

Chemicals of Concern

Stephanie Siete

Public Information Officer

Community Bridges

Common Sense

Wash your hands, save lives



Avoid touching your eyes, nose and mouth to prevent the spread of COVID-19!



Remember to always wash your hands with soap for 40seconds!



Hospitalizations were **6** times higher and deaths **12** times higher for COVID-19 patients with reported underlying conditions*

MOST FREQUENTLY REPORTED UNDERLYING CONDITIONS

CARDIOVASCULAR
DISEASE



DIABETES



CHRONIC LUNG
DISEASE

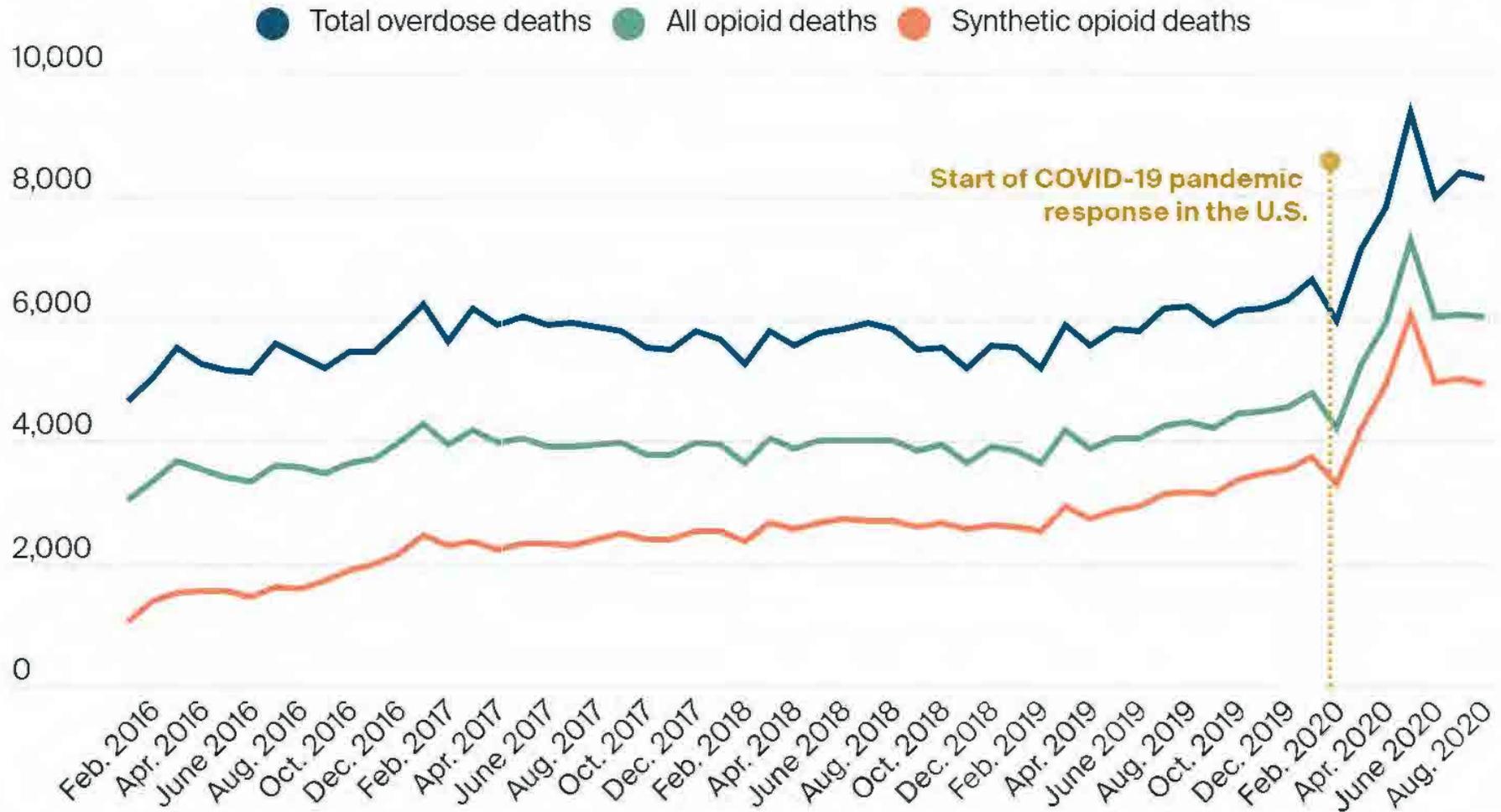


*compared to those with no reported underlying health conditions.



OVERDOSE DEATHS SPIKED AFTER START OF THE PANDEMIC, DRIVEN BY SYNTHETIC OPIOIDS LIKE FENTANYL

Monthly drug overdose deaths



Drug Overdose Deaths on Rise Again

81,000 drug overdose deaths occurred in the United States in the 12 months ending in May 2020 (**highest number of overdose deaths ever recorded in a 12-month period**)

