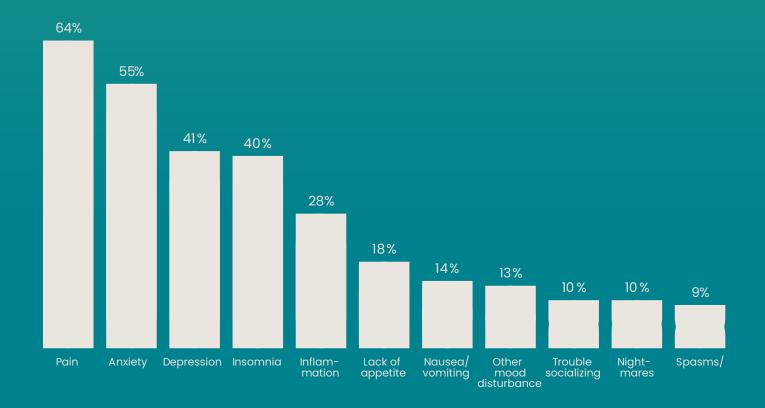


Introduction

Over half (53%) of current cannabis consumers say that they are using cannabis for both medical and recreational purposes. Cannabis as a wellness tool to treat issues such as anxiety and sleep has increased as more states allow medical and adult use cannabis access, and as more people decide to try cannabis instead of pharmaceutical options like Zoloft and Ambien. In addition to treating medical symptoms, there has been an increase in the use of cannabis instead of alcohol for the purposes of relaxation. While there is some debate as to whether this use is "medical", choosing cannabis for relaxation in lieu of alcohol can be viewed as harm reduction.

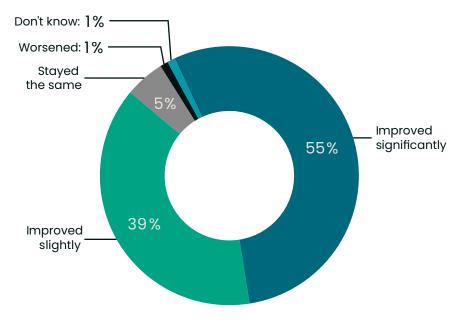
Symptoms people are treating with medical cannabis

Among current (annual+) consumers who describe their use as primarily or exclusively medical.



The Impact of Medical Cannabis on Symptoms/Conditions

Among current (annual+) consumers who describe their use as primarily or exclusively medical.



According to the 2023 Cannabis Consumer Survey from New Frontier Data, 64% of consumers who use cannabis primarily or exclusively for medical purposes are using it to treat pain. Fifty five percent report using it to treat anxiety, 41% depression and 40% anxiety. Among these consumers. 94% say that cannabis has improved their symptoms, and 51% say they have replaced at least some of their pharmaceutical medications with cannabis.

SAY THEIR MEDICAL CONDITION/SYMPTOM HAS IMPROVED. HAS IMPROVED.

Among all consumers, relaxation is the top reason why people use cannabis, with 64% saying that they use cannabis for this purpose. Interestingly, even among those who do not consider their use "medical", many of the same reasons for use are mentioned as with the medical use sample. In addition to relaxation, the top reasons for use reported by the entire sample were

stress relief (59%), anxiety (52%), pain management (48%), improving sleep quality and falling asleep (45% each). This highlights the overlap between the consideration of cannabis as a medicine and a wellness tool and the widespread use of cannabis for these purposes regardless of the self-identification of use being "medical".

The top reasons for cannabis use among all consumers





Consumption Sessions

To better understand the methods of consumption and products used to address some of the more common conditions treated with medical cannabis, New Frontier Data partnered with Tetragram. Tetragram is a tool for cannabis consumers to log and track the products they use, share what is working with others and learn more about which products are most helpful in treating their symptoms. This allows consumers to develop and maintain

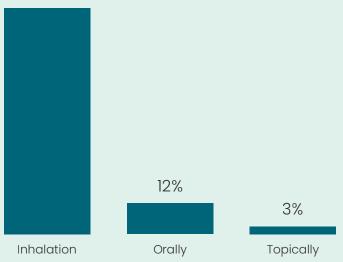
successful treatment protocols.

