

## CHEMICAL HEALTH TREND CORNER:



The recent vaping deaths are bad. The long term toll will be even worse. The Centers for Disease Control and Prevention has linked vaping to 2,409 cases of a mysterious lung disease over the last seven months.

At least 52 (Dec 20th weekly update) people have died since the outbreak began.

### **Outbreak of Lung Injury Associated with the Use of E- Cigarette, or Vaping, Products**

CDC Weekly update, Nov. 7, 2019



CDC, the U.S. Food and Drug Administration (FDA), state and local health departments, and other clinical and public health partners are investigating a multistate outbreak of lung injury associated with use of e-cigarette, or vaping, products.

#### What We Know

##### **About the Outbreak:**

- As of November 5, 2019, 2,051\* cases of e-cigarette, or vaping, product use associated lung injury (EVALI) have been reported to CDC from 49 states (all except Alaska), the District of Columbia, and 1 U.S. territory.
  - Thirty-nine deaths have been confirmed in 24 states and the District of Columbia (as of November 5, 2019).
  - [Latest outbreak information](#) is updated every Thursday
  - CDC continues to work closely with FDA, states, public health partners, and clinicians on this investigation.

##### **About Patient Exposure:**

- All EVALI patients have reported a history of using e-cigarette, or vaping, products.

- THC is present in most of the samples tested by FDA to date, and most patients report a history of using THC-containing products.
- The latest national and state findings suggest products containing THC, particularly those obtained off the street or from other informal sources (e.g. friends, family members, illicit dealers), are linked to most of the cases and play a major role in the outbreak.
- Buy any type of e-cigarette, or vaping, products, particularly those containing THC, off the street.
- Modify or add any substances to e-cigarette, or vaping, products that are not intended by the manufacturer, including products purchased through retail establishments.

Since the specific compound or ingredient causing lung injury are not yet known, the only way to assure that you are not at risk while the investigation continues is to consider refraining from the use of all e-cigarette, or vaping, products.

### What We Don't Know

- At this time, FDA and CDC have not identified the cause or causes of the lung injuries in these cases, and the only commonality among all cases is that patients report the use of e-cigarette, or vaping, products.
- No one compound or ingredient has emerged as the cause of these illnesses to date; and it may be that there is more than one cause of this outbreak. Many different substances and product sources are still under investigation.

If you are an adult using e-cigarettes, or vaping, products, to quit smoking, do not return to smoking cigarettes. Adults addicted to nicotine using e-cigarettes should weigh all risks and benefits and consider utilizing [FDA-approved nicotine replacement therapies](#)

To read the full results, click [here](#).

### Monitoring the Future Survey: High School and Youth Trends

To get a better view of the charts in this article, click [here](#).

### What CDC Recommends

CDC recommends that you do not use e-cigarette, or vaping, products that contain THC.

CDC also recommends that people should not:

### Revised December 2019

More than 42,500 students from nearly 400 public and private schools across the country participated in this year's Monitoring the Future (MTF) Survey of drug use and attitudes among American 8th, 10th, and 12th graders. Encouraging trends



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continue to be seen for cigarette use, with past month use down by approximately 20-30 percent compared to the mid-1990's. Declines were seen in five-year trends of lifetime, past year, past month and binge alcohol use and in overall rates of lifetime, past year and past month illicit drug use, excluding marijuana, among 10th and 12th graders. Notably, misuse of prescription opioids among high school seniors is at its lowest rate since the survey began assessing it. Despite these promising trends, the 2019 MTF results show a continued dramatic increase in vaping.

especially sweet flavors like fruit and mint, are appealing to youth. Overall, reported rates of past month vaping appear to exceed any other kind of substance use, including alcohol and marijuana, for all three grades; and in each grade past year vaping is second only to alcohol.

