Theories and Models Supporting Prevention Approaches to Alcohol Problems Among Youth

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Synopsis

The Alcohol, Drug Abuse, and Mental Health Administration's Office for Substance Abuse Prevention (OSAP) was established to initiate programs to provide prevention and early intervention services for young people, especially high-risk youth. OSAP's starting point was the theories and models that provide the background body of knowledge. The models summarized here guide new prevention efforts and provide a framework for analyzing diverse experiences in the field. The goal has been to develop strategies based on theories and models of prevention that can reverse or prevent adolescent alcohol use.

Among the psychosocial models, research in social learning theory is the theoretical basis for prevention efforts using the team approach among individuals, small groups, families, and communities. A prevention technique based on cognitive dissonance theory proposes verbal inoculations to establish or strengthen beliefs and attitudes, helping a young person to resist drinking, which may be in conflict with another, more desirable goal. In the developmental concept adolescence is a period of role confusion out of which the person's identity should emerge. Prevention efforts built on this view seek to help adolescents to form positive identities by achievement as students, athletes, and in community roles. Behavioral intention theory provides a framework for understanding the role of perceived social norms in directing behaviors. In the social development model, prevention programs should create positive peer groups and ensure that the social environment does not give mixed messages. Health behavior theory is the basis for prevention strategies directed toward a person's entire behavior instead of one aspect. The stages of the drug involvement model form the basis for prevention programs providing early intervention directed at the so-called gateway drugs.

Among the communications models, the health promotion concept advocates a comprehensive approach in developing health campaigns and attention to the five major elements of the communications process. Mass media campaigns based on the communication-behavior change concept address the steps required to move a target population from initial awareness of interest in a problem to the adoption and maintenance of advocated attitudes or behaviors.

Among public policy models, researchers have concluded that higher real prices on alcohol and restricted availability have the effect of lowering alcoholic beverage consumption among young people and the incidence of heavy and frequent drinking. Raising the minimum age for purchase has been found to reduce the rate of automobile accidents involving young persons. Essential components of prevention strategies and approaches are presented.

IN 1983, the World Health Assembly resolved that problems related to alcohol consumption rank among the world's major public health concerns and constitute a serious hazard for human welfare (*1*). Dr. Otis R. Bowen, the Secretary of Health and Human Services, reiterated this concern last fall by issuing a number of initiatives that address this nation's alcohol problems.

In addition, over the years, the National Institute on Alcohol Abuse and Alcoholism, and the Na-

tional Institute on Drug Abuse, have warned of a steady rise in alcohol and drug use by youth. As a result of this mounting concern, the Alcohol, Drug Abuse, and Mental Health Administration's (ADAMHA) Office for Substance Abuse Prevention (OSAP) was established to initiate programs to provide prevention and early intervention services for young people, especially high-risk youth. The models presented here form the background body of knowledge that has been OSAP's starting point.

During the last decade, there has been an emerging consensus that the public health approach can provide a useful conceptual framework for developing alcohol and drug abuse prevention strategies. The focus of this paper is the prevention of alcohol problems using a public approach, specifically theories and models that provide the knowledge base for prevention programs targeted toward youth. The models summarized guide new prevention efforts and provide a framework for analyzing diverse experiences in the field. The models permit assessment of prevention approaches and generalization from one set of circumstances to another.

Within the public health approach to prevention, there is room for multiple theories and combinations of theories. The public health approach originally derived from epidemiologic studies of communicable diseases, indicating that proper prevention planning requires knowledge of the host (or individual person), the agent (in this discussion, alcohol), and the environment (the social milieu). Prevention, as we know it today, also requires knowledge of the interaction between the three factors.

Because prevention in public health is an evolutionary field that is continuously growing from the thinking and experiences of researchers, planners, practitioners, and evaluators, the current knowledge base will change, expand, and emerge in new combinations, providing better tools with which to address the prevention of alcohol problems.

The theories that seek to explain behavior and changes in behavior are taken largely from psychology. Until recently, most theoretical work in alcohol abuse prevention has been aimed at identifying the likely antecedents and correlates. More recently, the goal has been to develop strategies based on theories and models of prevention that can reverse or prevent adolescent alcohol use (*2*).

Psychosocial Models

Social learning. Albert Bandura's social learning theory is probably the most widely used among current prevention program planners. According to Bandura, learning is acquired and shaped by positive and negative reinforcements (rewards and punishments), as well as by observation of other people's behavior (*3,4*). Thus, people can anticipate the consequences and shape their own behavior to earn rewards and punishments.