The Tetragram data covers use for anxiety, pain, agitation, insomnia, and relaxation. It includes information on the preferred general consumption method, the specific way cannabis is being consumed, and which products were most popular among those treating various conditions.

Anxiety

ANXIETY: N=17,024 CONSUMPTION SESSIONS

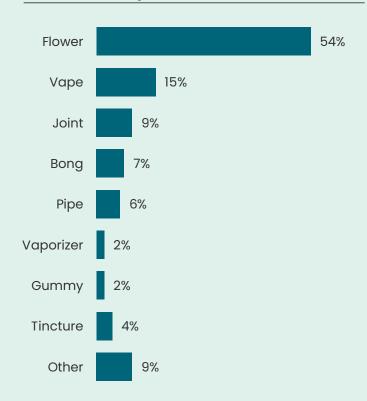
Preferred Consumption Method for Anxiety 88%



Inhalation is the most common way that people treating anxiety consume cannabis. Inhalation has the most rapid onset, so may be most useful to those addressing a panic attack. Inhalation also allows for the easiest titration of dose. Because too much THC can trigger anxiety for some people, a consumption method that allows consumers to take a little bit and then know almost immediately how it is affecting them is important in finding a balance between symptom management and symptom exacerbation.

As inhalation is the most popular way to consume cannabis for this group, it is not surprising that the top products in this category are consumed via inhalation. Flower is the most popular at 54%. However, it should be noted that flower can be consumed in several of the ways mentioned here, including as joints, in bongs, pipes or vaporizers. It is safe to say that inhaling flower through various methods is the preferred choice for consumers using cannabis for anxiety. Also interesting is the low use of edibles by this group. Twenty one percent of consumers overall say that edibles are their preferred method of ingestion. For this group, it is only 2%.

Specific Products and Methods Used to Treat Anxiety



Most Popular Products for Treating Anxiety

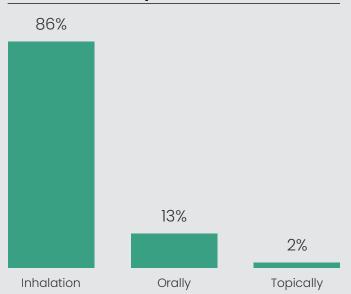
Jack Herer:	17.6% THC
Wedding Cake:	24.5% THC
Skywalker OG:	23.2% THC

Given the affinity for using flower to treat anxiety, it is not surprising that the most popular products used by this group are all cannabis flower. What is more surprising is that the most popular varietal, Jack Herer, is only 17.6% THC. With a lot of emphasis on high THC flower in the market, those using cannabis for anxiety are choosing a milder option, perhaps to balance the alleviation of anxiety with the risk of making symptoms worse by ingesting too much THC. It is also possible that this flower has a wider variety of cannabinoids, providing a more holistic effect for consumers.

Pain (Various types: Muscle, Joint, Injury, Nerve)

PAIN: N= 14,514 CONSUMPTION SESSIONS

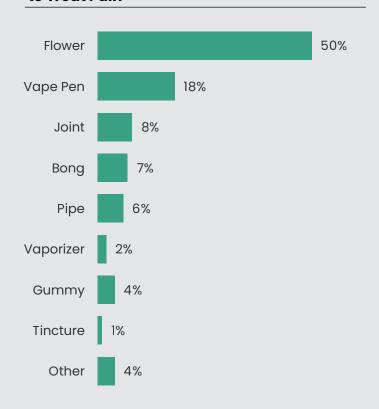
Preferred Consumption Method for Pain



Like anxiety, inhalation is the most common method of ingestion for those treating pain. And, like anxiety, this could be due to the rapid onset of inhaled cannabis and the desire to experience symptom relief right away. Another interesting note is that the use of topicals is more popular among the anxiety group than this group (3% vs. 2%), given the promotion of topicals for localized pain, it would be expected that they would be more popular among the pain group than the anxiety group.