### Reasons for Vaping, 12<sup>th</sup> Graders



2019 Monitoring the Future Survey  
Key Findings: Percent Reporting Use of Selected Substances

	8 <sup>th</sup> Grade	10 <sup>th</sup> Grade	12 <sup>th</sup> Grade		8 <sup>th</sup> Grade	10 <sup>th</sup> Grade	12 <sup>th</sup> Grade
<b>Vaping, Any</b>				<b>Tobacco w/ Hookah</b>			
Past Year	20.1	35.7	40.6	Past Year			5.6
Past Month	12.2	25.0	30.9	Past Month	1.8	2.4	4.0
<b>Vaping, Nicotine</b>				<b>Flavored Little Cigars</b>			
Past Year	16.5	30.7	35.1	Past Year	2.2	3.7	7.7
Past Month	8.6	18.9	25.5	<b>Narcotics Other than Heroin</b>			
<b>Vaping, Marijuana</b>				Past Year			2.1
Past Year	7.0	19.4	20.8	Past Month			3.0
Past Month	3.9	12.6	14.0	<b>Marijuana</b>			
<b>Vaping, Just Flavoring</b>				Past Year	11.8	28.8	35.7
Past Year	14.7	29.8	20.3	Past Month	6.6	18.4	22.3
Past Month	7.7	10.5	10.7	Daily	1.3	4.8	6.4
<b>Cigarettes</b>				<b>Alcohol</b>			
Past Month	2.3	3.4	5.7	Past Year	7.9	18.4	19.3
Daily	0.8	1.3	3.4	Daily	0.2	0.6	0.7
% Pack w/Day	0.2	0.5	0.9	Binge	3.8	8.5	14.4

Change from 2018 to 2019  
■ Significant Increase    ■ Significant Decrease

### Vaping

In 2014, the MTF survey introduced questions about electronic vaporizer devices. In 2015, participants were asked what they thought they were vaping, and in 2017 questions specifically about vaping nicotine, marijuana, and “just flavoring” were added.

Some of the most common reasons that high school seniors reported they vape are to, “experiment”, “because it tastes good”, “to have a good time with my friends”, and “to relax or relieve tension.” Over the past year, the two-fold rise in the percent of 12th graders that say they vape because they are “hooked” is of particular concern. This report supports other published findings that flavor additives,

Results from this year's survey reveal significant increases in vaping by all grades. Past month use of any vaping increased from 21.7 to 25.0 percent among 10th graders and from 26.7 to 30.9 percent among high school seniors—that means one in four 10th graders and one in three 12th graders qualify as current users of vaping products—and most report using the JUUL specific brand. Moreover, 82.0





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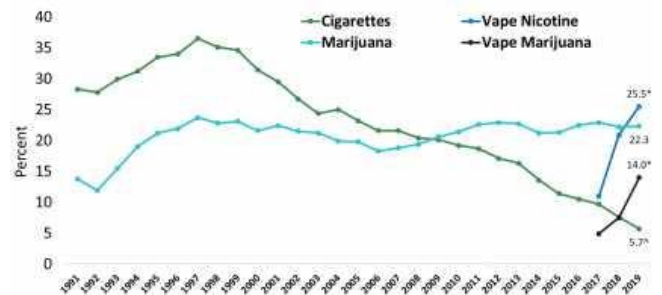
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percent of high school seniors report that vaping devices are easy to get.

When asked to report on what they are vaping, most teens say nicotine. Past month nicotine vaping has increased annually and more than doubled from 2017 to 2019 in all grades. This year, 9.6, 19.9 and 25.5 percent of respective 8th, 10th, and 12th graders reported vaping nicotine in the past month. Interestingly, the percent of teens that think it is risky to vape nicotine has increased over the same 2-year period but remains low. In 2019, 21.4 percent of high school seniors reported that there is great risk of harm from occasionally vaping nicotine and 38.0 percent reported great risk of harm from vaping nicotine regularly. Similar differences were also seen among 10th graders (20.5 percent reported thinking it is harmful to vape nicotine occasionally versus 39.9 percent who reported perceiving harm in regularly vaping nicotine) and 8th graders (21.5 percent versus 41.9 percent). As with vaping devices, a majority of 12th graders, 80.4 percent, reported it is easy to get e-liquid with nicotine for vaping.

**The percent of teens that reported past month marijuana vaping also rose**, from 2.6 to 3.9 percent of 8th graders; 7.0 to 12.6 percent of 10th graders; and from 7.5 to 14.0 percent of 12th graders. This increase in past month marijuana vaping in high school seniors is the second largest single-year increase ever measured in the 45-year history of the MTF survey, and was only surpassed by the increase in nicotine vaping between 2017 and 2018.

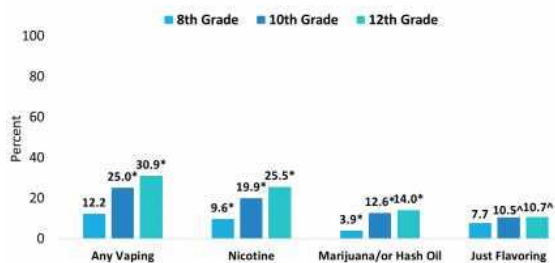
Percent of Students Reporting Marijuana, Cigarette, Vape Use in Past Month, 12<sup>th</sup> Grade



\*Significant increase or ^significant decline compared to the 2018 MTF Survey.