Bandura recognized the potential for using modeling as a way of directing and changing behavior. We observe the behavior of others in person, on television, and in movies, and we become more likely to adopt that model's behavior based on the attractiveness of the model (*3, 4*). Bandura's early work indicated that children readily imitate aggressive models as well as more positive models and that status envy was an important factor (*5, 6*).

Later, his theory formed the underpinning for the use of "near peers" to transmit messages to somewhat younger children by depicting behavior and attitudes for young people to imitate, such as saying "no" to alcohol (refusal skills). In addition to the use of "near peers" in television mass media efforts, Bandura's work most likely is the theoretical basis for prevention efforts using the team or buddy approach, teaming individuals, small groups, families, and even communities, in which new health related behaviors can be modeled and reinforced, helping to set new norms.

Cognitive dissonance. Much of William McGuire's work in psychology is based on Festinger's concept of cognitive dissonance (*7*), which describes a tendency of humans to harmonize expectations about people and experiences with them. In other words, we want our beliefs to be in harmony with our experiences.

Cognitive dissonance theory holds that people want their personal attitudes and beliefs to be compatible with their own behavior (*7*). If they are not, there is "cognitive dissonance" that a person will want to eliminate.

As a prevention technique, McGuire proposed that certain "pretreatments" would establish or strengthen beliefs and attitudes with which a person's behavior would have to harmonize to avoid cognitive dissonance (*8*). "Cognitive inoculation" is one of these pretreatments. He found that verbal "inoculations" had certain immunizing effects against strong counter-arguments, and strengthened the subjects' ability to defend their beliefs (*9*).

When applied to the use of alcohol and other drugs, cognitive inoculation aligns a person's beliefs and behavior with regard to these substances. For instance, if a teenager believes that drinking

will diminish athletic ability, and places a high value on athletic ability, resolution of dissonance would require that the teenager either abstain from drinking or place a lower value on athletic ability (*4,10*).

Another pretreatment approach requires that a behavior commitment be made; the commitment often is in the form of a contract or public announcement of one's beliefs and intentions ("I will not use alcohol until I am of age"). McGuire found that a commitment made to others was stronger than a private commitment (*2,10*).

Social inoculation. Richard Evan's social inoculation theory extends McGuire's, and addresses social influences, beliefs, and attitudes that create pressure on a young person to use alcohol and other drugs (*1,11*). Such pressures include peer pressure or joining a group that exerts pressure on new, younger group members.

Programs based on social inoculation theory teach students to resist social pressures. The popular "Just Say No" program is based on social inoculation theory (*2*). Students first are taught about the pressures that they can expect from peers to use alcohol and other drugs and then they are taught various ways to get out of uncomfortable peer pressure situations. In addition to instructing students to say "no," the "Just Say No" groups teach alternative responses, such as "I'm not interested." Many programs based on the social inoculation theory use modeling, as suggested by Bandura, to teach peer resistance skills. Others encourage public commitments from students as an added incentive to resist negative peer pressure. Social reinforcement often includes the entire group (*4*).

Although results often are mixed in prevention evaluation, one point seems clear. Peer pressure is one of the most significant factors in alcohol use and abuse, and successful prevention strategies will address this fact. For instance, the most important correlate of beer drinking is peer influence, followed by exposure to advertisements for beer (*12*). Peer influence has been found to have a significant impact on consumption levels and alcohol use behavior (*13*).

Developmental concept. Eric Erickson defined the implications of years of clinical observations in the landmark book "Childhood and Society" (*14*), in which he argued that psychological development continues throughout life and that each stage has a positive and negative component. In addition, each stage has a "task" or psychosocial "crisis" associated with it that must be successfully resolved.

For instance, in the first year of life, a child must develop a sense of trust rather than mistrust of the world around him or her. A child who is fondled and cuddled develops a sense of the world as a safe place to be. If the basic trust as opposed to mistrust issue is not resolved during the first year of life, it arises again at each successive stage of development. The core of Erickson's theory is that each developmental crisis must be resolved at each successive stage of development. At the least, if these tasks are not mastered at the appropriate stage of development, the individual will be at a disadvantage in making subsequent adjustments (*15*).