Like the anxiety group, flower and the various ways it is consumed is most popular with the pain group. Vape pens are used by 18% of the sample, which speaks to the need for pain patients to consume cannabis in various venues where smoking may not always be allowed. The use of edibles, while higher for this group than the anxiety group, is still far below the general consumer population in popularity.

Specific Products and Methods Used to Treat Pain



Most Popular Products for Treating Pain

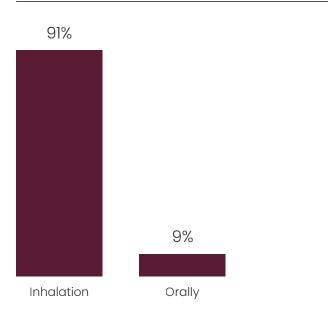
Cherry Gorilla:	26.5% THC
Northern Lights:	29.4% THC
Ray Charles:	30.3% THC

Like anxiety, flower varietals are the most common products being used for treatment. However, the flower preferred by those treating pain is higher in THC, reflecting the need for the effects of THC specifically to manage pain symptoms.

Agitation

AGITATION: N= 7262 CONSUMPTION SESSIONS

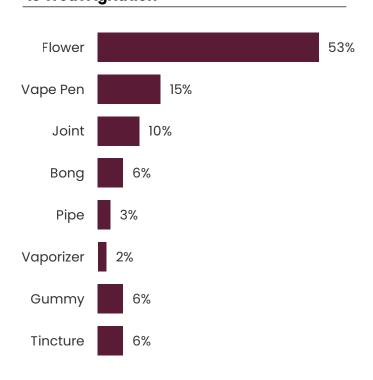
Preferred Consumption Method for Agitation



While agitation is a less common use for medical cannabis given a smaller prevalence in the general population, it can be highly effective. Inhalation is by far the most common method of ingestion to treat this condition, which speaks to the need to address symptoms quickly.

While flower remains the most common product used by this group, we do see higher rates of tincture use as well. Agitation is a condition that can be associated with Alzheimer's Disease as well as some pediatric conditions. It is likely preferable to treat these populations with non-smoked forms of cannabis. Furthermore, treatment may occur in a care facility where smoking is not allowed.

Specific Products and Methods Used to Treat Agitation



Most Popular Products for Treating Agitation

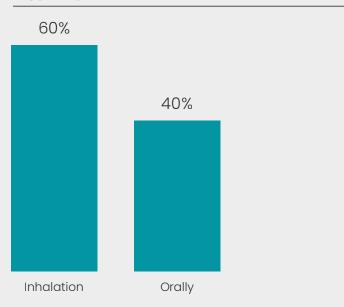
Mimosa:	24.3% THC
Garlic Cookies:	29.3% THC
Gelato Cake:	31.4% THC

Like pain treatment, we see high THC flower as being the most preferred products for agitation. THC as a compound may be playing an important role in quelling the feelings around agitation and providing a calming effect.

Insomnia

INSOMNIA: N= 5692 CONSUMPTION SESSIONS

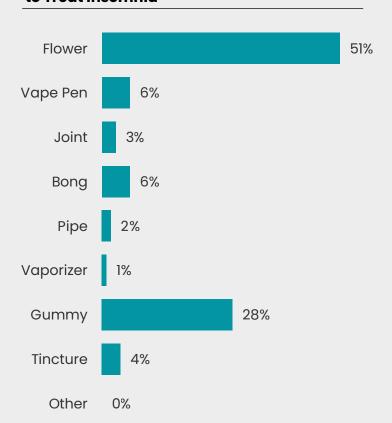
Preferred Consumption Method for Insomnia



Here we see a shift in methods of consumption, with oral consumption being reported more often than it was for the other conditions. Insomnia can include both difficulty falling asleep and staying asleep and the longer duration of edible cannabis products may be preferred by those trying to maintain sleep throughout the night. Sleep issues are also more common among older adults who may prefer edibles to smoking.