Acceleration during pandemic

Fentanyl

Cocaine

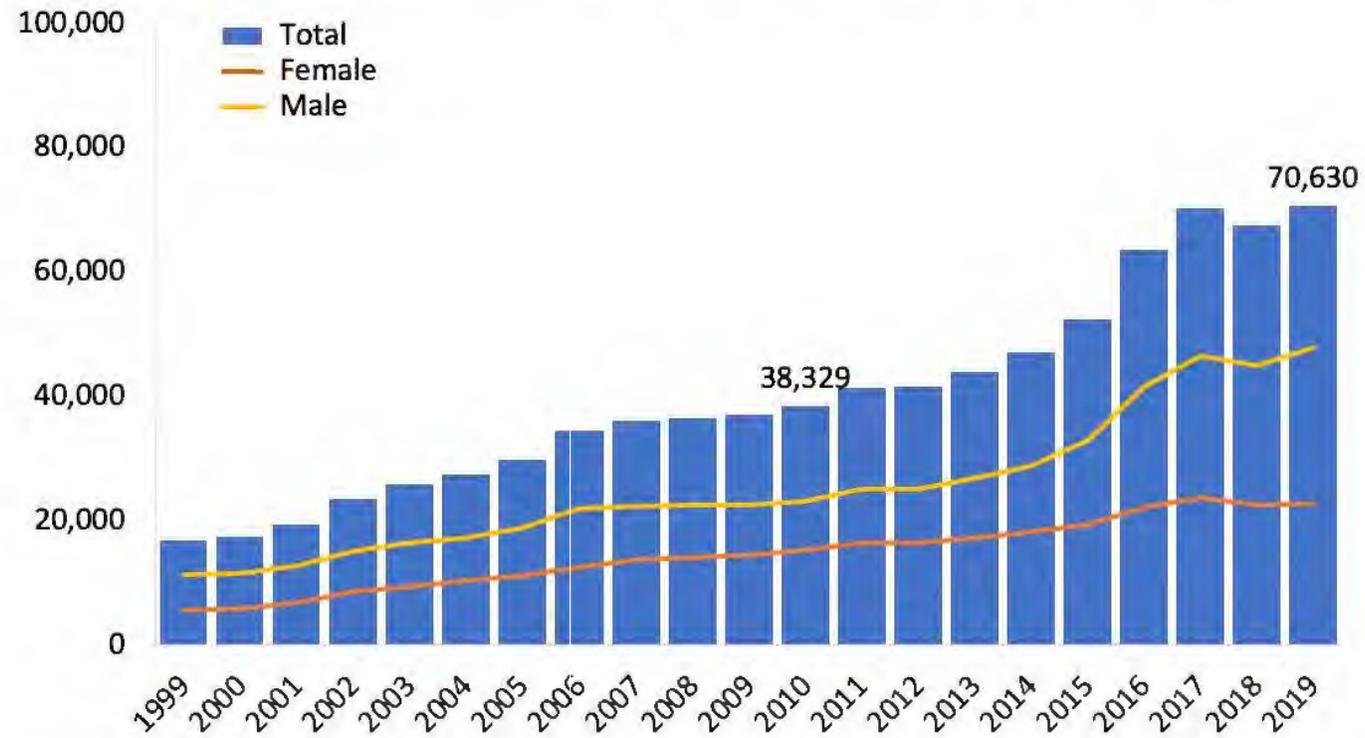
Meth

<https://www.cdc.gov/media/releases/2020/p1218-overdose-deaths-covid-19.html>

3 months
later...
getting
worse

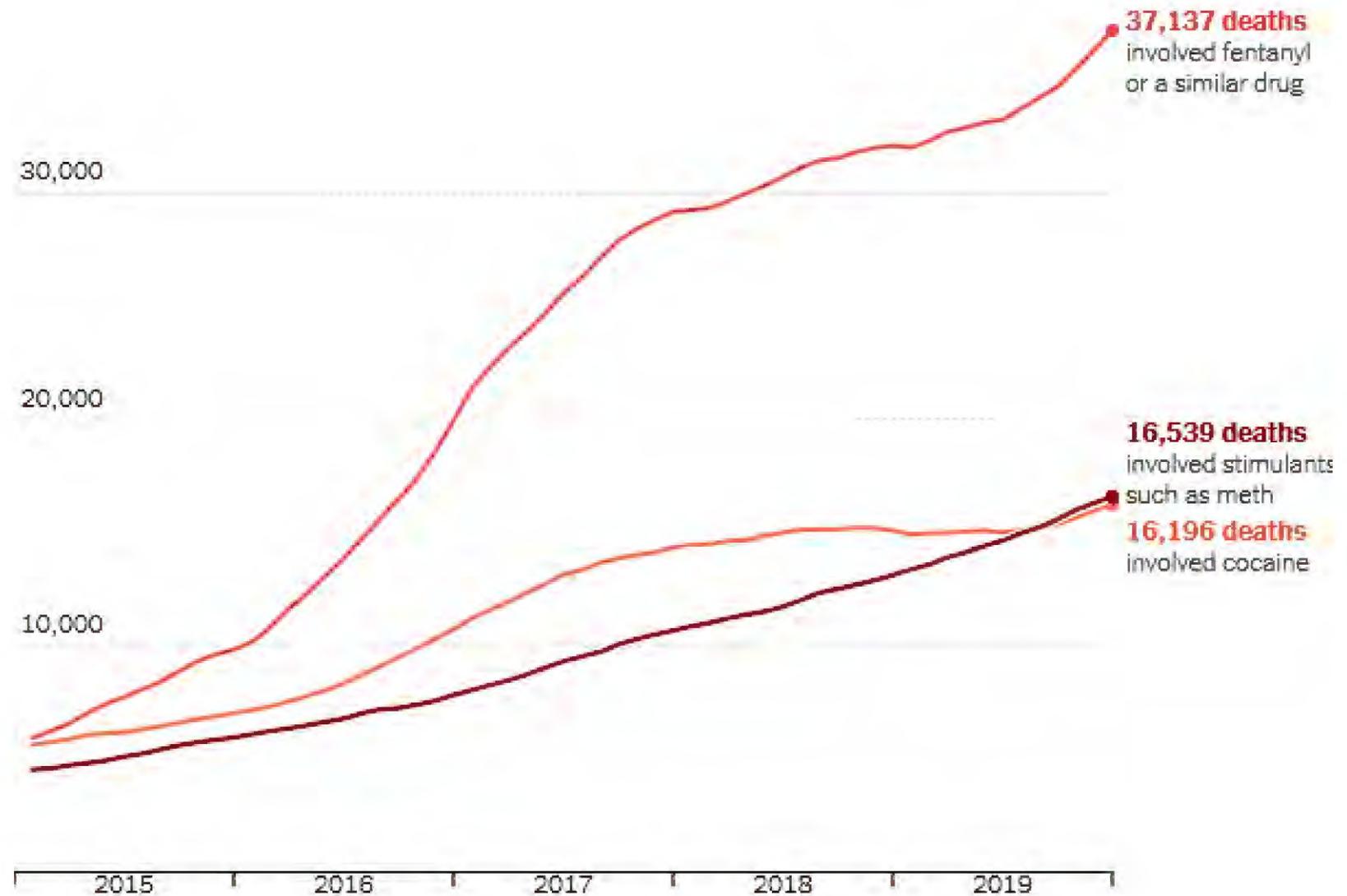
- September 2019 through August 2020
- During this period, there were 88,295 deaths, a record high that is almost 19,000 more deaths (27%) than the prior 12-month period
- Fentanyl and opioids
- 35-44 year olds most vulnerable

**Figure 1. National Drug-Involved Overdose Deaths*
Number Among All Ages, by Gender, 1999-2019**



*Includes deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug poisoning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2019 on CDC WONDER Online Database, released 12/2020.

Meth, Fentanyl and Cocaine on Rise



Why we all should care...

Drugs don't discriminate

It's a **community** concern

Most drug deaths are from the legal ones

Face of addiction has changed

Let's prevent pain

Lives matter... all of them

Let's be in the know...

Doctors are seeing otherwise healthy young people complain of coughing and shortness of breath, with signs of inflammation in both lungs.



— Justin Wilson, 25, vaped for about a year and then suddenly collapsed, unable to breathe, on Sept. 1. He had to spend a week in a hospital in Portland, Oregon. Courtesy Jake Wilson

Teenagers and young adults who vape face a much higher risk of COVID-19 than their peers who do not vape, a new study has found.

Nery Zarate/Unsplash

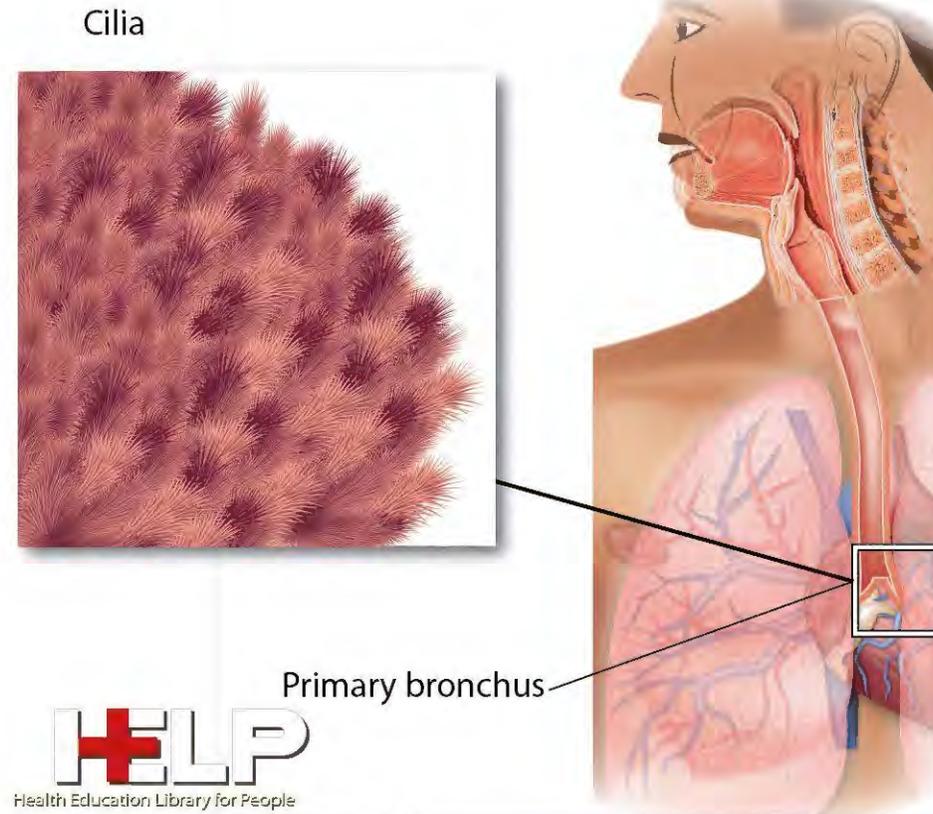


The study, which was published online Aug. 11, 2020 in the *Journal of Adolescent Health*

Cilia line and protect the lungs, blocking debris

Burning the cilia or damaging
them increases likelihood of
getting sick

Cilia line the respiratory tract



HELP

Health Education Library for People

©2013 www.healthlibrary.com

2011-2019 E-cig use in youth

- **Increased 1,650%** among MS students, from 0.6% to 10.5%
- **Increased 1,733%** among HS students, from 1.5% to 27.5%
 - This was a 33% increase from the 2018 rate of 20.7%
- **In 2019, close to 2.9 million children started using e-cigarettes... more than 7,900 per day!**
- This was an increase from more than 2.2 million in 2018 and close to 2.1 million in 2017

2011-2019 E-cig use in youth

- **In 2019, 69% of youth who used an e-cigarette reported using a flavored e-cigarette**
 - HS (72%) and MS (60%) students
- In 2019, most e-cig using youth reported using a type with refillable pods or cartridges, such as JUUL (54%), followed by a refillable tank system (24%) most often
 - This matches most e-cig using youth reporting their usual brand being JUUL (58%), followed by some other brand (19%) or no usual brand (15%) which could align with users of refillable tank systems

Vaping 101

- Hit
- Rip
- Juul
- Puff Bar
- Cloud
- #DI4J
- ENDS
- Dripping
- Mods
- Suorin
- Wax
- Dabs
- Goo
- #710
- Budder
- Concentrates
- Oil
- Shatter
- Juice
- Honey

Electronic Nicotine Delivery Systems (ENDS)

- Vaporizers, vape pens, hookah pens, electronic cigarettes, e-pipes, mods, juuls, etc.



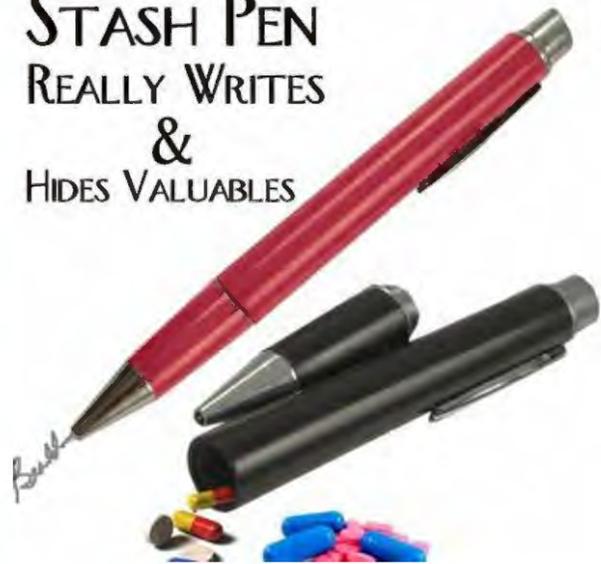


Vape Watch





STASH PEN
REALLY WRITES
&
HIDES VALUABLES



More Concealment



4 main chemicals

1. Water
2. Flavor
3. Nicotine
4. PG – Propylene Glycol

15,500 E-Cigarette Flavors and Counting



7 out of 10 current youth e-cigarette users said they used them “because they come in flavors I like.”



E-cigarettes

- According to the FDA, electronic cigarettes are **battery-operated devices** that turn **nicotine or other chemicals into a vapor** that is inhaled by the user
- Use on the rise among teens
- Easy to conceal other drug use
- Liquid nicotine = potential hazard
- “Vaping” or using “Dabs”
- Vaping Pens...