Erickson said that the major crisis confronting an adolescent is associated with establishing his or her identity and avoiding identity diffusion. He believes that the interpersonal dimension that emerges during this period has to do with a sense of ego identity at the positive end and a sense of role confusion at the negative end. In other words, adolescence is a period of role confusion out of which the person's identity should emerge. Certain behaviors, such as being sexually active, smoking, and drinking alcohol, are considered deviant because they are essentially adult behaviors which are being exhibited at an early stage of the life cycle (*3*).

Because the adolescent's body is changing rapidly, the developing self-image coincides with the identity crisis. As adolescents break away from the close guidance of their parents, they seek support elsewhere, usually with a peer group. In the developmental stage, an adolescent may view smoking, or the use of alcohol and other drugs, as a way of expressing a growing sense of independence.

Prevention programs that seek to build upon the developmental theory ought to assist adolescents in forming positive identities as athletes, students, community or hospital volunteers, environmentalists, or peer leaders of younger students. The adolescent, in Erickson's view, is "an impatient idealist" who believes that it is as easy to realize an ideal as it is to imagine it. A prevention strategy could capitalize on this theory by helping adolescents to form positive identities around their ideals.

Additionally, prevention strategies should be developmentally appropriate for the targeted age group. An example is reported by Funkhouser (*16*) in testing materials for 8- to 12-year-olds who do not yet think in abstract terms. Slogans encompass-

ing the phrase "alcohol-free" meant, to them, "free alcohol." Successful prevention strategies are those which are appropriate for the target audience's stage of development.

Behavioral intention. Martin Fishbein and Icek Ajzen developed a system for measuring attitudes as well as subjective norms (*17*). Their behavioral intention theory postulates that, when properly measured, a person's attitudes and subjective norms about a behavior can be used as predictors of behavior.

Attitudes are the beliefs a person holds about the outcome of a behavior, along with the value he or she places on that outcome (*4*). The most prominent dimension of attitude is like-dislike, the tendency to accept or to reject or to seek to avoid (*18*). Subjective norms are the person's assumptions about the views of significant others regarding the behavior, along with the person's motivation to comply with these views.

For attitudes and subjective norms to be valid predictors of behavior, they must be measured in terms of specific behavioral situations. For example, a person drinks (action) beer (target) in a car (context) on a weekend (time). Attitudes and subjective norms must be assessed to keep the action, target, context, and time in focus (*4*).

The theory provides a good framework for understanding the important role that perceived social norms play in directing behaviors. For example, adolescents generally perceive a prevalence of alcohol and drug use among their peers that far exceeds actual consumption (*19*). Students who overestimate the use of alcohol and other drugs by their peers may view that use as "normal" and become more accepting of drinking and other drug use. Changing behavior, therefore, means not only changing norms but the perception of norms. Correcting overestimates can be a useful prevention message (*20*).

Another indication that the theory provides a good framework for understanding the important role that perceived social norms play in directing behaviors came from a recent study by Lloyd Johnston and coworkers (*21*). Although this study dealt with marijuana use, the main finding may be important in suggesting a direction for future alcohol use prevention efforts. The researchers found that the decline in marijuana use since 1979 among high school seniors is most likely because of a change in norms and their perception of norms.

To be precise, negative attitudes toward marijuana use among high school seniors are increasing. Disapproval by peers and an increase in the perception of risk involved in using marijuana are most likely the deciding factors that have led to decreased marijuana use (*21*). According to Bachman and coworkers, increasing proportions of high school seniors perceive that their friends disapprove of marijuana use, and increasingly, information concerning harmful consequences is believed. These "changes in the social environment" suggest that future prevention efforts may effectively emphasize perception of harm and social disapproval.

Social development model. David Hawkins and coworkers developed a model that seeks to address key risk factors for alcohol and other drug use at developmentally appropriate points (*22*). According to the model, the development of bonds of attachment between adolescents and social units, such as families, schools, and groups of friends, creates a system of rewards and punishments. When the social unit's expectations are clear and consistent, young people's behaviors will follow the norms because they feel socially bonded to the units (*4*).

According to the social development model, prevention programs should create positive peer groups and ensure that the social environment does not give mixed messages. An example of this type of program is the Canadian Four Worlds Development Project, created by Phil Lane and tribal elders for Native American communities (*23*). The project promotes the development of core groups within Native American communities, groups that will "establish new structural patterns around which the life of the community can organize itself—patterns that are more life-preserving, life-enhancing and development-promoting than those currently being utilized."

