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## An Update on Adolescent Drug Use: What School Counselors Need to Know

*School counselors need to have accurate and age-appropriate prevention education information in order to counsel teens on drug use. This article presents developmentally specific prevention materials for the most important emerging substances of abuse: Ecstasy, methamphetamine, cough and cold medication, prescription opiates and stimulants, and the "date rape" drugs. Because developing appropriate materials requires understanding how adolescents develop, an expert panel approach was used, supplemented with a literature review and teen focus groups.*

Substance use affects many areas of the brain and can cause adverse behavioral, psychological, and social consequences. This is particularly true during adolescence. Adolescence is a unique period of development marked by rapid changes in brain structure, behavior, and social functioning. Recent research strongly suggests that the brain continues to mature during adolescence and into young adulthood (Giedd et al., 1999). For example, millions of new synapses (connections between brain cells) in the frontal lobes are created and organized during adolescence. Nerve cells develop a fatty coating called myelin during adolescence, which allows the brain to function more efficiently. The adolescent brain also has a heightened biological vulnerability to the development of addiction (Chambers, Taylor, & Potenza, 2003); addictive disorders identified in adults usually begin in adolescence or young adulthood (Kandel, Yamaguchi, & Chen, 1992; Wagner & Anthony, 2002).

Because of these changes in the brain, adolescents may be particularly susceptible to the influence of external factors such as substance use (Dahl, 2004). Substance use can interrupt brain development. Some changes in the brain and in functioning may be reversible when drug use stops, but other changes appear to be either permanent or very long-lasting, leading to persistent deficits in memory and motor coordination (National Institute on Drug Abuse, 2001; Tapert & Schweinsburg, 2005). In addition, because each developmental period sets

the stage for the next period, delayed development during adolescence may "reverberate" over the course of later development.

Recent information about the nonmedical use of prescription drugs, misuse of some over-the-counter drugs, and the use of club drugs (drugs such as Ecstasy and methamphetamine that are closely tied to the all-night dance club scene) heightens the need for school counselors to familiarize themselves with these substances, in addition to the more commonly abused substances such as alcohol, tobacco, and marijuana (Monitoring the Future, 2005). School counselors are uniquely positioned to inform and educate adolescents about the harmful effects of substance use, a role spelled out by the American School Counselor Association (2005). They can do so successfully if they have accurate, up-to-date prevention education materials designed for use with adolescents.

In this article we provide data on the most important harms associated with adolescent substance use for the following drugs: Ecstasy (MDMA), methamphetamine, cough and cold medication (dextromethorphan), prescription opiates and stimulants, and "date rape" drugs, including sedatives and gamma hydroxybutyrate (GHB). We also include key prevention messages specific to each drug class, as well as more general prevention messages to use when communicating with adolescents. After alcohol, cigarettes, marijuana, and crack/cocaine, these drugs are the most commonly used and abused by adolescents (Monitoring the Future, 2005).

Data come from research conducted as part of a project to develop technical assistance materials (Ellickson, Watkins, Vaiana, & Hiromoto, 2005) for Project ALERT, a drug education and prevention curriculum that has been nationally recognized as an exemplary school-based drug education program (BEST Foundation for a Drug Free Tomorrow, 2005). Based on the social influence model of prevention, Project ALERT is designed for middle school adolescents and has been proven effective in curbing cigarette and marijuana use, mitigating alco-

hol misuse, and reducing pro-drug attitudes in two large-scale, multisite trials—one that included 3,800 students from 30 schools in two Western states (Ellickson & Bell, 1990; Ellickson, McCaffrey, Ghosh-Dastidar, & Longshore, 2003; Ghosh-Dastidar, Longshore, Ellickson, & McCaffrey, 2004). Developed by RAND and disseminated by the BEST Foundation, it currently reaches over a million students each year.

The research questions for the current project were as follows:

1. Excluding alcohol, tobacco, marijuana, and cocaine, for which drugs is it most important to develop supplementary prevention materials for seventh and eighth graders?
2. Which harms and prevention messages are the most important to emphasize, taking into account seventh and eighth graders' likely exposure to these drugs and their developmental stage?