Here we continue to see a reflection of the preference for orally ingested products among this group. The rate of edible preference is higher than the general consumer population (28% vs. 21%).

Specific Products and Methods Used to Treat Insomnia



Most Popular Products for Treating Insomnia

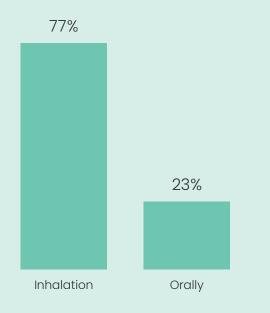
Cherry Gorilla:	26.5% THC
Northern Lights:	29.4% THC
Ray Charles:	30.3% THC

For the first time in this report, we see edibles as two of the top three products being used to treat a specific condition. Twenty-five mg is the preferred product, however, the actual dose used by the consumer may be more or less depending on their need.

Relaxation

RELAXATION: N= 5873 CONSUMPTION SESSIONS

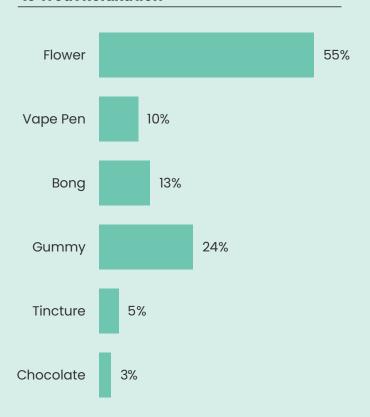
Preferred Consumption Method for Relaxation



Like insomnia, we see an increased preference for orally consumed cannabis among those using for relaxation compared to other conditions. This could also be due to the desire for a sustained effect. This could also be because newer consumers are looking to cannabis for relaxation purposes and are also more likely to choose non smoked methods of consumption.

When looking at specific products that are used to promote relaxation, we see a large reduction in smoked methods like joints and pipes, and the emergence of another form of edible (chocolates) in addition to gummies. Together, this puts edible preference among this group at 27%, higher than the average consumer preference of 21%. When thinking about the circumstances of using cannabis to promote relaxation, one can imagine using the product instead of alcohol, at home, after work. Having children in the home may deter the use of a smoked product, and for those switching from alcohol to cannabis who were not smokers to begin with, a non-smoked product may be more appealing.

Specific Products and Methods Used to Treat Relaxation



Most Popular Products for Treating Relaxation

Oro Blanco:	26.7% THC
Varano:	1:1 THC/CBD 10MG
Blue Cheese:	20.7% THC

Here we do see two varietals of flower listed, but also a low dose, balanced 1:1 gummy. This speaks to the newer cannabis consumer, who is looking for a way to relax without alcohol but is not interested in becoming overly intoxicated.



Key Takeaways

- 1. Consumers are using cannabis to treat the symptoms of specific conditions like pain and agitation, but also for more generalized symptom management of things like anxiety and to promote relaxation. People using cannabis for anxiety, relaxation and sleep may or may not consider their use "medical". This can depend on whether their symptoms are related to a clinically diagnosed condition, or whether their state only allows cannabis access to people without a medical cannabis card.
- 2. Symptoms that require immediate relief like pain, anxiety and agitation are related to preferences for inhaled consumption of cannabis flower. The fast onset that comes with inhalation, along with the ability to titrate dose makes this method of consumption preferable for people who need relief quickly and need to carefully control their dose.
- **3.** Those using cannabis to treat agitation, often related to conditions like Alzheimer's and pediatric conditions, are the most likely group to use tinctures. Tinctures provide a fast onset, but avoid smoking, something that people in a care facility or children using cannabis medicine may prefer.

