to assist program planners, evaluators, administrators, and policy makers in designing and assessing scientifically defensible programs. In addition to this publication, *Principles of Substance Abuse Prevention: A Domain-Based Approach*, products include the following:

- *Defining Science-Based Substance Abuse Prevention: An Evaluators' Guide*, a technical description of the CSAP methodology for identifying scientifically defensible programs.
- *Promising and Proven Substance Abuse Prevention Programs*, a comprehensive compilation of both proven and promising interventions in an easy-to-scan grid organized by risk factor and domain that also includes information on target age, Institute of Medicine (IOM) prevention classification, program outcome, and CSAP strategy.

CSAP also maintains a Web site and publishes materials to help prevention practitioners replicate proven model programs. The Web site includes downloadable versions of *Promising and Proven Substance Abuse Prevention Programs*, one of the publications described above. It also provides the most up-to-date information available about CSAP's model programs for replication.

- The Web site for CSAP model programs is www.samhsa.gov/csap/model-programs.

- Brounstein & Zweig, 1999, *Understanding Substance Abuse Prevention, Toward the 21st Century: A Primer on Effective Programs*. This monograph, which traces the process used to identify and evaluate the first group of CSAP model programs, is available in both print and electronic versions. The electronic version is on the model programs Web site. The print version is available from the National Clearinghouse for Alcohol and Drug Information (NCADI). See contact information below.
 - CSAP (2000), *Prevention Works Through Community Partnerships: Findings From SAMHSA/CSAP's National Evaluation*, Rockville, MD: CSAPDHHS Publication No. (SMA)00-3373. This monograph, which presents information on five model community partnerships, is available from the
 - SAMHSA's National Clearinghouse for Alcohol and Drug Information
 - P.O. Box 2345
 - Rockville, MD 20847-2345
 - Toll-free tel: 1-800-729-6686
 - Local tel: 301-468-2600
 - Fax: 301-468-6433
 - TDD (hearing impaired): 1-800-487-4889
 - www.health.org
 - e-mail: info@health.org
- Among the other resources available through the Clearinghouse to help prevention practitioners in developing or improving programs are:
- The *Prevention Enhancement Protocols System (PEPS)* guidelines on
 - *Reducing Tobacco Use Among Youth: Community-Based Approaches;*
 - *Preventing Substance Abuse Among Children and Adolescents: Family-Centered Approaches;*and
 - *Preventing Problems Related to Alcohol Availability: Environmental Approaches.*
 - *Impaired Driving Among Youth: Trends and Tools for Prevention;*
 - *A Review of Alternative Activities and Alternative Programs in Youth-Oriented Prevention; and*
 - *Selected Findings in Prevention: A Decade of Results from the Center for Substance Abuse Prevention.*

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