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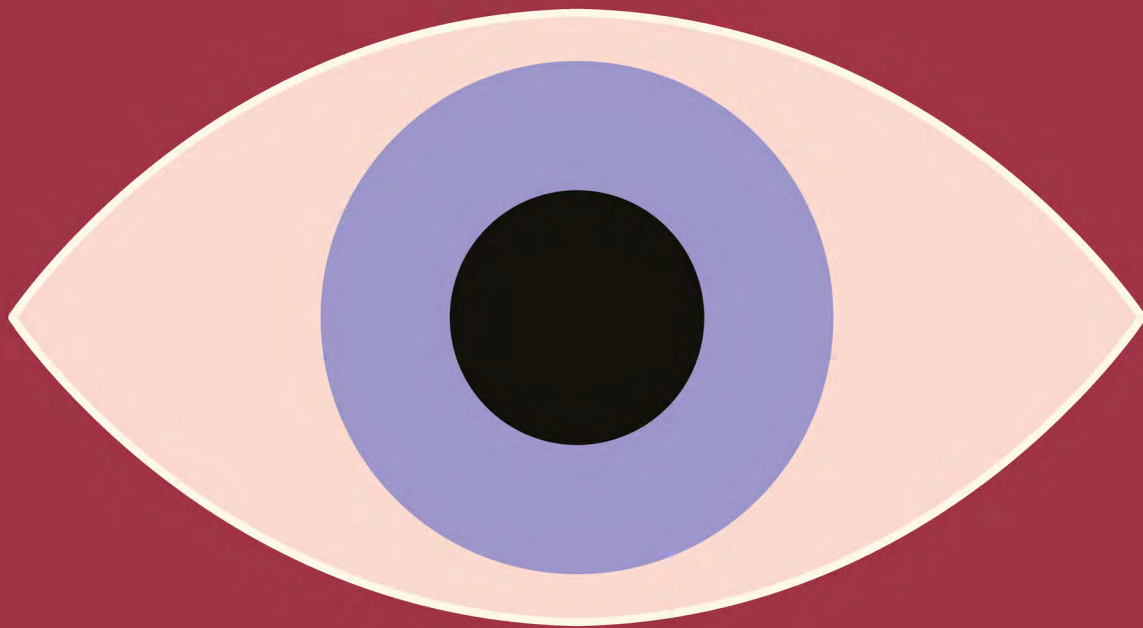
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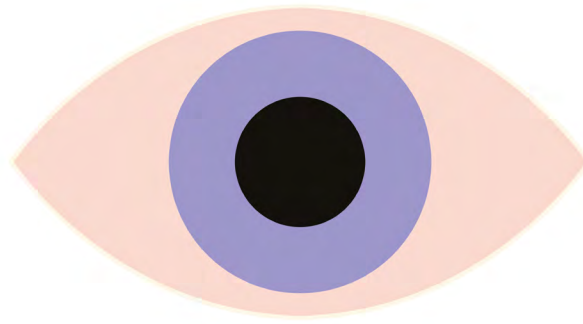
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THC Vapes

Greater Manchester: Testing and Research on Emergent and New Drugs





Trend Focus: THC Vapes

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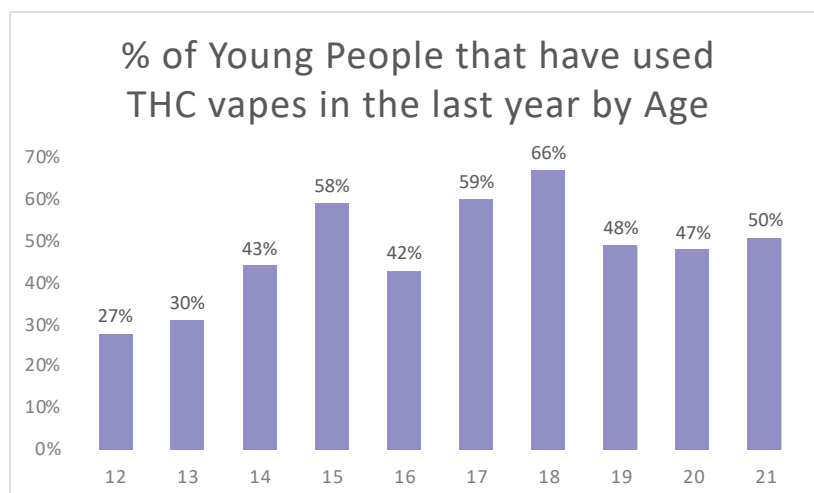
TREND FOCUS: THC Vapes

Background

In the past year, the Greater Manchester Local Drugs Information System (GMLDIS) have continued to receive regular reports of school-aged children becoming unwell and requiring emergency medical support, including ambulance callouts and subsequent admission to A&E departments, after using products sold to them as **THC vapes**. These reports first emerged in 2019 (see appendix) and were initially confined to the areas of Bury, Oldham and Rochdale. However, over the last two years, reports of children becoming unwell after using what they purchased as **THC vapes** have increased and have originated from areas across Greater Manchester.

Previous GMTRENDS reports have highlighted that young people were using 'non-traditional' forms of cannabis, including increased vaping of **cannabis** (or what they perceived to be **cannabis** in vape form), the use of **cannabis edibles**, and 'Cali weed' (see [GMTRENDS 2021](#)). In response to this, for the first time this year, the young person's survey included a

set of specific questions on **THC vapes**. Almost half (48%, n= 175) of the 363 young people respondents from the ten Greater Manchester areas (aged 13-21) who completed the survey reported past year use of a **THC vape**. This was higher (54%, n=120) for those with contact with services in the last year, however, two-fifths (39%, n=33) of those not in past year contact with services reported past year use of a **THC vape**. Bar Chart 1 below shows the percentage of respondents to the young person's survey that have used **THC vapes** by age. Two-thirds (66%, n=18) of the 18-year-old respondents have used **THC vapes** in the last year. This was closely followed by 59% (n=42) of 17-year-olds, and 58% (n=58) of 15-year-olds. Over half (51%, n=90) of the young people who reported past year use of **THC vapes** identified as male, with just under half (46%, n=80) identifying as female. Furthermore, more than half (54%) of young people who had used **THC vapes** reported they had got 'easier to buy', with two-fifths (39%) reporting they had 'got stronger'.



Bar Chart 1: Bar chart showing the percentage of respondents to the young person's survey that have used **THC vapes** in the last year by age.



An increase in **THC vapes** amongst young people was also noted in the Key Professional Survey and it was suggested that we focus on them this year.

“The THC vapes seem to be very popular amongst the younger clients.” (Team Leader, Assertive Outreach, Salford, and Trafford)

Interviewer: “What would you want us to focus on for the Trend Focus this year?”
I definitely think at the moment it is going to be THC [vapes] particularly because everyone at the moment seems to know about it, or want it or is smoking it and its sort of like ‘why?’ [. . .] I would say THC vapes because we just don’t know what is in them and that is a big concern, especially for when a young person tries it. Like a 9-year-old, we do have people as young as that reporting vaping.” (Exploitation Worker, Young Person Substance Use Service, Manchester)

Interviewer: “What would you want us to focus on for the Trend Focus this year?”
THC vapes, yes that is probably one of my biggest concerns at the minute, honestly, it the past year, that has just skyrocketed! [. . .] THC vapes definitely, that is much more common, much easier to get away with stuff and that is just getting to the point where kids are doing it before school like a normal vape.” (Substance Misuse Advocacy Worker, Trafford & Salford)

In keeping with these survey findings, several key professionals that we interviewed reported a recent increase in the use of **THC vapes** amongst young people.

“Herbal is still main [way that cannabis is used], but it just seems in the last few months we have had a rise in THC vapes . . . I had a couple recently say, ‘I couldn’t get hold of cannabis, so I went onto this for a few weeks’. . . It’s just a viable option to cannabis.” (Advocacy Worker, Young Person’s Substance Use Service, Oldham)

“I’ve got a caseload of 26 at the minute and around half report using it. A smaller number use it regularly, but they can’t really afford it to buy their own, so a lot use it off their mates. So, I’d say about half so your

48% [in the survey] sounds about right, but I reckon that is going to be increasing soon, because its fast becoming more and more popular.” (Substance Misuse Advocacy Worker, Trafford & Salford)

In keeping with concerns around the marketing of **nicotine vapes**, it was suggested that some the **THC vape** products are deliberately marketed to appeal to children.

“The branding is targeting kids.” (School Safeguarding Lead, Salford)

Considering these findings, the decision was made to focus on **THC vapes** for this year’s young person trend focus. Before discussing the methodology and findings, we provide an overview of the existing data regarding **cannabis use, nicotine vapes, and THC vapes**.

