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Re: Proposed Rescheduling of Marijuana

Letter # 2 Marijuana Smoke Carries High Risks to the Health of Users or to the Health of Other Individuals or of the Community

To:
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Introduction

Dear Attorney General Garland, Administrator Milgram, Secretary Becerra, Admiral Levine, Dr. Califf and Dr. Volkow

Cannabis Industry Victims Educating Litigators (CIVEL) advocates for the many victims of the cannabis industry. [1] This includes those damaged by marijuana smoke and odor. Wether marijuana is used as a medicine or for recreation, marijuana smoke and odor are big issues.

In the 2016 DEA's Denial of Petition To Initiate Proceedings To Reschedule Marijuana, you further defined factor 1 of the eight factors to be considered in scheduling. [2] Factor 1 is:

(1) Its actual or relative potential for abuse. 21 U.S.C.A. 811 (c).

This was further defined as follows on page 81 FR 53821 of your Denial of Petition To Initiate Proceedings To Reschedule Marijuana.

> A. Indicators of Abuse Potential
> The HHS has concluded in its document, "Basis for the Recommendation for Maintaining Marijuana in Schedule I of the Controlled Substances Act," that marijuana has a high potential for abuse. The finding of "abuse potential" is critical for control under the Controlled Substances Act (CSA). Although the term is not defined in the CSA, guidance in determining abuse potential is provided in the legislative history of the Act (Comprehensive Drug Abuse Prevention and Control Act of 1970, H.R. Rep. No. 91-1444, 91st Cong., Sess. 2 (1970), reprinted in 1970 U.S.C.C.A.N. 4566, 4603). Accordingly, the following items are indicators that a drug or other substance has potential for abuse:
> • There is evidence that individuals are taking the drug or drugs containing such a substance in amounts sufficient to create a hazard to their health or to the safety of other individuals or of the community; or
> • There is significant diversion of the drug or drugs containing such a substance from legitimate drug channels; or
> • Individuals are taking the drug or drugs containing such a substance on their own initiative rather than on the basis of medical advice from a practitioner licensed by law to administer such drugs in the course of his professional practice; or
> • The drug or drugs containing such a substance are new drugs so related in their action to a drug or drugs already listed as having a potential for abuse to make it likely that the drug will have the same potentiality for abuse as such drugs, thus making it reasonable to assume that there may be significant diversions from legitimate channels, significant use

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[1] Please see our letter # 1 for a discussion of our mission in contacting you and our intent to litigate should you decide to place marijuana in Schedule III.

[2] Denial of Petition To Initiate Proceedings To Reschedule Marijuana, by the Drug Enforcement Administration (DEA), Department of Justice. 81 FR 53767-01, 2016 WL 4240243 (August 12, 2016)

contrary to or without medical advice, or that it has a substantial capability of creating hazards to the health of the user or to the safety of the community.
Of course, evidence of actual abuse of a substance is indicative that a drug has a potential for abuse.

This letter will deal with the first indicator of abuse that is:

There is evidence that individuals are taking the drug or drugs containing such a substance in amounts sufficient to create a hazard to their health or to the safety of other individuals or of the community;

This letter relates to marijuana smoking and odor. No other Schedule III drug has this damaging effect on public health. People who experience second hand marijuana smoke are exposed without their consent and it is a hazard to their health. If marijuana is rescheduled there will be more marijuana smoke in the air. There is a large amount of evidence that individuals are taking (smoking) marijuana in amounts sufficient to create a hazard to their health or to the safety of other individuals or of the community.

Marijuana can be smoked, vaped or ingested as a food or beverage (edibles). The cannabis plant contains hundreds of compounds, including THC (delta-9-tetrahydrocannabinol). THC is a psychoactive compound that makes people feel high. Different forms of cannabis contain different amounts of THC and produce different effects. The more THC that a cannabis product contains, the stronger the effect. [3]

In states that have legalized marijuana they cannot ignore the ubiquitous marijuana smoke, particularly in the cities where marijuana smoke is the most intense. For example, the effect this has on the residents and visitors to New York is best described by Karol Markowicz in her recent article "New York City's full-on weed legalization stinks" that was published July 13, 2023. New York's legalization of marijuana has caused the city to smell like pot smoke. [4] Here is her article.

New York City's Full-on Weed Legalization Stinks

What is that smell?

If you're reading this in New York City, you know the answer. The entire city reeks of weed.

I'm no puritan. I've smoked quite a bit of herb in my life.

But even in my early 20s, at the height of my blunt smoking, when I certainly wanted

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[3] https://www.nyc.gov/site/doh/health/health-topics/marijuana.page
[4] https://nypost.com/2023/07/13/new-york-citys-full-on-weed-legalization-stinks/

decriminalization, I visited Amsterdam and hoped we wouldn't do what it had done. Amsterdam felt dangerous and seedy.

Its laws were supposed to limit stoners to smoking a little weed in coffee shops while sitting on a beanbag under a Bob Marley poster.

Instead I saw open drug use in parks and on the streets to the e\ent I had never seen in my home of New York City.

Zombies walked around with track marks on their arms.

Europe's drug addicts had seen an opening in Amsterdam and convened there.

I hoped my city wouldn't decriminalize pot this way.

No, New York didn't do that. Instead, it took things a giant step further and legalized marijuana altogether.

New Yorkers I spoke to were surprised. They'd assumed smoking pot had been decriminalized in a similar fashion to Amsterdam.

According to the NYC Department of Health and Mental Hygiene, New Yorkers can smoke cannabis anywhere tobacco smoking is allowed.

Surely all the people smoking weed on their streets weren't doing it legally?

But yes, according to the NYC Department of Health and Mental Hygiene, "Adults age 21 and older may smoke or vape cannabis in most places where tobacco smoking is permitted."

You can smoke pretty much anywhere in New York city legally.

Outside your kid's school? Sure!

Atop the stairs of the subway so everyone catches a whiff on their way to work? Yep.

Now I wish New York had followed Amsterdam's path!

It smells really bad. Even lifelong stoners tell me the stench in the city is excessive.

There are elements specific to New York that make the problem even worse.

Scaffolding, that New York City blight, encourages smokers.

In these pages last year, Steve Cuozzo reported there were about 9,000 such "sidewalk bridges" in the city, which he said "darken doorfronts, ruin businesses, harbor drug addicts and enable crime."

They've also become prime locations for smoking weed.

Whether it's raining or you need a bit of shade, the scaffolding provides the toker just the right atmosphere. Who needs a beanbag or Marley poster?

'It's like everybody's smoking a joint': Adams admits NYC reeks … of pot

Families who live upstairs from scaffolding have told me their children's rooms constantly smell like marijuana.

They've tried asking the smokers to move it along but, hey, it's legal, and they can do whatever they want, man.

Hilariously, the NYC Department of Health and Mental Hygiene notes we should: "Avoid smoking cannabis rolled or mixed with tobacco. There is no safe amount of tobacco use or of secondhand tobacco smoke exposure for those around you."

No amount of secondhand-tobacco exposure is safe, but somehow all the secondhand exposure of marijuana smoke is totally fine.

"Cannabis smoke contains many of the same carcinogens as tobacco smoke," per an article published by NORML, an established pro-marijuana-legalization group.

Along with legalizing marijuana, New York is looking the other way at the 1,500+ illegal smoke shops that have sprouted everywhere.

Yes, most of the shops you see around the city selling "sour diesel" or "strawberry haze" are doing it illegally.

One of the many unlicensed smoke shops that have opened up after New York legalized marijuana.

And we haven't even considered what so many stoned people walking around will do to the fabric of the city.

