


DRUG ALCOHOL FINDINGS *Hot topic*

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Investigating the proposition that cannabis is worth bothering with, this hot topic looks at reports that stronger cannabis on the market is increasing harms to users, prospects of recovery from disorders and dependence, and the emerging response to synthetic forms of cannabis like 'spice'.

In 1990s Britain a common reaction to allocating resources to treating cannabis users was, 'Why bother? We have more than enough patients with problems with serious drugs like heroin.' The typically calming use of the drug by adults was seen as preferable to the main alternative – [alcohol and its associated violence and disorder](#). Calls for a treatment response were seen as pathologising what in many societies is both normal and in some ways desirable youth development: trying new experiences, challenging conventions, and exposing the hypocrisy of alcohol-drinking adults.

In 1997 the *Independent on Sunday* [launched](#) a campaign to decriminalise cannabis, [culminating](#) in a mass 'roll-up', and [16,000-strong pro-cannabis march](#) from Hyde Park to Trafalgar Square. Its Editor Rosie Boycott wrote in the paper about her own coming-of-age experience smoking cannabis, telling readers:

"I Rolled my first joint on a hot June day in Hyde Park. Summer of '68. Just 17. Desperate to be grown-up. ... My first smoke, a mildly giggly intoxication, was wholly anti-climatic. The soggy joint fell apart. I didn't feel changed. But that act turned me – literally – into an outlaw. I was on the other side of the fence from the police – or the fuzz, as we used to call them. So were a great many of my generation."

The campaign was explosive, but short-lived, apparently subsiding when Boycott left to take up her role as Editor of the Daily Express. A decade later, the Independent issued an apology for the campaign. 'If only they had known then, what they knew now', was the message of the [article](#), referring to the reportedly damaging impact of the more potent strains of cannabis and its links to "mental health problems and psychosis for thousands of teenagers".

Are stronger strains creating more problems?

There has been a long-standing, but controversial, association between cannabis strength and harm. Reading newspaper articles on the subject, it wouldn't be unusual to see a headline drawing a straight line between 'super-strength skunk' and addiction, violence, deaths, or psychosis. In 2008, then Prime Minister Gordon Brown spoke in a similar vein, [telling](#) a breakfast-television viewing audience:

I have always been worried about cannabis, with this new skunk, this more lethal part of cannabis.

I don't think that the previous studies took into account that so much of the cannabis on the streets is now of a lethal quality and we really have got to send out a message to young people – this is not acceptable.

Brown was warning of a dangerous new strain of cannabis on the market, that caused very severe harms to users – contrasting starkly with the common perception of cannabis as a 'low harm' or 'no harm' drug.

The strength or potency of cannabis is determined by the amount of 'THC' it contains. THC produces the 'high' associated with cannabis, and another major component 'CBD' produces the sedative and anti-anxiety effects. As well as potency, the relative amounts of THC and CBD are important for understanding the effects of cannabis – something [explored](#) in a University College London study during the programme *Drugs Live: Cannabis on Trial*. The research team compared two different types of cannabis: the first had high levels of THC (approx. 13%) but virtually no CBD; and the second had a lower level of THC (approx. 6.5%) and substantial amounts of CBD (approx. 8%). They found that CBD had a moderating or protective effect on some of the negative effects of THC, and that "many of the effects that people enjoy are still present in low-potency varieties without some of the harms associated with the high-potency varieties".

CANNABIS IN THE LAW

A [controlled 'Class B' substance](#), cannabis carries legal penalties for possession, supply, and production. Between 2004–2009 cannabis was reclassified as a 'Class C' substance, meaning for a brief period of time it carried lesser penalties for possession.

In 2009, the Association of Chief Police Officers [issued new guidance](#), advising officers to take an escalating approach to the policing of cannabis possession for personal use:

- A warning
- A penalty notice for disorder (PND)
- Arrest

This three-tiered approach was designed to be "ethical and non-discriminatory", but also reinforce the "national message that cannabis is **harmful and remains illegal**".