● Prevalence Data

There is a lack of data on the prevalence of **THC vapes** in the UK, and we believe that this research is the first to gather local **THC** prevalence data. The following national prevalence data focuses on **cannabis, nicotine vapes, and THC vapes**.

● Cannabis

While there is a lack of **THC vape** data, we know more about young people’s **cannabis** use. For example, during 2021, among pupils (aged 11-15); **cannabis** was the drug most likely to have been taken in the last year, with 5.6% saying they had done so in 2021 (Hulbert *et al.* 2023). However, this is down from 8.1% in 2018, and less than half of the 13.2% who reported past year use in 2002. **Cannabis** use increases dramatically with age; for example, in 2021, less than one in 300 (0.3%) of 11-year-olds had ever used **cannabis**; increasing to a fifth (19.2%) of those aged 15 (ONS (7), 2022). In the Health Behaviour in School-aged Children (HBSC) study based on the data from 5,377 young people in England between 2020-2022; one in six (15%) 15-year-old boys and one in five (21%) 15-year-old girls reported using **cannabis**, an overall decrease from 2018 (Hulbert *et al.*, 2023). Similarly, according to the Crime Survey of England and Wales (CSEW), just under one in six (15.4%) of 16–24-year-olds in England and Wales used **cannabis** in the last year (2022/23),

which equates to 902,000 young adults. This shows a decrease from 18.7% in 2019/20 (ONS (6), 2023).

Although there has been a general downward trend in reported past year **cannabis** use amongst young people for several years, **cannabis** remains by far the most common substance that young people (under 18) in treatment identify as a problem. There were 10,837 under 18s who said they had a problem with **cannabis** (87% of those in treatment), a similar proportion to the last four years (OHID (6), 2024). New adult entrants to adult treatment services with **cannabis** problems increased again this year, a 2% rise (from 28,263 in 2021/22 to 28,845 2022/23). Nearly two-thirds (62.4%) of new treatment presentations aged 18-19 and a fifth (20.9%) of all adults in treatment identify **cannabis** as a problem (OHID (4), 2023).

In summary, **cannabis** prevalence amongst young people appears to be on the decline, but it remains the most common substance that young people present with to treatment services. It has been suggested that one of the reasons behind its decline has been changing attitudes to tobacco and the resultant decreasing numbers of young people smoking tobacco leading to less young people transitioning to smoking **cannabis**. The reduction in the levels of smoking amongst young people has been considerable. In the first Smoking, Drinking and Drug Use Survey of young people (aged 11-15) in England, conducted in 1996, almost half (49%) of young people reported ever smoking, this fell by three-quarters to 12% in the 2021 survey (NHS Digital, 2021). The 2021 survey also reported that only 3% of young people were classed as current smokers. This represents a huge decrease from 1996 when almost one in four (22%) were classed as current smokers (NHS Digital, 2022). However, as we outline below, while smoking tobacco has significantly declined over the past three decades, **nicotine vaping** has increased amongst young people in recent years.

Nicotine Vaping

National Prevalence Data

We know much more about the prevalence of **nicotine vapes** in the UK than we do for **THC vapes**. During 2023, the proportion of the

British population using **nicotine vapes** was almost one in 10 (9.1%), the highest rate ever, equal to 4.7 million adults (ASH, 2023). This represents a 10% growth from the previous year when 8.3% of the population vaped **nicotine**. The rise in the prevalence of **nicotine vapes** was also seen amongst young people in Great Britain. In March/April 2023, the proportion of children experimenting with **vaping** had grown by 50% year on year, from one in thirteen to one in nine. Children's awareness of the promotion of **nicotine vapes** has also grown, particularly in shops, where more than half of all children report seeing **nicotine vapes** being promoted, and online, where nearly a third report **nicotine vape** promotion. In 2023, one in five (20.5%) children had tried vaping, up from 15.8% in 2022 and 13.9% in 2020 (ASH, 2023). The recent rise in the popularity of **nicotine vapes**, coupled with the reduction in the use of **nicotine** through more traditional cigarette smoking, has resulted in the proportion of young people currently **vaping** being more than double that of young people currently **smoking** (7.6% compared to 3.7% in 2023).

Local Prevalence Data

In last year's GMTRENDS young person survey, 70% of young people reported past year **nicotine** use. Although we did not separate out **nicotine vaping** from smoking **tobacco** products, it was clear from the free-text comments that young people provided, that the vast majority of young people were **vaping** rather than smoking **nicotine** with their comments often referencing popular brands of disposable vapes. Considering these findings, we made the decision to introduce a separate set of questions this year that focused on **nicotine vaping**. The addition of questions about **nicotine vaping** in this year's survey has enabled us to clearly evidence this trend with three-quarters (76%, n=275) of young people reporting past year use of a **nicotine vape** compared to a third (36%, n=130) reporting past year use of **nicotine** through traditional products (cigarettes and tobacco). These local figures are approximately 10 times higher than the above national survey data. The young person survey findings show that past year use of **nicotine vapes** was higher for those in contact with services, with over four-fifths (82%) of young people in past year contact with services reporting using a **nicotine vape** in the last year compared to two-thirds (65%) of those not in contact with services. Consistent

with these young person survey findings, high levels of **nicotine vaping** were discussed by key professionals working in schools and young people’s substance use services, across all areas of Greater Manchester.

“Here, I’d say in our school, vapes are always going to be an issue, that’s a given unfortunately.” (School Safeguarding Lead, Salford)

“Pretty much all, at least 90 percent of my young people vape.” (Substance Misuse Advocacy Worker, Trafford & Salford)

“Nearly all the young people we work with use vapes. You know, from the ages of 13 upwards... but it seems like all of our young people are using vapes.” (Senior Practitioners Young Person Complex Safeguarding Team, Stockport)

“All of my clients vape – all of them!” (Exploitation Worker, Young Person Substance Use Service, Manchester)

Analysis of the young person survey data points to a correlation with those that have used **nicotine vapes** and the chance that they have used **THC vapes**. Of the 275 (76%) of young people reporting using **nicotine vapes** in the last year, over half (47%, n=158) of them also reported the use of **THC vapes** in the last year. Of the 88 young people who did not use **nicotine vapes** last year, only one in five (19%, n=17) of them have used **THC vapes**. Therefore, past year use of a **nicotine vape** increases the likelihood of past year **THC vape** use by over 250%.

● **THC Vapes**

While there is a lack of data on the prevalence of **THC vaping** in the UK, there is a growing body of international literature, in particular from North America, where **cannabis** regulation has seen a diversification of **cannabis** products.

International Prevalence Data

A systematic review of 17 studies relating to the prevalence of **THC vaping** from the US and Canada was conducted by Lim *et al.* (2022) with a combined total of 198,845 adolescents. They found that the lifetime prevalence of **THC vaping** doubled from 2013 to 2020 (6.1% to 13.6%), past 12-month use nearly doubled from

2017 to 2020 (7.2% to 13.2%), and the 30-day prevalence of **THC vaping** increased 7-fold from 2013 to 2020 (1.6% to 8.4%) (Lim *et al.*, 2021). In 2019, data was gathered by Monitoring the Future relating to the prevalence of cannabis vaping among US adolescents (Miech *et al.*, 2019). Past 30-day prevalence of ‘**marijuana vaping**’ was reported by 3.9% of 8th graders, 12.6% of 10th graders, and 14.0% of 12th graders (Miech *et al.*, 2019). This represented a significant increase from 2018 to 2019 of 1.3% in 8th graders, 5.6% in 10th graders, and 6.5% in 12th graders. Timberlake *et al.* (2023) analysed weekly sales revenue of **cannabis vape** products obtained from a sample of licensed California adult-use **cannabis** retailers over a three-year period from 1st January 2018 to the 31st December 2020. They reported that the total volume of regulated **cannabis vape** product sales increased substantially. They also found that **vape** products appeared more popular (as a fraction of total cannabis sales) for younger adults relative to older adults. A recent US study investigating the substances that American adolescents are **vaping** found that **THC vaping** was reported by almost half (48.4%) of 4,706 of those reporting **vaping** in the past month (Selya *et al.*, 2023). This US data shows how **cannabis vaping** has increased and provides evidence that the likelihood of **vaping THC** increases with age.

Methodology

In addition to the survey data from 363 young people, 132 professionals and the 84 key professional interviews, over a four-month period between January and April 2024, we interviewed 21 young people who use **THC vapes**. These consisted of 18 males and three females. As Table 1 illustrates below, the ages ranged from 14 to 24.

Table 1: Age of interview participants

Age	Number of participants
14	1
15	10
16	2
17	1
18	3
19	1
20	1
22	1
24	1

Almost two-thirds (62%, n=13) were in high school, with the remaining third equally split between college (19%, n=4) and university (19%, n=4). Over half (57%, n=12) were from Salford, with four from Manchester, four from Stockport and one from Rochdale. We also interviewed a Safeguarding Lead from a Salford high school where the local young person substance use service informed us was a school where several young people were using **THC vapes**.