This full-on legalization is a great example of how the left simply takes things too far.

Most people want reasonable legislation around various issues.

The blue areas just take the craziest position and ram it through friendly legislatures that want to prove their progressive cred.

New York's marijuana free-for-all has done a number on the service industry, our columnist writes.

Let's be blunt — legal weed is turning New York workers into zombies

I wrote in these pages in 2012 that New Yorkers should be allowed to have a drink in public.

Why should enjoying a glass of wine in the park or a beer on your stoop garner you a ticket? We weren't bothering anyone, let us have a drink!

Instead, New York legalized a high that does bother other people.

You still can't have a beer outside, but you can blow smoke at all the passersby.

It made sense to stop arresting smokers. But this isn't that.

No one would have had a problem if marijuana became decriminalized for use in your own home or places where you really wouldn't be affecting large swaths of the public.

But in a complete lack of consideration of any consequences, New York thoughtlessly allowed it everywhere.

Other states like Colorado and California have legalized marijuana but not public consumption.

Drug addicts of the world will get the message: New York is where you want to be.

It's sad to watch New York become a failing experiment in legislating based on far-left ideas.

People don't want to live like this, and they're heading for the exits, specifically to red states.

But even some of us who have already left don't want to see New York further decline. Legalization of marijuana shouldn't have meant saturation. Rethink this law, New York, and fast!

In another New York Post article "Brazen NYers are smoking weed everywhere - Saks,

subway, US Open" by Jeanette Settembre and Joshua Rhett Miller, published August 31, 2023, [5] the authors wrote:

> Saks Fifth Avenue's Manhattan flagship is offering a new scent: marijuana.
>
> On a recent weekday afternoon, the high-end flagship's shoe department smelled less like Manolo Blahnik leather and more like a head shop, a stylist told The Post.
>
> "It's jarring when you walk into a high-end department store where you used to smell Chanel perfume and now it's weed," the stylist, who requested anonymity, said. (The Post h7as reached out to Saks for comment).
>
> But, she admitted: "Everywhere you go in New York City smells like weed. It's not just Saks - it's at Bloomingdales, at the movies ... there's no high-end anymore."
>
> Indeed, brazen New Yorkers are lighting joints on the F train, ripping vape pens on the Hampton Jitney and firing up at upscale restaurants like Carbone and Nobu 57, observers told The Post.
>
> Court 17 definitely smells like Snoop Dogg's living room," Alexander Zverev told the press after winning his match Tuesday. "Oh my God, it's everywhere. The whole court smells like weed." (USTA rep Chris Widmaier told the New York Times: "I don't know if the marijuana smell is from inside the stadium or if it wafted over from somewhere else in [Flushing Meadows Corona] park.")
>
> Like tobacco, marijuana - which has been legal in New York State since 2021 - smoking or vaping is prohibited in public indoor spaces as well as parks, beaches, sports arenas and on public transportation, including at stations.
>
> But the potential $50 fine isn't stopping everyone.
>
> Some say business owners are afraid to crack down out of fear of being labeled as prohibitionists - and feel government officials aren't doing enough to support regulations.

Other news articles and commentary reflect public concerns about marijuana smoke and odor.

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[5] https://nypost.com/2023/08/31/brazen-new-yorkers-are-smoking-weed-at-saks-subway-us-open/

1. Marijuana production emits a smell like a skunk. [6]

2. Weed smell is a potent boogeyman of American decline. [7]

3. The right to consume marijuana does not grant the right to be a bad neighbor. [8]

4. New York stinky! Odor complaints in NYC reach disgusting all-time high [9]

5. New York Smells Like a Declining City: The stench of weed is ubiquitous, and the mayor is encouraging the "industry." [10]

6. Cannabis can have "sewer-like" and other odors. Cannabis odors can be detected more than a mile from their source and can "often be described as pungent, skunky, floral, fruity, or even "sewer-like." [11]

Even in states that ban public smoking of marijuana this will be a problem for people living in apartments.

American Lung Association Overview on Marijuana Smoking

Here are relevant excerpts from the ALA information on marijuana smoking.

Marijuana
The health effects of marijuana are determined in large part by how it's consumed. Marijuana is most commonly smoked using pipes, bongs, paper-wrapped joints, blunts and other devices including those that heat or vaporize marijuana. Marijuana can also be consumed through dozens of different products including e-cigarettes, candy, brownies and other baked goods, capsules, beverages and many more.

Marijuana Smoke
Smoke is harmful to lung health. Whether from burning wood, tobacco or marijuana, toxins and carcinogens are released from the combustion of materials. Smoke from marijuana combustion has been shown to contain many of the same toxins, irritants and carcinogens as tobacco smoke.

Beyond just what's in the smoke alone, marijuana is typically smoked differently than

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[6] https://phys.org/news/2022-02-skunk-emissions-cannabis-production.html
Cannabis Cultivation Facilities: A Review of Their Air Quality Impacts from the Occupational to Community Scale, Davi de Ferreyro Monticelli, et. al. Environ. Sci. Technol. 2022, 56, 5, 2880–2896 Publication Date: February 9, 2022, https://doi.org/10.1021/acs.est.1c06372

[7] https://slate.com/human-interest/2022/07/weed-smell-marijuana-legal-policy-public.html

[8] https://www.oregonlive.com/marijuana/2015/03/marijuana_odors_bugging_you_re.html

[9] https://nypost.com/2022/07/14/nyc-odor-complaints-reach-disgusting-all-time-high

[10] https://www.wsj.com/articles/new-york-smells-like-a-declining-city-marijuana-dispensary-public-funding-business-vice-stench-f7ab6f4e?ns=prod/accounts-wsj

[11] Alex Cosmas, Ecosorb January 18, 2019 Ecosorb at Work
https://ecosorbindustrial.com/why-cannabis-plants-smell/
Source https://www.righttobreathecannabisfreeoregon.org/

tobacco. Marijuana smokers tend to inhale more deeply and hold their breath longer than cigarette smokers, which leads to a greater exposure per breath to tar.

Secondhand marijuana smoke contains many of the same toxins and carcinogens found in directly-inhaled marijuana smoke, in similar amounts if not more. While there is no data on the health consequences of breathing secondhand marijuana smoke, [12] there is concern that it could cause harmful health effects, especially among vulnerable children in the home. Additional research on the health effects of secondhand marijuana smoke is needed.

Lung Health and Marijuana Smoke

Smoking marijuana clearly damages the human lung. Research shows that smoking marijuana causes chronic bronchitis and marijuana smoke has been shown to injure the cell linings of the large airways, which could explain why smoking marijuana leads to symptoms such as chronic cough, phlegm production, wheeze and acute bronchitis.

Smoking marijuana has also been linked to cases of air pockets in between both lungs and between the lungs and the chest wall, as well as large air bubbles in the lungs among young to middle-aged adults, mostly heavy smokers of marijuana.

However, it's not possible to establish whether these occur more frequently among marijuana smokers than the general population.

Smoking marijuana can harm more than just the lungs and respiratory system—it can also affect the immune system and the body's ability to fight disease, especially for those whose immune systems are already weakened from immunosuppressive drugs or diseases, such as HIV infection.

Smoking marijuana hurts the lungs' first line of defense against infection by killing cells that help remove dust and germs as well as causing more mucus to be formed. In addition, it also suppresses the immune system. These effects could lead to an increased risk of lower respiratory tract infections among marijuana smokers, although there is no clear evidence of such actual infections being more common among marijuana smokers. However, frequent marijuana-only smokers have more healthcare visits for respiratory conditions compared to nonsmokers.