- 4. For those using cannabis to treat insomnia or promote relaxation, edibles are much more popular than for those treating anxiety, pain or agitation. The prolonged effect of edibles is appealing to those wanting to sleep through the night, and the non-smoked nature of edibles may appeal to those looking to replace alcohol and use cannabis at home after work. Especially if they have children in the home.
- **5.** While edibles were more often preferred among people using cannabis to treat insomnia and promote relaxation, the dosage varied among these groups. The insomnia group listed a 25mg THC product as one of their favorites, while the relaxation group chose a 1:1 THC:CBD 10mg product. This shows that, even among those who choose edibles, dosages and cannabinoid profiles are specific to the desired outcome.

Conclusion

Medical cannabis is accessible in some form in most states in the US. However, the continued lack of acceptance by the formal healthcare system means that many patients and general consumers are left on their own to determine which products and doses are best for them. During prohibition, cannabis was most often smoked because that was the most common form accessible to the public. Now, with legal markets, and manufacturing and testing standards, consumers have access to a wide variety of cannabis infused products. However, as shown in this report, those wanting immediate relief with a high level of control over the effect are still choosing inhalation as their go to method. And those looking for a longer duration of effect, or who were not previous smokers and have reasons to avoid smoking in their environment are turning to manufactured products like edibles. Tetragram helps consumers track and identify which products are working for them and, in an absence of guidance from the medical system, acts as a valuable tool for maximizing the benefits of cannabis.



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NEW FRONTIER DATA is the premier data, analytics, and technology firm specializing in the global cannabis industry,

delivering solutions that enable investors, operators, advertisers, brands, researchers, and policymakers tow, engage, and transact with the cannabis industry and its consumers. New Frontier Data's global reach and reputation is evidenced by research and analysis citations in more than 85 countries. Founded in 2014, New Frontier Data is headquartered in Washington, D.C., with presence in Europe, Latin America, and Africa.

Mission

New Frontier Data's mission is to inform policy and commercial activity for the global legal cannabis industry. We maintain a neutral position on the merits of cannabis legalization through comprehensive and transparent data analysis and projections that shape industry trends, dynamics, demand and opportunity drivers.

Vision

To be the nexus of data for the global cannabis industry.



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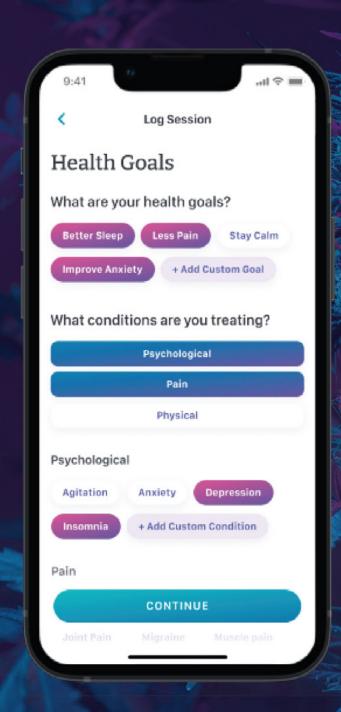
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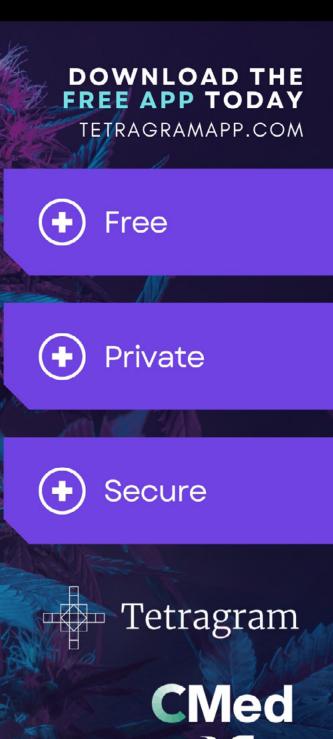
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GET THE MOST OUT OF MEDICAL CANNABIS

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