## METHODS

Our approach to identifying the harms and prevention messages most relevant to adolescents involved three steps. First, we conducted a literature review to identify current estimates of prevalence and the adverse consequences associated with use of these drugs. We included physical and medical harms, psychological harms, and adverse social and developmental consequences. We also assessed differences by gender and ethnicity. We searched drug information Web sites produced under the auspices of the federal government (e.g., National Institute on Drug Abuse, the Drug Enforcement Administration, and the National Drug Intelligence Center, among others) and confirmed all statements with peer-reviewed scientific articles obtained by searching Medline and Ovid.

Second, we reviewed these findings with an expert panel to identify those harms most relevant and important to adolescents. We recruited 10 panelists with expertise in adolescent substance use to participate in three day-long workshops covering the different drugs. The panelists included physicians, a toxicologist, drug treatment and drug prevention specialists, undercover law enforcement officers, research communicators, and an ethnographer. Before the meeting, we provided panelists with summaries of our literature review, selected prevalence data, and sample Project ALERT materials. We asked the panelists to review the material and to consider the most important consequences or harms to which seventh and eighth graders would be exposed if they used these drugs. We also asked the experts to identify the consequences that would be most likely to deter teens from using the drugs, as well as

particular harms that might occur because of poly-drug use and/or the addition of other ingredients to specific drugs.

During the meeting, panelists identified the most important harms associated with each substance and then rated how relevant the harm was to seventh and eighth graders, taking into account their probable exposure to the substance and adolescent characteristics that affect their responsiveness to different types of information. For example, adolescents are likely to consider immediate harms such as losing one's friends or being taken to the emergency room to be more serious than harms such as liver disease that might occur in the distant future. During the third session, panelists synthesized the data on prevalence and harms to produce an overall rating of which drugs and which prevention messages were the most important to emphasize in prevention education efforts.

Our third step was to obtain a teen perspective on the results of the expert panel. This was done to ensure that no harms identified as critical by teens had been omitted from the list of most important harms developed by the expert panel and to guide the framing of prevention messages. We conducted four focus groups with a total of 34 teens between the ages of 14 and 21 who were recruited from area high schools and treatment programs. The teens came from diverse socioeconomic and ethnic backgrounds and all but one were in high school. Teens were asked to discuss which harms they perceived as most important and how they would package an avoidance message for middle-school adolescents. We also tapped user Web sites and teen magazines for illustrative material.

While the expert panelists and teens identified which emerging drugs to include and the most important harms for teens associated with each, the research team crafted the specific prevention messages. That effort was guided by Project ALERT's theoretical focus on the seriousness and salience of drug use consequences, as well as the relevance of those consequences to adolescents, their likely exposure to harm, and their developmental readiness to hear specific messages, as indicated by the focus groups and our drug prevention experience in more than 85 middle schools.

Based on the social influence model of prevention, the Project ALERT curriculum synthesizes three theories of behavioral change: (a) the health belief model, which focuses on cognitive factors such as seriousness of consequences that motivate healthy behavior (Becker, 1974; Rosenstock, Strecher, & Becker, 1988); (b) the social learning model, which emphasizes social norms and significant others as key determinants of behavior (Bandura, 1985); and (c) the self-efficacy theory of behavior change, which

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views the belief that one can accomplish a task as essential to effective action (Bandura, 1977). Project ALERT specifically seeks to change students' beliefs about the physical, social, and emotional consequences of using drugs and norms surrounding use; to help them identify and resist pro-drug pressures from peers, parents, the media, and others; and to build resistance self-efficacy, the belief that one can successfully resist pro-drug influences. The prevention messages are similar in style and content to those in the current curriculum on alcohol, tobacco, marijuana, and cocaine. All prevention messages were reviewed and approved by the expert panel.

## RESULTS

Much of the information about adverse consequences identified by both teens and our expert panels was not drug specific. In fact, even older teens were unaware of the differences between drugs, and they often grouped disparate drugs together. This suggests that it may be difficult for adolescents to assimilate drug-specific information, and that the most important messages for school counselors to communicate are the same across these drugs.