Studies have shown that smoking marijuana may increase the risk of opportunistic infections among those who are HIV positive, although it does not seem to affect the development of AIDS or lower white cell counts.

Another potential threat to those with weakened immune systems is Aspergillus, a mold

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[12] This statement is a bit out dated as the studies presented here will show.

that can cause lung disorders. It can grow on marijuana, which if then smoked exposes the lungs to this fungus. However, it rarely causes problems in people with healthy immune systems.

"Vaping" Marijuana
There is little known on the potential lung health effects of inhaling marijuana or products made from it through routes other than smoking. However:

Use of "vape-pens" to inhale cannabis concentrates or liquids may have similar respiratory health effects as e-cigarette use.

"Dabbing" (inhaling flash-vaporized cannabis concentrates) may also cause respiratory problems.

Medical Marijuana
The American Lung Association encourages continued research into the health effects of marijuana use, as the benefits, risks and safety of marijuana use for medical purposes require further study. Patients considering using marijuana for medicinal purposes should make this decision in consultation with their doctor, and consider means of administration other than smoking.

Bottom Line
Smoking marijuana clearly damages the human lung, and regular use leads to chronic bronchitis and can cause an immune-compromised person to be more susceptible to lung infections.

No one should be exposed to secondhand marijuana smoke.

Due to the risks it poses to lung health, the American Lung Association strongly cautions the public against smoking marijuana as well as tobacco products. [13]

Relevant Facts about Marijuana Smoke

Marijuana smoke is a carcinogen and lung irritant, and it is now affecting the air quality in the states that have legalized marijuana. Scientific studies have identified the fact that marijuana smoke and its associated vapors contain many of the same carcinogenic substances and chemicals that are found in tobacco smoke; therefore, first-hand and second-hand marijuana smoke are both harmful. Indoor marijuana use can emit particle concentrations that are similar to those found in "wildfires" and "severe industrial pollution." These particles can cause respiratory

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[13] https://www.lung.org/quit-smoking/smoking-facts/health-effects/marijuana-and-lung-health

and cardiovascular diseases. [14]

Marijuana smoke has dangerous levels of particulate matter.

> Particulate matter contains microscopic solids or liquid droplets that are so small that they can be inhaled and cause serious health problems. Some particles less than 10 micrometers in diameter can get deep into your lungs and some may even get into your bloodstream. Of these, particles less than 2.5 micrometers in diameter, also known as fine particles or PM2.5, pose the greatest risk to health. [15]

A recent study did 60 experiments comparing indoor PM2.5 from secondhand marijuana and tobacco smoke. The marijuana joint's emission rate was 3.5 times that of the tobacco cigarette. All the cannabis sources had PM2.5 emission rates greater than tobacco cigarettes. The order of cannabis emission rates was joint, bong, glass pipe, and vaping pen. [16]

Secondhand exposure to cannabis smoke occurs in public outdoor locations due to outdoor smoking or leakage of indoor smoking. Average outdoor exposures to PM2.5 close to public outdoor smoking and vaping (on golf courses and a public park) were greater than 3 times as high as those near a car or a building with indoor marijuana emissions. The average outdoor exposure caused by the leakage of in-car secondhand smoke was higher than that caused by in-building emissions. [17]

Vaporizing cannabis can create levels of air pollution that are hazardous to human health. High particle concentrations can be created as in extreme air pollution events like wildfires and severe industrial pollution. Exposure at these concentrations can cause cardiovascular and respiratory disease and cancer. Marijuana smoke has a broad range of hazardous air pollutants including, but not limited to, volatile organic compounds, metals, pesticides, products of incomplete combustion polycyclic aromatic hydrocarbons (PAHs).

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[14] "Measuring indoor fine particle concentrations, emission rates, and decay rates from cannabis use in a residence," Atmospheric Environment: X, Civil and Environmental Engineering Stanford University, Stanford, CA, 94305, USA, Page 88, https://www.sciencedirect.com/science/article/pii/S259016212100006X

[15] https://www.epa.gov/pm-pollution/particulate-matter-pm-basics

[16] "Measuring indoor fine particle concentrations, emission rates, and decay rates from cannabis use in a residence," Atmospheric Environment: X, Civil and Environmental Engineering Stanford University, Stanford, CA, 94305, USA, Page 88, https://www.sciencedirect.com/science/article/pii/S259016212100006X

[17] PM2.5 exposure to marijuana smoke on golf courses and other public outdoor locations: A pilot observational study, Kai-Chung Cheng, et. al. Science of The Total Environment, Volume 896, 20 October 2023, 165236 https://doi.org/10.1016/j.scitotenv.2023.165236; https://www.sciencedirect.com/science/article/abs/pii/S0048969723038597?via%3Dihub

A study concluded that:

> We measured the concentrations of airborne fine particles (PM2,5) and cannabinoids at an indoor cannabis event where dabbing and vaporizing were the only cannabis emissions. We found average particle concentrations of 200-600 micrograms per m3 and peak concentrations over 1,600 micrograms per m3. Particle concentrations this high are seen in extreme air pollution events like wildfires (Landis, Edgerton et al. 2018, Li, Han et al. 2018) and severe industrial pollution (Nagar, Singh et al. 2017, Li, Han et al. 2018). Exposure at these concentrations can cause cardiovascular and respiratory disease (Zheng, Ding et al. 2015, Li, Fan et al. 2016). We show that dabbing and vaporizing cannabis can create levels of indoor air pollution that are hazardous to human health, in the absence of actual combustion. [18]

California Environmental Protection Agency Declares Marijuana Smoke a Carcinogen

Significant marijuana smoking history must be considered a risk factor for the development of pulmonary malignancy. [19] In 2009 the California Environmental Protection Agency published a study entitled "Evidence on the Carcinogenicity of Marijuana Smoke." [20]

WE STRONGLY URGE YOU TO DOWNLOAD THIS DOCUMENTS AND READ IT.

https://oehha.ca.gov/media/downloads/crnr/finalmjsmokehid.pdf

The study concluded that:

5.2 Conclusion

> There is evidence from some epidemiological studies of marijuana smoke suggestive of increased cancer risk from both direct and parental marijuana smoking. However, this evidence is limited by validity issues and small numbers of studies for most types of cancer. Direct marijuana smoking has been statistically significantly associated with cancer of the lung, head and neck, bladder, brain, and testis. Parental marijuana smoking before or during gestation has been statistically significantly associated with childhood cancer. Childhood cancers that have been associated with maternal marijuana smoking are acute myeloid leukemia, neuroblastoma, and rhabdomyosarcoma. Childhood cancers

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[18] "Measuring Aerosol Particle Emissions from Cannabis Vaporization and Dabbing," University of California, San Francisco, San Francisco, USA, https://no-smoke.org/wp-content/uploads/pdf/2018-Indoor-Air-Cannabis01-Schick.pdf

[19] Is Cannabis the New Tobacco? Small-cell Lung Cancer in a 34-year-old Male with Significant Cannabis Exposure, Arnavi Varshney et. al., Lung Cancer| Volume 164, Issue 4, Supplement , A4400-a4401, October 2023; https://journal.chestnet.org/article/S0012-3692(23)03898-9/fulltext

[20] https://oehha.ca.gov/media/downloads/crnr/finalmjsmokehid.pdf

that have been associated with paternal marijuana smoking are leukemia (all types), infant leukemia (all types), acute lymphoblastic leukemia, acute myeloid leukemia, and rhabdomyosarcoma.

There is evidence that marijuana smoke is genotoxic, immunosuppressive, and can alter endocrine function. Studies of Delta 9-THC and other cannabinoids provide evidence for alterations of multiple cell signaling pathways, in endocrine function, and suppression of the innate and adaptive immune response. Prolonged exposures to marijuana smoke in animals and humans cause proliferative and inflammatory lesions in the lung.