For more on the classification of drugs, including the difference between Class A, Class B, and Class C drugs, visit [this UK government page](#).

At least **in the US** over the last two decades (between 1995–2014), potency has increased from around 4% to 12%, and the protective CBD content of cannabis has decreased, from around 28% to less than 15%, significantly affecting the ratio of THC to CBD, and with it, the nature and strength of the psychoactive effect of cannabis.

Until the 1990s, herbal cannabis sold in the UK was **predominantly imported** from the Caribbean, West Africa, and Asia. After this time, it was increasingly produced in the UK, being grown indoors using intensive means (artificial lighting, heating, and control of day-length). A **study funded by the Home Office** analysed samples of cannabis confiscated by 23 police forces in England and Wales in 2008, and found that over 97% of herbal cannabis had been grown by intensive methods; its average potency of 16% compared with just 8% for traditional imported herbal cannabis. This matched other reports of home-grown cannabis being consistently (around 2–3 times) stronger than imported herbal cannabis and cannabis resin.

In 2015, observing a decrease in the use of cannabis in England and Wales, but parallel increase in demand for treatment, a **UK study** examined whether the trend could be explained by an increase in the availability of higher-potency cannabis. Over 2500 adults were surveyed about their use of different types of cannabis, severity of dependence, and cannabis-related concerns. The researchers found that higher potency cannabis was associated with a greater severity of dependence, especially in young people, and was rated by participants as causing more memory impairment and paranoia than lower potency types. However at the same time, it was reported to produce the best 'high', and to be the preferred type.

By definition cannabis is a psychoactive substance, which means it can change people's perceptions, mood, and behaviour. Higher potency cannabis contains more of the psychoactive component, so it makes sense that higher potency cannabis could increase the risk of temporary or longer-term (adverse) problems with perceptions, mood, and behaviour. However, there is a particular concern that cannabis use could be linked to 'psychosis', a term **describing** a mental illness where a person perceives or interprets reality in a very different way to those around them, which can include hallucinations or delusions.

Whether cannabis causes psychosis, precipitates an existing predisposition, aggravates an existing condition, or has no impact at all on psychotic symptoms, has for decades been hotly contested. With our focus on evaluations of interventions, Drug and Alcohol Findings is in no position to pronounce on this issue, nor on the possibility that the drug might sometimes improve mental health, but some examples of research informing this debate are included below.

A 2009 UK **study** examined whether daily use of high-potency cannabis was linked to an elevated risk of psychosis, comparing 280 patients in London presenting with a first episode of psychosis with a healthy **control** group. The patients were found to be more likely to smoke cannabis on a daily basis than the control group, and to have smoked for more than five years. Among those who used cannabis, 78% of the patients who had experienced psychosis used higher-potency cannabis, compared with 37% of those in the control group. The findings indicated that the risk of psychosis was indeed greater among the people who were using high potency cannabis on a frequent basis, but couldn't show that the cannabis use caused the psychosis, or even that the cannabis use made the group more susceptible to psychosis. The wider literature on **mental health and substance use** would suggest that the association is more complex than this.

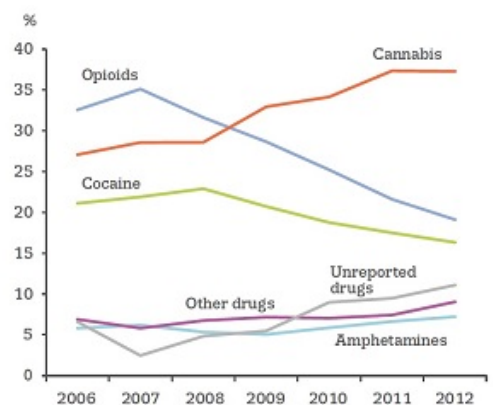
A recently published paper from the University of York has **demonstrated** the complications of attributing any association between cannabis use and psychosis to a causal effect of cannabis use rather than other factors or a reverse causal effect. A **calculation** based on data from England and Wales helped to put this into perspective, indicating that even **if** cannabis did cause psychosis **more than 20,000 people** would need to be stopped using cannabis to prevent just one case of psychosis.