During the 2023/24 testing cycle, MANDRAKE tested nine e-liquids/vapes that were purchased as **THC vapes**. All samples were linked to incidents in Greater Manchester high schools where one or more pupils had become unwell, resulting in ambulance callouts and in most cases, hospitalisation. The results of this forensic analysis are provided and discussed in the Market Insights section of this report.

Findings

Prevalence

The young people's survey shows the current prevalence of **THC vapes** by each Greater Manchester area, as seen in table 2 below.

Table 2: Number and percentage of young people reporting THC vapes usage in the last year by GM area

GM Area	Number	Percentage (%)
Bolton	27	46
Bury	44	56
Manchester	26	50
Oldham	12	36
Rochdale	26	48
Salford	17	33
Stockport	1	33
Tameside	5	71
Trafford	13	62
Wigan	4	100
Total	175	48

Past year use of a **THC vapes** ranged from a third (33%) of young people in Salford and Tameside to 100% in Wigan. During the key professional interviews, while there were reports of an emergence of the availability of **THC vapes** in several boroughs across Greater Manchester, the reported use of **THC vapes**

varied across local authority areas. For example, it was noted in Stockport services, that they had not had many young people coming into service who report using them.

"We've not seen an awful lot, but I think Stockport has been a bit slow to react to [THC] vapes." (Family Drug and Alcohol Treatment Worker, Stockport)

While an Adolescent Health and Wellbeing Worker at a young person's substance use service in Bolton suggested that reports of **THC vaping** had decreased over the past year.

"We had some of the THC vapers come in, but that seems to have dried up. They try them and they don't go back to them, they say it's not the same." (Adolescent Health and Wellbeing Worker, Young Person's Substance Use Service, Bolton)

THC vape use amongst young people was discussed the most by key professionals working in Manchester, Salford, and Trafford.

The use of **THC vapes** was noted by professionals to be particularly prevalent amongst teenagers.

"I'd say 13 to 17 is the age range, the youngest is 13, he does it before school and he's actually stoned out of his mind during our appointments." (Substance Misuse Advocacy Worker, Trafford & Salford)

"THC vapes seem to go round friendship groups [. . .] THC vapes are going round like a house on fire. In Trafford, . . . the young people who are open to us, all have other friends who are open to us, and then they are using as well. So, it is very friendship group based." (Young Person Substance Use Service Team Leader, Salford and Trafford)

It was stated by a couple of key professionals working in substance use services, that although numbers are still relatively small, there has been an increase in the number of young people reporting **THC vapes** as their primary substance.

"We have seen a small increase, and the issue though is it is an increase in THC vapes as their drug of choice." (Service Manager, Young Person's Substance Use Service, Manchester)

Furthermore, many professionals working in young people's substance use services noted that the extent of **THC vape** use may be underestimated due to young people not always specifically disclosing their use of **THC vapes** when referring to their use of **cannabis**. Two-thirds (65%) of young people that have used **cannabis** in the last year have also used **THC vapes**. The young person's survey shows that of the 175 young people who have used **THC vapes** in the last year, a total of 165 (94%) also use **cannabis**. These survey findings support the view of many professionals who suggested that the young people they support are now often using **THC vape** and traditional herbal **cannabis** interchangeably.

"Even if it's not their primary substance they are definitely using THC. Even if they usually smoke cannabis, they are still using THC vapes at some point." (Exploitation Worker, Young Person Substance Use Service, Manchester)

However, it was noted that there is currently no separate category for recording **THC vapes** on existing national drug treatment monitoring data systems so the numbers may be higher as it has the potential to get lost under the general '**cannabis**' category.

"There might be an issue with recording as there is no separate category for THC vaping and it can get missed." (Team Leader, Young Person's Substance Use Service, Manchester)

As illustrated below, most young people who **vape THC** have also smoked **cannabis** and their **THC vape** use would not necessarily be separately captured and recorded.

"People who don't smoke weed don't normally have a drag on the [THC] vape."
Interviewer: "So do you think most people who have a THC vape have tried weed before? Yeah." **Interviewer: ". . . and most people who have done it would have had a nicotine vape before? Yeah, everyone who does smoke weed smoke nicotine as well."** (15-year-old male (4), Salford)

In keeping with these professional views, the school-aged children that we interviewed reported high levels of **THC vape** use amongst their peers.

Interviewer: "How many kids are in the school? About 500, 510." **Interviewer: "And what kind of percentage would you say are using THC vapes? Normally males, only about three girls in my year who use THC vapes, because a big part of our year don't do weed or drugs at all, out of boys I'd say a good 45%."** (16-year-old male (2), Salford)

We spoke to some young people who suggested that **THC vapes** had overtaken traditional forms of **cannabis** use.

Interviewer: "How common are the THC vapes? . . . more common than weed these days." (16-year-old male, Salford)

The following section outlines some of the main themes that emerged from interviews with young people and professionals in relation to the increasing popularity of **THC vapes** amongst young people.

Motivations

Convenient and Discreet

One of the most common narratives to surface from the interviews with both young people and professionals was the convenience of using a **THC vape** in comparison to traditional **cannabis** use.

"It's so easy, vapes are convenient and stealthy." (24-year-old female, Manchester)

It was noted that it is much easier to use a **THC vape** compared to smoking a joint in public places.

Interviewer: "Why choose THC vapes over cannabis? It's so much easier – you can't roll a joint on the bus." (22-year-old female, Manchester)

Although **vaping** (including **nicotine vapes**) is prohibited on buses and indoor spaces, the convenience of using them indoors and not having to go outside to smoke was often mentioned by young people as an advantage of using **THC vapes** over traditional smoking of a **cannabis** joint.

"Don't have to go outside and get cold and wet." (17-year-old male, Stockport)

As we noted in the [2021 GMTRENDS report](#), a key factor in their popularity during COVID lockdowns was the ability to use around the home discreetly, without detection, due to the lack of smell.

“Obviously, a lot of the kids that I work with, it is mainly cannabis that they smoke, and they say they have started using THC vapes because it is more convenient because it doesn’t smell as much, they can use in their bedroom and not get caught, things like that.” (Substance Misuse Advocacy Worker, Trafford & Salford)

Young people often discussed the lack of smell as a motivation for using **THC vapes** over smoking herbal **cannabis**.

Interviewer: “Thinking about THC and cannabis, are there differences to the way you use them? I think so, yeah. ‘Cause it’s a vape, obviously you can pretty much take it anywhere and they don’t smell as much. It’s easier to use discreetly in places you probably shouldn’t be using it.” (18-year-old males, Stockport)

Interviewer: “So when you decided to move onto THC vapes instead of spliffs, why did you make that decision? When you’re smoking weed it normally stinks and it’s like a weed vape innit, it’s a bit more low-key, you could smoke it inside and all that.” (16-year-old male, Salford)

“... most of them who do smoke weed prefer THC vapes now because weed you have to roll it, it stinks, people find it easier to just have a vape.” (16-year-old male (2), Salford)

The strong, distinct, and pungent smell of **cannabis** was often mentioned when highlighting how using **THC vapes** increased their ability to keep their **cannabis** use hidden from their parents and therefore was a key factor in their decision to use **THC vapes**. This was also frequently discussed by substance use professionals.

“So, a lot of kids that I work with, they are trying to keep their drug use secret, hidden from their parents and obviously, cannabis has got a really strong, pungent smell to it, so THC vapes works, and it just gets them higher, but quicker.” (Substance Misuse Advocacy Worker, Trafford & Salford)

It was also noted that it is often difficult to distinguish a **THC vape** from a **nicotine vape**.

“It is so accessible. You get the same effect, if not more than a joint or whatever. But you don’t have any of the bad effects like the smell, or the aspect of having to hide it so it isn’t found by a parent. A parent would see the vape and not question it. We speak to our young people about vapes and their parents know about it, they don’t try to hide it [vape] from them. And the ones who do have THC vapes, their parents think it’s either a normal vape or it’s better than smoking a joint.” (Young Person Substance Use Service Team Leader, Salford and Trafford)

Hence, even if a young person’s **THC vape** was detected, the potential consequences - whether from parents/guardians, teachers, or police etc. - would be less severe than if herbal **cannabis** was found.

A faster acting, more intense high

It was common for the young people that we interviewed to make favourable comments in preference to **vaping THC** compared to smoking herbal **cannabis**. This often related to the quicker and more intense effects.

“Weed feels less strong and doesn’t really feel like it’s doing owt. [. . .] You know it’s the same drug, but it feels like a different high.” (15-year-old male, Manchester)

Most young people that we interviewed commented on the different effects of **THC vapes** compared to smoking a joint. As we illustrate below, it was common for young people to report a quicker onset of the effects and a more intense experience.