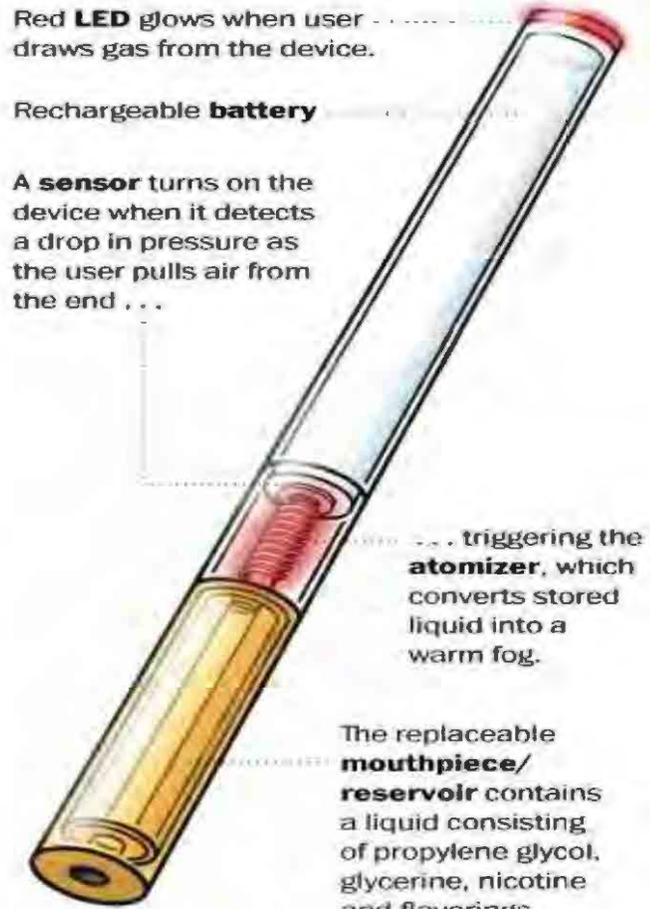
The electronic cigarette

It may look like a cigarette and deliver a dose of nicotine, but that's where the similarity ends.

Red **LED** glows when user draws gas from the device.

Rechargeable **battery**

A **sensor** turns on the device when it detects a drop in pressure as the user pulls air from the end . . .



. . . triggering the **atomizer**, which converts stored liquid into a warm fog.

The replaceable **mouthpiece/reservoir** contains a liquid consisting of propylene glycol, glycerine, nicotine and flavorings.

An FDA study found that e-cigarettes release carcinogens and toxic chemicals. However, they might be safer than regular cigarettes because they don't release tar, carbon monoxide, hydrogen cyanide and other poisons found in cigarette smoke.

Sources: Tobacco Control, FDA

PATTERSON CLARK/THE WASHINGTON POST

Oils and Damage...

- Nicotine or THC, the high-inducing chemical in marijuana, is mixed with solvents that dissolve and deliver the drugs
- **The solvents, or oils, heat up during aerosolization to become vapor**
- Oil droplets may be left over as the liquid cools back down
 - **inhaling those drops may cause breathing problems and lung inflammation**

Teenage athlete facing 'certain death' from vaping-related injury gets double lung transplant

'What I saw in his lungs is like nothing I've seen before,' says transplant doctor of 20 years

Derek Hawkins | 8 hours ago |



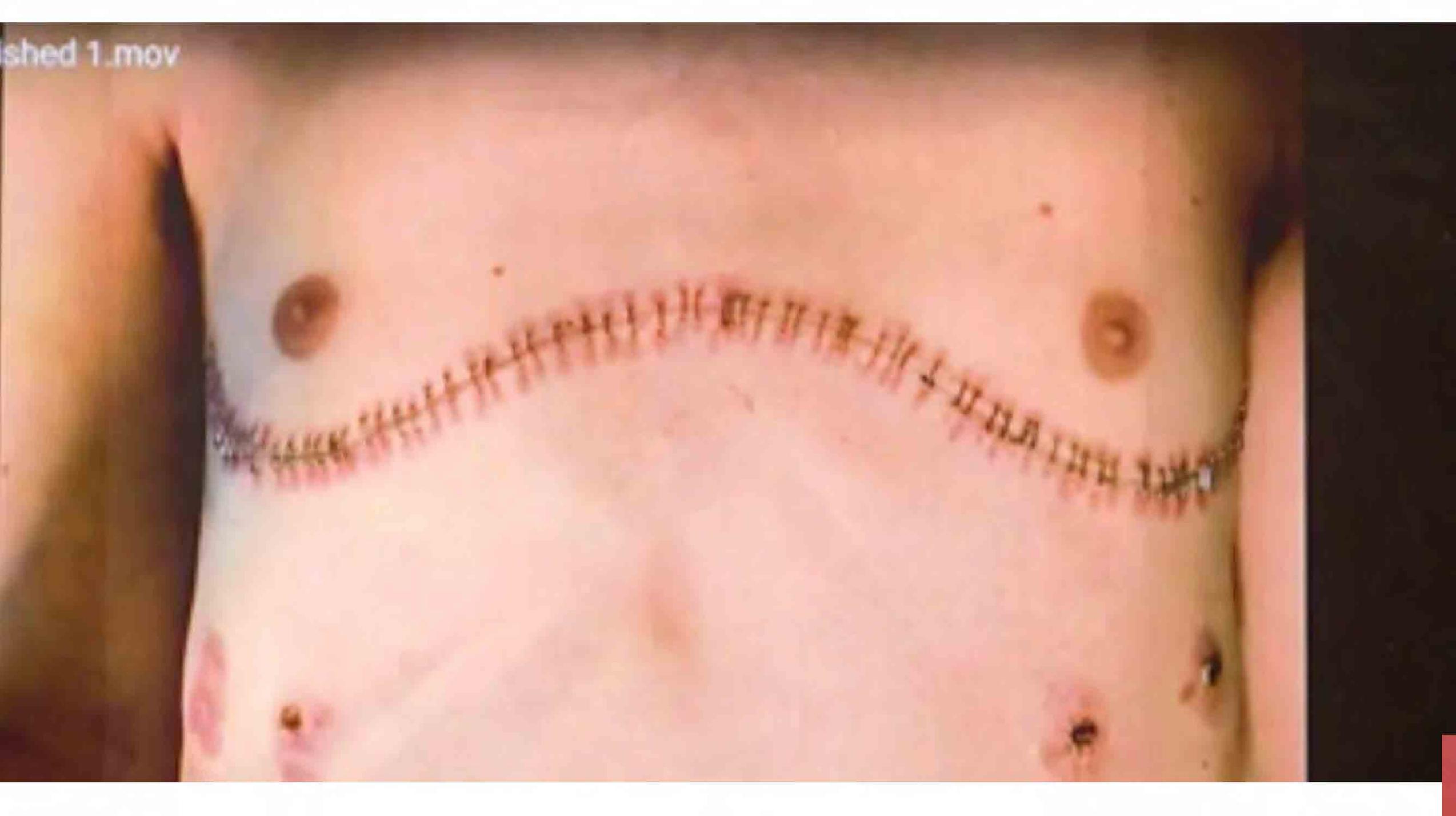
Daniel Ament – Double Lung Transplant Teen



- He went from an athletic, fun-loving happy teen to suddenly having to fight for his life
- **Started vaping winter of 2018, surgery Oct of 2019**
- "I spent 29 days on life support as a 16-year-old and I only had a 10 percent chance of survival," he said.
- Takes 20 pills a day in recovery

<https://time.com/5771181/double-lung-transplant-vaping/>

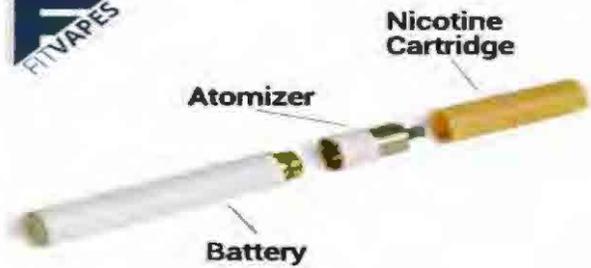
shed 1.mov



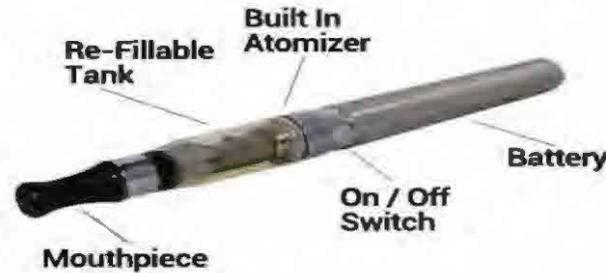
Nicotine and Dripping



E-cigarette Liquid



Cartridge Style E-Cigarette



Re-Fillable Tank Style E-Cigarette



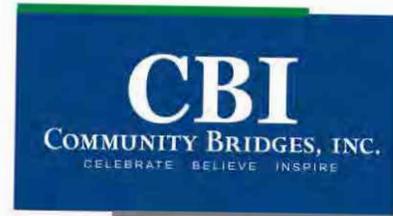
E-Liquids/Juice





**Who else gets poisoned
by nicotine?**

Electronic Cigarettes and Liquid Nicotine Exposures - AAPCC



Year	Number of Cases
2011	271
2012	460
2013	1,543
2014	4,024
2015	3,774
2016	2,886
2017	2,450
2018	3,146
2019	5,183
2020	3,829
2021	2,482

More than half of these reported exposures have occurred in young children under the age of 6

Juul – The iPhone of e-cigs



E-cigarette company Juul to pay \$40 million in North Carolina lawsuit settlement

By Virginia Langmaid, CNN

Updated 1:15 PM ET, Mon June 28, 2021



WARNING:
This product contains nicotine. Nicotine is an addictive chemical.

JUUL LABS

More from CNN



Jason Bateman, Sean Penn and Will Arnett to bring...



Amid all the lies, George Conway says Donald Trump told one...

