

A hard habit to break

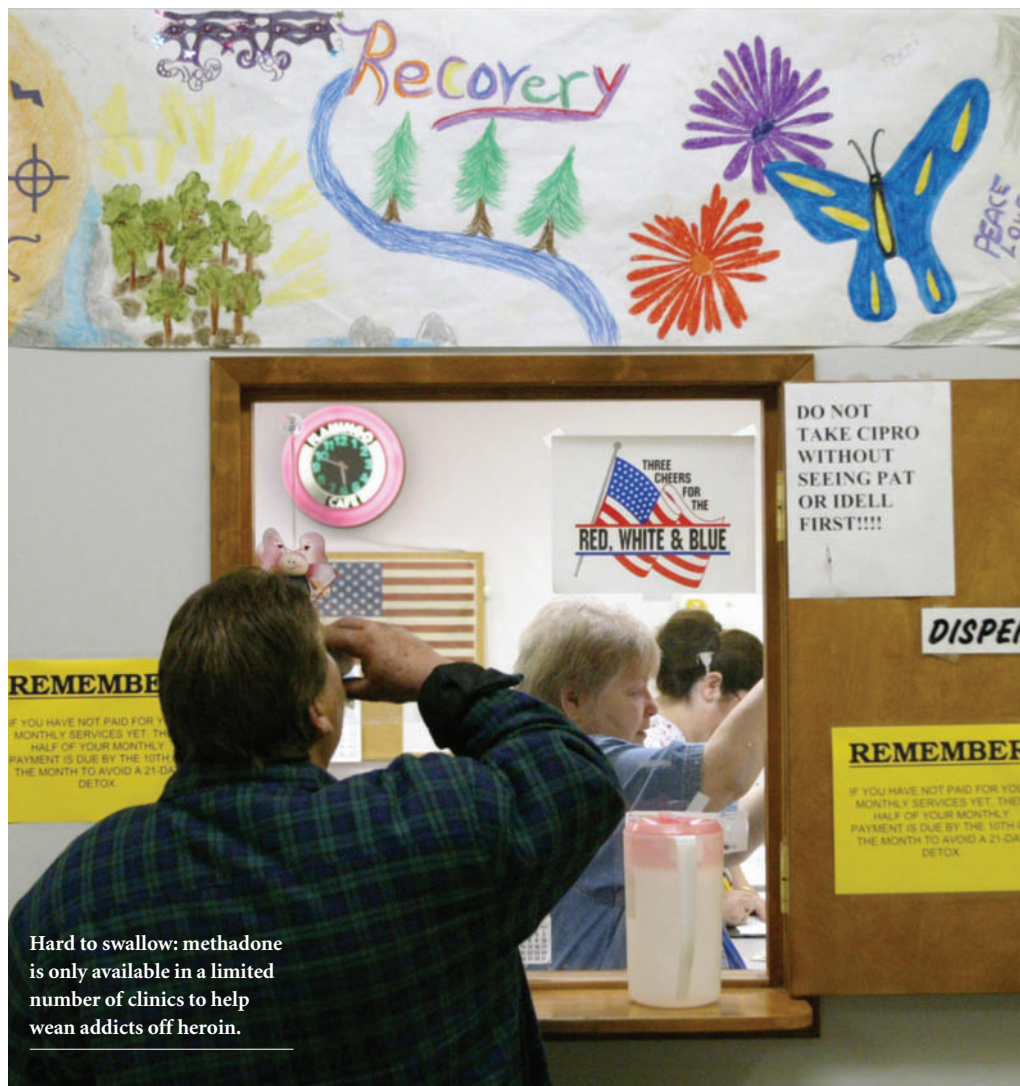
The US National Institute on Drug Abuse has frequently been accused of bowing to the political agenda of its paymasters. But, as Helen Pearson finds out, its new director swears that the agency is being led by science.

One chilly Thursday morning in December 1999, Alan Leshner, then head of the US National Institute on Drug Abuse (NIDA), shared a stage at a Washington DC press conference with a series of striking, multicoloured brain scans.

At the top of his poster, a set of yellow and orange images showed a brain packed with healthy neurons that communicate using the chemical serotonin. Beneath them, a matching set of scans from the brain of a long-time ecstasy user revealed dark, gaping holes — purportedly illustrating the havoc wreaked by the drug.