The apparent **steady increase** in cannabis potency in the UK since the 1990s is important context for further research. Where higher potency cannabis is **increasingly becoming the norm**, and is the preference for cannabis users, it would be relevant to generate more **evidence** of the health-related problems with high potency cannabis, and the treatment and harm reduction solutions based around these health-related problems.

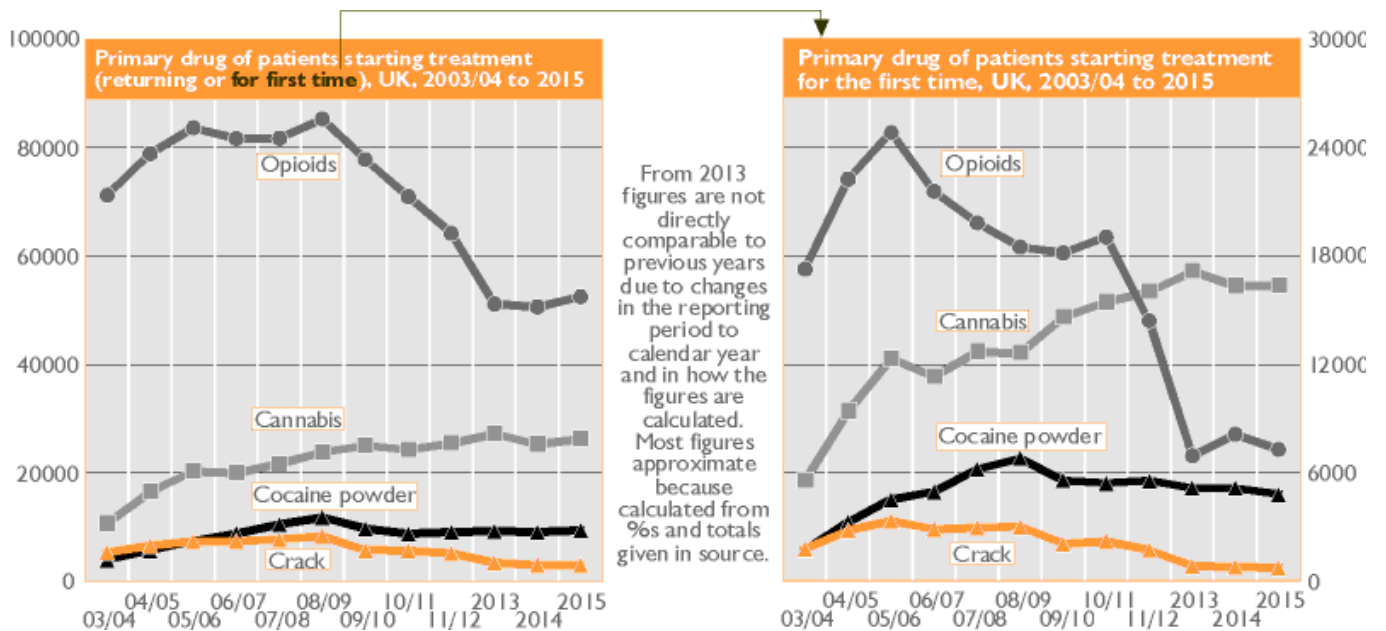
Cannabis accounts for half of all new drug treatment patients

The **most widely used** illegal drug in Europe, many seemingly enjoy cannabis without it leading to any significant negative social or health effects. However, numbers entering treatment for cannabis use problems have been on the rise (both in the UK, and the rest of Europe), while heroin treatment numbers have fallen **▶ chart**. According to Public Health England, this is **not because** more people are using cannabis, but perhaps because services relieved of some of the recent pressure of opiate user numbers are giving more priority to cannabis, because they are making themselves more amenable to cannabis users, and because of emerging issues with stronger strains of the drug.