AD

Rugs.com

Free Shipping + Free Return
Rugs.com



**Much
More
Nicotine**

One pod is equivalent
to a pack of cigarettes

200 puffs per pod

- Pre-charged, Simply puff on the device to activate
- Pre-filled, no need for messy refills
- Accurate cigarette-style throat hit
- 200+ puffs per pod, equivalent to 20 cigarettes
- Compact and Portable
- Available in Cool Mint, O.M.G (Orange, Mango, Grapefruit), Strawberry, Mango, Lychee ICE, Lush ICE, Mango, Blue Raz, Blueberry, Watermelon, Cucumber, Grape, Pomegranate, Tobacco, Peach, Cafe Latte, Peach Ice, Pineapple Lemonade, Pink Lemonade, Banana Ice (Limited Edition) and Blueberry Ice



**WARNING: THIS PRODUCT CONTAINS NICOTINE.
NICOTINE IS AN ADDICTIVE CHEMICAL.**

TEEN FAVORITES: DISPOSABLES

- Stig, Puff, EonSmoke
- Dozens of flavors
- Small, easy to hide, multi-packs
- Very cheap, some as little as \$3 each



A dark, irregular ink blot or splash is centered on a white background. The ink is a deep, dark blue or black color. The text "Graphic Photos..." is written in a white, sans-serif font, centered within the dark area of the ink blot. The ink blot has a rough, textured edge with some smaller splatters around it.

Graphic Photos...

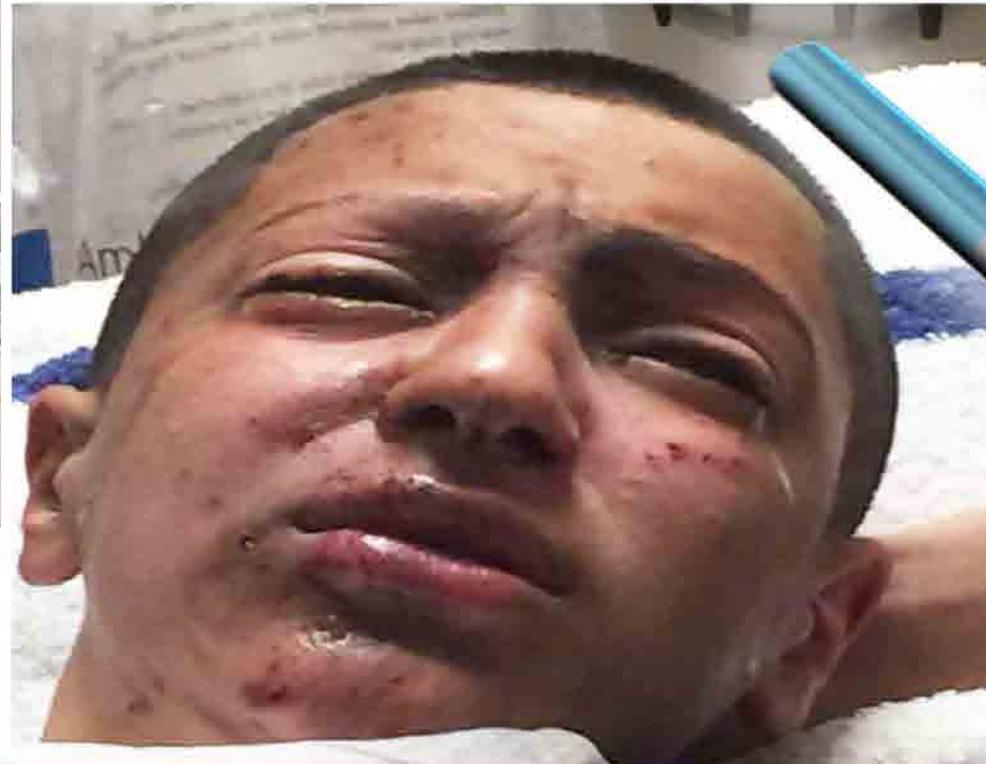
Teens and Vape explosions



INC.



This is it I got stitches and wires on my bottom jaw





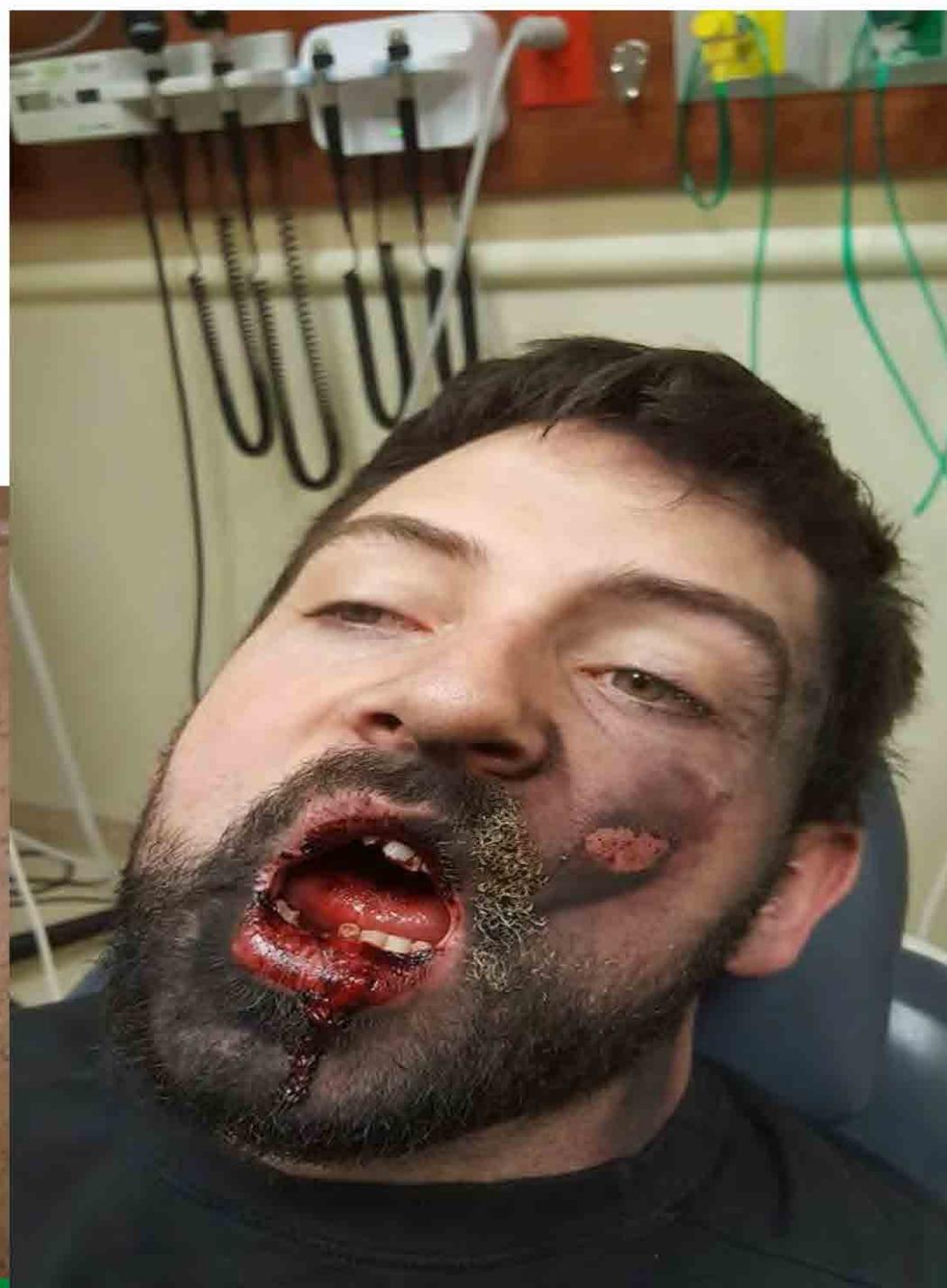
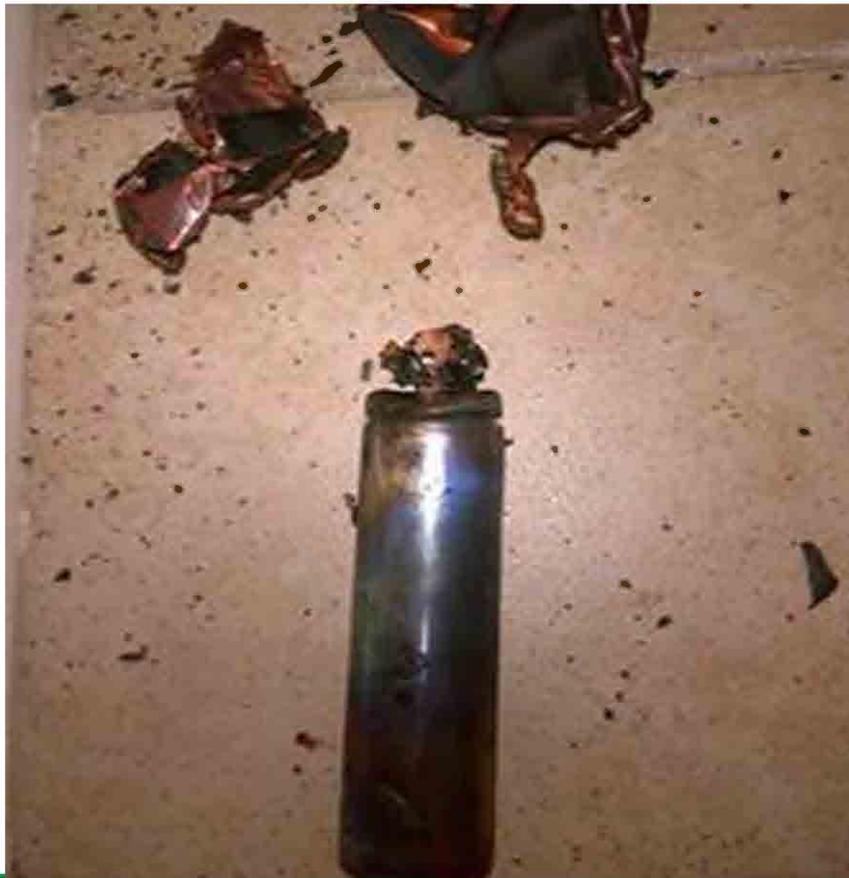
Orange County Man Loses Eye after E-Cig Explodes





Man loses 7 teeth
after vaping
explosion

Man loses part of
tongue after
vaping explosion



Another Vaping Danger: E-Cigarette Explodes in Teen's Face



THURSDAY, June 20, 2019 -- A vape pen exploded in the face of 17-year-old Nevada boy, breaking his jaw and requiring multiple surgeries to repair the damage, according to a case report in the latest *New England Journal of Medicine*.