If would-be ecstasy users found the images alarming, so did some scientists. Earlier that year, a few researchers had alleged that there were serious flaws in the 1998 study¹, led by George Ricaurte at Johns Hopkins University School of Medicine in Baltimore, Maryland, from which the images were taken. They felt that problems with the positron emission tomography experiments that generated the images may have exaggerated the loss of serotonin neurons in the brains of ecstasy users².

Critics of NIDA say that the use of the images typifies the agency's sometimes-cavalier approach to research. They charge that its outlook is overly influenced by the 'war on drugs' launched by President Richard Nixon in 1971, and pursued relentlessly by US politicians ever since. "NIDA's agenda has been profoundly shaped by a drug-war ethos," says Craig Reinerman, a sociologist who studies drug policy at the University of California, Santa Cruz.



Hard to swallow: methadone is only available in a limited number of clinics to help wean addicts off heroin.

But the agency's present director, Nora Volkow, rejects this characterization, arguing that the agency's mission is driven by scientific impartiality. "I'm a scientist, not a politician," she says, "and my value is to be able to provide objective information."

Opening salvos

Like the war on drugs, NIDA was born amid growing concern about drug abuse during the hippy era. Founded by Congress in 1974, it was initially part of a now-defunct branch of the US health department, which dealt with alcohol, drug abuse and mental health. In 1981, Congress gave individual states control over treatment and prevention of drug abuse and NIDA became a research agency; only later, in 1992, did it become part of the National Institutes of Health (NIH).

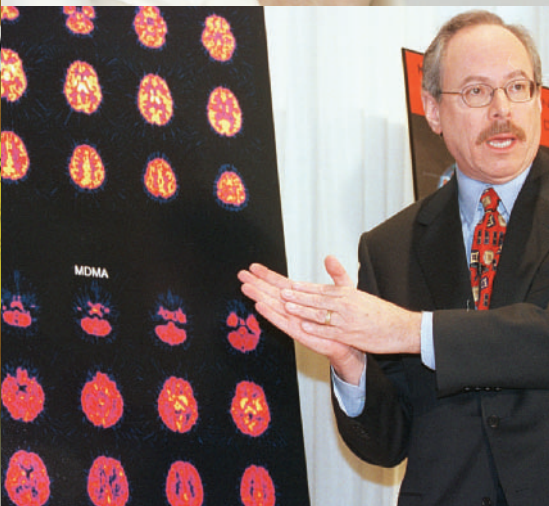
The agency now has an annual research budget of nearly \$1 billion, the bulk of which is distributed in grants to researchers at universities and medical schools. Most of them credit NIDA with funding high-quality research.

But accusations that politics usurps science at the agency have never been far

beneath the surface, and they peaked under Leshner's 1994–2001 tenure. "Leshner was a minister of propaganda in the war on drugs," says John Morgan, a pharmacologist who studies medical marijuana and drug policy at the City University of New York. Leshner, now executive director of the American Association for the Advancement of Science in Washington, declined to be interviewed for this article.

NIDA's critics level three main charges against the agency. First, they contend, it tends to support research projects that will document the terrible damage caused by drugs — and so bolster the government's view that these substances are unsafe. "It's science in the service of politics," claims Charles Grob, who studies hallucinogens at the University of California, Los Angeles.

Second, they argue that NIDA neglects the investigation of medicinal uses of recreational drugs, or of anything else that might show the substances in a better light. "I got the message that it will fund things showing harm, but when it comes to benefits there's no chance," says Alan Marlatt, a psychologist at the University of Washington, Seattle, who



Nora Volkow (top) may answer critics who claim that her predecessor, Alan Leshner (above), paid too much attention to the war on drugs.

served on NIDA's National Advisory Council on Drug Abuse from 1995 to 2002.

Third, they allege that NIDA shuns research into 'harm reduction' — approaches that seek to minimize the death, disease and social damage caused by drug use, rather than eliminating usage outright. At NIDA "it's just say no — or nothing at all", says Marsha Rosenbaum, director of the San Francisco office of the Drug Policy Alliance, which campaigns for changes in national drug policy.

But in May 2003, the Bush administration did something that might yet assuage the agency's harshest critics. It appointed Volkow, a neuroscientist then working at Brookhaven National Laboratory in New York state, as director. The choice has been widely applauded. "With Nora Volkow at the head I'm far more optimistic about the direction NIDA is going in," says Grob.