Whatever the causes, across the UK figures **submitted to** the European drug misuse monitoring centre show that the proportion of patients starting treatment for drug problems who did so primarily due to their cannabis use rose steadily from 11% in 2003/04 to 22% in 2011/12. With the caveat that data from 2013 onwards is **not directly comparable** due to changes in methodology, in **2014** and **2015** the proportion of patients who entered treatment primarily because of a cannabis issue hovered above previous years at 26% (25,278 and 26,295 respectively). Among first ever treatment presentations, the increase from 2003/04 was more pronounced, from 19% to 37%. By 2013, cannabis use had become the main prompt for half the patients who sought treatment for the first time (at 49%), and stayed relatively constant at 47% in 2014, and 48% in 2015.



First-time treatment entrants in the European Union by primary drug, 2006–12



Showing that more users was not the reason for more starting treatment, over about the same period, in England and Wales the proportion of 16–59-year-olds who in a survey said they had used cannabis in the past year fell from about 11% to 7% in 2013/14, then stayed at that level in 2014/15 and 2015/16.

The treatment figures largely reflect trends in England, where in 2013/14 the number of patients starting treatment with cannabis use problems had risen to 30,422, 21% of all treatment starters, up from 23,018 and 19% in 2005/06. Subsequently the number dropped to 27,965 in 2015/16, still around a fifth of all treatment starters. Among the total treatment population – starting or continuing in treatment – cannabis numbers rose from 40,240 in 2005/06 to peak at 64,407 in 2013/14 before falling back to 59,918 in 2015/16; corresponding proportions again hovered around a fifth.

As a primary problem substance among under-18s cannabis dominated, accounting for three-quarters of all patients in treatment in 2015/16 and in numbers, 12,863. The dominance of cannabis increased from 2008/09 as numbers primarily in treatment for drinking problems fell.

'All treatments appear to work'

According to the two main diagnostic manuals used in Europe and the USA, problem cannabis use can develop into a cannabis use disorder or cannabis dependence, identifiable by a cluster of symptoms including: loss of control; inability to cut down or stop; preoccupation with use; neglecting activities unrelated to use; continued use despite experiencing problems; and the development of tolerance and withdrawal.

This level of clinical appreciation for cannabis use problems didn't exist when researcher and writer William L. White entered the addictions field half a century ago:

"When I first entered the rising addiction treatment system in the United States nearly half a century ago, there existed no clinical concept of cannabis dependence and thus no concept of recovery from this condition. In early treatment settings, cannabis was not consider[ed] a "real" drug, the idea of cannabis addiction was scoffed at as remnants of "Reefer Madness," and casual cannabis use was not uncommon among early staff working in addiction treatment programs of the 1960s.

Many in the field remain sceptical of the idea of cannabis dependence, specifically whether problem users at the severe end experience physiological withdrawal. However, reviewing what they believe is mounting evidence, these authors suggest there can be confidence in the existence of a "true withdrawal syndrome" – albeit one that differs qualitatively from the "significant medical or psychiatric problems as observed in some cases of opioid, alcohol, or benzodiazepine withdrawals". In the case of cannabis, the main symptoms are primarily emotional and behavioural, although appetite change, weight loss, and some physical discomfort are reported. A brief review aimed at practitioners in UK primary care provides guidance on how to manage symptoms of withdrawal among patients trying to stop or reduce their cannabis use.