The 2018 incident highlights a little-known danger of e-cigarettes -- the devices can unexpectedly blow up, causing burns and severe facial damage.

"He was [using] this vape pen, and it blew up in his face while he was [using] it," said one of the doctors who treated him, Dr. Katie Russell, a pediatric surgeon at the University of Utah in Salt Lake City.

The e-cigarette blast was strong enough to break bones and

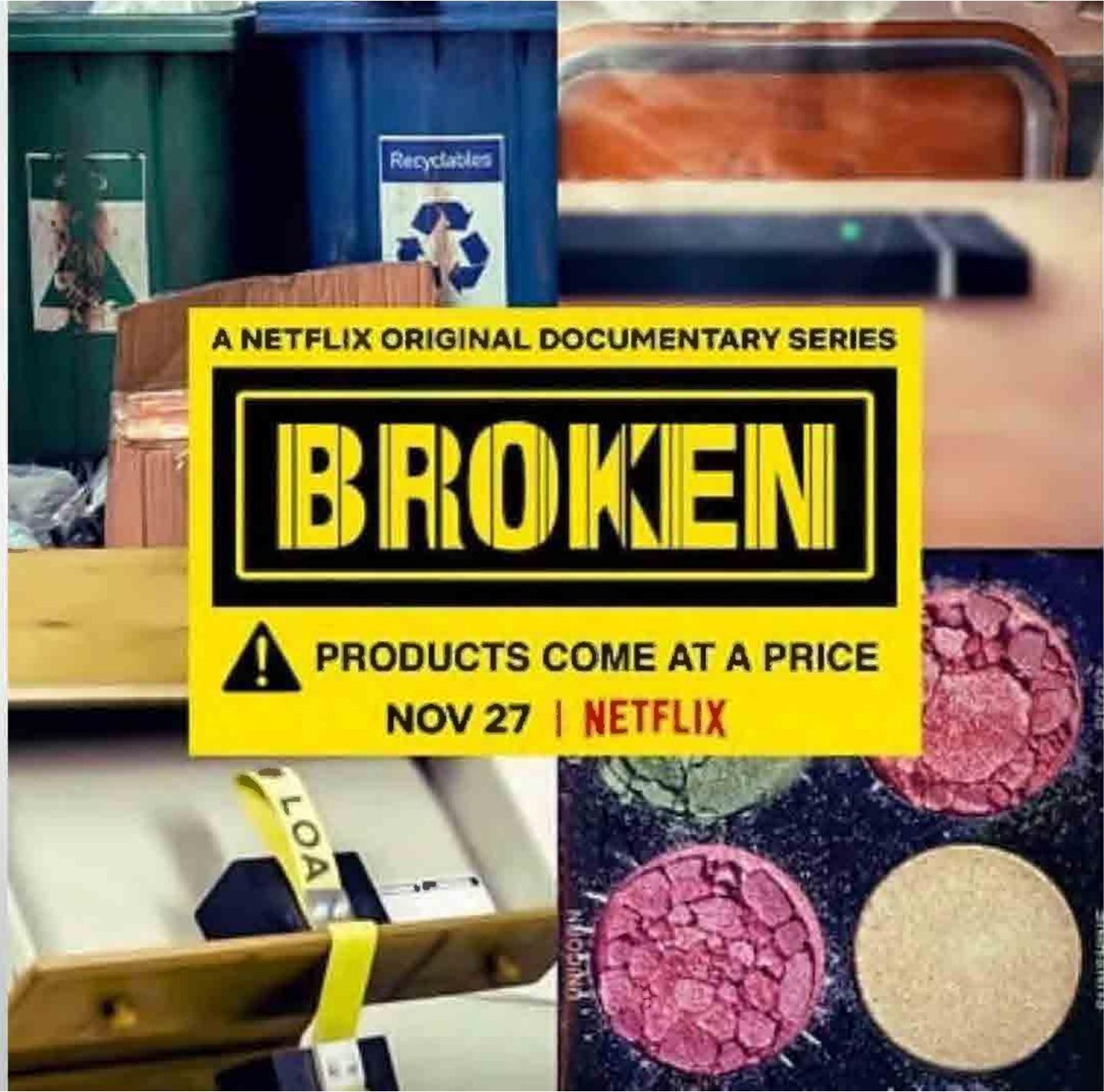
ADVERTISEMENT

Ad closed by Google

Stop seeing this ad

Why this ad? ▶

Big Vape Episode 2





What do we really know about vaping?

- E-cigs safer?
- Medical marijuana?
- Too soon to know
- Inhaling oil and getting oil into your lungs is what is causing some of the lung injuries we see

CANNABIS CONCENTRATES



CRUMBLE

Dried oil with a honeycomb like consistency



BADDER/BUDDER

Concentrates whipped under heat to create a cake-batter like texture



SHATTER

A translucent, brittle, & often golden to amber colored concentrate made with a solvent



DISTILLATE

Refined cannabinoid oil that is typically free of taste, smell & flavor. It is the base of most edibles and vape cartridges



CRYSTALLINE

Isolated cannabinoids in their pure crystal structure



DRY SIFT

Ground cannabis filtered with screens leaving behind complete trichome glands. The end-product is also referred to as kief



ROSIN

End product of cannabis flower being squeezed under heat and pressure



BUBBLE HASH

Uses water, ice, and mesh screens to pull out whole trichomes into a paste-like consistency

Then: SMOKE SOME WEED

Now: DAB SOME SHATTER

Shatter, a translucent, extremely potent cannabis concentrate that looks and breaks like glass, is usually vaporized (“dabbed”) from a vape pen or water pipe.



420 Vs 710



Butane Honey Oil (BHO)

Dabs, Wax, Budder, Shatter

- Similar to oils, but **more concentrated**; thus greater high
- Cooked like meth; acts like meth: **psychotic breaks**
- **Passing butane through a tube packed with marijuana**
- Leaves extracted resin behind as a sticky, thick oil-like substance
- Risk of explosion
- **Up to 90% THC**



THC Potency

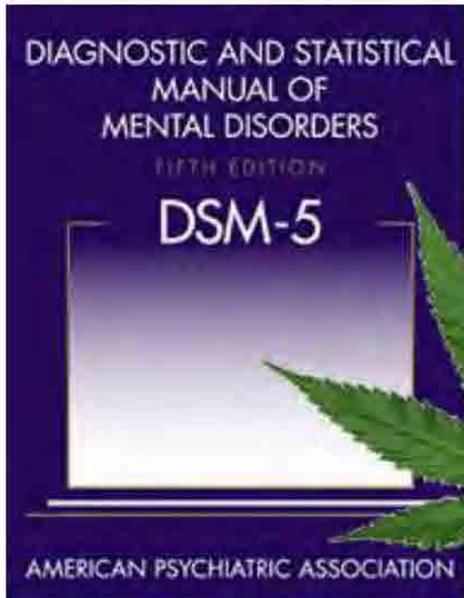
- 1960-1990s – 2-3% THC (leafy green)
- Today the oil or concentrate can be anywhere from **70-90% pure**
- Quicker high



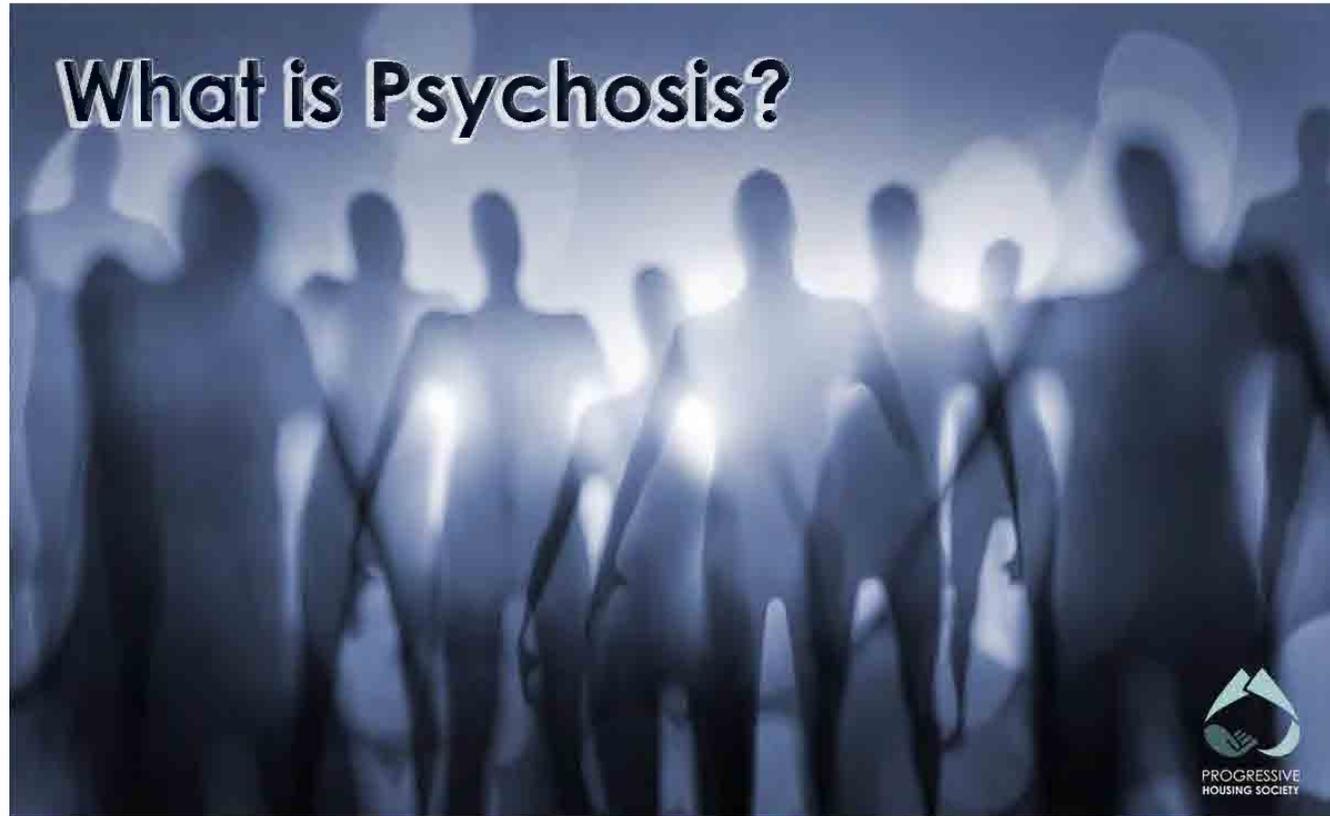
THC

- Tetrahydrocannabinol
- *Psychoactive ingredient* in marijuana (**high**)
- Can cause paranoia or anxiety
- Mind altering
- Induce sleepiness





DSM-5 Criteria for Cannabis Use Disorder



Psychosis is a condition that affects the way your brain processes information. It causes you to lose touch with reality. You might see, hear, or believe things that aren't real. **Psychosis** is a symptom, not an illness. A mental or physical illness, substance abuse, or extreme stress or trauma can cause it.