**Unlike other vaping measures, a decline was seen across all prevalence periods in teen vaping of “just flavoring”** among 10th and 12th graders, with 10.5 and 10.7 percent reporting past month use, respectively. It is important to note that students do not always know what is in the e-liquid they are vaping and labeling is inconsistent. The most popular brands on the market do not offer options that are nicotine-free, and research shows that teens are attracted to nicotine vaping by the flavored products they offer.

Percent of Students Reporting Vaping in Past Month, by Type and Grade



\*Significant increase or ^significant decline compared to the 2018 MTF Survey.



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### Other Nicotine and Tobacco Use

**Cigarette smoking continued a downward trend and significantly fell among 12th graders reporting past month use, daily use or consumption of one-half pack or more per day.** Past month cigarette smoking was reported by 2.3 percent of 8th, 3.4 percent of 10th, and 5.7 percent of 12th graders. Only 2.4% of 12th graders said they smoked cigarettes daily, a significant decline from 2018. However, this encouraging news is tempered by the 11.7% of high school seniors that said they vaped nicotine daily in 2019, the first year daily vaping use has been measured.

**Significant five-year declines in cigarette smoking were reported by all grades and across all prevalence periods, including lifetime use.** A 26 percent decrease was seen among 8th graders reporting lifetime use—from 13.5 percent in 2014 to 10 percent in 2019. Among 10th graders, there was a 37 percent drop in the same five-year period, from 22.6 to 14.2 percent. And among high school seniors, lifetime use fell 35 percent from 34.4 percent in 2014 to 22.3 percent in 2019.

**Reported use of flavored little cigars or cigarillos declined over the past five years** in all grades with 2.2, 3.7, and 7.7 percent of 8th, 10th, and 12th graders reporting past month use, respectively; and this year, more teens in 8th and 10th grade think there is a great risk of harming oneself from regularly smoking little cigars or cigarillos, including those with flavor.

**Past month use of tobacco using a hookah** was reported by 1.3, 2.4, and 4.0 percent of respective 8th, 10th and 12th graders—a decline, compared to peaks in 2016, for all grades. **Large cigars also saw a five-year decrease in 10th graders** with 2.1 percent reporting past month use.

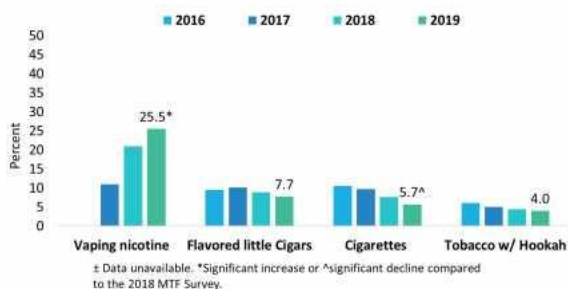
To see statistics on the use of marijuana, alcohol, opioids, and other illicit drug use, click [here](#).

### Prepare to Take Action if You Suspect Teen or Young Adult Drug Use

Partnership for Drug-Free Kids

**“What do I do if my kid is using drugs?”** If you've just discovered or have reason to believe your child is using drugs, the first thing to do is sit down and take a deep breath. We know it's a scary time, but you're in the right place. Before you intervene, take time to prepare yourself for the important conversation ahead, and to lay the foundation for more positive outcomes.

Percent of 12th Graders Reporting Past Month Use of Selected Tobacco Products



**Talk With Your Spouse or Partner**-We're all familiar with the trick of turning to one parent when the other says no. It's best if you and your spouse come to a common stance on drug and alcohol use before raising the subject with your child.

**Gather Any Evidence**-It's understandable to have some reservations about snooping in your child's room or through their belongings, but remember, your primary responsibility is to their well-being. As you gather evidence, try to anticipate different ways they might deny using, like the excuse "I'm holding it for someone else." Even if you don't have an airtight case, you'll be better prepared for the important conversation to come. Expect anger, and resolve to remain calm-If you think the conversation will be uncomfortable for you, imagine how uncomfortable it will make your son or daughter. Be prepared for them to say things to shock you, deny even the most convincing evidence, accuse you of distrust, and worse. Think about how you'll handle an angry or resentful reaction from your child.

**Set a Realistic Goal**-Things will go more smoothly if you have a desired outcome in mind. It's OK – and probably for the best – to keep expectations low. It may be unrealistic to expect your child to admit to use and pledge to stop. A more reasonable objective, like simply expressing that you don't

**Spell Out Rules and Consequences**-Before the conversation starts, think through which rules you would like to put in place, and

what the consequences of breaking them will be. This can help clarify the goal of your conversation, and help you set a clear next step.