“It gets you stoned easier [than smoking a joint] . . . hits faster. [. . .] It’s [a] more intense stoned, gets you paranoid.” (16-year-old male, Salford)

“It could be more intense because it’s just pure THC.” (19-year-old male, Manchester)

“THC is a shorter [time to take effect] and prolonged.” (17-year-old male, Stockport)



Professionals also regularly discussed how the young people that they work with report getting the desired effects quicker through **vaping THC** than from smoking herbal **cannabis** in a joint.

“They also say that they can get really high off just five or six drags, because it’s strong stuff, do you know what I mean?” (Substance Misuse Advocacy Worker, Trafford & Salford)

“What they’re telling me is that they get a better and more instant high off it, and it tends to last longer; it’s a nicer, smoother smoke, so you don’t have to [vape] as much. Even though it’s like £30-40 to buy, it’s cheaper overall than buying weed, because it just lasts that little bit longer.” (Advocacy Worker 1, Young Person’s Substance Use Service, Bury)

These different effects between **vaping THC** and smoking **cannabis** that young people discussed have been reported in recent international literature. Inhalation of **cannabis** without **nicotine** will likely make users feel the effects of **THC** more strongly compared to smoking a joint that, in a UK context, typically contains **cannabis** mixed with tobacco (ReLeaf: Online, 2023). Research into the differences between **smoking** and **vaping cannabis** has shown that **THC vaping** has a greater bioavailability¹, resulting in more **THC** entering the user’s bloodstream. For example, in a test where participants took 25mg of **THC** in either smoke or vape form, those who vaped had 14.4ng/ml of **THC** in their blood compared to 10.2ng/ml for those who smoked **cannabis** (ReLeaf: Online, 2023).

Vaping cannabis avoids burning thirty percent of the **THC**, therefore making the intake stronger and effects more effective. A recent paper by Sambiagio *et al.* (2023) compared the efficiency in the delivery of **THC** in **cannabis** joints, vaporizers, and electronic non-nicotine delivery systems (ENNDS). For joints, the **THC** delivery ranged from 12% to 32%, whereas for **THC vapes**, the highest **THC** content was 84% but the lowest was 3%. The difference in these numbers for **THC vapes** were largely due to the heating temperature. For ENNDS, the efficiency ranged from 5% to 80%. The efficiency of **THC** delivery was higher with ENNDS (>99%) compared to joints with or without filters (36%) and to **cannabis vaporizers** (18%).

These results help to explain why it was consistently reported by the young people we interviewed with experience of **smoking cannabis** and using **THC vapes**, that consuming **THC** in **vape** form leads to more intense bodily effects compared to **smoking cannabis** in a **joint**. The faster acting effects discussed above, coupled with the more intense and longer lasting high, led some young people to rationalise their decisions to use **THC vapes** over **herbal cannabis** as a more cost-effective choice.

*“Why would I spend a tenner on a gram of bud and put it in a joint when that’s gonna last me 30 minutes, when I can spend a tenner on [a] **THC** [vape] and that’ll last me a couple of days.”* (15-year-old male, Manchester)

Professionals who worked in young people’s substance use services similarly stated how the strength and price of **THC vapes** was a factor in the increasingly popularity of these products.

“It’s a reasonably priced, very, very strong, easy to access substance.” (Young Person Substance Use Service Team Leader, Salford and Trafford)

While the above quote suggests that **THC vapes** are reasonably priced and high strength products, in the following Market Insights section, we highlight a tiered market with the prices of **THC vapes** ranging from £10 to £90, alongside highly variable content.

Less Harmful

A less common but noteworthy motivation for use, only discussed by two of the 21 interviewees, was that an additional benefit of using **THC vapes** was the reduced risk of harm.

“It could be better for you, because it has less chemicals [than smoking herbal cannabis].” (19-year-old male, Manchester)

Sambiagio *et al.*, (2023) provide a useful comparison of the existing literature on the emissions and toxicants that are released in different cannabis products. All the studies they reviewed confirmed that combustible **cannabis** products (e.g., ‘joints’) expose users

1. The ability of a drug or other substance to be absorbed and used by the body.

to harmful concentrations of several toxicants, including irritants and carcinogens. The studies reviewed concurred that there is a lower exposure to inhaled intoxicants from vaporizers and electronic non-nicotine delivery systems (ENNDS) compared to smoking **cannabis** in traditional joints, however, some irritants and carcinogens were still released in their emissions. Nevertheless, as we outline in the following Market Insights section, MANDRAKE's forensic analysis of locally purchased **THC vapes** contained other harmful substances including **Vitamin E acetate** and **synthetic cannabinoids** (AKA 'Spice').

Market Insights

This section focuses on the content of **THC vapes**, where young people are accessing them, and how much they report paying for them.

Content

As noted at the start of this report, over the last five years, the Greater Manchester Local Drugs Information System (GMLDIS) have received reports from an increasing number of Greater Manchester local authority areas regarding high school children and products purchased as **THC vapes**. When these incidents have led to ambulance callouts and hospitalisation, where possible, these vapes have been obtained and submitted to MANDRAKE for forensic analysis. This has led to the Greater Manchester Drug Alerts Panel issuing several public warnings, harm reduction advice and professional briefings, dating back to 2019 (see appendix section). This information has often centred around raising awareness of the variable content, as this young person notes:

"You don't always know what's in your vape." (24-year-old female, Manchester)

Indeed, almost a quarter (24%, n=5) of the young people we interviewed recounted personal experiences of using what they thought was a **THC vape** and then experiencing adverse effects that led them to believe that what they had consumed was not **THC**.

"The first time I tried THC, I was clearly given something that wasn't THC." (15-year-old male, Manchester)

In keeping with these **THC vape** user narratives, one of the main themes to emerge from the interviews with key professionals related to concerns about the content of vapes sold as **THC** to the young people that they supported. As the following interview extracts illustrate, this was consistently discussed across many Greater Manchester local authority areas as a risk.

"... But then they don't know what is in it or where it came from, so that's the worry." (Exploitation Worker, Young Person Substance Use Service, Manchester)

"One last week said his mate had had one and it had made him [have a] kinda' out of body [experience] and he didn't like it." (Young Person's Recovery Worker, Youth Offending Team, Wigan and Leigh)

A particular concern for many professionals was that the vapes may contain '**Spice**'.

"They see it as safe. We don't know if it is Spice, or THC, but young people are not really seeing it as a dangerous or risky option. It's just a viable option to cannabis." (Advocacy Worker, Young Person's Substance Use Service, Oldham)

"[Young people] are saying the vapes are really quite strong, that they're getting them over the internet. . . I've asked about the effects; they're saying sometimes their heart races. . . and they get really spaced out on it. And obviously I go into what is being picked up around SCRAAs [synthetic cannabinoid receptor agonists, aka 'Spice'], but they are like 'Nah, nah, it's good Cali, it's good stuff.'" (Young Person's Recovery Worker, Youth Offending Team, Wigan and Leigh)

"... So, I think that is a priority now, like I say, I've got kids unintentionally smoking Spice sold to them as THC vapes." (Substance Misuse Advocacy Worker, Trafford & Salford)

Indeed, several professionals recounted cases where young people that they supported had been admitted to A&E departments because of using what they thought was a **THC vape**, but it was actually '**Spice**'.

“One young man. . . has been vaping vials for a few months. . . to cope with ADHD and autism, because he didn’t like cannabis and wanted an alternative. [His] mum said he’d really changed, saying he now stinks of Spice and his appearance changed, his demeanour, he’s aggressive. . . he ended up in A&E and had what sounds like opioid withdrawal, diarrhoea, cramps; it took him about three days to come out of that. . . thinking about it, I think it was Spice.” (Advocacy Worker, Young Person’s Substance Use Service, Oldham)

“I’ve had lads that have come through from A&E or schools, who have had Cali Pens, and it’s had Spice in it.” (Advocacy Worker 1, Young Person’s Substance Use Service, Bury)

“These two children, one collapsed in the playground, and we had to get an ambulance involved.” (School Safeguarding Lead, Salford)

One noteworthy development this year is that in the previous year’s incidents, such as those outlined above, they have always involved young people using what they thought was a **THC vape**, but MANDRAKE forensic analysis found that they contained ‘**Spice**’. This year, for the first time, we received reports from four professionals who informed us that young people they supported were knowingly purchasing ‘**Spice**’ vapes.