Appendix A shows the general drug prevention messages identified as the most relevant for adolescents in the seventh and eighth grades. We group them by what teens say and by what science and the experts say.

As Appendix A indicates, the teens emphasized how drug use would affect the people they care about, especially family and friends. They were also quite clear that using drugs can negatively affect performance in school, as well as in sports and other activities, and increase the likelihood of getting in trouble, having an accident, or doing something else that one will regret. All of these consequences, which deal with how drug use can affect one's daily life and social relationships, strike a chord with teens and heighten their sense of personal susceptibility to the negative effects of using. They apply across drugs and should be included in the overall prevention message.

The experts, on the other hand, emphasized harms associated with how drug use affects the brain and body, noting that some drugs can change the brain and body permanently and even cause death. They also emphasized the uncertainty associated with drug use—that you never know exactly what you're getting, cannot predict how your body and mind will react, and cannot count on the notion that just trying something once is harmless. These messages are designed to help adolescents understand that drug use can have serious and permanent consequences and that teens are susceptible to these harms because no one can predict if and when they

might happen. They are also key components of the Health Belief Model, a common approach to promoting healthy behavior that stresses the importance of recognizing the bad personal consequences of specific behaviors in motivating resistance to them (Rosenstock et al., 1988).

Because teens know so little about how specific drugs might affect them (and often have the wrong information), it is important that counselors be equipped with the knowledge they need to answer questions that arise and to correct misperceptions and myths that adolescents may have acquired. In the text below, we provide information about each of the drugs listed above and some of their most important harms. The appendixes provide specific prevention messages crafted from material drawn from our teen focus groups, user Web sites, and teen magazines.

### Ecstasy

Ecstasy (MDMA) is an illicit, illegally produced stimulant with mild hallucinogenic properties. It is also known as E, X, XTC, Bean, or Roll. It elevates energy, heart rate, blood pressure, and body temperature, and it makes users feel emotionally open, sociable, and uninhibited. It is almost always taken in pill form. Ecstasy use is closely tied to the all-night dance club scene—hence its label as a “club drug.” However, it is also used in small social settings, at home, and elsewhere.

Ecstasy is dangerous because it can cause overheating, which is particularly likely to happen when people take Ecstasy to increase their energy level when dancing. A body temperature of more than 105 degrees is a medical emergency and can quickly lead to death if not treated in time. Users often drink liquids to avoid dehydration, but drinking too much water can be harmful because it dilutes the salt in one's body to dangerous levels. Teens who use Ecstasy at dance clubs or all-night dance events are likely to mix it with alcohol or other drugs, a particularly dangerous form of use because Ecstasy pills are notoriously impure. The disinhibition associated with Ecstasy use can cause teens to behave in ways that make them vulnerable to sexual assault or other violence. Key prevention messages, summarized in Appendix B, stress problems with overheating, not knowing what's in the drug, and feeling overconfident.

### Methamphetamine

Methamphetamine is a strong physical and mental stimulant, also known as meth, crystal meth, crank, ice, tweak, glass, and speed. Methamphetamine raises blood pressure and heart rate and makes the heart beat with greater force. It can permanently damage nerve cells that produce important brain chemicals. Methamphetamine can be snorted, smoked, inject-

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ed, drunk, or taken as pills or powder. Methamphetamine is less of a party drug than Ecstasy, although teens at dance events may take it unknowingly when it has been added to the latter substance. Teens who use it to enhance performance or lose weight are likely to use it by themselves.

Methamphetamine can cause permanent psychosis, even with first use. It is highly addictive, and users may feel they are being very productive when, in fact, they are engaging in pointless, repetitive activities. Chronic use can cause permanent brain damage, paranoia, a weakened immune system, and heart problems. Regular methamphetamine users frequently become “tweakers,” emaciated people with rotten teeth who neglect basic hygiene and pick at their skin, creating sores that often become infected. Appendix C highlights prevention messages that are particularly relevant for teens, including the possibility of harm after a single dose, the thin line between “just trying it” and getting hooked, and the effects of regular use on one’s brain, outlook, and appearance.

