

Vaping 2021

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AGENDA

Data

About E Cigarettes and Vaping

Nicotine salts

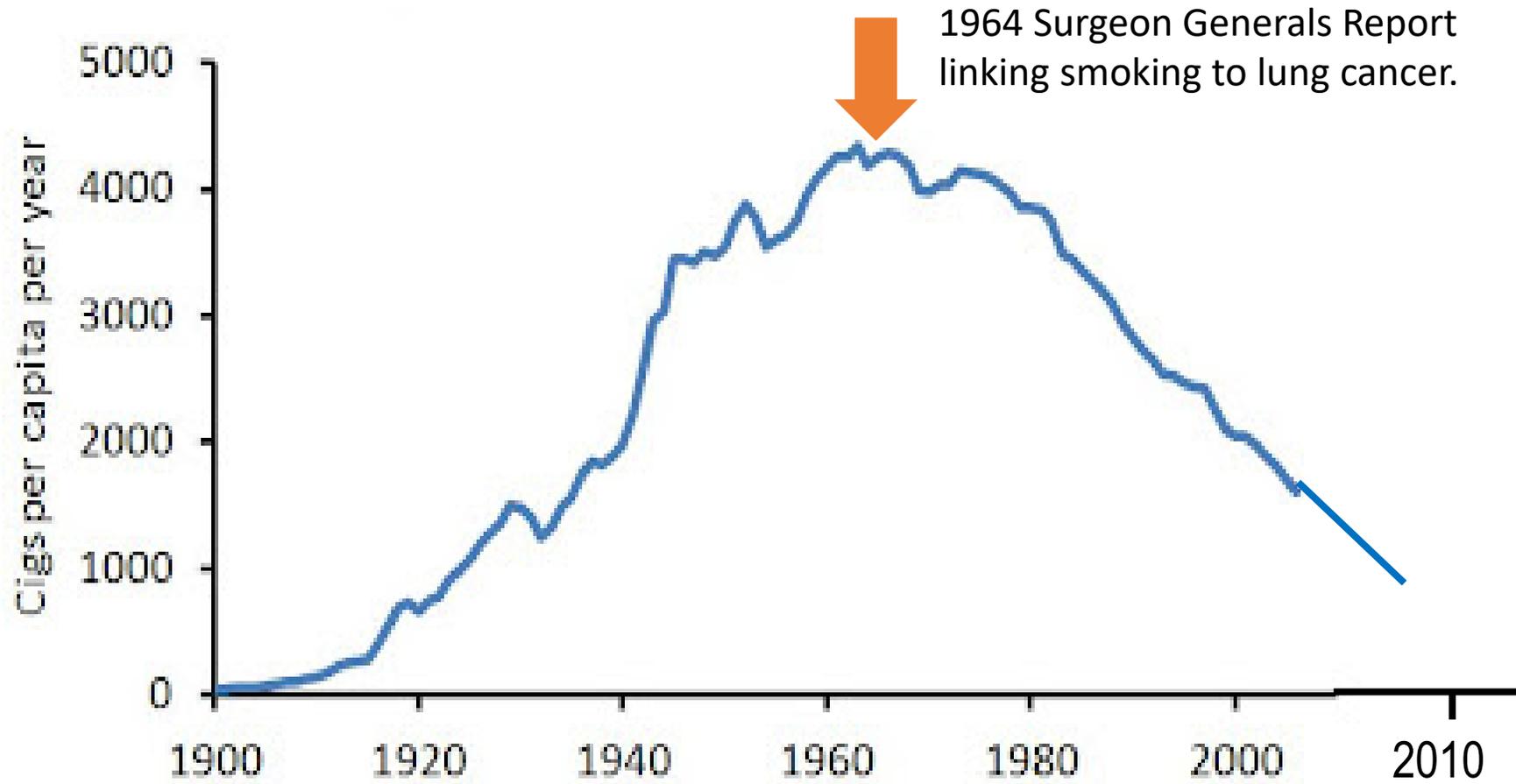
Health Risks

What's New

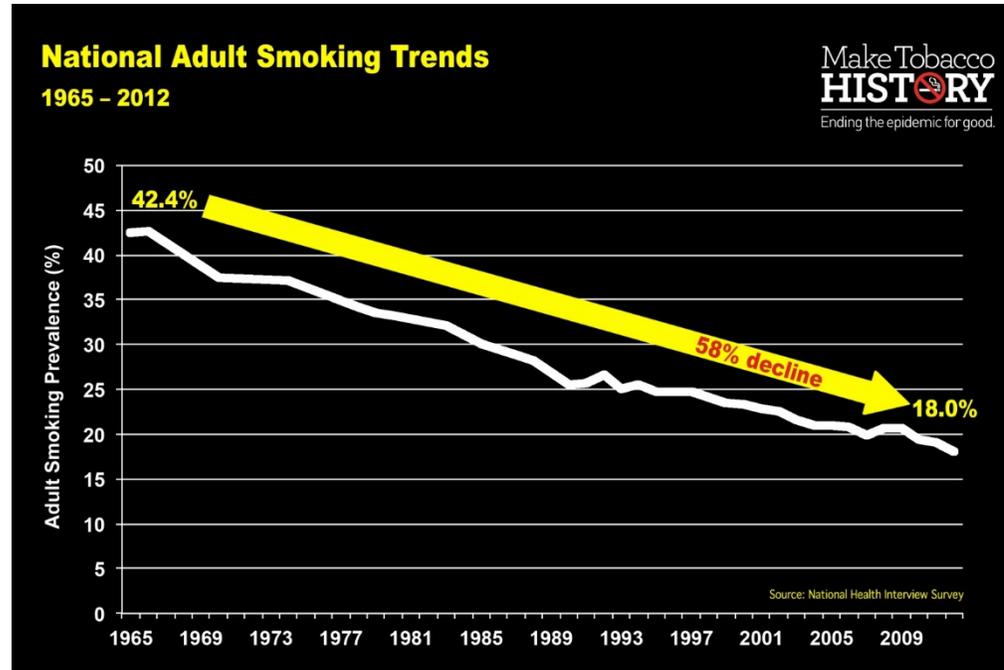
Vaping and COVID-19

Resources for Quitting

U.S. Cigarette Consumption 1900 - 2010



The decline of cigarette smoking



Historic low of
13.7% of adults
smoking cigarettes
in 2018

Youth Cigarette Consumption Also Declining

National Youth Tobacco Survey 2020 –

- 3.9% of High School Youth reported smoking cigarettes
- 8.7% reported using some kind of combustible product (cigarette, cigar, pipe, hookah)