INHALANTS

Butane

- ✓ It can cause severe psychotic episodes even among individuals with no previous psychiatric illness.
- ✓ It is more common among those that abuse butane, especially those that use it regularly over an extended time span.
- ✓ Butane-induced psychosis could produce symptoms such as: violence, persecutory delusions, and visual hallucinations

1 ounce of THC oil = 2,800 servings

**1 ounce
hash oil**



**1 serving
THC-laced
candy**



State law permits Coloradans to possess 1 ounce of THC concentrate, also known as hash oil and wax. That amount yields 2,800 single servings as defined by the state. The potency of hash oil typically sold in Colorado ranges 85-90 percent THC. The potency of marijuana smoked in the 1960s and '70s ranged between 2-4 percent.

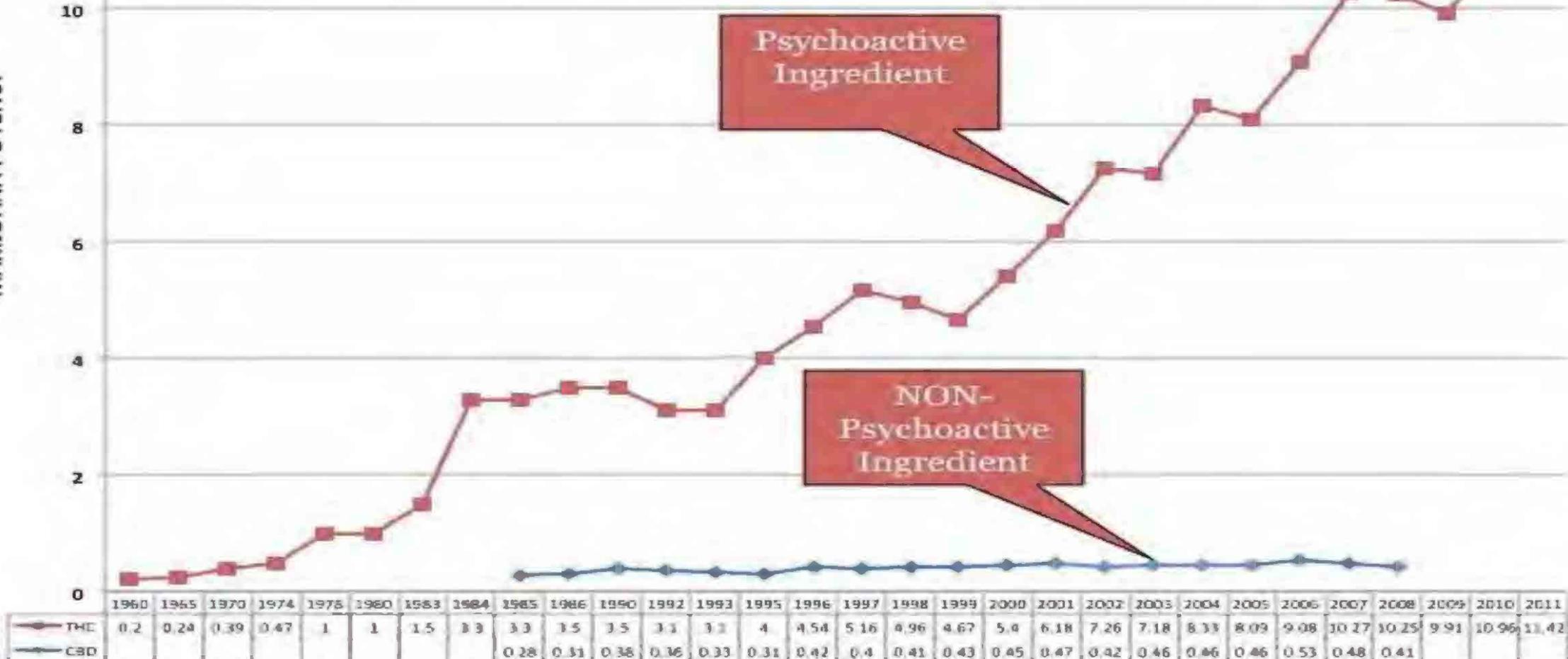
CBD

- **Cannabidiol**
- AKA: Medical Marijuana
- Non-psychoactive (**no high** – does not act on same receptors as THC)
- May reduce anxiety
- May have antipsychotic properties - reducing the psychosis-like effects of THC
- Promote wakefulness

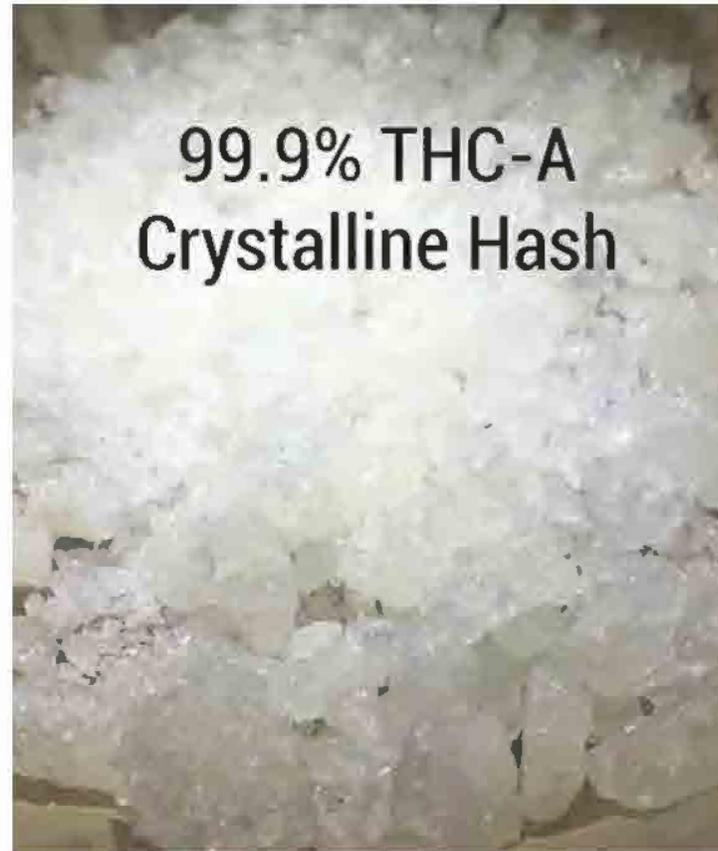
Average **THC** and **CBD** Levels in the US: 1960 - 2011

Mehmedic et al., Potency Trends of D-9 THC and Other Cannabinoids in Confiscated Cannabis Preparations from 1993 to 2008, J Forensic Sci, September 2010, Vol. 55, No. 5. See <http://home.olemiss.edu/~suman/potency%20paper%202010.pdf>.

MARIJUANA POTENCY



Crystalline THCa a.k.a Diamonds



Crystalline THCa was developed as a means of delivering large, quantifiable doses of THCa and is known as the **purest isolate anywhere on the market testing at 99-100%**



CBD EDIBLES vs THC EDIBLES:
WHAT IS THE DIFFERENCE?

Why CBD Edibles Are Favored By People?



- CBD is a non-psychoactive element, hence, it does not create any intoxicating effects.
- Therefore, you will be able to experience the pharmaceutical benefits provided by the cannabis plant without getting high.
- The commonly recognized **benefits of CBD edibles include** its effectiveness in relieving pain, reducing anxiety and depression, promoting better sleep, etc

THC Edibles

- THC also has different medicinal properties... it **can cause intoxicating effects in people**, hence, it is considered illegal.
- But **products that contain only 0.3% of THC are allowed, as it will not create a “high” feeling as the amount is very low.**
- **The main problem with THC edibles is that it may contain higher concentrations of THC than the permitted levels.**
 - Hence, it can have mind-altering effects. Also, if you use them for a long time, it can result in addiction too

MEDICATED NERDS ROPE – 400MG THC

- \$30.00
- A sweet medicated candy and gummy edible so tasty, words can't even describe. Made in a variety of flavors from Strawberry, Blueberry, Cherry, and Grape, Medicated Nerds Rope are infused with 400mg THC in each rope
- Buderflydelivery.com



Edibles Dosing Chart

Leafly.

THC per dose

1-2.5 mg

2.5-15 mg

15-30 mg

30-50 mg

50-100 mg

What to expect

Mild relief of pain, stress, anxiety, and other symptoms

Improved focus and creativity

Stronger symptom relief

Euphoria

May impair coordination and alter perception

Strong euphoria

Unaccustomed consumers may experience negative effects

May impair coordination and alter perception

Very strong euphoria in unaccustomed consumers

Likely to impair coordination and alter perception

Highly likely to impair coordination and alter perception

Can cause negative side effects such as rapid heart rate, nausea, and pain

Who's it for?