“Spice vapes in Trafford. Even when you’re talking to people about the Spice element of it [...] they have friendship groups who are intentionally buying Spice vapes [...] there are young people knowingly and willingly using Spice vapes. Again, you can buy it by the drag...same sort of prices as THC vapes. Or you speak to them about the price being relatively low and it being Spice. And they go ‘oh yeah, I kinda knew it was Spice, but it sounds better if I say THC!’” (Young Person Substance Use Service Team Leader, Salford and Trafford)

“Some of them are aware that the vapes might contain Spice but it doesn’t put them off from trying it.” (Exploitation Worker, Young Person Substance Use Service, Manchester)

High THC content vapes

While the main concerns raised by professionals were that these **THC vapes** may contain ‘**Spice**’, a further concern that was raised in relation to these vape products was that some young people are actively seeking out more expensive **THC vapes** that allegedly have high **THC** content. As we first highlighted in 2021 (see [GMTRENDS, 2021](#)) and further note in this year’s main report, herbal forms of ‘**Cali Weed**’ continue to grow in popularity amongst young people. In addition to herbal forms of ‘**Cali Weed**’, it was often stated by professionals working with young people in many parts of Greater Manchester, that **THC vapes** were referred to as ‘**Cali Pens**’ by the young people they supported. As we illustrate below, ‘**Cali Pens**’ are more expensive and thought of as an indicator of legitimate and high strength **THC** vape products.

“They are clearly on the increase, that is not the first client who reports using THC vapes, I had one who says he had a ‘Cali Pen’. . . . When you talk to them, they all want this massive effect so they will pay more money for the stronger stuff cos it has more of an effect and that’s what they want, a massive effect and they will pay for that.” (Exploitation Worker, Young Person Substance Use Service, Manchester)

“[They use] Cali Pens... they think ‘it’s that Cali Weed, it’s good weed, it’s legitimate stuff.’” (Advocacy Worker 1, Young Person’s Substance Use Service, Bury)

However, while ‘**Cali Pens**’ are viewed by young people as a sign of quality, in North America, there have been concerns raised regarding the lack of robust oversight of quality assurance in the cannabis industry, combined with black and grey market products and patchwork regulations, that are putting consumers at risk due to insufficient and inaccurate labelling of drug content. Following another death in California where **THC vape** use was implicated, the California Department of Public Health recommended the public to purchase these products from licensed **cannabis** retailers (see Egel, 2019). However, in the UK’s unregulated market, purchasing from licensed **cannabis** retailers is not an option. As we outline below, young people in Greater Manchester are accessing products sold as ‘**THC vapes**’ from a diverse range of non-regulated sources. The

most commonly reported way that young people reported accessing products sold as **THC vapes** was via popular social media apps.

Access and Accessibility

As we illustrate below, although these **THC vape** products are not legally available for sale in the UK, they appear to be readily accessible to young people from a range of sources.

Social Media

In previous GMTRENDS reports (see [GMTRENDS 2021](#), and [GMTRENDS 2022](#)) we have highlighted how school-aged children were reporting purchasing **THC vapes** via popular social media apps, in particular *Snapchat*. This year, the most popular social media app that young people and professionals reported is the messaging platform *Telegram*.

“So, the new thing is buying from Instagram and Telegram.” (School Safeguarding Lead, Salford)

The use of social media is becoming one of the main access points for young people to secure cannabis products, including **THC vapes**. A recent US study investigated the *Telegram* platform to identify and characterise **nicotine** and **cannabis** selling activity (Nali *et al.*, 2024). Four keywords were identified – ‘Nicotine’, ‘Vape’, ‘Cannabis’, and ‘Smoke’ – that yielded 20 *Telegram* groups with 262,506 active subscribers. The total volume of channel messages were 43,963 unique messages that included 3,094 (7.04%) marketing/selling messages (Nali *et al.*, 2024: 775). The most sold products in these groups were **cannabis**-derived products (83.25%, n=2,576), followed by **tobacco/nicotine**-derived products (6.46%, n=200). A variety of marketing tactics and a mix of seller accounts were observed, though most appeared to be individual suppliers. Results show that greater attention is needed to conduct monitoring and enforcement on these emerging platforms for unregulated and potentially illegal **cannabis** and **nicotine** product sales direct-to-consumer. Based on the study’s results, *Telegram* represents an emerging platform that enables a robust **cannabis** and **nicotine**-selling marketplace, as was also discussed by young people in interviews.

Interviewer: “So can you use that THC vape, and refill it? It’s hard to find the liquid you normally have to get it off Telegram.” (16-year-old male, Salford)

“I found it myself, I’ve got mates who sell THC vapes and buys the vapes and proper liquid on Telegram, make them and sell them.” (16-year-old male (2), Salford)

Interviewer: “How did you first come to use THC vapes? Well, the dealers post a story, and you think, ‘oh, I’ll try that.’ . . . Snapchat, if advertised here, it’s often by local people, someone you know [and] offered for as little as £30, or Instagram, Telegram.” (17-year-old male, Stockport)

While many young people we interviewed discussed meeting up in person with a seller advertising on social media, some of the young adults we interviewed discussed ordering from sellers who would post their order.

Interviewer: “So the first time you bought off Telegram, how did you know that they were going to send it out to you? Oh my god, that’s the worst feeling! When you’ve sent 90 quid through to a guy you don’t even know. . . And it’s like ‘ooh, I’ll just cross my fingers!’” (20-year-old female, Manchester)

Non-Social Media sales

While social media is the main way that young people are accessing these products, it has been noteworthy this year that when asking young people and professionals who work with them where they access these products, the response was much more varied.

“I buy 10ml bottles, it’s supposed to be raw THC from a former pupil. I make contact via phone and meet face-to-face for a cash transaction – not social media - £10 for 10ml or £25 for 30ml.” (15-year-old male, Manchester)

Likewise, several professionals and young people also reported a range of alternative sources beyond social media, including shops and street-based dealers.

“It has become much more prevalent, massively, where they are getting it from . . . I think a lot of people go down Cheetham Hill for them, that sounds about right to me.” (Substance Misuse Advocacy Worker, Trafford & Salford)

“In Trafford, you get THC vapes from the Tesco Altrincham car park. That’s where they sell. All of our young people in Trafford who are buying them are buying them from this source.” (Young Person Substance Use Service Team Leader, Salford and Trafford)

“Stockport, a shop near Grand Central sells them under the counter for £60.” (17-year-old male, Stockport)

It was also noted how dealers are advertising through QR codes in public places such as on lampposts and bus shelters or handing out contact details.

“There are stickers everywhere containing contact info. I was given a lighter with a dealer’s number on it.” (24-year-old female, Manchester)

An array of websites that sell **THC vaping** products within the UK also exist. These websites offer different ranges of efficiency and **THC content**. However, the advertised content of these products may be inconsistent with the actual content as they are unregulated. As we illustrate in the following section, the source of **THC vapes** can significantly impact on the amount young people are paying for these products.

Cost

We were informed by young people and professionals that **THC vapes** can cost anything from £20 to £90.

Interviewer: “Do you remember how much you paid for it? Yeah, it was overpriced, innit, £50 yeah, but these days they go for £20-30.” (16-year-old male, Salford)

Although several professionals expressed concerns that young people who were paying around £20 to £30 were most likely not getting legitimate **THC vape** products.

“About a year ago...one lad said they were £50, but they seemed to have really come down in price. I think young people are thinking the price is coming down because it has become more and more popular. But me being a cynical old witch, I’m like, ‘come on!’” (Young Person’s Recovery Worker, Youth Offending Team, Wigan and Leigh)

A particular concern is that the cheaper products being sold as ‘**THC vapes**’ may contain ‘**Spice**’.

“I’ve had a few kids, I’m speaking to one tomorrow in fact, where they’ve bought a THC vape and they’ve said it had Spice in it. But that’s it, they can’t afford the prices of the proper stuff so they get the cheapest they can, and they are likely to have Spice in them unfortunately. [. . .] Some of them are saying they are getting them for about 20 to 30 quid. And I’m saying, ‘it should be way more than that’ and they say ‘yeah, it was pretty shit to be honest.’ So, they should be paying 60 or 70 quid at least!” (Substance Misuse Advocacy Worker, Trafford & Salford)

Similarly, some young people that we interviewed also suggested that although you can purchase these products for around £20, they probably contain ‘**Spice**’.

“You can get them for £25 - but they’re probably Spice. Then you can get them for £70, and they’re like, top quality.” (15-year-old male (2), Manchester)

“The ones I buy, I get them dear, ‘cause people said [the cheaper ones] are just gonna be Spice” Interviewer: “How much [do you pay]? £40.” (15-year-old male, Stockport)

“[I paid] £20 [for THC vape], not as good, £40 less risky as they’ve been lab tested.” (15-year-old male (5), Salford)

While some interviewees suggested that paying around £40 to £50 provided less risk of vaping ‘**Spice**’, others reported that to guarantee the good quality **THC** products that have been imported from North America, they are having to pay as much as £80 or £90 for each vape.