Research has come a long way, says William L. White, with now "clear data supporting the dependency producing properties of cannabis, a clear conceptualization of cannabis use disorders (CUD) and cannabis dependence (CD)", but until recently, very little evidence about the prospects of long-term recovery. Yet, key papers – found here and here – indicate that:

- Full remission from cannabis use disorders is not only possible, but probable.
- Stable remission takes time – an average of 33 months.
- Abstinence may not be initially realistic for heavy cannabis users – but those in remission are usually able to reduce the intensity of their use and its consequences.

At least in the United States, it seems dependence is more quickly overcome from cannabis than the main legal drugs. A survey of the US general adult population found that within a year of first becoming dependent, 3% each of smokers and drinkers were in remission and remained so until they were surveyed. For cannabis the figure was nearly 5% and for cocaine, nearly 9%. After ten years the proportions in remission had risen to 18% for nicotine, 37% for alcohol, 66% for cannabis and 76% for cocaine. About 26 years after first becoming dependent, half the people at some time dependent on nicotine were in remission, a milestone reached for alcohol after 14 years, for cannabis six years, and for cocaine, five.

Generally for people with cannabis use problems, the European Monitoring Centre for Drugs and Drug Addiction concluded in 2015, and before that in 2008, that “all treatments appear to work”. For adults, effective treatments include motivational interviewing, motivational enhancement therapy and cognitive-behavioural therapy, and for younger people, family-based therapies seem most beneficial. Less important than the type of treatment is the treatment context and the individual’s determination to overcome their problems through treatment. And there is “no firm basis for a conclusion” that cannabis-specific interventions (designed around the risks and harms associated with cannabis) are more effective than general substance use treatment tailored to the individual needs of the cannabis user seeking treatment ▶ [chart](#).

In [some studies](#) brief interventions have been found to work just as well as more intensive treatment, but when the patients are heavily dependent, and the most difficult cases are not filtered out by the research, longer and more individualised therapies [can have](#) the advantage.

When the World Health Organization [tried](#) its ASSIST substance use screening and brief advice programme in Australia, India, the United States, and Brazil, just over half the identified patients (all had to be at moderate risk of harm but probably not dependent) were primarily problem cannabis users. Among these, risk reduction in relation to this drug was significantly greater among patients allocated to a brief advice session than among those placed on a three-month waiting list for advice. In each country too, risk reduction was greater among intervention patients, except for the USA, where the order was reversed. Suggesting that severity of use was not a barrier to reacting well to brief intervention, only patients at the higher end of the moderate risk spectrum further reduced their cannabis use/risk scores following intervention. The ASSIST study was confined to adults, but young people in [secondary schools](#) in the USA whose problem substance use focused mainly on cannabis also reacted well to brief advice.

The relative persistence of opiate use problems versus the transitory nature of those primarily related to cannabis seemed reflected in [an analysis](#) of treatment entrants in England from 1 April 2005 to the end of 2013/14, the last time this particular analysis was published. At the end of this period just 7% of primary cannabis users were still in or back in treatment compared to the 30% overall figure and 36% for primary opiate users. The figure peaked at 43% for users of opiates and crack. Over half – 53% – of primary cannabis users had left treatment as planned, apparently having overcome their cannabis problems, compared to 27% of primary opiate users and just 20% with dual opiates and crack use problems. Another 40% of cannabis users had left treatment in an unplanned manner, a slightly higher proportion than among opiate users. The figures tell a tale of relatively high level of success which enables cannabis users to leave treatment, though even in the absence of recorded success, few stay long-term.

However, the forms patients in England complete with their keyworkers while in treatment seem to tell a different story. Compared to how they started treatment, around six months later 45% of primary cannabis users [were assessed](#) as using just as often (including a few using more), compared to 30% of opiate users and 42% whose main problem drugs were both opiates and crack, suggesting more rapid and/or more complete remission for opiate users than for cannabis users. One interpretation is that the widespread use of substitute drugs like methadone more reliably reduced the illegal opiate use of opiate users and also helped retain them in treatment, while cannabis users tended quickly to leave treatment, having done well or not. However, these figures relate only to patients who completed the forms at their six-month review, which in practice could have happened anywhere from about one to six months after their assessment for treatment. What proportion of primary cannabis users were still in treatment at that point and available to complete the forms is not clear, but they may have been the patients whose problems were deep seated enough to require extended treatment.