Centered in Alberta, the project's founders believe that the "core of human development process is the people who, by their unity of vision, their personal commitment to growth, and their leadership (by example), form the pattern which other people cluster as positive changes take place in the community."

Health behavior. The health behavior theory is based on Karl Lewin's field theory and emphasizes the uniqueness of the individual as well as the properties of the group (*4*). Perry and Jessor described the variables that influence behavior in terms of spheres and propose that health is comprised of four domains; physical, psychological, social, and personal. Since a single behavior can ef-

fect several health domains, the relationships among them must be examined fully in terms of prevention strategies (*24*).

Because adolescents tend to engage in several risky health-compromising behaviors at the same time rather than one, Perry and Jessor recommended that prevention strategies be directed toward a person's entire behavior repertoire (*24*). The promotion of health-enhancing behaviors through stress reduction, elimination of smoking tobacco, and regular physical exercise can be viewed as complementary strategies in a field theory-based health promotion program.

Stages of drug involvement. Denise Kandel and coworkers described alcohol and other drug use as a process of clear-cut stages largely determined by a matrix of social relationships (*25,26*). Because of the longitudinal nature of their studies, they could determine that different influences are involved at different stages, with situational and interpersonal factors being most important for initiation into alcohol and other drug use behavior. Psychological factors were found to be most important for increased involvement or participation in that behavior.

Three specific stages of drug use described by the researchers are use of alcohol, use of marijuana, and use of other illicit drugs. Distinct predictors mark initiation into each stage of use. The most important predictor of alcohol use is involvement in minor delinquent activities. The researchers documented the role of alcohol and other drugs as a gateway to increased risk of progression to greater or more frequent use (*27*). The use of alcohol and illicit drugs at a young age predicted an unstable work history, as observed during the 9-year study period (*27*).

An example of prevention programs based on Kandel's work is those attacking gateway drugs. OSAP supports prevention efforts that have special interventions at early ages for youths who smoke cigarettes or use chewing tobacco, alcohol, or marijuana. OASP also supports special interventions at an early age for youths who have favorable attitudes toward smoking, drinking, or drug-taking subgroups.

Drug use as a deviant response. One popular model explains drug use during adolescence as deviant behavior. Kaplan and coworkers (*28*) proposed that such deviant responses often are triggered by an adolescent's membership in groups which have deviant response patterns that act effectively to boost self-esteem. How this model could be useful in explaining alcohol use is still unclear; however, it is interesting because it involves both the individual's self-rejecting attitude and membership in a negative reference group.

Sensation seeking. Zuckerman's research explored the relationship between an individual's need for sensory stimulation and a host of behaviors, among them the use of alcohol and other drugs (*4,29*). He observed that all individuals seek varied experiences and stimulation but have different optimal levels of arousal. Using alcohol or other drugs, eating, smoking cigarettes, and engaging in sexual activity are examples of sources of sensory stimulation. The primary functions of sensation seeking are to provide new experiences, reduce boredom, facilitate disinhibition, and offer adventure.

The most important demographic correlates with sensation seeking are age and sex. Thrill or adventure seeking declines after age 30, and males generally score higher than females on sensation seeking. Young males' higher rates of drinking and driving could perhaps be explained by this model.

However, to believe that prevention is simply providing opportunities for recreation would be simplistic. An example of a misguided prevention program was provided by Milam and Ketcham (*30*). A large grant for Eskimo villagers to construct recreation centers was based on an assumption that the people were bored and would stop drinking if provided with a place for recreation. But the alcoholism rates were already high in the villages and, as the researchers noted, "boredom is not a cause of alcoholism"; the villagers primarily needed treatment centers. OSAP recommends that intervention and treatment programs be established in addition to prevention efforts across the country; one is not a substitute for the other.

Communications Models

Health promotion. Bettinghaus expanded the original knowledge-attitude-behavior continuum by using measures of behavioral intention rather than generalized attitudes (*4*). In addition, he advocated the use of a comprehensive approach in developing health campaigns. Key elements that should be addressed include countermeasures (antismoking efforts that compete with prosmoking print media messages); difficulty (losing 50 pounds is more difficult than reducing salt intake by 10 percent); addictive properties (tobacco, alcohol, and other drugs); and social pressures (from peers).