“Somebody the other day said they bought one and it was £35. It lasted two days and it were rubbish. And he said he’s not going back to using, so there are possibly snide versions of those Cali Pens out there... Another of my ones bought a Cali Pen for £80. And he said he felt proper good on that.” (Adolescent Health and Wellbeing Worker, Young Person’s Substance Use Service, Bolton)

“They were quite expensive, £80.” (19-year-old male, Manchester)

However, it was often noted by a range of key professionals that these prices were too high for most young people to pay, making them more likely to purchase the cheaper end of the market. Nevertheless, despite the high cost of some **THC vapes** that can make them prohibitive to buy for school-aged children, **THC vapes** are still very accessible through their ability to be shared.

“Some people say they don’t buy it but have a drag from their mates because it is so expensive, and they can’t afford to buy it themselves.” (Exploitation Worker, Young Person Substance Use Service, Manchester)

This sharing of **THC vapes** between peers and friendship groups was occasionally discussed by professionals as involving a small fee.

“So, I have seen a big increase, especially use out of school, you know, the kids will be charging for a drag, I don’t know, 50p for a drag of a THC vape. So, you know, back in the day when we were at school and kids are selling ciggies for 50p, round the back of the school, now they are selling a drag of a THC vape for 50p! It’s absolutely wild to me!” (Substance Misuse Advocacy Worker, Trafford & Salford)

“You buy it by the drag, so it’s a couple of quid. So, a friendship group invest in a vape or buy them and spread them out. But we are finding with our particularly young people, so like 11-13- or 14-year-olds, they are buying a drag before and after school.” (Young Person Substance Use Service Team Leader, Salford and Trafford)

The interviews with professionals and young people indicated that the more expensive **THC vapes** are commonly referred to as ‘Cali Pens’, a name associated with premium herbal **cannabis**.

“[They use] Cali Pens... they think it’s that Cali Weed, it’s good weed, it’s legitimate stuff.” (Advocacy Worker 1, Young Person’s Substance Use Service, Bury)

It is unclear whether Cali-branded vapes are widely available, whether this is a street name

that has gained traction, or whether dealers advertise all **THC vapes** under this trusted moniker to bring credibility to their products. As we illustrate in the following section, MANDRAKE forensic analysis of products sold as **THC vapes** revealed highly variable content.

MANDRAKE Forensic Analysis

Four ‘**THC vapes**’ were tested from Oldham. All four contained the **synthetic cannabinoid** receptor agonist (aka ‘Spice’) ADB-BUTINACA ranging from 1.7 to 2.5mg per ml. One of these contained clear vaping fluid but the other three (see figure 1 below) contained blue vaping fluid. Two **THC vapes** were tested from Bolton. One was a white vape with ‘cookies’ labelling, that contained no active ingredient. The other had a cannabis leaf symbol with turquoise e-liquid. This contained 40% **THC** but also contained high levels (33%) of **vitamin E acetate** (see first image below and the appendix for the related Greater Manchester Drug Alert warning). Vitamin E acetate has come under intense scrutiny in the United States following what is known as ‘E-cigarette or vaping product use-associated lung injury’ (EVALI). In 2020, this resulted in 2,739 hospitalizations and 68 deaths in a 6-month period (see [Centres for Disease Control and Prevention, 2020](#)).

Figure 1:



Since July 2019, MANDRAKE forensic analysis has consistently found that products sold to young people as **THC vapes** that have led to young people requiring ambulance callouts and hospitalisation, have contained ‘Spice’. However, for the first time this year, testing has identified the presence of **THC**. For example, all three

vapes tested from Manchester this year linked to school children requiring emergency medical attention, contained **THC**. These ranged in purity from 18% to 90%. The 18% **THC vape** was a silver refillable vape pen, filled with a yellow e-liquid (see Fig 2 below). The 42% **THC** content was found in a white vape pen containing brown e-liquid. The 90% **THC** content was found in a pink 'Packwoods' branded refillable vape pen (see Fig 3 below). This was a thick amber resin. The high **THC** content and the physical properties of the resin potentially indicate that this may be butane hash oil (BHO) concentrate within the vape pen.

As illustrated below, this has complicated the harm reduction advice and messages that professionals have traditionally been providing for young people.

Fig 2:



Fig 3:



"I think it's about four or five years ago it first started coming on the scene and people were buying what they thought was THC oil, but from the [MANDRAKE] testing, we saw it might have been different forms of Spice, so we told [the young people] about that. Now we have heard there is some that has THC in the oil now. So, we've had to retract [that information] and say there is some element of THC." (Advocacy Worker, Young Person's Substance Use Service, Oldham)

Several young people discussed the strategies they use to help them differentiate between fake **THC vapes** and those that contain **THC**. The colour of the liquid was mentioned by four young people as a potential indicator of content. Clear or blue liquid was thought to be a sign of **synthetic cannabinoids** ['Spice'].

"If it's a clearer liquid, you shouldn't have it. If darker, it suggests that it contains the oils and resin from the plant. If it's chemical, lab-grown, and synthetic, it tends to be clear." (17-year-old male, Stockport)

While two young people with friends who sold **THC vapes** suggested that **THC vapes** tended to be thicker and often amber/orange or green in colour.

Interviewer: "In terms of harm reduction advice would you be able to tell by looking?"
Yeah, you can tell if it's real or not because it's thicker and doesn't slosh around as much as e-liquid. It would be thick and a bit goldy/green and would taste like cannabis, you can get different flavour ones, but they still taste like cannabis, the ones that are more high in THC are more expensive." (16-year-old male, Salford)

The MANDRAKE analysis discussed above would appear to offer some support for these young person's views on how to tell a fake **THC vape** from a genuine **THC vape** product.

It was also noted that legitimate 'Cali Pens' should come in a box and therefore, any products sold unboxed should be avoided.

"One young lad...said Cali Pens - proper ones - will come boxed up, sealed, and come with a QR code: he said, 'that's how you know they are legit'. You scan the code, and it takes you through to a site that tells you all about them." (Advocacy Workers, Young Person's Substance Use Service, Rochdale)

Challenges

In summary, we have highlighted that while the use of tobacco has decreased in recent decades, **nicotine vaping** is considered more socially acceptable, particularly amongst young people. Our findings suggest that a sizeable percentage of these young people who **vape nicotine** will go on to experiment with **THC vapes**. Therefore, it is important that strategies are in place to address the current trends we have identified this year in relation to vaping products sold as **THC vapes**.

Managing Use

We have found that the convenience and discreetness associated with these products are key motivations for their use by young people. However, as illustrated below, the convenience and discreetness associated with **THC vapes** can also lead to increased use of **THC vapes** compared to using **cannabis** in more traditional ways. It was commonly noted by the young people that we interviewed that a consequence of the convenience of using a **THC vape** was that they would use it more frequently than **cannabis**.

“My weed use was social, THC isn’t as social, because I’m doing it a lot alone – you can have it whenever you want. You can’t smoke a joint in public, or in front of the police, but with a vape no one knows what’s in it.”
(15-year-old male, Manchester)

“... because it’s easier [to use] you’re smoking more, 100%.” (16-year-old male, Salford)

“... and it’s readily accessible to you, so you tend to do it more.” (17-year-old male, Stockport)

One comparison that was often made between **THC vaping** and smoking **cannabis** was not needing to find the time and space to make a joint. The quote below highlights how unlike coming to the end of a joint which puts a full-stop to use, a **THC vape** does not have the same clear end point, which young people reported, makes it easier to repeatedly use.

“If you have a joint, you roll it, finish it, you’re satisfied with it. You’ve seen it go. It’s gone and you’re like, ‘OK, I’m done now, I’m going to go and do something [else]’ . . . If you have a vape, you hit it, you go and have another, and another one after that. It can be constant use, there’s none of that rolling it, accomplishing it, and finishing it, then that’s it, it’s done . . . With this [a THC vape], it’s constant.” (19-year-old male, Manchester)

In summary, while the benefits of **vaping THC** over smoking **cannabis** were consistently stated to be the convenience and discreetness, this was also commonly reported to result in more frequent use.

The discreetness and lack of detectability in relation to smell, or distinction from **nicotine vapes** means that public spaces, including night-time economy venues and education facilities, that often have zero tolerance drug policies are likely to be unknowingly allowing controlled drugs into their premises as they are unaware or unable to distinguish whether **vape pens** contain **nicotine** or **THC**. In relation to young people, this poses new challenges for education settings such as schools, colleges, and university campuses.

We recognise the existing good practice around **nicotine vaping** that exists and as we detail in the following recommendations section, suggest building on this to develop good practice around working with young people who are currently or at future risk of transitioning from **nicotine vaping** to **THC vaping**.

