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Inner-City Cocaine Abusers in Baltimore Respond to Voucher-Based Treatment

By **Michael D. Mueller**, NIDA NOTES Contributing Writer

Although reports on voucher-based treatment of cocaine abuse are encouraging (see [Voucher System Is Treating Cocaine Abuse](#)), most of the research to date has been carried out on white males in Vermont, a State. The question on the minds of drug abuse researchers in metropolitan areas has been, "How well do inner-city cocaine abusers?"

In Baltimore, Dr. Kenneth Silverman of Johns Hopkins University, Dr. Kenzie Preston of NIDA's Division of Research (DIR), and their colleagues tested the voucher-based treatment of cocaine abuse on an especial population: injecting heroin abusers in methadone treatment with a history of heavy cocaine abuse.

The voucher-based strategy produced impressive results. "The vouchers are powerful reinforcers, even for patients dependent on more than one drug," says Dr. Silverman. "When the vouchers are tied to cocaine, they help patients stay off cocaine for many weeks or months at a time."

"Moreover, cocaine abusers often report a loss of control over their ability to not use the drug," explains Dr. Preston. "The vouchers are a reward for not using cocaine. And rewards—even relatively small ones—can be strong."

The Baltimore study involved 37 patients randomly assigned to two groups. Both groups received standard methadone treatment, but they differed in how vouchers were made available to patients.

Patients given vouchers for clean urines stayed off cocaine for more weeks and for longer stretches of time than patients whose vouchers were not tied to the outcome of urine tests.

Patients in Group A received a voucher for each cocaine-free urine sample, with samples collected three over 12 weeks. The value of the voucher increased with the number of consecutive cocaine-free urine samples.

Each patient in Group B was "yoked" to a patient in Group A. That is, Group B patients also received vouchers in pattern and value to those earned by their counterparts in Group A. However, Group B vouchers were contingent on the outcome of urine tests. Group B patients were told that they would receive vouchers in an unpredictable manner; the vouchers could be used to help them stop using cocaine by purchasing goods and services that promote a healthy lifestyle.

Dr. Silverman found that the treatment worked when the voucher was tied to a cocaine-free urine sample. Patients with vouchers for clean urines stayed off cocaine for more weeks and for longer stretches of time. Nearly half of patients in Group A stayed off cocaine for continuous periods ranging from 7 to 12 weeks.

In contrast, only one patient in Group B was able to string together more than 2 cocaine-free weeks. The differences between the two groups were both clinically and statistically significant.

"The study design made it clear that the strength of the voucher is in the link to cocaine-free urine," says Dr. Silverman, "and not in the monetary value of the vouchers or the access they give to community services. They work to reinforce a particular behavior—not using cocaine."

The drop in cocaine use was not offset by an increase in the use of alcohol or other drugs. Researchers found decreases in the use of opiates and alcohol.

"These results are very encouraging," says Dr. Silverman. "We must find more effective ways to treat cocaine abuse. Further, cocaine abuse is often intertwined with other drug addictions. It's a common problem in methadone programs."

However, he is cautiously optimistic. "There's a lot to learn about this voucher-based approach. We need to study it over longer periods of time and find out why it doesn't work for some cocaine abusers."

"Still," says Dr. Silverman, "the short-term effectiveness of this approach is good news. We may be able to achieve long-term abstinence through continued reinforcement. And, as others have observed, keeping cocaine abusers off cocaine for short periods of time may provide windows of opportunity for other treatments to take hold and start working."

Dr. Preston, principal investigator for the study, says that researchers also are interested in exploring how contingency management strategies such as the voucher-based approach work when joined with medication, if possible," says Dr. Preston, "that the most effective treatment for cocaine abuse will be in the combination of contingency management with medication."

Sources

Silverman, K.; Brooner, R.K.; Montoya, I.D.; Schuster, C.R.; and Preston, K.L. Differential reinforcement of cocaine abstinence in intravenous polydrug abusers. In: Harris, L.S., ed. *Problems of Drug Dependence*. Proceedings of the 56th Annual Scientific Meeting, The College on Problems of Drug Dependence, Inc. Monograph No. 153. NIH Pub. No. 95-3883. Washington, D.C.: Supt. of Docs., U.S. Govt. Print. Off., 1995.

Silverman, K.; Wong, C.J.; Umbricht-Schneiter, A.; Montoya, I.D.; Schuster, C.R.; and Preston, K.L. Voucher-based reinforcement of cocaine abstinence: effects of reinforcement schedule. In: Harris, L.S., ed. *Problems of Drug Dependence 1995*: Proceedings of the 57th Annual Scientific Meeting, The College on Problems of Drug Dependence, Inc. Monograph No. 154. NIH Pub. No. 95-3883. Washington, D.C.: Supt. of Docs., U.S. Govt. Print. Off., 1995.

Inc. NIDA Research Monograph, in press.

From NIDA NOTES, September/October, 1995

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