Finally, he proposed the use of McGuire's information processing model, which argues that moving between the elements of the knowledge-attitude-behavior continuum demands that processing time on the part of individuals, as well as attention to a set of elements within a communication matrix. The matrix includes, at a minimum, paying attention to the five major elements of the communications process, which are source, message, channel, receiver, and destination (*4*). The model has been used by OSAP in planning media campaigns for particular target audiences. OSAP prevention efforts include the use of mass media to support and reinforce community efforts.

Communication and behavior change. Maccoby and coworkers studied mechanisms used by mass media campaigns to change behavior and defined the steps required to move a target population from initial awareness of interest in a problem to the adoption and maintenance of advocated attitudes or behaviors (*4,31*).

The first step involves attracting attention and focusing it on specific issues and problems, a process referred to by mass media researchers as "agenda setting," which, for major national campaigns, has been accomplished by broadcast media. Once a subject is on the public agenda and perceived as an important issue, a campaign must explain the issue in a way that is personally relevant to individuals in the target audience. The target population also must be given some positive incentives or encouragement to change their behavior, and taught how to modify risk-related behaviors ("training"). Solomon pointed out that it is important for the person to understand the price of engaging in risk reduction behaviors from an individual point of view (*32*).

Finally, if newly acquired habits are to be maintained, self-cuing at appropriate times and places is critical. Prevention strategies are designed to take into account the steps in the process, as well as the potential influences operating at the personal, community, and economic levels (*4*).

In addition, Solomon advocated extensive use of audience segmentation and the development of multiple products that are targeted to each primary and secondary audience (*32*). OSAP has applied this principle in its "Be Smart! Don't Start!—Just Say No!" campaign.

Persuasion-communications. McGuire has worked extensively on the theory underlying communication campaigns (*33,34*). He believes that the more successful campaigns are those which focus on the availability of solutions rather than on the seriousness of the problem (*33*). He found that such techniques as defining specific audiences and targeting messages may increase the effectiveness of public communications campaigns, but the techniques have limited efficacy for changing the audience's health-related behavior (*35*).

McGuire described components necessary to construct a communication capable of changing attitudes and behavior, along with successive responses people must make if they are to "yield" to the communication (*4*).

According to McGuire, the effectiveness of a communication campaign depends on its ability to lead an audience through a 12-step process. The process starts with exposure to the communication and proceeds through learning how to incorporate the target behavior in one's life, and being able to make decisions based on the retrieval of the information. The process concludes with reorganizing one's related beliefs and "engaging in postbehavioral activities" or consolidation (*4,33*).

Public Policy Models

Price policies. Growing evidence indicates that the price of alcohol influences both alcohol consumption and alcohol-related problems (*35*). Cook (*36*) and Cook and Tauchen (*37*) found that relatively small increases in the price of distilled spirits (increases in State taxes) reduced not only consumption of distilled spirits but also death rates from liver cirrhosis and automobile crashes.

More recently, Coate and Grossman (*38*) concluded that higher prices for beer, the most popular alcoholic beverage among youths, would reduce not only the numbers of young persons who drink but also the incidence of both heavy and frequent drinking. A recent longitudinal study that compared various regulatory and availability restrictions (such as hours of sale) concluded that raising the prices for alcohol had the greatest effect in lowering consumption (*39*). Changes in price policies appear to be a very effective means of reducing alcohol consumption.

Minimum drinking age. Research indicates that lowering the minimum age for alcohol purchase is associated with an increased rate of automobile crashes among young people, and that raising the minimum age reduces that rate (*4,35*). Researchers studied the automobile fatalities of 26 States that raised the minimum purchase age between 1975 and

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1984. The findings showed a 13 percent reduction in night-time fatal crashes among 18- and 19-year-old drivers, the most affected age group. The effect was consistent across regions and stable over time (*40*).

Research into the physical availability of alcoholic beverages continues to support the hypothesis that a reduction in availability through various means, including age restrictions, hours and days of sale, and raising the minimum age, is correlated with lower rates of use and a lower incidence of related problems. Changes in these environmental factors, therefore, appear to be a very effective means of reducing alcohol consumption and problems. OSAP is making the research results available for implementation by those developing prevention programs.

Conclusion

No single approach has been identified as effective for preventing use of alcohol by youth. In fact, different factors in separate programs appear to be effective in certain communities with certain age groups. A multifaceted approach to prevention is necessary.

Dr. Sheila Blume, an author and scientist in the alcohol field, said "If we ever develop a rational prevention policy, it will have hundreds of items in it . . . they will all have to be done" (*41*).