Observing the different patterns of use and unique impacts of **THC vapes**, the need for specialised training was identified by professionals working in the young person substance use sector.

“I think we need to get up to speed... if I’m being honest. Schools are crying out at the moment for that. We are putting together training packages for schools, but it does seem there is a lack of knowledge, my knowledge base for example on [THC] vapes isn’t great, and when you speak to a few of our team, they all say similar.” (Family Drug and Alcohol Treatment Worker, Stockport)

Harm Reduction

It was noted by some substance use professionals that providing harm reduction advice and supporting young people to monitor and reduce their use of **THC vapes** is more complicated than when a young person presents as consuming cannabis in more of a traditional form.

“THC what we see, there is a small increase, but the results can be quite problematic, we have often had overdoses. And it can be difficult to quantify as we don’t know how much they are using. You can’t say reduce from four spliffs to two a day as easily.”
(Team Leader, Young Person’s Substance Use Service, Manchester)

When speaking to young people who used **THC vapes**, we asked them what harm reduction advice they would give to young people thinking of using **THC vapes**. Some advised not to even start.

Interviewer: *“What would you tell someone who is thinking about using THC for the first time? Don’t!”* (15-year-old male, Manchester)

Interviewer: *What would you tell someone who is thinking about using THC for the first time? Don’t even start... because, it’s so concentrated, it’s so easy...it won’t take long before you need so much to feel anything. Be mindful, really be mindful, and be mindful of how much you’re taking in and how long you’re feeling it ‘feel’. And when you notice that start to change, when it doesn’t last for as long, then think, ‘maybe I should do something about that’.”* (24-year-old female, Manchester)

As we highlighted in the market insight section, the content of products sold as **THC vapes** can be unpredictable and others noted that smoking joints rather than **THC vapes** was advisable due to it being easier to know how much and what you are using.

“In general, joints are better than THC vapes... Because you know what you’re putting in it so it’s easier to gauge how much you’re smoking and how strong everything is.” (22-year-old female, Manchester)

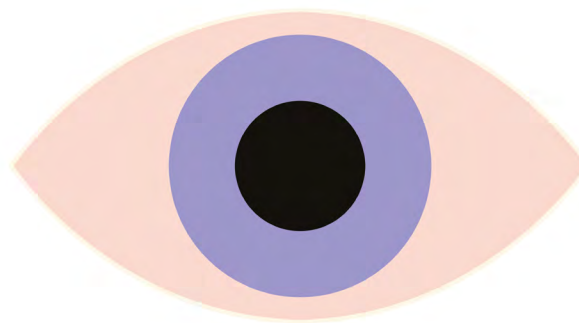
It was also suggested that young people should not try a **THC vape** without prior experience of smoking cannabis, due to the more intense effects that we have outlined.

Interviewer: *“If you had to make one point about THC vapes what would you say? THC vapes, make sure you’ve tried normal THC/cannabis first.”* (16-year-old male (2), Salford)

Interviewer: *“What advice would you give to someone doing THC vapes for the first time? I’d recommend smoking weed before, so you know what it’s like, if you are, be ready! . . . be around people who have used it before, your friends.”* (16-year-old male, Salford)

Young people suggested that public health education media campaigns should target young people via social media and involve young people with lived experience.

“Use social media and deliver by people with lived experience. We had talks at school, but they weren’t useful, at least they weren’t to me and my friends – they didn’t really impact. What would be best for me is people who have actually experienced it coming in and talking about it, rather than people who don’t know what it’s really like and have never experienced it talking about it, because that way, there might be more of an emotional connection, and feels more true.” (19-year-old male, Manchester)



Recommendations

- We recommend the development of awareness and education focused messaging. This should include information on the varying content of products sold as '**THC vapes**', informed by MANDRAKE testing results. For example, the frequent identification of '**Spice**' [*synthetic cannabinoids*] in vapes sold as **THC** that have been directly linked to young people becoming unwell and admitted to A&E, should be highlighted. In particular, the fact that cheaper vapes (up to £30) that are more likely to be within school aged children's price range, are more likely to not contain **THC**.
- We recommend that public health education media campaigns should target young people via social media and involve young people with lived experience. This messaging should be designed and co-created by young people. For example, the amount of **THC** should be put into context that young people can understand.
- We recommend that harm minimisation advice should be developed similar to what is currently provided for **plant-based cannabis**, e.g. take regular breaks, leave longer periods of time between **vapes**, use lower strength **THC vapes** if available.
- In addition to targeting young people, we recommend that accurate information, guidance, and conversation starters should be produced for parents and carers to negate the existing myths on vaping.
- We recommend the development of professional training which includes the pathways of support for vaping (e.g., **nicotine** pathway to school nurses, **THC** pathways to specialist substance use services).
- We recommend developing a vaping policy for education facilities and schools, ensuring it links to schools' policies on substance misuse.
- We recommend a focus on the younger age (including primary school age) of vaping and the potential for **nicotine vaping** to act as a gateway into other substances, in particular, the monitoring of the transition from **nicotine vapes** to **THC vapes** amongst high school and college students.
- We recommend the continued monitoring and subsequent awareness raising of the content of **THC vapes**, including not only **THC** levels but other contents such as *synthetic cannabinoids* (aka '**Spice**') and vitamin E acetate.
- Alongside the ongoing testing of **THC vapes**, we recommend that other vape pen products appearing on the market such as **DMT vapes** should be targeted for forensic analysis.
- We recommend that local substance use services should routinely ask the young people that they support about THC vape use and more accurately record the use of THC vapes.
- We recommend the development of a targeted action plan by Greater Manchester Police and local trading standards to target the illegal sale of products sold as THC vapes.

Greater Manchester Drug Early Warning System. 18th December 2019

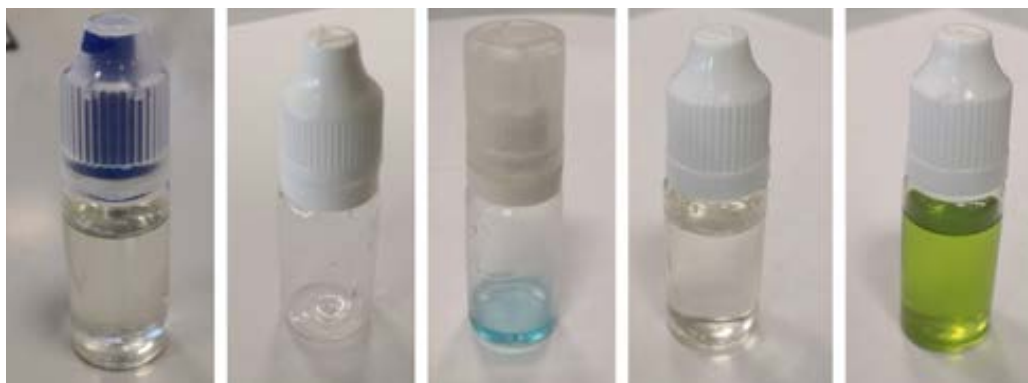
WARNING

Synthetic cannabinoids ('Spice') mis-sold as 'THC vape'/'cannabis oil'/'THC vape pens'.

The Greater Manchester Drug Alert Panel issued a public warning in July 2019 concerning mis-sold 'THC vapes'. After further incidents in schools and amongst school age children in the **Bury, Rochdale** and **Oldham** area the warning is being updated. The incidents have involved substances that were sold as either 'THC vape'/'THC vape pens'/'THC oil' or 'cannabis oil'. The reports usually indicate the substance was vaped in an electronic-cigarette device.

Some of these incidents have led to pupils collapsing and to ambulances being called.

A number of samples involved in these incidents have recently been tested and found to contain *synthetic cannabinoids*. These are the laboratory made chemicals found in 'Spice'. It is **extremely dangerous** for a young person with no tolerance to inhale **even a single dose** of a potent *synthetic cannabinoid*.



Samples containing a clear or coloured e-liquid which tests showed contained a synthetic cannabinoid ('Spice'). None of these samples contained THC or CBD.

THC is a chemical found in the cannabis plant and the main chemical responsible for the cannabis 'high'. When tested these samples did not contain THC, nor any other chemicals found in cannabis. These samples contained commercially produced flavoured *e-liquid* into which varying amounts of a *synthetic cannabinoid* had been added. Synthetic cannabinoids are the laboratory-made chemicals found in 'Spice'.

The liquids tested have varied in colour and the smell appears to be from the commercial e-liquid used. It is unknown how widespread the mis-selling of 'THC/Cannabis vape liquid' containing a *synthetic cannabinoid* is. Tests conducted on samples sent into WEDINOS, the Welsh drug testing system, sold as 'Cannabis vape juice' or 'THC Liquid' have also contained a *synthetic cannabinoid*.

