

The best drugs for stopping smoking that you probably can't have: New review

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Credit: AI-generated image ([disclaimer](#))

When so much time and effort goes into developing the best medical treatments, we expect them to be available when we need them. The same goes for addiction treatments, so it's worrying that two of the most effective drugs for quitting smoking aren't available in the UK.

They're called [varenicline](#) and cytisine; members of a family of stop-[smoking](#) medicines called "nicotine receptor partial agonists." They work by stopping nicotine from binding to receptors in the brain and reducing the rewarding effects of smoking while stimulating the brain to reduce nicotine withdrawal and the cravings caused by quitting.

Varenicline ([brand names](#): Champix and Chantix) is an effective drug for treating [tobacco addiction](#) and is on the World Health Organization's [list of essential medicines](#). This means that it is used to address an important health concern and everyone should have access to it.

It's one of the most effective ways to help people [quit smoking](#), and, until recently, it was only made by one pharmaceutical company: Pfizer.

Cytisine, its less well-known cousin, has been widely used in eastern Europe for over 40 years and is [cheaper than varenicline](#). The problem is, neither of these drugs is available to people in the UK (and a lot of the rest of the world).

Varenicline had been available in the UK on prescription [from 2007](#). It [more than doubles](#) the chances of a person quitting smoking. But in 2021, Pfizer [halted production](#) because of unacceptably high levels of chemicals called nitrosamines in the pills.

The resulting global shortage is a [huge blow to tobacco control efforts](#) and for anyone looking to quit smoking. While some nitrosamines can cause cancer, [tobacco smoke](#) contains even higher levels, so any risks from the nitrosamines in varenicline would be outweighed by the huge health benefits of quitting smoking.

Production issues don't appear to have been resolved at the time of writing and shortages continue. What's more, given that Pfizer's main patent for varenicline [expired in 2020](#), there is less financial incentive

for them to remedy the situation and resume production. When a patent expires, other pharmaceutical companies are free to make "generic" copies of the drug—usually at a much lower price than the branded version.

Cytisine has a different problem. Although it has been available for some time in some countries, in others it has never been licensed, and there are far fewer trials testing how well it works.

However, calls for cytisine to be more widely licensed are [not new](#) and more research is being [conducted](#). An updated [systematic review](#) combining evidence on varenicline and cytisine for smoking cessation includes the latest studies in its analysis.

Effective way to quit

The review concluded that cytisine is an effective way to help people quit smoking compared with a placebo, helping 20 people to quit for every 100 given it (compared with 15 quitting with a placebo).

For the first time, the review included studies directly comparing cytisine with varenicline. Although more people taking varenicline quit for six months or more than those using cytisine, the results were imprecise. Further studies would help researchers to come up with a more precise measure of the effectiveness.

The review also found that compared with varenicline, fewer people given cytisine reported serious side-effects—ones requiring admission to a hospital. However, we need more studies to be sure of this. They were also less likely to report headaches or abnormal dreams and no more likely to experience insomnia or depression—side-effects reported with varenicline. So cytisine may provide an alternative for some people who can't tolerate varenicline.

While there's growing evidence in favor of cytisine, it's not enough for the health service to decide to make it available. There are more steps between knowing it works and people in the UK being able to start using cytisine to help them quit smoking.

With the shortage of varenicline, more countries, including the UK, have started to license cytisine, but this doesn't guarantee availability, which also requires approvals by the NHS, production by [pharmaceutical companies](#) and functioning supply chains.

Excruciatingly slow

In a [recent speech](#) on achieving the "Smokefree 2030" goals for England, health minister Neil O'Brien addressed the unavailability of varenicline and cytisine and the need to ensure their availability. However, with varenicline now unavailable for two years, and [76,000 people still dying of tobacco-related disease in the UK each year](#), the process of making both varenicline and cytisine available in the UK feels excruciatingly slow.

In the meantime, if you want to quit smoking, support is available. [Nicotine replacement therapy](#) such as patches and gums help people to quit and are most effective if you use [more than one kind in combination](#). You can get these at your GP practice, but also through pharmacies and supermarkets without a prescription.

[E-cigarettes](#) are also an effective way to quit tobacco smoking, with funding for a new national "[swap to stop](#)" scheme recently announced in the UK.

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