Volkow is a wiry, intense woman who runs six miles a day and munches her way through chocolate to keep her sugar levels

up. Her forthright manner and outstanding work in brain imaging had already marked her out as a rising star in US science. In a 75-minute interview in her office in Bethesda, Maryland, she argued emphatically that her agenda is being driven by science.

Volkow says that she was brought up with a natural wariness of politics: as the great-granddaughter of the Russian revolutionary Leon Trotsky, many members of her family were assassinated — including Trotsky himself, in Mexico in 1940. "I guess it made me reluctant to participate in the political process," she says.

And she brushes off the suggestion that NIDA is under political pressure to support particular kinds of research projects. "I have not had a scientist come to me and say: 'I'm afraid if I submit it, it'll be rejected,'" she says. During her tenure, she adds, "there has never been an instance where a grant got a good review and then was not funded because of political incorrectness". The only political constraint that she has to deal with, she notes, is the one faced by all NIH institute heads — she has to convince Congress of the importance of NIDA's work in order to obtain funding.

Compromised position

The critics, of course, see this as part of the problem. They think that the agency is already steeped in a culture sympathetic to the war on drugs and that Volkow too, will eventually succumb. "I think she's getting the message that if you want to keep your money, you do what they say on the hot-button issues," says Ethan Nadelman, director of the Drug Policy Alliance in New York.

As for the suggestion that NIDA's approach to drug research is too narrow, Volkow points out that research into the medicinal uses of marijuana, for example, clearly falls outside the agency's mission, which is "to bring the power of science to bear on drug abuse and addiction".

It is the third area of criticism — that NIDA habitually neglects a wide swathe of approaches to drug abuse that are being explored outside the United States — that Volkow struggles to dispel. Critics say that the agency has failed to put sufficient resources into investigating, for example, the effectiveness of methadone as a legal substitute for heroin. One problem, they say, is that NIDA has not examined whether patients would benefit if methadone, which is currently available only at designated clinics, were made available through general doctors' offices and pharmacies. "The range of research questions being asked is remarkably narrow," says Nadelman.

NIDA has also steered clear of trials that would prescribe heroin itself in the course of

weaning hardcore addicts off the drug. Such trials have produced tentatively promising results in other countries: in 2001, a study by Jürgen Rehm of the Addiction Research Institute in Zurich, Switzerland, for example, tracked nearly 240 patients who had been prescribed the drug. Of those in the programme for at least 18 months, the number with severe mental-health problems halved and many stopped stealing and began therapy aimed at kicking the drug completely³.

On the basis of this and other studies, a consortium of scientists called the North American Opiate Medication Initiative (NAOMI) drew up plans in 2001 to start a multi-site clinical trial of prescription heroin in Canada and the United States. But would-be US participants say that they realized it was a non-starter after speaking to NIDA officials. They think that this was because it was politically unacceptable for the agency to fund research that delivered illegal drugs to addicts. "It was a foregone conclusion," says Ernie Drucker of the Montefiore Medical Center, New York, who was part of the NAOMI consortium.

Several researchers interviewed by *Nature* back Drucker's view. They say that there is an unspoken rule that some types of proposal are not worth submitting to NIDA. To gain funding, they say that they frame proposals in ways that emphasize the damaging effects of drugs, or that leave out contentious phrases such as 'harm reduction'. "There are certain words you don't put in the title of your grants," says William Miller, who studies addictive behaviours at the University of New Mexico in Albuquerque.

Volkow says that she is not intrinsically opposed to research into harm reduction, but would place other priorities, such as investigation of a newer alternative to methadone, called buprenorphine, above the prescription of heroin.

She vows to maintain the separation between science and politics at NIDA. Since she took over, she says, groups that she declines to identify have pressed her to issue a public statement that marijuana causes brain damage, on the basis of her own imaging studies. Volkow says that she has refused, because it is not yet established that the patterns shown by these studies actually affect health or behaviour. "I don't want to use science to scare," she says, "I want to use science to educate."

Helen Pearson works in New York for *Nature's* online news team.

1. McCann, U. D., Szabo, Z., Scheffel, U., Dannals, R. F. & Ricaurte, G. A. *Lancet* 352, 1433–1437 (1998).
2. *Lancet* 353, 1268–1271 (1999).
3. Rehm, J. et al. *Lancet* 358, 1417–1420 (2001).

♦ www.nida.nih.gov

M. CAVANAUGH

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