

incentives are an effective adjunct to standard therapy for opiate-, marijuana-, alcohol-, and cocaine-addicted patients. Patients in most of those early studies always received vouchers exchangeable for goods or services, rather than chances to win prizes, for positive behaviors; costs typically ran to about \$1,000 per patient over 3 months, with the result that few community programs adopted the motivational incentive approach. Dr. Petry developed her prize-drawing system to make incentives affordable for community programs. She has tested it successfully in several Connecticut treatment programs, and now its effectiveness is confirmed by the CTN trial. NIDA is collaborating with the Substance Abuse and Mental Health Services Administration's Addiction Technology Transfer Center to promote awareness of the low-cost motivational incentive technique (see textbox, page 6).

The CTN researchers note that some community-based treatment providers resist the idea of motivational incentives based on a belief that clinicians should not reward patients for behaviors "that they are supposed to do anyway." In response, the researchers point out that groups and individuals often use external incentives to motivate others—from employees' bonuses to children's allowances for household chores. Dr. Stitzer advocates a shift in perspective from punishing lapses to celebrating successes. She observes that counselors have often changed their views when they have seen incentives help revolving-door patients stay in therapy. "Incentive programs—the idea of catching people being good and rewarding the behavior—can infuse addiction treatment with a positive outlook and reinvigorate patients and counselors," says Dr. Stitzer.

SOURCE

Petry, N.M., et al. Effect of prize-based incentives on outcomes in stimulant abusers in outpatient psychosocial treatment programs: A National Drug Abuse Treatment Clinical Trials Network Study. *Archives of General Psychiatry* 62(10):1148-1156, 2005.

Buprenorphine Plus Behavioral Therapy Is Effective For Adolescents With Opioid Addiction

A new study looks at extending the role of buprenorphine for treatment of adolescents.

BY PATRICK ZICKLER,
NIDA Notes Contributing Writer

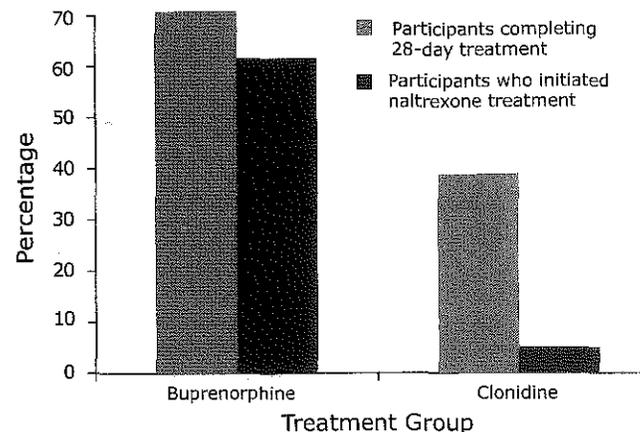
Adolescents addicted to opioids responded better to buprenorphine than clonidine in a clinical trial in which all patients also received behavioral therapy. In the NIDA-supported comparison trial at the University of Vermont, adolescents who received buprenorphine attended more scheduled counseling sessions than peers who received clonidine and had higher rates of successful induction to a relapse prevention regimen of naltrexone. The study, led by Dr. Lisa Marsch, is the first published randomized controlled study of treatments for adolescents addicted to opioids.

"Heroin abuse among American teens has doubled over the past decade, and abuse of prescription opioids such as OxyContin and Vicodin has increased even more," says Dr. Marsch. "In light of

those figures, it's important to have a scientific basis for selecting treatments for opioid-dependent teens. We know from previous research and clinical experience that buprenorphine and, to a lesser extent, clonidine are among the medications that have been shown to be effective for treating opioid-addicted adults, but we haven't known how helpful they can be for adolescents."

Dr. Marsch and colleagues enrolled 36 opioid-addicted adolescents, aged 13 to 18, in a 28-day outpatient treatment program. Half the participants (9 male, 9 female) received buprenorphine in tablet form, the

BUPRENORPHINE DETOXIFICATION SETS STAGE FOR RECOVERY Opioid-addicted adolescents who entered a detoxification program with buprenorphine were more likely than others receiving clonidine to maintain abstinence throughout a 28-day detoxification program and more likely to begin treatment with naltrexone after detoxification.



rest (5 male, 13 female) clonidine via transdermal patch; each patient also was given a placebo resembling the other treatment. Medication dosages varied depending on each participant's weight and the amount of drug he or she reported abusing before beginning treatment; dosages of buprenorphine were in the low to moderate range of those typically given to opioid-addicted adults.

All participants also received behavioral therapy based on the Community Reinforcement Approach: three 1-hour sessions each week of counseling on methods to minimize involvement in situations that might lead to drug-taking, training to help recognize and control urges to abuse opioids, and encouragement to recruit family members as allies for abstinence. Participants earned vouchers worth \$2.50 for the first opioid-negative urine sample, plus an additional \$1.25 for each subsequent one, and a \$10 bonus for each set of three consecutive negative samples. Continuous abstinence could earn participants \$152.50

in vouchers redeemable for rewards such as ski passes, CDs, gym passes, and clothing.

Buprenorphine and clonidine both supported high rates of abstinence. Among participants who completed treatment, rates were 78 percent and 81 percent, respectively, confirmed by urine samples provided at the thrice-weekly sessions. However, nearly twice as many buprenorphine as clonidine recipients completed the 4-week treatment (72 percent compared with 39 percent). "The high rate of retention in the buprenorphine group is particularly noteworthy," Dr. Marsch says, "because long-term success in recovery is directly related to the amount of time patients spend in treatment." And, she adds, the willingness of most patients who received buprenorphine to continue treatment with naltrexone following completion of the 28-day program is similarly encouraging. Sixty-one percent of the buprenorphine group, but only 5 percent of those who received clonidine accepted naltrexone.