Widening marijuana use poses increased exposure to potentially toxic combustion by-products from marijuana smoke and the potential for public health concerns. One study concluded:

> We found elevated levels of biomarkers for potentially harmful chemicals among self-identified, recent marijuana users compared with nonusers. These findings suggest that further studies are needed to evaluate the potential health risks to humans from the exposure to these agents when smoking marijuana. [21]

Another study concluded:
Conclusion
We found elevated levels of biomarkers for potentially harmful chemicals among self-identified, recent marijuana users compared with nonusers. [22]

Marijuana Smoke Is More Dangerous than Tobacco Smoke

A study compared marijuana smoke to tobacco smoke.

> In this study, a systematic comparison of the smoke composition of both mainstream and sidestream smoke from marijuana and tobacco cigarettes prepared in the same way and, consumed under two sets of smoking conditions, was undertaken. This study examined the suite of chemicals routinely analyzed in tobacco smoke. As expected, the results showed qualitative similarities with some quantitative differences. In this study, ammonia was found in mainstream marijuana smoke at levels up to 20-fold greater than that found

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[21] "Urinary concentrations of PAH and VOC metabolites in marijuana users," Division of Laboratory Sciences, National Center for Environmental Health, Centers for Disease Control and Prevention, Atlanta, GA, United States, Division of Epidemiology, Services and Prevention Research at the National Institutes of Health, United States, https://pubmed.ncbi.nlm.nih.gov/26690539/

[22] "Urinary concentrations of PAH and VOC metabolites in marijuana users," Division of Laboratory Sciences, National Center for Environmental Health, Centers for Disease Control and Prevention, Atlanta, GA, United States, Division of Epidemiology, Services and Prevention Research at the National Institutes of Health, United States, https://pubmed.ncbi.nlm.nih.gov/26690539/

in tobacco. Hydrogen cyanide, NO, NO, and some aromatic amines were found in marijuana smoke at concentrations 3-5 times those found in tobacco smoke. Mainstream marijuana smoke contained selected polycyclic aromatic hydrocarbons (PAHs) at concentrations lower than those found in mainstream tobacco smoke, while the reverse was the case for sidestream smoke, with PAHs present at higher concentrations in marijuana smoke. The confirmation of the presence, in both mainstream and sidestreath smoke of marijuana cigarettes, of known carcinogens and other chemicals implicated in respiratory diseases is important information for public health and communication of the risk related to exposure to such materials. [23]

The Center for Disease Control (CDC) states that:

Secondhand marijuana smoke contains many of the same toxic and cancer-causing chemicals found in tobacco smoke and contains some of those chemicals in higher amounts. [24]

Second Hand Marijuana Smoke Is Dangerous to Individuals and the Community

Second hand smoke is the smoke that is released from the end of a burning cigarette, cigar, or pipe. Mainstream smoke (MSM) is the smoke that is inhaled by a smoker and then exhaled into the environment. [25]

Marijuana smoke is a problem for tenants. Following a three-year long legal battle, a Washington, D.C. judge on June 6, 2023 banned a man from smoking medical marijuana in his home after his neighbor filed a lawsuit claiming the smell drifted into her home and made her sick. [26]

When a person who is not smoking marijuana is exposed to marijuana smoke that person is an "involuntary smoker" in that he or she is experiencing some effect as a result of passively inhaling the smoke that is being emitted in the immediate environment. Exposure to the smoke is demonstrably harmful to non-smokers who are afflicted with certain health or respiratory problems. For example, children who are exposed to secondary marijuana smoke have higher rates of respiratory infection. [27]

An article "Secondhand marijuana smoke: What are the risks to your health?"

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[23] A Comparison of Mainstream and Sidestream Marijuana and Tobacco Cigarette Smoke Produced under Two Machine Smoking Conditions," Chem. Res. Toxicol. XXXX, xxx, 000, https://pubmed.ncbi.nlm.nih.gov/18062674/

[24] https://www.cdc.gov/marijuana/health-effects/second-hand-smoke.html

[25] https://www.verywellhealth.com/sidestream-smoke-2248934

[26] https://www.usatoday.com/story/news/nation/2023/06/07/neighbor-sued-over-weed-smell/70297558007/

[27] Association between secondhand marijuana smoke and respiratory infections in children Adam B Johnson, et. al., PMID: 34321605 DOI: 10.1038/s41390-021-01641-0 Pediatr Res . 2022 Jun;91(7):1769-1774. Epub 2021 Jul 29. https://pubmed.ncbi.nlm.nih.gov/34321605/

by UCLA Health stated: [28]

> Secondhand smoke is smoke inhaled when someone nearby lights up. The health risks associated with secondhand cigarette smoke, such as lung disease and cancer, are well understood. But does exposure to secondhand marijuana (cannabis) smoke cause similar concerns?
>
> Health effects of secondhand cannabis smoke
> Because of marijuana's illegal status at the federal level, few researchers have thoroughly studied its health risks in humans. But based on a study in rats published in the Journal of the American Heart Association (JAHA), it appears that exposure to secondhand cannabis smoke does pose health and safety risks. They include:
>
> Respiratory concerns
> The particulate matter in inhaled marijuana smoke may cause lung irritation and respiratory infections. It may also trigger asthma attacks and increase health concerns for people with bronchitis or COPD. Particulate matter in secondhand marijuana smoke includes:
>
> Ammonia
> Cadmium
> Chromium
> Hydrogen cyanide
> Lead
> Mercury
> Nickel
> Because cannabis is a plant, it might also be contaminated with mold, insecticides or pesticides that get released when smoked.
>
> Potential for cancer
> The California Office of Environmental Health Hazard Assessment lists marijuana smoke as a carcinogen and reproductive toxin on its Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986). Secondhand marijuana smoke also contains some of the same chemicals that show up in secondhand cigarette smoke, many of which scientists link to lung cancer.
>
> Cardiovascular problems
> The JAHA study showed that when rats are exposed to secondhand marijuana smoke for 60 seconds, they experience impaired dilation of the blood vessels for 90 minutes or more. That's longer than the effects of secondhand tobacco smoke. Because tobacco and

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[28] https://www.uclahealth.org/news/secondhand-marijuana-smoke-what-are-the-risks-to-your-health

cannabis smoke have similar makeups, it is likely that secondhand marijuana smoke could produce the same harmful cardiovascular health effects as cigarette smoke, including:

Blocked arteries (atherosclerosis)
Heart attack
Stroke
Impairment

Whether individuals can become high from secondhand cannabis smoke depends on proximity and the ventilation of the room. Research on the levels of THC (tetrahydrocannabinol - the chemical in marijuana that causes mind-altering effects) in humans exposed to secondhand cannabis smoke shows:

Very low levels (below that needed to fail a drug test) in individuals exposed for three hours in a well-ventilated space
High levels (enough to fail a drug test) and impaired motor skills in individuals exposed to high-level THC marijuana smoke for an hour in an unventilated room

Uncomfortable side effects
Inhaling secondhand marijuana smoke can cause unwelcome side effects, such as:

Anxiety or paranoia
Burning, itching eyes
Coughing or dry mouth
Fatigue
Headache
Nausea
Restlessness

THC present in urine of children exposed to secondhand marijuana smoke
One study examined secondhand marijuana smoke effects on the children of marijuana users. Nearly half of the children in the study showed detectable levels of marijuana in their urine. Secondhand marijuana smoke could cause long-term developmental damage in growing children.