#### **Over-the-Counter Cough and Cold Medicines with DXM**

Some cough and cold medicines are used as “recreational” drugs, often by young teens. The ingredient most commonly abused is DXM (Dextromethorphan), a cough suppressant found in many over-the-counter cough and cold medications. DXM is generally safe when used at recommended doses, but high doses of DXM can produce hallucinations and the sensation of having out-of-body experiences. When abused, DXM is used at up to 30 times the recommended dose.

Street names for DXM include dex, tussin, drex, robo, rojo, skittles, triple C, and velvet. DXM is available as a liquid and in powder, lozenge, tablet, capsule, and gel cap form. At lower doses, teenagers often use it in a social setting or at dance clubs and all-night dance parties. At higher doses, teens probably use by themselves, pursuing the drug’s hallucinogenic effects.

Using DXM is particularly dangerous because almost all cough and cold remedies contain multiple ingredients, including acetaminophen, antihistamines, and pseudoephedrine. In order to get a recreational dose of DXM, teens take many times the recommended amount of the cough and cold medications. This greatly increases the amount they ingest of the other ingredients and raises their risk of organ damage. Ingesting large amounts of cough syrup also can lead to protracted vomiting.

DXM alters cognitive processes and judgment; high doses cause hallucinations and psychosis. People under the influence of DXM can exhibit bizarre, violent, uncontrolled behavior. Appendix D

presents prevention messages designed to resonate with younger teens, who are particularly likely to abuse these medications.

#### **Prescription Painkillers**

Prescription painkillers (opiates) are used medically to relieve pain. The most commonly prescribed, and the most commonly abused by teens, are OxyContin, Darvon, Vicodin, Percocet, Percodan, and Tylenol with Codeine. Prescription painkillers work by changing how the brain perceives pain. They slow down the body’s processes (breathing, heart rate, digestion) and produce a sense of well-being and calm drowsiness. Teens usually use prescription painkillers in pill form, but they also may crush the pills and snort the powder or mix it with water and inject it. Teens may use these drugs alone when self-medicating, or at school or parties to get high.

When not used as prescribed, prescription painkillers are very dangerous. Even one dose of prescription painkillers can suppress breathing and be lethal. Prescription painkillers are extremely addicting, and teens who self-medicate for relatively minor pain can become addicted quickly. Tolerance builds with drug use, so the more often teenagers use these drugs the larger the dose they need the next time. Abusing prescription painkillers can have permanent effects on the brain, including loss of interest in everything except the drug, inability to enjoy normal pleasures, and depressive symptoms. Prevention messages are listed in Appendix E.

#### **Prescription Stimulants**

Prescription stimulants (amphetamines) are drugs that speed up brain and physical activity by stimulating the central nervous system. They are used medically to treat depression, obesity, and attention deficit hyperactivity disorder. The prescription stimulants most commonly abused by teens are Dexedrine, Ritalin, and Adderall. Street names for these drugs include speed, dex, dexies, and jollies. Adderall is sometimes called “kiddie cocaine.” Teens typically swallow these drugs in pill form, but they also can be snorted or injected.

Using prescription stimulants in a manner inconsistent with how they were prescribed can cause sleeplessness, dangerously high body temperature, and nervousness. Users may become hostile and paranoid; long-term abuse can lead to severe weight loss, mental illness, heart failure, seizures, and even death. When not used as prescribed, stimulants are very addicting and tolerance develops. Sudden withdrawal produces fatigue; long, disturbed periods of sleep; irritability; and intense hunger and overeating. The prevention messages in Appendix F stress how stimulant use leads to loss of control (sleeplessness,

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paranoia, hallucinations), as well as how easy it is to get addicted.

### **Sedatives**

Sedatives (benzodiazepines and GHB) are central nervous system depressants—they slow normal brain function. Commonly prescribed and commonly abused by teens are Xanax (known as Zanies or Z bars), Valium, Ativan, and Klonopin. Candy, downers, sleeping pills, and tranks are other street names for these drugs. GHB is a sedative that became illegal in 2000. However, increasingly teens are turning to alternative forms of GHB that are easier to get. Sedatives are usually used in pill form; GHB can be produced in a white powder, clear liquid, or capsule form.

