NATURE | NEWS: EXPLAINER

Why the US decision to expand marijuana supply for research matters

Policy change could accelerate development of treatments derived from the drug.

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Baz Ratner/Reuters

US researchers want better marijuana — for scientific purposes, of course.

Scientists and medical researchers in the United States have been studying the health benefits and risks of marijuana for decades. But despite the increasing availability of legal marijuana, scientists have been forced to obtain the drug from a single source — the University of Mississippi in Oxford, which grows pot for research on a campus farm under a contract with the National Institute on Drug Abuse (NIDA).

Now, the university's monopoly is coming to an end. In an unexpected move, the US Drug Enforcement Administration (DEA) announced on 11 August that it will allow any institution to apply for permission to grow marijuana for research. *Nature* explains how the policy could transform the study of marijuana.

Why do researchers want to study pot — and how do they get it?

Researchers have been extracting cannabinoids — chemical compounds found in cannabis — and developing strains of varying strength to test whether they could alleviate chronic pain and treat or mitigate the effects of ailments such as seizures and other neurological disorders.

But because the federal government still classifies marijuana as a drug with no medical use, scientists have faced a time-consuming process to obtain pot for research from NIDA. Those who conduct clinical research also need to seek approval from the Food and Drug Administration.

Why does relying on a single grower limit research?

Approved medical-marijuana consumers may buy pot from dispensaries in more than half the country, and recreational marijuana use is permitted in a few states. But researchers are limited to the handful of strains grown by the University of Mississippi farm.

Some of the Mississippi-grown strains have lower concentrations of tetrahydrocannabinol, the active ingredient in pot, than the

marijuana available to the public — making studies that use these varieties of the drug less applicable to typical consumers.

Why is the US government increasing the number of approved growers?
The DEA says that the change is motivated by a high demand from scientists and a desire to encourage research on pot. “Additional growers mean additional varieties will be available to address the diversity of research needs,” said NIDA director Nora Volkow in a statement.

For decades, research supported by NIDA focused on harmful health effects and the risks of marijuana use. But in recent years, research has uncovered possible health benefits as well. These include the drug's anti-inflammatory effects and its therapeutic role in treating epilepsy and other neuropsychiatric disorders.

“It’s an incredible pleasure to see the DEA let the science speak for itself,” says Rick Doblin, director of the Multidisciplinary Association for Psychedelic Studies, a non-profit organization in Santa Cruz, California, that funds research into these drugs.

How will the new rules work?
Anyone who has a research protocol approved through the Department of Health and Human Services can apply to become a federally authorized marijuana grower, says Rusty Payne, a spokesperson for the DEA in Washington DC. “We’re expecting a lot of applications,” he adds.

As more growers pop up in other places, researchers will no longer have to go through NIDA to obtain the marijuana and cannabinoid extracts that they require for their work. The hope is that this will facilitate more-thorough clinical studies and make it possible for researchers to identify the most effective strains for particular treatments.

Scientists are excited about the policy announcement. “NIDA monopoly finally gone,” tweeted Sunil Aggarwal, a New York City-based physician who studies cannabis use in hospice healthcare. “1 big brick in federal govt wall around cannabis being knocked out,” he added.

Will this decision affect the push to legalize marijuana across the country?
The policy change could help to remove a key obstacle to the legalization of marijuana. Research was previously stalled by small trials and experiments, for example, because researchers were limited to testing drugs with only a handful of people. Once drugs, including cannibinoids, can be administered to larger groups of people, and their effectiveness and safety confirmed, medicinal treatments of marijuana could become more widely approved and accepted.

“Widespread approval of medical marijuana in many states may have persuaded the federal agency in their decision-making process,” says Trevor Castor, head of Aphios, a company in Woburn, Massachusetts that has NIDA funding to develop a process for manufacturing cannabinoids. Castor thinks that national legalization will follow. “But,” he says, “I’m not sure when.”

One obstacle for advocates of legalization is opposition by some corners of the federal government. On 11 August, the DEA reaffirmed its classification of cannabis as a dangerous substance, which puts the drug in the same regulatory category as LSD, meth and heroin.

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Sunil Aggarwal • 2016-08-13 07:51 AM

Thanks, Ramin Skibba, for including my tweet in this story. I updated the tweet on my facebook page after learning more details with: "significant $/staffing/security will be needed to pull of a federally legal grow of this traditional plant medicine. As much in the country, even with traditional plants, you gotta have big $ to play." And more that I have put on social media on this: 1. this is how they get away with it- HHS deliberately ignores trial data from cannabis extracts: "76 Excluded: 20 Administered marijuana plant extracts" on page 76: https://d3n8a8pro7vhmx.cloudfront.net/americansforsafeaccess/pages/8870/attachments/original/1470932952/DEA_petition_de 1470932952 2.I wrote this email to the head of the HHS/FDA team that made the recommendation to keep marijuana in schedule I, which DEA heavily relied on: Dr Throckmorton, any scientific team who feels that cannabis actually meets schedule I criteria has to pretend that cannabis extracts made from liquid CO2 and marketed for example as Sativex (R) are somehow not marihuana, even though for us masses it very much does. Ignoring their trials data is not true scientific thought, but rather

obfuscutory hair splitting that tilts heavily to private pharmaceuticalization of a traditional plant medicine. HHS primary mission isn't for pharma companies, it's for health and human services. I believe saying that there is no accepted safety for the use of marijuana under medical supervision and no currently accepted use in treatment in the US is a great disservice to health, science, and humanity. Sunil Kumar Aggarwal, M.D., Ph.D. 3. RE HISTORY, I tweeted this to DEA today about how cannabis got locked into Schedule I in the first place, which is very important to understand.
https://twitter.com/humansunil/status/764140645787197440?s=09