Children are not the only population vulnerable to secondhand smoke. Other vulnerable groups include:

People with allergies or asthma, who are more susceptible to lung infections or respiratory problems such as pneumonia

Individuals living with immune deficiencies or chronic diseases.

A study showed that one minute of marijuana secondhand smoke exposure substantially impairs vascular endothelial function. The endothelium is a layer of cells that lines the blood vessels and lymph vessels of the body. It includes all blood-and-lymph carrying vessels, including the chambers of the heart and the glomeruli, or "filters," of the kidneys. [29]

A study concluded that

> The similarity of the chemical composition of second hand smoke from tobacco and marijuana, along with our observation that both kinds of smoke can impair endothelial function, indicate that marijuana second hand smoke has adverse cardiovascular effects in rats and suggest that it may have similar adverse effects in humans.
>
> It is important that the public, medical personnel, and policymakers understand that exposure to secondhand marijuana smoke is not necessarily harmless. Second hand smoke should be avoided whether the source is tobacco or marijuana. [30]

Tobacco and marijuana products can induce arrhythmogenic substrates involved in cardiac electrical, structural, and neural remodeling, facilitating the development of arrhythmias. Increased vulnerability to atrial and ventricular arrhythmias caused by different types of inhaled tobacco or marijuana products. [31]

The federal Center for Disease Control (CDC) has weighed in on secondhand marijuana smoke.

> The known risks of secondhand exposure to tobacco smoke - including risks to the heart and lungs - raise questions about whether secondhand exposure to marijuana smoke causes similar health risks. Secondhand marijuana smoke contains many of the same toxic and cancer-causing chemicals found in tobacco smoke and contains some of those chemicals in higher amounts. Secondhand marijuana smoke contains many of the same toxic and cancer-causing chemicals found in tobacco smoke and contains some of those chemicals in higher amounts. Secondhand marijuana smoke also contains tetrahydrocannabinol (THC), the compound responsible for most of marijuana's psychoactive effects (or the "high"). THC can be passed to infants and children through secondhand smoke, and people exposed to secondhand marijuana smoke can experience psychoactive effects, such as feeling high. Recent studies have found strong associations between reports of having someone in the home who uses marijuana (e.g., a parent, relative, or caretaker) and the child having detectable levels of THC. Children exposed to

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[29] https://biologydictionary.net/endothelium/

[30] One Minute of Marijuana Secondhand Smoke Exposure Substantially Impairs Vascular Endothelial Function, Xiaoyin Wang, et. al. Originally published 27 July 2016https://doi.org/10.1161/JAHA.116.003858, Journal of the American Heart Association. 2016;5:e003858 https://www.ahajournals.org/doi/10.1161/JAHA.116.003858

[31] Qiu, et, al. Published:November 14, 2022DOI: Heart Rhythm, Heart Rhythm Society. https://doi.org/10.1016/j.hrthm.2022.09.021

THC are potentially at risk for negative health effects. More research is needed to understand how secondhand marijuana exposure may affect children. Other research shows that marijuana use during adolescence can impact the developing teenage brain and cause problems with attention, motivation, and memory. [32]

A marijuana smoking study evaluated human toxicological and subjective effects after passive (second-hand) exposure to cannabis smoke and concluded in extreme cases, the effects of passive exposure mimicked active smoking effects though to a lesser extent than in active smokers. The rapid absorption of THC into blood led to functional pharmacologic effects in nonsmokers as a result of second-hand exposure. Extreme exposure of nonsmokers could lead to positive drug tests and drug-induced behavioral changes not unlike those produced by active cannabis smoking. Extreme exposure to second-hand cannabis smoke by nonsmokers led to presence of THC in oral fluid for up to 3 hours after end of exposure. Indication was found of rapid absorption and metabolism of THC having occurred as a result of second-hand exposure. Evidence suggests that respiratory and transmucosal absorption were key in linking THC concentration in oral fluid to blood as seen in both nonsmokers and smokers. Data from the study suggest that second-hand exposure to cannabis smoke should be avoided by nonsmokers and may have implications for those who undergo drug testing and who are engaged in "safety-sensitive activities" (e.g., driving). [33]

Secondhand smoke can travel through plumbing, electrical lines, etc. Suffolk County New York Legislator Dr. William Spencer who is also a medical doctor, said secondhand smoke can permeate through cracks in walls, electrical lines, plumbing, and ventilation systems. [34]

A drugabuse.com article shows that exposure to second-hand marijuana smoke takes 90 minutes to recover from. Over time, exposure leads to clogged arteries, heart attack or stroke. [35]

Secondhand Marijuana Smoke Is Not Healthy, According to Americans for Nonsmokers' Rights

Americans for Nonsmokers' Rights considers secondhand marijuana smoke a form of indoor air pollution. There are dangers of exposure, including impaired blood vessel function and

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[32] https://www.cdc.gov/marijuana/health-effects/second-hand-smoke.html

[33] Nonsmoker Exposure to Secondhand Cannabis Smoke. III. Oral Fluid and Blood Drug Concentrations and Corresponding Subjective Effects, Edward J. Cone, et. al. Journal of Analytical Toxicology, Journal of Analytical Toxicology 2015;39:497 –509, doi:10.1093/jat/bkv070 Advance Access publication July 2, 2015
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4627404/
Source https://www.righttobreathecannabisfreeoregon.org/

[34] https://www.cbsnews.com/newyork/news/suffolk-county-smoking-ban-private-home-secondhand-smoke/
Source https://www.righttobreathecannabisfreeoregon.org/

[35] https://drugabuse.com/blog/lets-clear-the-air-about-secondhand-marijuana-smoke/
Source https://www.righttobreathecannabisfreeoregon.org/

exposure to dangerous chemicals. [36]

A study entitled "Reported Marijuana and Tobacco Smoke Incursions Among Families Living in Multiunit Housing in New York City reported that one third of the families enrolled in the study reported smelling second hand marijuana smoke while at home with their child. Policies that limit all smoke in multiunit housing should be supported. [37]

Third Hand Marijuana Smoke

Second and third hand marijuana smoke is harmful to non-users. Third-hand smoke includes "residue from smoke that remains on walls, carpets, furniture, and other surfaces long after the smoke has left the room". These items continue to off gas and "expose non-users to potentially harmful toxicants." Ventilation and air filtration devices do not eliminate the health risks caused by second-hand marijuana. Non-users exposed second-hand to marijuana smoke in confined, unventilated spaces can test positive for THC drug tests. Studies on rats indicate that exposure to secondhand marijuana smoke resulted in slower recovery rate (for arteries) that exposure to secondhand tobacco smoke. Marijuana smoke is carcinogenic and contains "at least 33 individual constituents...that have been classified as carcinogenic", according to the California Office of Environmental Health Hazard Assessment. [38]

Cannabis Smoke and Pollen Are Known Allergens

Cannabis allergy is an issue that affects the users of the drug and those in their environment, including marijuana processors, agricultural workers and those who have contacts with Cannabis aeroallergens and secondhand smoke. The allergy spans the spectrum of hypersensitivity, from dermatitis to rhinoconjunctivitis to life-threatening anaphylaxis (shock). Exposure includes second-hand exposure, ingestion, aeroallergen contact, and skin contact. [39]

Significant exposure to cannabis can elicit marked respiratory and dermatologic allergic reactions requiring proper diagnosis and treatment. Additionally, contaminants such as pesticides or mold related to cannabis production, handling, and/or use may cause adverse reactions of a

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[36] https://no-smoke.org/wp-content/uploads/pdf/Protecting-Nonsmokers-from-Secondhand-Marijuana-Smoke.pdf
Source https://www.righttobreathecannabisfreeoregon.org/