Enjoyable and trouble-free for many, but not without harms

Harm reduction – the “set of practical strategies and ideas aimed at reducing negative consequences associated with drug use” – is mostly associated with ‘harder’ drugs like heroin, for which [blood-borne viruses and drug-related deaths](#) are clear and severe risks. Yet [while](#) “many people experience cannabis as enjoyable and trouble free”, there are also varying degrees of harm with this drug depending on the characteristics of the person using, the type of the cannabis, and the way they consume it.

Many formal cannabis [harm reduction](#) programmes borrow from the fields of alcohol and tobacco. [Advice includes](#):

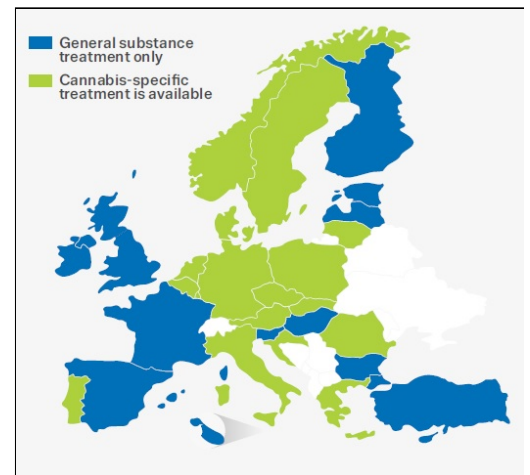
- safer modes of administration (eg, on the use of vaporisers, on rolling safer joints, on less risky modes of inhaling)
- skills to prevent confrontation with those who disapprove of use
- encouraging users to moderate their use
- discouraging mixing cannabis with other drugs
- drug driving prevention and controls
- reducing third-party exposure to second-hand smoke
- education about spotting signs of problematic use
- self-screening for problematic use

Many people experience cannabis as enjoyable and trouble free ... some people require help to reduce or stop

In some parts of the UK, National Health Service tobacco smoking cessation services [incorporated](#) cannabis into their interventions with adults; and Health Scotland, also addressing the risks of tobacco and cannabis smoking, [published](#) a booklet for young people titled *Fags 'n' Hash: the essential guide to cutting down the risks of using tobacco and cannabis*.

Vaporising or swallowing cannabis offers a way to avoid respiratory risks, but only a minority of cannabis do this, most choosing to smoke cannabis joints (or cannabis and tobacco joints). While not all will know about the different health risks, cannabis users [may choose against](#) safer consumption methods anyway for a range of reasons (including their own thoughts about safe use):

- Users may find it easier to control the effects (eg, severity, length of effect) of cannabis when inhaling in the form of



Specialised treatment programmes for cannabis users in European countries

a joint or spliff

- Preparing and sharing joints can be an enjoyable part of the routine, or part of a person's social activities
- Alternative methods of smoking (eg, bong, and vaporisers) may be inconvenient to use, or expensive to buy

Most harm reduction advice is delivered informally long before users come into contact with drugs professionals – for example through cannabis magazines, websites, and [headshops](#) – [highlighting the importance](#) of official sources engaging with non-official sources to promote the delivery of accurate, evidence-based harm reduction messages.

A new high

In May 2016 the [Psychoactive Substances Act](#) placed a 'blanket ban' on new psychoactive substances (previously known as 'legal highs'), including [synthetic cannabinoids](#) (synthetic forms of cannabis).