Misusing sedatives is dangerous because it is easy to overdose. Users who mix these drugs with other sedatives such as alcohol or opiates may go to sleep and never wake up. They also may lose the normal reflexes that protect their airway and choke to death on their own vomit. Sedatives can make teens feel uninhibited and result in undesired and/or high-risk sexual activity. GHB, an odorless, colorless liquid, is particularly dangerous because it is easily added to beverages without the teen noticing it and because the margin between a recreational dose of GHB and a lethal overdose is narrow. Appendix G highlights the lethal nature of sedatives, particularly when mixed with alcohol, and the importance of preventing anyone from adding anything to one's beverage glass at social gatherings.

### **DISCUSSION**

Among the most important emerging substances of abuse among teens are Ecstasy, methamphetamine, DXM, prescription painkillers and stimulants, and sedatives (Monitoring the Future, 2005). School counselors need to have accurate and age-appropriate prevention education information in order to respond to students' questions about these substances and to counsel all teens on why not to use drugs. This role is consistent with the ASCA National Model<sup>®</sup> (American School Counselor Association, 2005), which recommends that school counselors collaborate with teachers to provide guidance curriculum lessons.

This article presents accurate and developmentally specific material for the most important emerging substances of abuse. Because developing appropriate and effective materials requires understanding how adolescents develop, as well as how drugs affect young people and how adolescents respond to prevention messages (D'Amico et al., 2005), we used an expert panel approach supplemented with teen focus groups to develop age-appropriate prevention

education information. Because all materials were developed within the theoretical context of Project ALERT, a program with demonstrated effectiveness, we expect these supplemental materials will be effective, too. Project ALERT materials are also in alignment with national and state health education standards (BEST Foundation for a Drug Free Tomorrow, 2005).

Teens are likely to have general notions that drug use can mess them up, get them in trouble at home or school, and make friends and family suffer. These are important prevention messages that resonate with young people. But adolescents are less likely to understand that using many of these substances amounts to playing Russian roulette with their health and, frequently, with their lives. Because certain kinds of drugs or ways of using them can result in permanent damage or even loss of life, prevention messages that accurately and credibly convey this information are important as well. School counselors are uniquely positioned to convey accurate and age-appropriate prevention messages to teens in a non-threatening and nonjudgmental manner.

Many teens do not realize that a single dose of drugs like Ecstasy, methamphetamine, and some opiates can cause long-lasting harm to the brain or body and even death. Such severe and immediate consequences do deter adolescents from use, but only if they get the information and believe it (Masterman & Kelly, 2003). Counselors who have established trust and credibility with their students have a good chance of successfully conveying this information. Many teens also discount the likelihood of getting addicted and having the drug control everything they do. Counselors can motivate teens against experimenting with dangerous drugs like methamphetamine and prescription painkillers by helping them understand the link between addiction and loss of control, and the thin line between experimentation and addiction. Counselors also can help teens understand why all pills of a single substance aren't the same and how a given dose may interact with other substances such as alcohol.

A particularly problematic form of experimentation is "pharming," the practice of putting pills obtained from home or friends in a bowl, reaching in for a few, and swallowing them. Because many teens believe that drugs prescribed by doctors are "safe," they also tend to discount the risks associated with this form of Russian roulette (Falkowski, 2003). Vulnerability to group pressure makes refusing to join in particularly difficult. Counselors can help teens to understand the immediate harms that are associated with this practice and to realize that drugs may have idiosyncratic effects, particularly when mixed with other drugs.

