

## At Last, Some Help for Meth Addiction

Studies show that a behavioral treatment works well and that two medications may also be useful

By Claudia Wallis on April 1, 2021



Credit: Fatinha Ramos

A decade ago I traveled on assignment to a Rocky Mountain rehab facility where the rich and famous go to dry out and confront their drug habits. It offered every imaginable therapy to its well-heeled clientele and claimed strong results. But I will never forget what the director of

operations told me about the clinic's biggest failure: “Our results with meth addicts are dismal,” he admitted.

Poor results remain all too typical for what is more formally known as methamphetamine use disorder. About one million people in the U.S. are addicted to meth, a powerful stimulant that—smoked, snorted, injected or swallowed—ruins lives and contributed to more than 12,000 overdose deaths in 2018. Fatal overdoses appear to have spiked by nearly 35 percent during the COVID pandemic. Unlike people battling alcoholism or opioid misuse, meth users have no approved medications to help them shake their habit. And most behavioral therapies fail.

But this tragic picture at last may be changing. A recent study found that a regimen of two medications helped some users stay off the drug. In addition, a psychosocial intervention called contingency management (CM) has been shown to be especially effective and, while not widely available, is now the first-line therapy for people seeking treatment for meth or cocaine addiction within the U.S. Department of Veterans Affairs health system.

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All addictions are tough to beat, but methamphetamine poses a particular challenge. A key way that researchers measure the addictive grip of a substance is to look at how much dopamine (a neurotransmitter associated with pleasure) floods into the brain's major reward center during use, based on animal studies. “Methamphetamine is the drug that produces the largest release,” says Nora Volkow, director of the National Institute on Drug Abuse. “An animal will go crazy pressing a lever in order to get the drug,” she adds. Another metric involves real-world human experience: When you try a new substance, what is the likelihood of becoming addicted? “In this respect, methamphetamine ranks along with heroin among the top addictive drugs,” Volkow says.

The medication study used two substances that target withdrawal. Bupropion, an antidepressant also prescribed for smoking cessation, raises dopamine levels in the brain and thus may buffer the misery of steep drops that occur when people stop using meth. Naltrexone, the second medication, is an opioid blocker that “has an effect on the reward circuit, potentially relieving cravings,” explains the study's lead author, Madhukar H. Trivedi, a psychiatrist at the University of Texas Southwestern Medical Center. In a trial with 403 heavy users of meth, a regimen of the two medications helped 13.6 percent stay off the drug, testing meth-free at least three quarters of the time over a six-week period. Only 2.5 percent of those given placebos achieved that level of abstinence.

Contingency management works on behavior by reinforcing abstinence with prizes. At VA clinics, addicted veterans submit a urine sample twice a week. If the sample is meth-free, they get to pull a slip of paper from a fishbowl. Half the slips show various dollar amounts that can be spent at VA shops, and the rest feature words of encouragement. Two clean samples in a row earn two draws from the fishbowl, three in a row earn three draws, and so on, up to a maximum of eight. But drug-positive urine means no prize. The key “is the immediacy of the reinforcement,” says Dominick DePhilippis, a clinical psychologist at the Corporal Michael J. Crescenz VA Medical Center in Philadelphia. That is important, he notes, because the rush of meth is also immediately reinforcing, whether it is the “euphoric feeling that substance use brings or the escape from fatigue or unpleasant mood states” of withdrawal.

A [2018 study](#) with 2,060 VA patients, led by DePhilippis, found that over a 12-week period, participants, on average, showed up for 56 percent of their 24 sessions and that 91 percent of their urine samples were free of the targeted drug. According to a [2018 analysis](#) of 50 trials involving nearly 7,000 patients with meth or cocaine habits, one person benefits from CM for every five treated.

DePhilippis's team is gathering data on CM's long-term efficacy for drug users. If results are good, perhaps more health insurers will overcome concerns about using financial rewards in treatment and cover the therapy. Volkow hopes that meth users will ultimately have a variety of treatments, including some that combine medication with behavioral therapy. That, she says, is how diseases from depression to diabetes are treated. But “we stigmatize addiction,” Volkow says, “and insurance is willing to pay much less than for another condition. There's a double standard.”

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Claudia Wallis is an award-winning science journalist whose work has appeared in the *New York Times*, *Time*, *Fortune* and the *New Republic*. She was science editor at *Time* and managing editor of *Scientific American Mind*.

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