[37] Reported Marijuana and Tobacco Smoke Incursions Among Families Living in Multiunit Housing in New York City, Lodoe Sangmo et al, Acad Pediatr. 2021 May-Jun;21(4):670-676. doi: 10.1016/j.acap.2021.01.005. Epub 2021 Jan 16. PMID: 33460815 DOI: 10.1016/j.acap.2021.01.005 Abstract. https://pubmed.ncbi.nlm.nih.gov/33460815/

[38]
Secondhand Exposure to Marijuana Smoke
http://learnaboutmarijuanawa.org
http://adai.uw.edu. Source: https://www.righttobreathecannabisfreeoregon.org/

[39] "An emerging allergen: Cannabis sativa allergy in a climate of recent legalization," Allergy, Asthma & Clinical Immunology, Published: 26 June 2020, volume 16, Article number: 53 (2020) https://link.springer.com/article/10.1186/s13223-020-00447-9

non-allergic nature. [40]

Various routes of exposure and sensitization can lead to a primary cannabis allergy. Those exposed may become sensitized by inhalation of cannabis allergen through active smoking, and/or vaporizing the drug. Both active and passive exposure may lead to a cannabis sensitization and/or allergy. Cannabis allergy can vary from mild to life-threatening reactions. [41]

New York Allergy and Sinus Centers

According to the New York Allergy and Sinus Centers

A marijuana allergy is an adverse immune response to marijuana. Breathing or inhaling marijuana can result in nasal or eye allergy symptoms in some individuals. There have also been a small number of anaphylaxis cases due to marijuana. In recent years, there has been an increase in the number of reports of marijuana allergy.

Cannabis users can also experience Cannabinoid Hyperemesis Syndrome (CHS). CHS is a condition that leads to repeated and severe bouts of vomiting. The condition only occurs in daily long-term users of marijuana. It is rare, but you should be cautious when using marijuana long-term.

According to the American Academy of Allergy, Asthma, and Immunology (AAAAI), a person can develop an allergy or allergic sensitization to marijuana after their first exposure to the plant. This can be inhaling, smoking, touching, or eating marijuana. [42]

American Academy of Allergy, Asthma, and Immunology

According to the American Academy of Allergy, Asthma, and Immunology (AAAAI), a person can develop an allergy or allergic sensitization to marijuana after exposure to the plant. People can have a sensitization after exposure to cannabis allergens in the following ways:

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[40] "Allergic Reactions to Legalized Marijuana Use in Colorado." International Journal of Mental Health and Addiction volume 16, pages 801–805 (2018), Clinical Case Studies Published: 02 May 2018. https://link.springer.com/article/10.1007/s11469-018-9924-6

"Cannabis Allergy: What do We Know Anno 2015," Archivum Immunologiae et Therapiae Experimentalis volume 63, pages327–332 (2015), Article Review Published: 16 July 2015, https://link.springer.com/article/10.1007/s00005-015-0352-z

[41] "Cannabis Allergy: What do We Know Anno 2015," Archivum Immunologiae et Therapiae Experimentalis volume 63, pages327–332 (2015), Article Review Published: 16 July 2015, https://link.springer.com/article/10.1007/s00005-015-0352-z

Where there's smoke, there's fire: cannabis allergy through passive exposure
Ine I Decuyper et. al. American Academy of Allergy, Asthma & Immunology,
PMID: 28161151 DOI: 10.1016/j.jaip.2016.10.019
https://pubmed.ncbi.nlm.nih.gov/28161151/

[42] https://www.nyallergy.com/marijuana-allergy/

inhaling pollen in the air
inhaling, smoking, touching, and eating marijuana or cannabis. [43]

Cannabis allergy is an issue that affects recreational users of the drug, marijuana processors, agricultural workers, and those who have contacts with Cannabis aeroallergens and secondhand smoke. The allergy spans the spectrum of hypersensitivity, from dermatitis to rhinoconjunctivitis to life-threatening anaphylaxis (shock). Exposure includes second-hand exposure, ingestion, aeroallergen contact, and skin contact. [44]

Occupational Cannabis Exposure and Allergy Risks

A study attempted to explore the potential for allergic health risks of occupational exposure to cannabis among Belgian Police Personnel. It suggests the importance of wearing protective clothing during cannabis exposure. [45]

Some People Have a Hypersensitivity to Marijuana That Is Similar to Hypersensitivity to Other Chemicals

Hypersensitivity to marijuana and preparations of Cannabis sativa, has been reported since 1971. Symptoms usually correspond with route of exposure, ranging in severity from mild to life-threatening. [46]

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[43] American Academy of Allergy Asthma & Immunology
Marijuana Cannabis Allergy
https://www.aaaai.org/tools-for-the-public/conditions-library/allergies/marijuana-cannabis-allergy

Can you be allergic to marijuana?
https://www.medicalnewstoday.com/articles/321343

[44] An emerging allergen: Cannabis sativa allergy in a climate of recent legalization, Allergy, Asthma & Clinical Immunology, Published: 26 June 2020, volume 16, Article number: 53 (2020)
https://link.springer.com/article/10.1186/s13223-020-00447-9

[45] Occupational cannabis exposure and allergy risks, BMJ Journals: Occupational & Environmental Medicine Occupational & Environmental Medicine, Home Archive Volume 76, Issue 2
https://oem.bmj.com/content/76/2/78.full
Source https://www.righttobreathecannabisfreeoregon.org/

[46] An emerging allergen: Cannabis sativa allergy in a climate of recent legalization, Allergy, Asthma & Clinical Immunology, Published: 26 June 2020, volume 16, Article number: 53 (2020)
https://link.springer.com/article/10.1186/s13223-020-00447-9

https://www.jacionline.org/article/S0091-6749(19)32218-3/fulltext#:~:text=Hypersensitivity%20to%20marijuana%2C%20preparations%20of,non%2Dspecific%20lipid%20transfer%20proteins.
https://www.ctvnews.ca/health/woman-with-chemical-sensitivities-chose-medically-assisted-death-after-failed-bid-to-get-better-housing-1.5860579

Both active and passive exposure may lead to a cannabis sensitization and/or allergy. Cannabis allergy can vary from mild to life-threatening reactions. [47]

There is also a condition called Multiple Chemical Sensitivity (MCS) that is an acquired multifactorial syndrome characterized by a recurrent set of debilitating symptoms. The symptoms of this disorder are reported to be induced by environmental chemicals at doses far below those usually harmful to most persons. In the last few decades MCS has received considerable scientific and governmental attention in light of the many persons reporting this illness.