Counseling adolescents about drug abuse preven-

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tion can be effective, but only if counselors convey credible and age-appropriate information (D'Amico et al., 2005). Because counselors are likely to come in contact with students at risk for alcohol and drug problems, they may be particularly effective at persuading them to adopt lower-risk behavior. Techniques that emphasize teens' responsibility for decisions about substance use fit well with adolescents' need for autonomy and individuation (Masterman & Kelly, 2003) and with the nonjudgmental style used by many school counselors. ■

## References

- American School Counselor Association. (2005). *The ASCA national model: A framework for school counseling programs* (2nd ed.). Alexandria, VA: Author.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84, 191–215.
- Bandura, A. (1985). *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice Hall.
- Becker, M. H. (1974). The health belief model and personal health behavior. *Health Education Monographs*, 2, 324–473.
- BEST Foundation for a Drug Free Tomorrow. (2005). *Project ALERT*. Retrieved February 2, 2006, from <http://www.projectalert.best.org/Default.asp?bhcp=1>
- Chambers, R. A., Taylor, J. R., & Potenza, M. N. (2003). Developmental neurocircuitry of motivation in adolescence: A critical period of addiction vulnerability. *American Journal of Psychiatry*, 160(6), 1041–1052.
- D'Amico, E. J., Ellickson, P. L., Wagner, E. F., Turrissi, R., Fromme, K., Ghosh-Dastidar, B., et al. (2005). Developmental considerations for substance use interventions from middle school through college. *Alcoholism: Clinical and Experimental Research*, 29(3), 474–483.
- Dahl, R. E. (2004). Adolescent brain development: A period of vulnerabilities and opportunities. *Annals for the New York Academy of Sciences*, 1021, 1–22.
- Ellickson, P. L., & Bell, R. M. (1990). Drug prevention in junior high: A multi-site longitudinal test. *Science*, 247(4948), 1299–1305.
- Ellickson, P. L., McCaffrey, D. F., Ghosh-Dastidar, B., & Longshore, D. L. (2003). New inroads in preventing adolescent drug use: Results from a large-scale trial of Project ALERT in middle schools. *American Journal of Public Health*, 93(11), 1830–1836.
- Ellickson, P. L., Watkins, K. E., Vaiana, M. E., & Hiromoto, S. (2005). Project ALERT: A supplemental resource manual. In *Project ALERT: A drug prevention program for middle schools*. Los Angeles: BEST Foundation.
- Falkowski, C. L. (2003). *Dangerous drugs: An easy-to-use reference for parents and professionals* (2nd ed.). Center City, MN: Hazelden Publishing and Educational Services.
- Ghosh-Dastidar, B., Longshore, D., Ellickson, P. L., & McCaffrey, D. F. (2004). Modifying pro-drug risk factors in adolescents: Results from Project ALERT. *Health Education and Behavior*, 31(3), 318–334.
- Giedd, J. N., Blumenthal, J., Jeffried, N. O., Castellanoes, F. X., Liu, H., Zijdenbos, A., et al. (1999). Brain development during childhood and adolescence: A longitudinal MRI study. *Nature Neuroscience*, 2(10), 861–863.
- Kandel, D. B., Yamaguchi, K., & Chen, K. (1992). Stages of progression in drug involvement from adolescence to adulthood: Further evidence for the gateway theory. *Journal of Studies on Alcohol*, 53(5), 447–457.
- Masterman, P. W., & Kelly, A. B. (2003). Reaching adolescents who drink harmfully: Fitting intervention to developmental reality. *Journal of Substance Treatment*, 24(4), 347–355.
- Monitoring the Future. (2005, September 19). *A continuing study of American youth*. Retrieved September 20, 2005, from <http://www.monitoringthefuture.org/>
- National Institute on Drug Abuse. (2001). *Ecstasy: What we know and don't know about MDMA, a scientific review*. Retrieved September 20, 2005, from <http://www.drugabuse.gov/Meetings/MDMA/MDMAExSummary.html>
- Rosenstock, I. M., Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the health belief model. *Health Education Quarterly*, 15(2), 175–183.
- Tapert, S. F., & Schweinsburg, A. D. (2005). The human adolescent brain and alcohol use disorders. In M. Galanter (Ed.), *Recent developments in alcoholism: Vol. 17. Research on alcohol problems in adolescents and young adults* (pp. 177–197). New York: Springer.
- Wagner, F. A., & Anthony, J. C. (2002). From first drug use to drug dependence: Developmental periods of risk for dependence upon marijuana, cocaine, and alcohol. *Neuropsychopharmacology*, 26(4), 479–488.