—
First-time consumers
Microdosers

—
Patients with persistent problems
Restless sleepers
Social butterflies

—
Well-seasoned consumers
Medical patients with developed tolerances
Experienced consumers seeking to sustain sleep

—
Consumers who have poor GI absorption of cannabinoids
People with significant tolerance to THC

—
For experienced THC individuals only
Patients with cancer, inflammatory disorders, or conditions that necessitate high doses

Please note everybody processes cannabis differently and could have a different edibles experience. Always start low and slow and follow packaging guidance. Visit [Leafly.com](https://www.leafly.com) for more resources



Then

- 1960-1970s – 2-3% THC (leafy green)
- **420** (chemicals, time to smoke, date to party)
- Smoked weed



Now

- 20-30% THC (leafy green)
- **710** (oil, concentrated w more chemicals)
- Vaped, smoked, edible, dabbing
- Might not smell it
- Looks like butter, honey, oil
- Synthetic: cooked with butane
 - **90% THC**
 - **Psychotic breaks**
 - **Violent behaviors**



Fentanyl and Vaping?

NEWS

Man dies after vaping liquid fentanyl

By Joshua Rhett Miller

July 3, 2017 | 3:21pm | Updated



Shutterstock

MORE ON: **DRUG OVERDOSES**

Researchers: Fentanyl deaths up 122% in West Virginia

Herbal supplement linked to string of overdose deaths in US

Fentanyl is now a weapon of mass destruction: DHS

A man in Michigan died over the weekend after apparently using liquid fentanyl in a vaping device.

The victim, a 39-year-old Alpena man, could not be revived by medics who found him in a home in Maple Ridge Township on Saturday — when he and his wife manufactured the synthetic opioid into a vaping liquid after buying it online, [MLive.com reports](#).

The unidentified man passed out after taking a “number of hits” from the pipe and never regained

**The United States has 5% of the
world's population & consumes 80%
of the global opioid supply**

Arizona Department of Health Services, 2017

The most common drugs involved in prescription opioid overdose deaths include:

Methadone

Oxycodone (such as OxyContin[®])

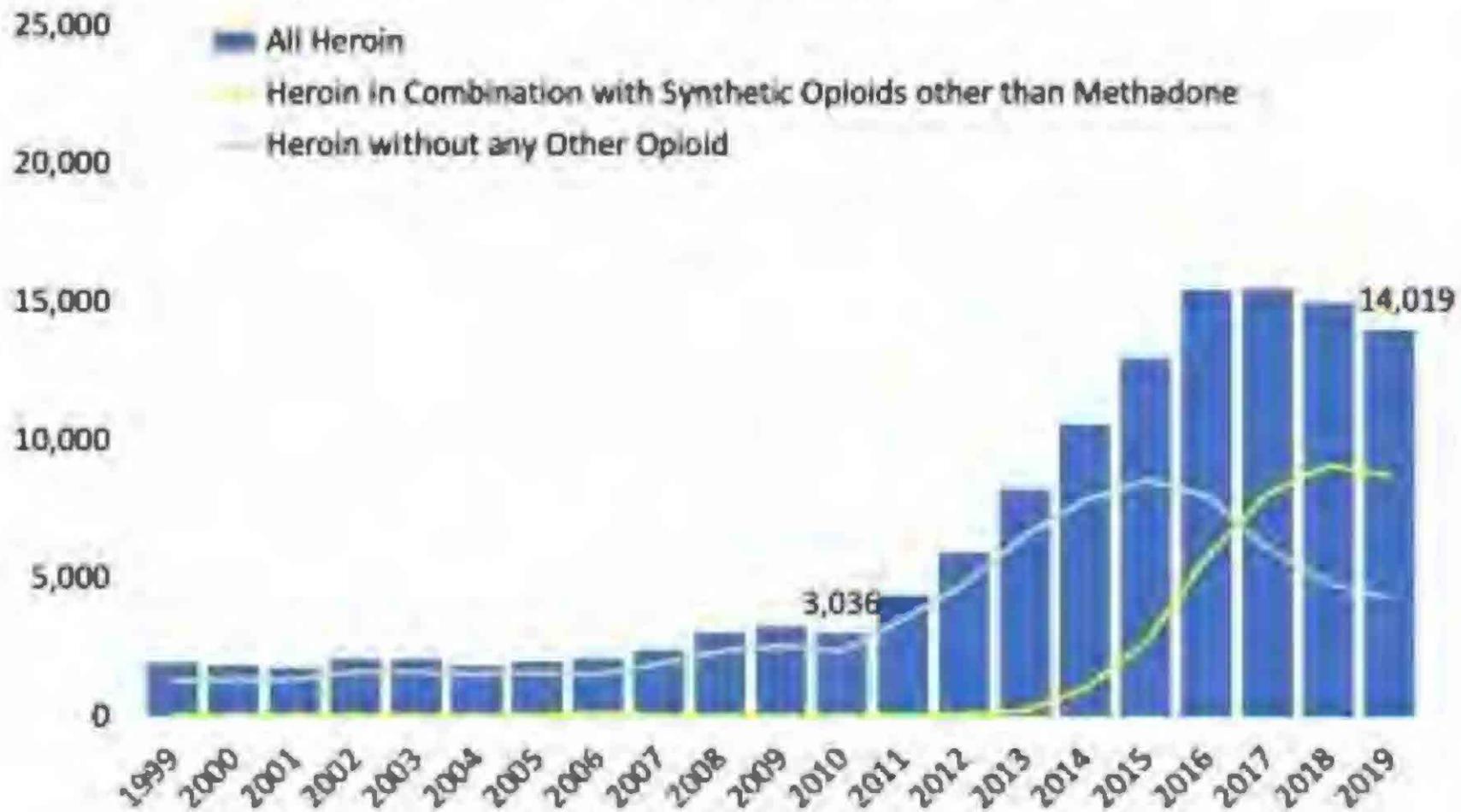
Hydrocodone (such as Vicodin[®])

Heroin Purity

- In 1980s = 3.6% pure
- 1990 = 18% pure
- 1998 = 41% pure
- Today = 60-90% ???
- No longer have to inject heroin to feel the effect. Purity so high effects felt by snorting or smoking



**Figure 5. National Drug Overdose Deaths Involving Heroin*,
Number Among All Ages, 1999-2019**



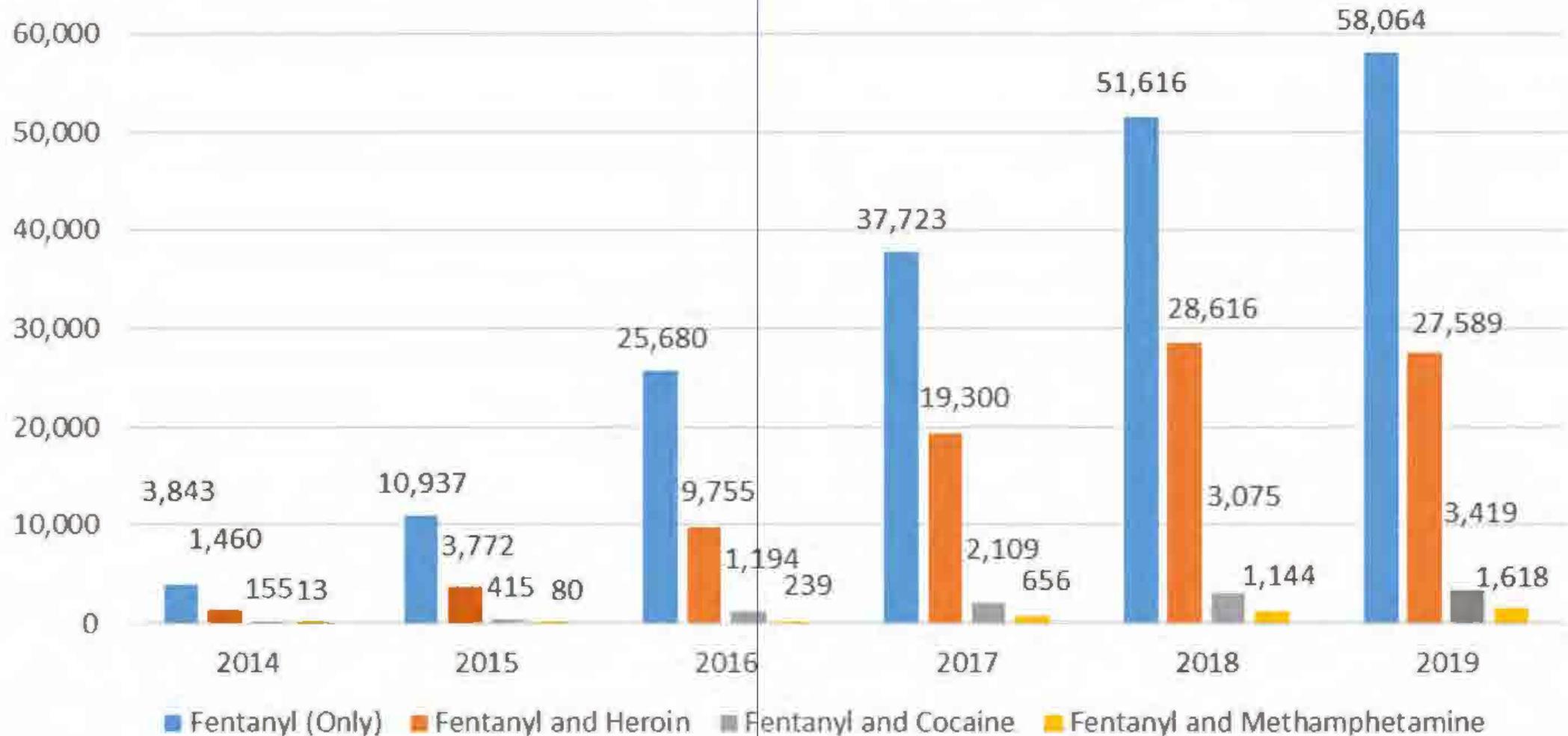
* Among deaths with drug overdose as the underlying cause, the heroin category was determined by the ICD-10 multiple cause of death code. Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Multiple Cause of Death (MCD) 2019 on CDC WONDER Online Database, released 12/2020.