> Its symptoms include hypersensitivity to the smell of certain chemicals, nausea, dizziness, headache, upper respiratory discomfort, runny eyes, chest and throat pain, arthralgia, dyspepsia, fatigue, lack of concentration, memory difficulties, depression, anxiety, mood disruption, and a range of other cognitive and psychological disturbances. The removal from the environment of the offending agents frequently mitigates the experienced symptoms. [48]

Significant exposure to cannabis can elicit marked respiratory and dermatologic allergic reactions requiring proper diagnosis and treatment. Additionally, contaminants such as pesticides or mold related to cannabis production, handling, and/or use may cause adverse reactions of a non-allergic nature.[49]

Toxicant-Induced Loss of Tolerance

TILT, or Toxicant-Induced Loss of Tolerance, is when individuals are exposed to nanoparticles and other toxins and develop a loss of tolerance to these substances. Smoking is a trigger of TILT. The article notes that this would be an issue for those sharing a home, as well as those living or working near marijuana or tobacco smokers. Smokers or vapers who live in a multifamily residence or work with non-smokers who share the same air pose a potential hazard to non-smoking occupants, especially the elderly and children. Tobacco smoke migrates throughout a building via interstitial spaces and the piston-like action of elevators. This is an issue both for secondhand and thirdhand smoke. Thirdhand smoke clings to dust, clothes, furniture, drapes, walls, bedding, carpets, and other surfaces long after smoking has stopped, and

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[47] Cannabis Allergy: What do We Know Anno 2015, Archivum Immunologiae et Therapiae Experimentalis volume 63, pages327–332 (2015), Article Review Published: 16 July 2015, https://link.springer.com/article/10.1007/s00005-015-0352-z

[48] Multiple Chemical Sensitivity, Gesualdo M. Zucco, et. al, Brain Sci. 2022 Jan; 12(1): 46., Published online 2021 Dec 29. doi: 10.3390/brainsci12010046, PMCID: PMC8773480 PMID: 35053790, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8773480/

[49] "Allergic Reactions to Legalized Marijuana Use in Colorado." International Journal of Mental Health and Addiction volume 16, pages 801–805 (2018), Clinical Case Studies Published: 02 May 2018. https://link.springer.com/article/10.1007/s11469-018-9924-6

builds up over time. [50]

Cannabinoid Hyperemesis Syndrome

There is also cannabinoid hyperemesis syndrome (CHS) caused by frequent exposure to marijuana. Common symptoms include:

Ongoing nausea
Repeated episodes of vomiting
Belly pain
Decreased food intake and weight loss
Symptoms of fluid loss (dehydration) [51]

CHS is now commonly recognized in hospital emergency rooms in long term marijuana users. CHS is potentially fatal and associated with painful retching, vomiting, and abdominal pain. [52] The state of Colorado warns that use of marijuana concentrates may lead to Cannabis Hyperemesis Syndrome (CHS) (uncontrolled and repetitive vomiting). [53]

Marijuana Is Addictive and Marijuana Smoke and Odor Can Trigger Relapse

The marijuana trafficking industry claims that marijuana is not addictive. However, science and the medical profession state that marijuana is an addictive drug that poses significant health consequences to its users, including those who may be using it for "medical" purposes. Marijuana is far more powerful today than it was 30 years ago. Despite arguments from the marijuana lobby to the contrary, marijuana is addictive. The marijuana addict is exceptionally slow to recognize the addiction. This addiction has been well described in the scientific literature and it consists of both a physical dependence (tolerance and subsequent withdrawal) and a psychological habituation. The addictive properties are a major issue for the long term use that is claimed to be needed for certain medical conditions. [54]

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[50] https://salud-america.org/is-secondhand-smoke-and-thirdhand-smoke-linked-to-coronavirus-transmission/
Source https://www.righttobreathecannabisfreeoregon.org/

[51] https://www.cedars-sinai.org/health-library/diseases-and-conditions/c/cannabinoid-hyperemesis-syndrome.html

[52] Cannabinoid hyperemesis syndrome: a cause of refractory nausea and vomiting in pregnancy. Alaniz VI, Liss J, Metz TD, Stickrath E.,Obstet Gynecol. 2015;125(6):1484-1486. https://pubmed.ncbi.nlm.nih.gov/25774930/

[53] https://sbg.colorado.gov/sites/sbg/files/211101%20MED%20Educational%20Resource.pdf
https://www.vice.com/en/article/kz44qx/if-weed-makes-you-extremely-nauseated-youre-not-alone
http://www.emdocs.net/more-than-a-hot-shower-treatment-for-cannabinoid-hyperemesis-syndrome-chs/

[54] New Study Reveals Marijuana is Addictive and Users Who Quit Experience Withdrawal- All Headline News, 6 February 2007
As Marijuana Use Rises, More People Are Seeking Treatment for Addiction -Wall Street Journal, 2 May

The National Institute on Drug Abuse (NIDA)

NIDA states the following regarding marijuana addiction.

Marijuana use can lead to the development of problem use, known as a marijuana use disorder, which takes the form of addiction in severe cases. Recent data suggest that 30 percent of those who use marijuana may have some degree of marijuana use disorder. People who begin using marijuana before the age of 18 are four to seven times more likely to develop a marijuana use disorder than adults.

Marijuana use disorders are often associated with dependence - in which a person feels withdrawal symptoms when not taking the drug. People who use marijuana frequently often report irritability, mood and sleep difficulties, decreased appetite, cravings, restlessness, and/or various forms of physical discomfort that peak within the first week after quitting and last up to 2 weeks. Marijuana dependence occurs when the brain adapts to large amounts of the drug by reducing production of and sensitivity to its own endocannabinoid neurotransmitters.

Marijuana use disorder becomes addiction when the person cannot stop using the drug even though it interferes with many aspects of his or her life. Estimates of the number of people addicted to marijuana are controversial, in part because epidemiological studies of substance use often use dependence as a proxy for addiction even though it is possible to be dependent without being addicted. Those studies suggest that 9 percent of people who use marijuana will become dependent on it, rising to about 17 percent in those who start using in their teens. [55]

Diagnostic and Statistical Manual of Mental Disorders (DSM-5)

Drug addiction is now termed as a substance use disorder (SUD). The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5, 2013)® defines these terms. The DSM-5® is used by mental health professionals and addiction treatment providers and forensic/legal specialists to diagnose and classify mental disorders. It facilitates objective symptom assessments in clinical settings including mental

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2006

Bailey, Flewelling & Rachal, Predicting continued use of marijuana among adolescents: the relative influence of drug-specific and social context factors, Journal of Health and Social Behavior 1992:33:51-66

Cannabis Withdrawal Among Non-Treatment-Seeking Adult Cannabis Users -The American Journal on Addiction, 2006; 15:8-14

Compton, Dewey & Martin, Cannabis dependence and tolerance production, Advances in Alcohol and Substance Abuse 1990:9:129-147

[55] https://www.drugabuse.gov/publications/research-reports/marijuana/marijuana-addictive

health and addiction treatment. [56] The DSM diagnostic criteria for Cannabis Use Disorder are:

A. A problematic pattern of cannabis use leading to clinically significant impairment or distress, as manifested by at least two of the following, occurring within a 12-month period:
1. Cannabis is often taken in larger amounts or over a longer period than was intended.
2. There is a persistent desire or unsuccessful efforts to cut down or control cannabis use.
3. A great deal of time is spent in activities necessary to obtain cannabis, use cannabis, or recover from its effects.
4. Craving or a strong desire or urge to use cannabis
5. Recurrent cannabis use resulting in a failure to fulfill major role obligations at work, school, or home.
6. Continued cannabis use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of cannabis.
7. Important social, occupational, or recreational activities are given up or reduced because of cannabis use.
8. Recurrent cannabis use in situations in which it is physically hazardous.
9. Cannabis use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by cannabis.
10. Tolerance, as defined by either of the following:
a. A need for markedly increased amounts of cannabis to achieve intoxication or desired effect.
b. Markedly diminished effect with continued use of the same amount of cannabis.
11. Withdrawal, as manifested by either of the following:
a. The characteristic withdrawal syndrome for cannabis (refer to Criteria A and B of the criteria set for cannabis withdrawal, pp. 517-518).
b. Cannabis (or closely related substance) is taken to relive or avoid withdrawal symptoms.
The severity can be rated as mild (2-3 symptoms), moderate (4-5 symptoms) and severe (6 or more symptom).

There is no scientific or medical reason to assert that marijuana is not addictive.

Marijuana Smoke May Trigger Relapse in Those Suffering from Cannabis Use Disorder.