Effects and risk

The risk of unknowingly vaping a *synthetic cannabinoid* ('Spice') is considerably greater than vaping *THC* or any other form of cannabis, particularly for young people with no experience or tolerance.

The effects can include **irregular heartbeat, confusion, paranoia, panic attack, insomnia, hallucinations and collapse.**

Even experienced users of 'Spice' have difficulty judging dosage and unintentionally administering a toxic dose is common. In some cases this poisoning may even be fatal. Last year there were 60 recorded deaths in England and Wales associated with *synthetic cannabinoids*.

The effect for a young person with no *tolerance* of inhaling even a single dose of a potent *synthetic cannabinoid* in an e-liquid mix, is highly likely to lead to negative physical and mental effects, particularly if they are expecting a cannabis like effect.

The incidents in Greater Manchester appear to be a case of mis-selling of one class B controlled drug for another.

The young people thought they were purchasing '*THC oil/THC vape*' but were being sold a cheaper and **more dangerous substance** ('Spice') that they would most likely not consider purchasing if they knew what it was.

Emergency response and the recovery position

It is more risky for people to take drugs on their own rather than with friends because if anything goes wrong there's nobody to look after them. If somebody is unconscious and then vomits while lying on their back, they can swallow their vomit and literally drown in it. That is why an unconscious person should be put into the recovery position and an ambulance called.

The Recovery Position

1. Put the hand closest to you by the head (as if they were waving)



2. Put the arm furthest away from you across the chest, so that the back of the hand rests against the cheek



3. Hold the hand in place and lift up the knee furthest away from you, making sure the foot is planted firmly on the ground



4. Turn them on their side by pushing down on their knee



THC VAPES

Containing Vitamin E Acetate



- A recent test on a vape pen from Greater Manchester found the vape liquid inside contained 40% THC along with 33% vitamin E acetate.
- Vitamin E acetate is an oily chemical added to THC vaping liquids to thicken or dilute them. When vaporized, vitamin E acetate produces exceptionally toxic ketene gas.
- Between 2019 and 2020 there were nearly 3,000 hospital admissions and 68 deaths associated with vitamin E acetate in THC vape pens in the USA.
- Vitamin E acetate is a prohibited ingredient under the Tobacco and Related Products Regulations in the UK, so is not present in e-cigarettes containing nicotine.
- THC is a Class B drug, so vapes are illegal, therefore the contents are unregulated.
- As very few tests of this type are conducted in the UK, it is unknown how widespread the use of vitamin E acetate is in THC vape liquid.

- There is no way of knowing if your THC vape liquid contains vitamin E acetate. There is no safe dose or safer way of using vape liquid that contains vitamin E acetate.
- If you are using THC vape pens or THC vape liquid, monitor yourself for symptoms (e.g., cough, shortness of breath, chest pain) and promptly seek medical attention if you have concerns about your health.

For more help and advice contact your local drug service.



WARNING

Synthetic cannabinoids ('Spice') vapes

There have been several recent incidents in a school in the **Oldham** area that have led to pupils collapsing after vaping a liquid. It is thought this liquid may have been sold as 'THC' or 'cannabis oil'.

Four samples involved in incidents were tested and found to contain a synthetic cannabinoid called *ADB-BUTINACA*. This is one of the laboratory made chemicals found in 'Spice'. It is **extremely dangerous** for a young person with no *tolerance* to inhale **even a single dose** of a potent *synthetic cannabinoid*.



Fig 1.



Fig 2.



Fig 3.



Fig 4.

All four samples contained commercially produced flavoured *e-liquid* into which a *synthetic cannabinoid* had been added. Synthetic cannabinoids are the laboratory-made chemicals found in 'Spice'. It is thought the blue liquid (fig1) in the bottle was the same substance added to the commercially available refillable nicotine vapes (fig 2 and fig 3). A further commercially available refillable nicotine vape contained a honey coloured e-liquid, to which the same synthetic cannabinoid had been added (fig 4).

Synthetic cannabinoid (Spice) is rarely used outside of adult populations in prisons and among homeless populations. Spice has a very negative image among young people. It is therefore likely that the substance was mis-sold as THC or cannabis vape oil. In the past few years a number of similar incidents have been reported in Greater Manchester.

Reports of students becoming unwell after vaping are common. However, this is normally thought a result of vaping too much nicotine. It is highly unlikely that non-refillable/disposable nicotine vapes or other commercially available nicotine liquid has been spiked with 'Spice' (or THC), but is purchased/used in the belief it was a THC/ vape rather than a nicotine one.



The use of vape pens and e-liquids containing 'THC' or synthetic cannabinoids ('Spice') among school age young people in Greater Manchester.

Background: After a number of incidents involving pupils 'vaping' substances in a e-cigarette device in the **Bury, Rochdale** and **Oldham** area; the Greater Manchester Drug Alert Panel (**GMDAP**) issued a public warning in July 2019 and again in January 2020. Although far from common, there are still incidents and reports of use among school aged young people occurring in these areas. There have also been recent reports of use among young people of this age in the **Bolton** area; and a recent incident in the **Trafford** area led to the collapse and hospital admission of a pupil. The substance involved in the **Trafford** incident was tested and as in previous tests conducted in Greater Manchester; was found to be a commercially available e-liquid to which a small quantity of a **synthetic cannabinoid** ('Spice') had been added. The pupil involved in this incident has thankfully fully recovered.

Appearance: The substances may be sold as a ready-made 'vape pen' or as 'vape pen cartridges', or more commonly in small 10ml plastic bottles. The liquid from these bottles is added to an e-cig device and vaped. Unlike the commercially available bottles containing e-liquid (with or without **nicotine** or **CBD**); the samples tested in Greater Manchester have not had any printed labelling. The liquid may be clear or coloured and may smell of the flavourings from the e-liquid (i.e. blueberry), but there is often no distinctive smell when in the bottle or when vaped so it is therefore difficult to distinguish from an ordinary e-liquid containing **nicotine** or **CBD**. From a young person's point of view the lack of an easy to detect cannabis-like smell is part of the attraction.



A vape pen cartridge and examples of 10ml plastic bottles containing an e-liquid and a synthetic cannabinoid

The substances are usually sold as 'THC vapes'/'THC vape pens'/'THC oil' or 'cannabis oil' and it is thought many of the young people buying them believe they are vaping cannabis and do not know the liquid contains a **synthetic cannabinoid** ('Spice'). In most cases young people are being sold a cheaper and more dangerous substance that they would most likely not consider purchasing if they knew what it was. However, some young people may be choosing to vape the liquid knowing it contains a **synthetic cannabinoid**.

Effects: The effect for a young person with no tolerance of inhaling even a single dose of a potent **synthetic cannabinoid** in an e-liquid mix, is highly likely to lead to negative physical and mental effects, particularly if they are expecting a cannabis-like 'high'. Effects are instant if vaped, usually last less than an hour but in some cases may go on much longer. The risk of vaping a **synthetic cannabinoid** ('Spice') is considerably greater than vaping **THC** or smoking any other form of cannabis, particularly for young people with no experience or tolerance.

The effects can include irregular heartbeat, confusion, paranoia, panic attack, insomnia, hallucinations and collapse. Unintentionally administering a toxic dose (overdose) of **synthetic cannabinoid** is common even among experienced adult users of 'Spice'. Although in the vast majority of cases the young people involved will



come to no permanent harm, there were 56 recorded deaths in England and Wales in 2019 associated with **synthetic cannabinoids** ('Spice'), usually among older adults and in combination with alcohol or other drugs.

After any incidents in schools have been dealt with and/or if reports may have come to your attention, please contact your local young people's drug and alcohol service and/or inform the Greater Manchester Alert Panel. gmdrugalerts@gmail.com

Legal status of the drugs mentioned in this briefing:

E-liquid is commercially available and can be legally sold to over 18's. It contains *vegetable glycerine* and *propylene glycol* which make the vape clouds, but do not have any psychoactive effect (they don't get you high). *E-liquid is sold commercial* (legally) either on its own or with **nicotine** or **CBD** added. It may or may not have a flavouring and colour added.

- **Nicotine** is the stimulant drug found in cigarettes, and is available legally in liquid form that can be added to e-liquid and sold to over 18's.
- **CBD (Cannabidiol)** is a natural chemical found in the cannabis plant. **CBD** is not thought to be psychoactive (it doesn't get you high), so within certain legal regulations can be sold legally to adults in various forms.
- **THC** is a chemical found naturally in the cannabis plant and is the main chemical responsible for the *cannabis* 'high'. **THC** is a class B drug and is illegal to possess or sell.
- **Synthetic cannabinoids** are the laboratory made chemicals found in 'Spice'. They are much more toxic and dangerous than **THC** and can be up to 800 times more potent. All **synthetic cannabinoids** are class B drugs and illegal to possess or sell.



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