Heroin mimics Oxy

- Heroin in the Heartland – CBS News 60 Minutes



Figure 4. Fentanyl Combination Reports to NFLIS-Drug, 2014 – 2019



Source: National Forensic Laboratory Information System-Drug Retrieved July 10, 2020

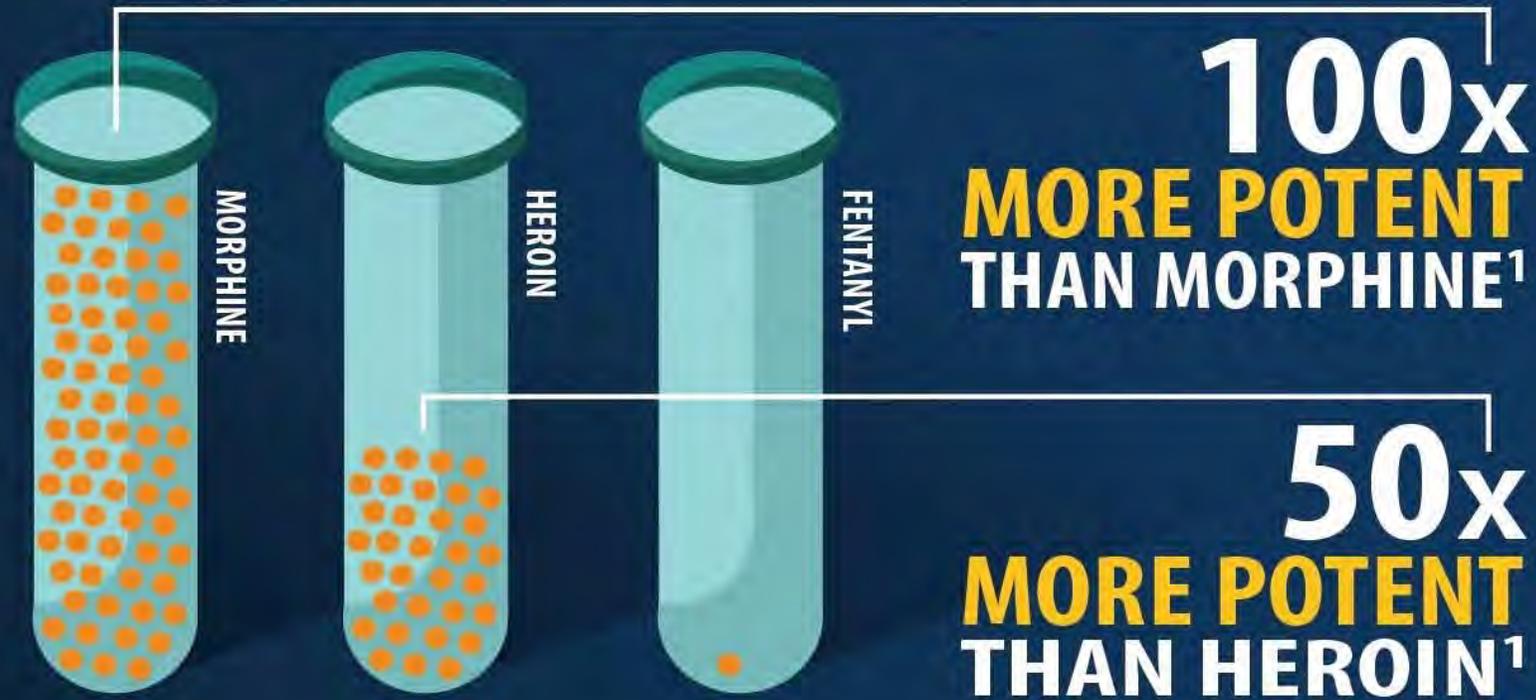


Deadly Dose

- 2-3 milligrams of fentanyl can induce respiratory arrest, depression and death
- 2-3 milligrams is the same as 5-7 grains of salt

FENTANYL: Overdoses On the Rise in Arizona

Fentanyl is a synthetic opioid approved for treating severe pain, such as advanced cancer pain. Illicitly manufactured fentanyl is the main driver of recent increases in synthetic opioid deaths.



References:

^{1,3} DEA Drugs of Abuse Resource Guide 2020 | ² Arizona Department of Health Services Opioid Update & Surveillance Data Summary February 2020

⁴ Arizona HIDTA as of January 09, 2020 | Created and Distributed by the Arizona High Intensity Drug Trafficking Area.



Fentanyl Pills and Crystals

Patches



Fentanyl Powder



“Lollipop”



FENTANYL: Overdoses On the Rise in Arizona

Fentanyl is a synthetic opioid approved for treating severe pain, such as advanced cancer pain. **Illicitly manufactured fentanyl** is the main driver of recent increases in synthetic opioid deaths.



ILLICITLY MANUFACTURED FENTANYL

Fentanyl is often used to cut other illicit substances including **heroin, cocaine,** and **methamphetamine** to increase the potency as well as increase profit potential for manufacturers and distributors³



OFTEN MIXED WITH
**OTHER
DRUGS**
WITH OR WITHOUT
USER KNOWLEDGE

References:

^{1,3} DEA Drugs of Abuse Resource Guide 2020 | ² Arizona Department of Health Services Opioid Update & Surveillance Data Summary February 2020

⁴ Arizona HIDTA as of January 09, 2020 | Created and Distributed by the Arizona High Intensity Drug Trafficking Area.

COUNTERFEIT DRUGS

OXYCODONE



REAL

FAKE

ADDERALL



REAL

FAKE

SOURCE: DEA

RIP

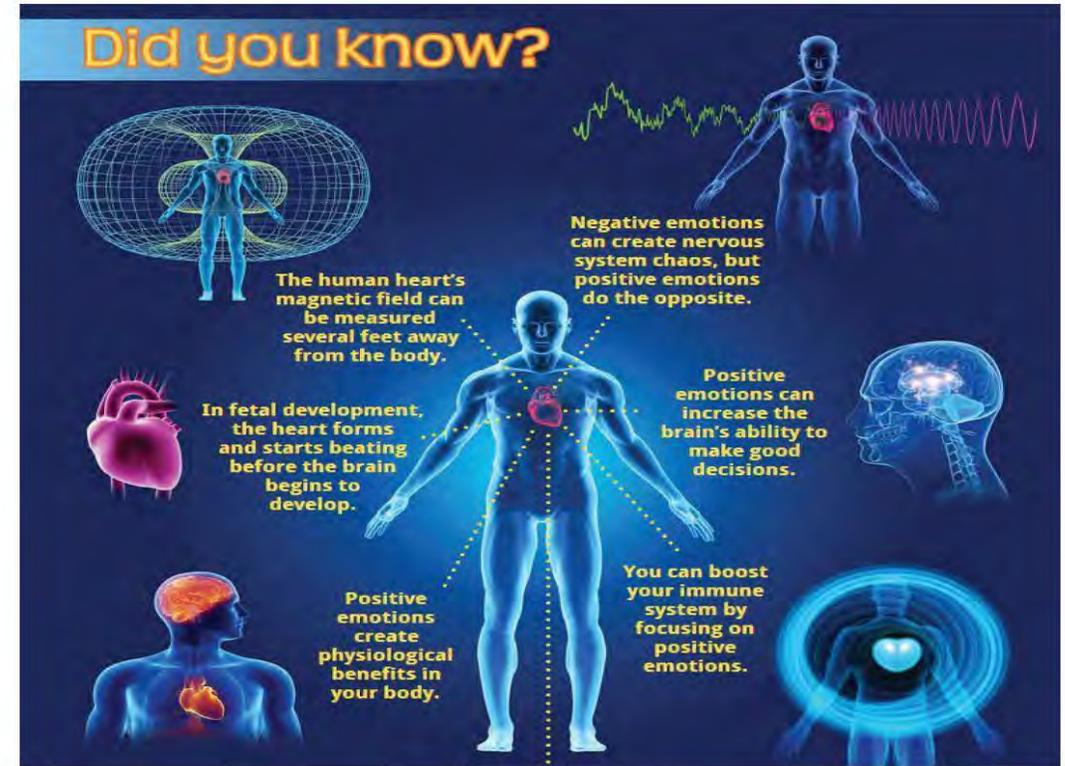
Hannah Cupp

- https://www.azfamily.com/news/investigations/cbs_5_investigations/pandemic-overshadows-growing-opioid-epidemic-in-arizona/article_321b92f0-82a6-11eb-82f7-2f6f68830b12.html



Alternative Pain Management

- Massage
- Meditation
- Biofeedback
- Hypnotherapy
- Chiropractic
- Aromatherapy
- Acupuncture
- Exercise
- Other relaxation therapies



Don't waste time...

- Learn something new?
- Tell others
- Be proactive
- Prioritize healthy decisions/conversations
- Be honest and direct
- Keep it real

Parents Against Vaping e-cigarettes (PAVe)

www.ParentsAgainstVaping.org



@parents_against_vaping



@ParentsVsVape



Parents Against Vaping E-cigs



Adolescent Resources

Communitybridgesaz.org

Thepathwayprogram.com

Charliehealth.com

Teenlifeline.org



Life is
a precious gift.
Use your days
wisely.


Simple Reminders
SIMPLEREMINDERS.COM

Thank You!

Stephanie Siete
Public Information Officer

Access to Care - 24/7

877.931.9142

CommunityBridgesAZ.org

<https://www.facebook.com/CommunityBridgesAZ>

ssiete@cbridges.com

602.377.4591

© 2017. Community Bridges, Inc. All rights reserved.