Sometimes people quit their drug use for a while because they're away from triggers that

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[56] https://dsm.psychiatryonline.org, The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5, 2013), American Psychiatric Association. Page 509
The International Classification of Diseases, 10th Revision also has marijuana/cannabis diagnostic definitions. http://www.who.int/classifications/icd/en/

remind them about their drug use. This return to drug use is called a relapse. People recovering from addiction often have one or more relapses along the way if they don't take steps to avoid their triggers.[57]

A trigger is anything that makes a person feel the urge to go back to using drugs. It can be a place, person, thing, odor, feeling, picture, or memory that reminds them of taking a drug and getting high. People fighting addiction need to stay away from the people and triggers that can make them start using drugs again, just like people with breathing problems need to avoid smoke and dust. [58]

The trigger is considered a key element in the craving response showed by addicts. This external stimulus would lead the individual to repeat drug use or relapse after a period of abstinence. Addiction models constructed upon this observation consider the trigger as a stimulus able to activate drug related memories leading to reward anticipation and craving responses. Two of the Plaintiffs have suffered from prior marijuana use. [59]

Smell is the sense that is closest aligned with memory. [60] Triggers can include smells that remind someone of using drugs. These cause the brain to release the chemical dopamine - which signals pleasure - and creates intense drug cravings. Triggers differ for each person and are often subconscious - meaning that the person isn't aware of what is happening. [61]

Smells are handled by the olfactory bulb, the structure in the front of the brain that sends information to the other areas of the body's central command for further processing. Odors take a direct route to the limbic system, including the amygdala and the hippocampus, the regions related to emotion and memory. [62]

Thirdhand THC: Detection on Indoor Surfaces

In a room where cannabis was vaped, THC was detected on hard surfaces. This is a first step in understanding how vape deposits in an environment can lead to second and third-hand (tertiary) exposure for other users as well as bystanders. In this study, vapor was continually being removed from the study room using "an excellent ventilation system that is intended to reduce secondhand exposure to cannabis" and which is "not common" in "real-life environments." Due to the use of the ventilation system, results of the study may underestimate the amount of THC remaining on surfaces. [63]

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[57] https://nida.nih.gov/research-topics/criminal-justice/science-drug-use-resource-justice-sector

[58] https://www.recoveryunplugged.com/passing-the-smell-test-what-do-drugs-smell-like/

[59] https://www.ocfl.net/Portals/0/Library/HeroesAgainsHeroin/docs/Recovery%20from%20Drug%20Addiction%20Student%20Article-CERT.pdf

[60] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7186308/

[61] https://attcnetwork.org/asme/smells-may-trigger-alcohol-craving-and-relapse-among-alcoholics https://www.discovery.com/science/Why-Smells-Trigger-Such-Vivid-Memories

[62] https://news.harvard.edu/gazette/story/2020/02/how-scent-emotion-and-memory-are-intertwined-and-exploited/

[63] Surface Detection of THC Attributable to Vaporizer Use in the Indoor Environment Cristina Sempio, et. al. Scientific Reports volume 9, Article number: 18587 (2019)

Vaping Residue Can Transfer Between Rooms

Thirdhand smoke/vape exposure from marijuana smoking can happen easily within buildings. [64]

Indoor pot grows can result in respiratory diseases, carbon monoxide production, and more. A study discusses the health dangers of indoor pot grows and how residents, neighbors, etc. can be exposed. The study shows that highly-elevated airborne levels of mold spores within these structures subjected occupants, emergency personnel and other individuals to significant potential health hazards. Potential health effects include hypersensitivity pneumonitis, allergic rhinitis, asthma and other respiratory diseases. Another concern was elevated carbon dioxide levels which, if generated using fossil fuel combustion, can result in the production of carbon monoxide resulting in significant health effects, or death, to exposed individuals. Others may be impacted as well, particularly in multi-family buildings, which may allow chemicals used and mold spores to be introduced into ventilation systems, exposing other residents. Since these operations may go undetected, an unsuspecting family buying the residence at a later date may be put at risk of adverse health effects due to residual mold contamination. [65]

Conclusion

There is evidence that individuals are taking the drug (marijuana) or drugs containing such a substance in amounts sufficient to create a hazard to their health or to the safety of other individuals or of the community.

Here Are Some Websites to Learn More about Marijuana. They All Have Research and Good Quality Information.

Americans Against Legalizing Marijuana
www.aalm.info

Driving Under the Influence of Drugs (DUID) Victims Voices
http://www.duidvictimvoices.org

Drug Free America Foundation
https://www.dfaf.org

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https://www.nature.com/articles/s41598-019-55151-5
Source https://www.righttobreathecannabisfreeoregon.org/

[64] https://www.reuters.com/article/us-health-vaping-residue/vaping-residue-can-transfer-between-rooms-idUSKCN1LQ1XH
Source https://www.righttobreathecannabisfreeoregon.org/

[65] https://drthurstone.com/health-hazards-of-indoor-pot-grows/
DrThurstone.com Article
Source https://www.righttobreathecannabisfreeoregon.org/

Every Brain Matters
https://everybrainmatters.org

International Academy on the Science and Impact of Cannabis
https://iasic1.org

Johnny's Ambassadors
https://johnnysambassadors.org/research/

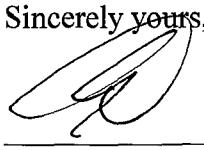
Marijuana Victims Alliance
https://www.mvaa.info

Moms Strong
https://momsstrong.org

Parents Opposed to Pot
https://poppot.org

Smart Approaches to Marijuana.
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Sincerely yours,



David G. Evans

About the Author

David G. Evans, Esq. has over 50 years' experience in the addictions field. Since 1974 his law practice has concentrated on addictions law, criminal defense, personal injury and employment law. He represents several addiction treatment programs and does governmental affairs work on drug and alcohol issues. His practice website is: www.addictionslaw.com

He is the author of the books Employee Medical Leave, Benefits and Disabilities Law and Drug Testing Law, Technology and Practice currently published by Thomson Reuters. Mr. Evans is the author of the below articles published by Thomson Reuters and available on Westlaw:

Marijuana and Product Liability, Cannabis Law 300:100

"Medical" Marijuana and Medical Malpractice Liability, Cannabis Law 500:100

Client and Case Vetting of Medical Malpractice Cases Involving Marijuana, Cannabis Law 500:400

He is a former research scientist with the Division of Alcoholism and Drug Abuse, in the New Jersey Department of Health. He was responsible for the analysis of legal and regulatory requirements regarding: drug and alcohol abuse, research and data collection, courts, criminal

justice, domestic violence, drug-free workplaces, juveniles, confidentiality, treatment, drug testing, AIDS, drug use forecasting, and discrimination. Prior to that he was the Manager of the New Jersey Intoxicated Driving Program, in the New Jersey Department of Health where he managed the state evaluation, referral and treatment program for convicted intoxicated drivers.

He is a recipient of the McGovern Award. The award recognizes innovations in drug abuse prevention that will reduce illegal drug use throughout the nation. Recipients of the award are selected on the basis of their impact on drug abuse policy by developing ideas that are intellectually sound and that have the promise of substantially reducing substance abuse at the federal, state and local levels in both the public and private sectors.

He was also on the faculties of the John Jay College of Criminal Justice and Rutgers School of Drug and Alcohol Studies where he taught courses on substance abuse and crime.

Mr. Evans is Senior Counsel for the Cannabis Industry Victims Educating Litigators (CIVEL) who educate lawyers on how to make the marijuana industry accountable to their many victims. Attorneys who desire more information can contact Mr. Evans at seniorcounsel@civel.org. The CIVEL website is: www.civel.org. It has additional informative materials for victims and attorneys.