"Dr. Marsch's research is an important first step in systematically studying adolescents who are addicted to opioids," says Dr. Ivan Montoya of NIDA's Division of Pharmacotherapies and Medical Consequences of Drug Abuse. "We know that there are differences in the patterns of opiate abuse and addiction in young people compared with adults. We need dedicated studies like this one to understand how teens are affected by opiate drugs and how best to treat them."

The next step in Dr. Marsch's research will involve a larger sample of young opioid abusers. "We want to evaluate buprenorphine's effectiveness if treatment is extended to 2 months rather than 28 days," she says. "We will also examine the most effective doses and dosing regimens for various subgroups of young patients." ■

SOURCE

Marsch, L.A., et al. Comparison of pharmacological treatments for opioid-dependent adolescents: A randomized controlled trial. *Archives of General Psychiatry* 62(10):1157-1164, 2005.

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Low-Cost Incentives Improve Outcomes in Stimulant Abuse Treatment

In community-based treatment programs, the intervention added \$2.42 per patient per day to counseling costs.

BY LORI WHITTEN,
NIDA Notes Staff Writer

The opportunity to win rewards worth as little as \$1 for abstinence can help motivate outpatients to stay in behavioral therapy and remain drug-free, according to a NIDA Clinical Trials Network (CTN) study. At eight community-based addiction treatment programs across the United States, stimulant abusers who could earn a chance to win a prize by providing drug-free urine samples were four times as likely as peers who were not offered this incentive to attain 12 weeks of continuous abstinence. Prizes for the incentive intervention cost the programs about \$200, or \$2.42 a day per participant.

“Many addiction treatment clinics face the challenge of high patient dropout rates. Reinforcing abstinence helps keep patients interested in attending treatment for longer periods, which can facilitate behavioral changes to keep them off drugs for the long haul,” says Dr. Nancy Petry of the University of Connecticut School of Medicine, coleader of the study. Prior research has found that, no matter how it is achieved, duration of abstinence during treatment is one of the best predictors of abstinence 1 year later. “More patients achieve this therapeutic milestone with a boost from incentive programs,” says the

study’s other coleader, Dr. Maxine Stitzer of The Johns Hopkins University School of Medicine.

The CTN investigators randomly assigned 415 treatment-seeking stimulant abusers (see chart) to one of two conditions: usual care or usual care plus abstinence-based incentives for 12 weeks. Usual care typically consisted of group counseling, although some patients received individual and family therapy. Patients gave urine and breath samples twice weekly. Research assistants tested the urine samples for stimulants, opiates, and marijuana, and tested the breath samples for alcohol.

[Continued on page 6]

CHARACTERISTICS OF STUDY PARTICIPANTS

Patients at eight community-based clinics across the country were ethnically diverse and generally reflected the national population of treatment-seeking stimulant abusers.

Characteristic	%
Ethnicity	
White	42
African-American	35
Hispanic	12
Other	9
Male	44
Unemployed	65
On parole or probation	35
Abuse of other drugs	
Alcohol	42
Marijuana	20
Opioids	9

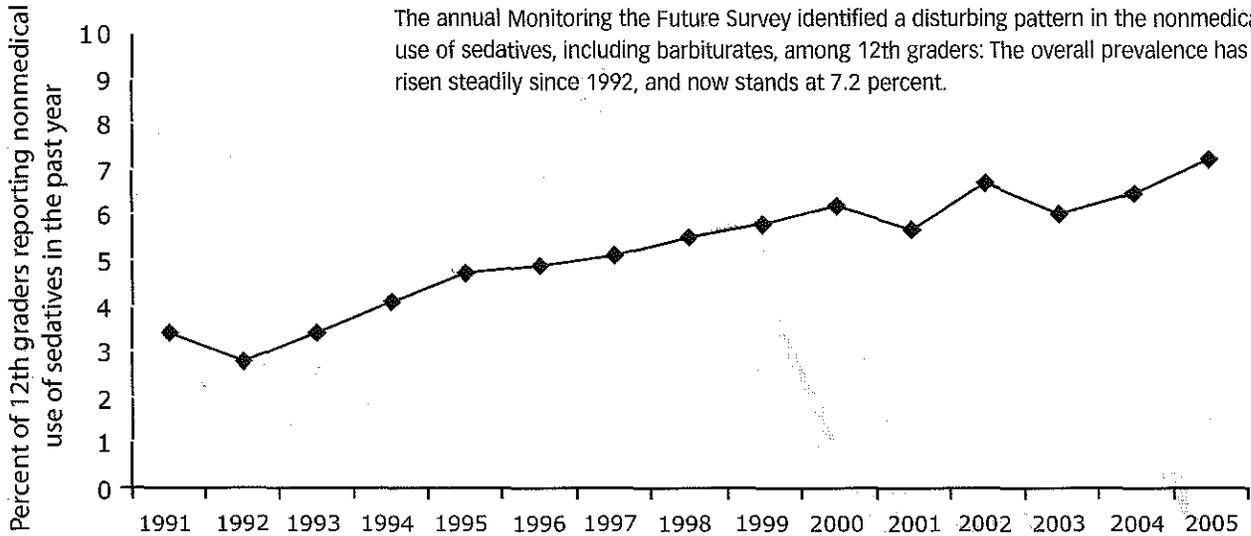
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High School Seniors Steadily Increase Nonmedical Use of Sedatives Over 15 Years



The annual Monitoring the Future Survey identified a disturbing pattern in the nonmedical use of sedatives, including barbiturates, among 12th graders: The overall prevalence has risen steadily since 1992, and now stands at 7.2 percent.

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