Prior to this, in 2014, there had been 163 reported [deaths from](#) new psychoactive substances in the UK, and 204 the year after. The [average age](#) was around 28, younger than the average age for other drug misuse deaths of around 38. The fact that these psychoactive substances – which produced similar effects to illicit drugs like cannabis, cocaine, and ecstasy – could be bought so easily online or on the high street, appeared inconsistent; and [each fatality](#) prompted "an outcry for something to be done to prevent further tragedies". This was the context (and arguably the political trigger) for the introduction of the [Psychoactive Substances Act](#). While possession of a psychoactive substance as such wasn't criminalised, production, supply, offer to supply, possession with intent to supply, import or export were – with a maximum penalty of seven years' imprisonment.



Just seven months after the Act came into effect, the Home Office labelled it a success, with a [press release](#) stating that nearly 500 people had been arrested, 332 shops around the UK had been stopped from selling the substances, and four people had been sent to prison. But did the Psychoactive Substances Act have the presumably desired effect of limiting access to psychoactive substances (and reducing deaths), or did it just push the drugs the way of dealers? It is perhaps too early to tell, but former chair of the Advisory Council on the Misuse of Drugs Professor Nutt had [warned](#) before the Act came into effect that the 'blanket ban' would make it harder (not easier) to control drugs. And while Chief executive of DrugWise Harry Shapiro had said the new law would make new psychoactive substances harder to obtain, he also [agreed](#) that sale of the drugs would not cease, but merely be diverted to the illicit market: "The same people selling heroin and crack will simply add this to their repertoire."

The paper "From niche to stigma" [examined](#) the changing face of the new psychoactive substance user between 2009 and 2016, focusing on people using the synthetic cannabis known as 'spice'. It looked at the transition of (then) 'legal highs' from an "experimental and recreational" scene associated with a "niche middle class demographic", to "those with degrees of stigma", especially homeless, prison, and socially vulnerable youth populations (including looked after children, those involved in or at risk of offending, and those excluded or at risk of exclusion from mainstream education). In 2014, the DrugScope Street Drug Survey [also observed](#) a problem among these particular groups, recording a "rapid rise in the use of synthetic cannabinoids such as Black Mamba and Exodus Damnation by opiate users, the street homeless, socially excluded teenagers and by people in prison".

Some synthetics are [purposely](#) designed to resemble herbal cannabis, and can be consumed in the same ways (eg, smoked or inhaled). The names also often have deliberate cannabis connotations. The risk of this is that people wishing to take cannabis may be initially unaware that they have been sold the synthetic form, or may believe from the look of it that it will produce similar sought-after effects. The greater intensity of synthetic cannabis at lower dose levels ([▶ box](#)) ensures that it has an appeal in terms of potency and affordability, but may put those with fewer resources at greater harm.

In 2014, the prison inspectorate for England and Wales raised concerns about the rise in the use of psychoactive substances in prisons, in particular synthetic cannabis. [A study](#) set in an English adult male prison found that the nature of the market was posing significant challenges to the management of offenders. There, the primary motivation for consumption was being able to take a substance without it being detected. Given this motivation, and the greater likelihood of harms from synthetic versus natural cannabis, the researchers concluded that it was imperative for mandatory drug-testing policies to be revised, and instead rooted in harm reduction – something which would also apply to people on probation subject to mandatory drug-testing.

Cannabis throws up a range of issues rather different from those associated with the drugs treatment in the UK has normally focused on. If current trends continue, understanding [the findings](#) will become yet more important to British treatment services.

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'SPICE' AND OTHER SYNTHETICS

Cannabis contains two key components:

- 'THC' (tetrahydrocannabinol), which produces the 'high'
- 'CBD' (cannabidiol), which produces the sedative and anti-anxiety effects

Synthetic forms of cannabis contain chemicals that aim to copy the effects of 'THC' in cannabis. But the effects of synthetic cannabis can be quite different (and often stronger): firstly, because synthetic production makes it easier to manipulate the amount of the THC-like chemical; and secondly, because of the absence of the moderating equivalent of 'CBD'.