For maximum effectiveness, a prevention strategy needs to address parental and peer influences, teachers, and community leaders; norms; marketing and availability of alcoholic beverages; and alcohol-related laws, regulations, and policies (*19*).

OSAP was established within ADAMHA by the Anti-Drug Abuse Act of 1986 to develop a multidimensional prevention program with a fresh perspective and new resources. OSAP activities are based on the knowledge that prevention can be only as effective as the efforts undertaken at the State and community levels. Therefore, OSAP activities are focused on providing national leadership to strengthen and support local efforts.

Briefly, the OSAP mission is to (*a*) review government policy related to alcohol and other drug abuse, (*b*) operate a clearinghouse, (*c*) operate a grant program, (*d*) support the development of model programs, (*e*) conduct prevention workshops, (*f*) coordinate research findings, and (*g*) develop prevention materials.

Prevention planners should focus on the multiple factors that contribute to alcohol and other drug use by youth. Community leaders should take into consideration existing community efforts and in their programs address ways in which various programs can interrelate. OSAP recommends a systems approach to prevention, viewing the community and the environment as interconnected parts, each affected by the others. The goal of any community in prevention is to make the parts work together (*20*).

Although more research is needed to determine which strategies and approaches work best, the following (*19*) are essential components:

- Communicating a clear, nonuse message for youth through all community channels, policies, and practices
- Role modeling of moderate, low-risk use of alcohol by adults of legal age
- Skill building to enhance social and interpersonal communication skills, peer resistance problem-solving, media promotion efforts and portrayal analysis, and ability to ask for help
- Promoting bonding and attachments to family, peers, school, and religion, and belief in general social norms, values, and expectations
- Increasing the perceived benefits of health-enhancing behaviors and decreasing the perceived benefits of health-compromising behaviors
- Providing referral, counseling, or treatment services for children or families in need of help.

Alcohol is the most widely used drug among American youth. Preventing its use by young people requires an integrated, comprehensive, systems approach that involves the entire community—parents, older youth, educators, health and social service professionals, religious organizations, government agencies, recreation and service groups, and businesses. Strategies must be reinforced through the mass media and through one-on-one peer programs to enable behavior change and maintenance to occur. If we apply these strategies

consistently over time, we could see a new generation of drug- and alcohol-free youth.

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Screening for Alcoholism: Techniques and Issues

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Synopsis

Alcoholism is an often overlooked health problem because alcoholics usually do not seek treatment for their drinking problems. They do, however, seek general medical care for other health reasons, and a number of screening techniques have proven useful for identifying alcoholics. The advantages and disadvantages of self-report, as well as biochemical techniques that have been found effective in screening for alcoholism, are discussed.

We recommend that future research be aimed at developing quick, accurate, and inexpensive screening devices that also can evaluate the severity of the alcohol problem. Ideally, screening procedures would discourage feigned responses, differentiate between drinking and consequences of drinking, and permit the identification of subtypes of alcoholics. Better understanding of the types of errors made by common screening instruments would enable researchers to construct an optimal sequencing strategy for screening for alcoholism.

ALCOHOLISM is one of our society's most overlooked health problems despite its significant medical, economic, social, and legal consequences. Only about 15 percent of the alcoholics in this county ever enter any type of treatment for alcoholism (*1*).

Although alcoholics rarely volunteer for treatment for alcoholism, they do seek and receive other kinds of care. For example, a study sponsored by the National Institute of Mental Health has shown that, within a 6-month period, almost 70 percent of individuals with alcohol problems make at least one ambulatory care visit. About 90 percent of these visits are to medical providers rather than to mental health specialists (*2*). An estimated 15 to 30 percent of medical and surgical patients in general hospitals satisfy clinical criteria for the diagnosis of alcoholism (*3*). Therefore, general medical care settings appear to be appropriate sites for screening for alcoholism.

Two types of alcoholism screening instruments are currently available to health care practitioners. There are brief interviews, or paper and pencil tests, in which the patient gives a self-report of his or her drinking behavior and its consequences. There are laboratory measures in which enzyme levels and other biochemical test results are analyzed to determine if, individually or in combination, measurements deviate from expected values. Values outside the normal range frequently indicate alcohol-related pathology, especially liver damage, although such a determination may only be possible when other medical conditions and the use of certain medications have been ruled out.

We review examples of both types of screening