

## Drug Abuse Prevention – March 2007

### A Research Update from the National Institute on Drug Abuse

#### “Drug Abuse is a Preventable Behavior”

#### Understanding the Problem

Each year, drug abuse and addiction cost taxpayers nearly \$534 billion in preventable health care, law enforcement, crime, and other costs. For NIDA, the key word in this assessment is “preventable.” The best approach to reducing the tremendous toll substance abuse exacts from individuals, families, and communities is to prevent the damage before it occurs.

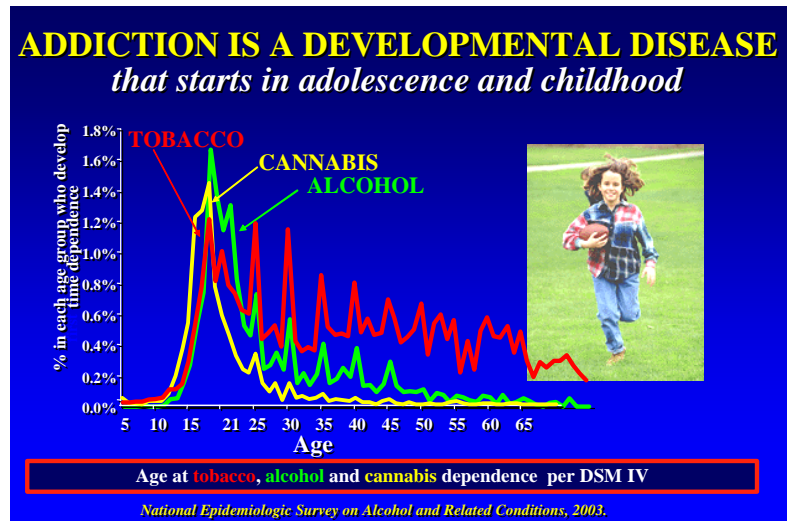
#### Prevention Research—Key Findings Inform Interventions

Today more than ever, science is providing us with the tools we need to better tailor our prevention efforts. Scientists are now poised to capitalize on recent advances in genetics, neuroscience, and developmental biology to create targeted science-based prevention programs that reflect the complexities underlying drug abuse and addiction. Key aspects of our approach take the following into account.

- **Addiction is a complex disease.** No single factor can predict who will become addicted to drugs. Addiction is influenced by a tangle of factors involving genes, environment, and age of first use. Recent advances in genetic research have enabled researchers to begin to uncover which genes make a person more vulnerable, which protect a person against addiction, and how genes and environment interact.
- **Addiction is a developmental disease.** It usually begins in adolescence or even childhood when the brain continues to undergo changes. The prefrontal cortex—located just behind the forehead—governs judgment and decision-making functions and is the last part of the brain to develop. This may help explain why teens are prone to risk-taking, are particularly vulnerable to drug abuse, and why exposure to drugs at this critical time may affect propensity for future addiction.
- **Prevention and early intervention work best.** The developmental years might also present opportunities for resiliency and for receptivity to intervention that can alter the course of addiction. We already know many of the risk factors that lead to drug abuse and addiction—mental illness, physical or sexual abuse, aggressive behavior, academic problems, poor social skills, and poor parent-child relations. This knowledge, combined with better understanding of the motivational processes at work in the young brain, can be applied to prevent drug abuse from starting or to intervene early to stop it when warning signs emerge.

#### NIDA is Moving the Science of Prevention Forward

Research has described in detail the biological variables and the social circumstances that foster or protect against drug abuse and addiction. Now NIDA has merged these historically separate fields with a new initiative that examines how neurobiology and the social environment interact to affect the likelihood of addiction. The resulting

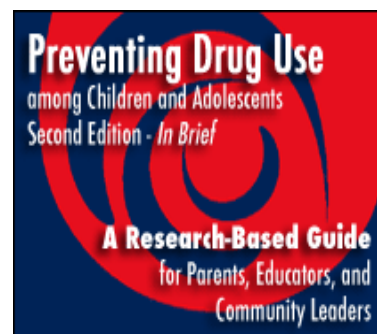


*social neuroscience initiative* will help us better understand how neurobiological mechanisms and responses—genetic, hormonal, and physiological—underlie, motivate, and guide social behaviors related to abuse and addiction. This perspective may help us understand adolescents' heightened sensitivity to social influences and decreased sensitivity to negative consequences, for example, that make them particularly vulnerable to drug abuse.

## **Prevention Works!**

Over 20 years of research demonstrates that prevention interventions designed and tested to reduce risk and enhance protective factors can help children at every step along their developmental path, from early childhood into young adulthood. NIDA is actively supporting research that strives to help people across the lifespan develop and apply the skills and resources they need to stop problem behaviors before, and after, they begin.

- **Effective prevention principles can be applied.** To guide professionals in helping others, NIDA, in cooperation with prevention scientists, published *Preventing Drug Use among Children and Adolescents: A Research-Based Guide for Parents, Educators, and Community Leaders—Second Edition*. This booklet lists over 20 examples of effective research-based drug abuse prevention programs and is available free on NIDA's website.
- **Prevention programs must “speak” to their audiences.** Two highly successful school programs designed specifically for male (ATLAS) and female (ATHENA) teenage athletes address steroid abuse and other unhealthy behaviors (e.g., drinking and driving). These programs leverage the influence of coaches and peer groups to highlight proper sports nutrition, strength training, and other positive alternatives to using drugs to improve performance and build confidence. ATLAS and ATHENA have now been adopted by schools in 29 states and Puerto Rico, and endorsed by Congress as exemplary prevention programs.
- **Preventing HIV/AIDS.** Drug abuse and HIV/AIDS are linked epidemics. Growing recognition that HIV is transmitted not just through sharing of injection drug equipment but also through risky sexual behaviors stemming from drug-impaired judgment led NIDA to create an educational campaign to help young people learn the link between drug use, high-risk behaviors, and HIV transmission.
- **Prevention is cost-effective.** Research has demonstrated that research-based drug abuse prevention programs are cost-effective. Each dollar invested in prevention achieves a savings of up to \$7 in areas such as substance abuse treatment and criminal justice system costs, not to mention their wider impact on the trajectory of young lives and their families.



## **Bringing Science to Communities**

To promote widespread use of effective prevention programs, NIDA researchers are now studying them in communities across the United States. Research focuses on understanding the factors that affect community willingness to adopt evidence-based programs and on developing strategies to overcome obstacles, such as organizational and financial issues. Several large-scale efforts are underway, including:

- The Community Youth Development Study—an innovative “*prevention system*” that offers assessment tools and technical trainings to communities so they can more accurately identify risk and protective factors for youth drug use and related behavior problems. This system allows them to select appropriate evidence-based prevention programs based on their particular needs.

For further information please visit NIDA on the web at [www.drugabuse.gov](http://www.drugabuse.gov) or contact:

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