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## APPENDIX A

### General Drug Abuse Prevention Messages

#### *What teens say:*

- ❖ You can permanently derail your future, wreck your family, and lose your friends.
- ❖ Your performance in sports and at school will suffer.
- ❖ You can get in trouble—at home, at school, and with the cops.
- ❖ You'll come to see yourself as a failure, and that's how others will see you, too, including the people you care about the most.
- ❖ You can lose physical coordination and good judgment, making yourself vulnerable to serious accidents or sexual abuse.

#### *What science and experts say:*

- ❖ Some drugs can change the brain and body permanently—even after just one dose. In cases such as OxyContin, Ecstasy, GHB, or methamphetamines, one dose can be lethal.
- ❖ You never know exactly what you are getting. Illegal drugs can contain anything, and teens abusing prescription drugs don't read labels.
- ❖ Even if you know what you are getting, you don't know how your body and mind will react. Everyone reacts differently—it's random chemistry.
- ❖ Teens think they can handle trying something just once, but the line between experimentation and addiction is very fuzzy.

## APPENDIX B

### Ecstasy: Most Important Prevention Messages

- ❖ What you don't know can—and will—hurt you. Ecstasy pills can contain anything from methamphetamine to DXM. Buying it from the same dealer or using the same brand makes no difference. So taking Ecstasy is a lot like flipping a chemical coin.
- ❖ Ecstasy makes you feel like you can dance forever, and dancing makes you overheat. Overheating can kill you, and once your body overheats, it's more likely to do it again—for the rest of your life—because you've damaged your body's ability to regulate temperature.
- ❖ Ecstasy makes you feel self-confident and on top of the world. But it also can blind you to a potentially bad situation, where you could be sexually attacked.

## APPENDIX C

### Methamphetamine: Most Important Prevention Messages

- ❖ Meth is a one-way ticket to disaster. The line between “just trying it” and being hooked is thin and blurry.
- ❖ Using meth just once can lead to psychotic episodes as well as to long-term psychosis—you see and hear things that aren't real.
- ❖ Using meth regularly fries your brain. It can cause permanent brain damage and change forever the way you view the world.
- ❖ Regular meth users become “tweakers,” skeleton-like people with rotten teeth who pick at their skin, creating sores that often become infected.



## APPENDIX D

### **Over-the-Counter Cough and Cold Medications with DXM: Most Important Prevention Messages**

- ☞ Your friends may start avoiding you.
- ☞ You won't be able to stop throwing up.
- ☞ You will look so freaked out that your friends may take you to the emergency room and the doctors will call your parents.

## APPENDIX E

### **Prescription Painkillers (Opiates): Most Important Prevention Messages**

- ☞ Prescription painkillers can kill you—even one dose. You just stop breathing.
- ☞ What you don't know can hurt you. All prescription painkillers aren't the same, and you don't know the effect of one pill compared with another.
- ☞ It's very easy to get addicted—easy to go from experimenting to having the drug be the most important thing in your life.

## APPENDIX F

### **Prescription Stimulants (Amphetamines): Most Important Prevention Messages**

- ☞ It's easy to get hooked on these drugs; pretty soon the only thing that matters is getting more.
- ☞ You may start taking these drugs to keep awake, but you'll end up not being able to sleep when you want to.
- ☞ Your heart will pound, you'll wonder who's out to get you, you'll see things that aren't there.
- ☞ Experimenting with drugs prescribed for other people is a huge gamble. There are so many important things you can't control—what you actually took, how powerful the pill is, and how it will affect you.

## APPENDIX G

### **Sedatives (Benzodiazepines and GHB): Most Important Prevention Messages**

- ☞ Mixing sedatives with alcohol can be deadly.
- ☞ These drugs can put you into such a deep sleep that you can literally choke on your own vomit.
- ☞ You don't know how strong the pill is that you are taking or how you are going to react to it.
- ☞ Always watch your glass or bottle at a party—even if you are just drinking a soft drink.