**Recognize Any Addiction in the Family**-Don't deny addiction in your family. Use it as a way to talk to your child and regularly remind him or her of their elevated risk. Drug and alcohol dependence can happen to anyone. But if there is a history of addiction – cocaine, alcohol, nicotine, etc. – in your family, your child has a much greater risk of developing an addiction.Explain that while they may be tempted to try drugs, the odds aren't in their favor. Their genes make them more vulnerable to developing a dependence or addiction.

To read the full article, click [here](#).

### How to Avoid Passing Anxiety on to Your Kids

Help yourself, and them, by learning techniques to manage stress in a healthy way.





Witnessing a parent in a state of anxiety can be more than just momentarily unsettling for children. Kids look to their parents for information about how to interpret ambiguous situations; if a parent seems consistently anxious and fearful, the child will determine that a variety of scenarios are unsafe. And there is evidence that children of anxious parents are more likely to exhibit anxiety themselves, a probable combination of genetic risk factors and learned behaviors.

It can be painful to think that, despite your best intentions, you may find yourself transmitting your own stress to your child. But if you are dealing with anxiety and start to notice your child exhibiting anxious behaviors, the first important thing is not to get bogged down by guilt.

For tips on how to handle your anxiety, click [here](#).

## Does Social Media Cause Depression?

How heavy Instagram and Facebook use may be affecting kids negatively

Author: [Caroline Miller](#)



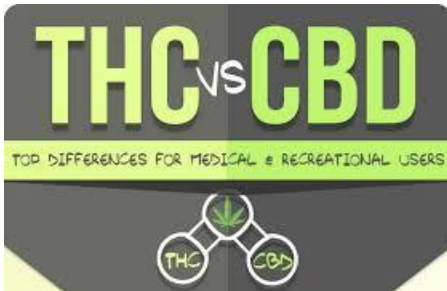
unhappy? Evidence is mounting that there is a link between social media and [depression](#). In several recent studies, [teenage](#) and [young adult](#) users who spend the most time on Instagram, Facebook and other platforms were shown to have a substantially (from 13 to 66 percent) higher rate of reported depression than those who spent the least time.

Smartphones were introduced in 2007, and by 2015 fully 92 percent of [teens and young adults owned a smartphone](#). The rise in depressive symptoms correlates with smartphone adoption during that period, even when matched year by year, observes the study's lead author, San Diego State University psychologist Jean Twenge.

Over that same time period there was a sharp spike in reports of students seeking help at college and university counseling centers, principally for depression and anxiety. [Visits jumped 30 percent between 2010 and 2015](#). Some experts see the rise in depression as evidence that the connections social media users form electronically are less emotionally satisfying, leaving them feeling socially isolated.

To read the full article, click [here](#).

## CBD vs. THC: What's the Difference?



### Overview

As the legal use of marijuana and other cannabis products grows, consumers are becoming more curious about their options. This includes cannabidiol (CBD) and tetrahydrocannabinol (THC), two natural compounds found in plants of the [Cannabis](#) genus.

CBD can be extracted from hemp or from marijuana. Hemp plants are cannabis plants that contain less than 0.3 percent THC, while marijuana plants are cannabis plants that contain higher concentrations of THC. CBD is sold [in the form of](#) gels, gummies, oils, supplements, extracts, and more.

THC is the main psychoactive compound in marijuana that gives the *high* sensation. It can be consumed by smoking marijuana. It's also available in oils, edibles, tinctures, capsules, and more. Both compounds interact with your body's [endocannabinoid system](#), but they have very different effects. Read on to learn more about these compounds. While they may have a lot in common, they have some key differences that determine how they're used.

### CBD vs. THC: Chemical structure

Both CBD and THC have the exact same molecular structure: 21 carbon atoms, 30 hydrogen atoms, and 2 oxygen atoms. A slight difference in how the atoms are arranged accounts for the differing effects on your body.

Both CBD and THC are chemically similar to your body's own endocannabinoids. This allows them to interact with your cannabinoid receptors.

The interaction affects the release of [neurotransmitters](#) in your brain. Neurotransmitters are chemicals responsible for relaying messages between cells and have roles in pain, immune function, stress, sleep, to name a few.

### CBD vs. THC: Psychoactive components

Despite their similar chemical structures, CBD and THC don't have the same psychoactive effects. In fact, CBD is a nonpsychoactive compound. That means it doesn't produce the "high" associated with THC.

THC binds with the cannabinoid 1 (CB1) receptors in the brain. It produces a high or sense of euphoria.

CBD binds very weakly, if at all, to CB1 receptors. In fact, it can interfere with the binding of THC and dampen the psychoactive effects.

To read the full article, click [here](#).