Evolution of electronic cigarettes



E-cigarette Use Among Adults

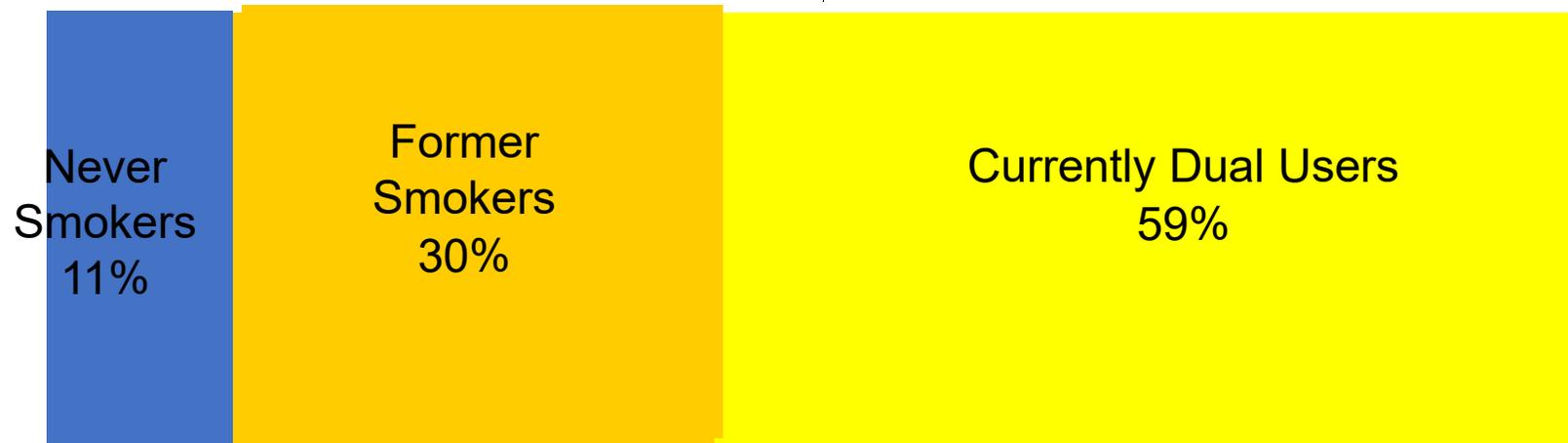
Behavioral Risk Factor Surveillance System 2016 data showed:

- Dual use is the most prevalent pattern of use
- 51% of e-cigarette use among adults is among adults ≤ 35 years old
- Prevalence is highest among 18-24 \rightarrow 9.2% vs. 4.5% overall

Who vapes?

ADULTS –

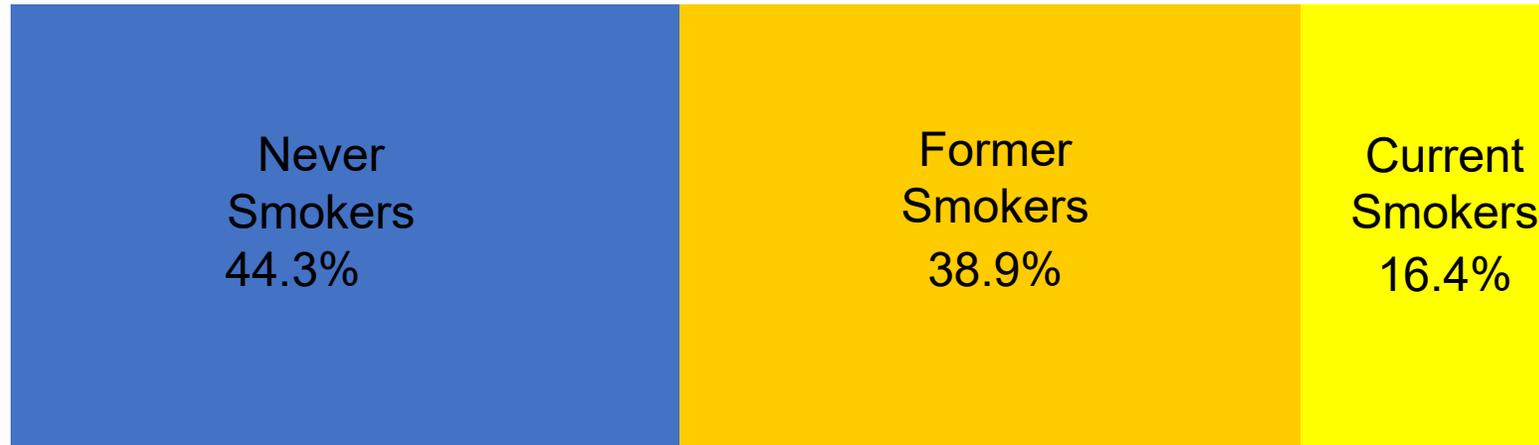
About 4.5% of adults use ESDs every day or some days.



ESD: Electronic Smoking Device

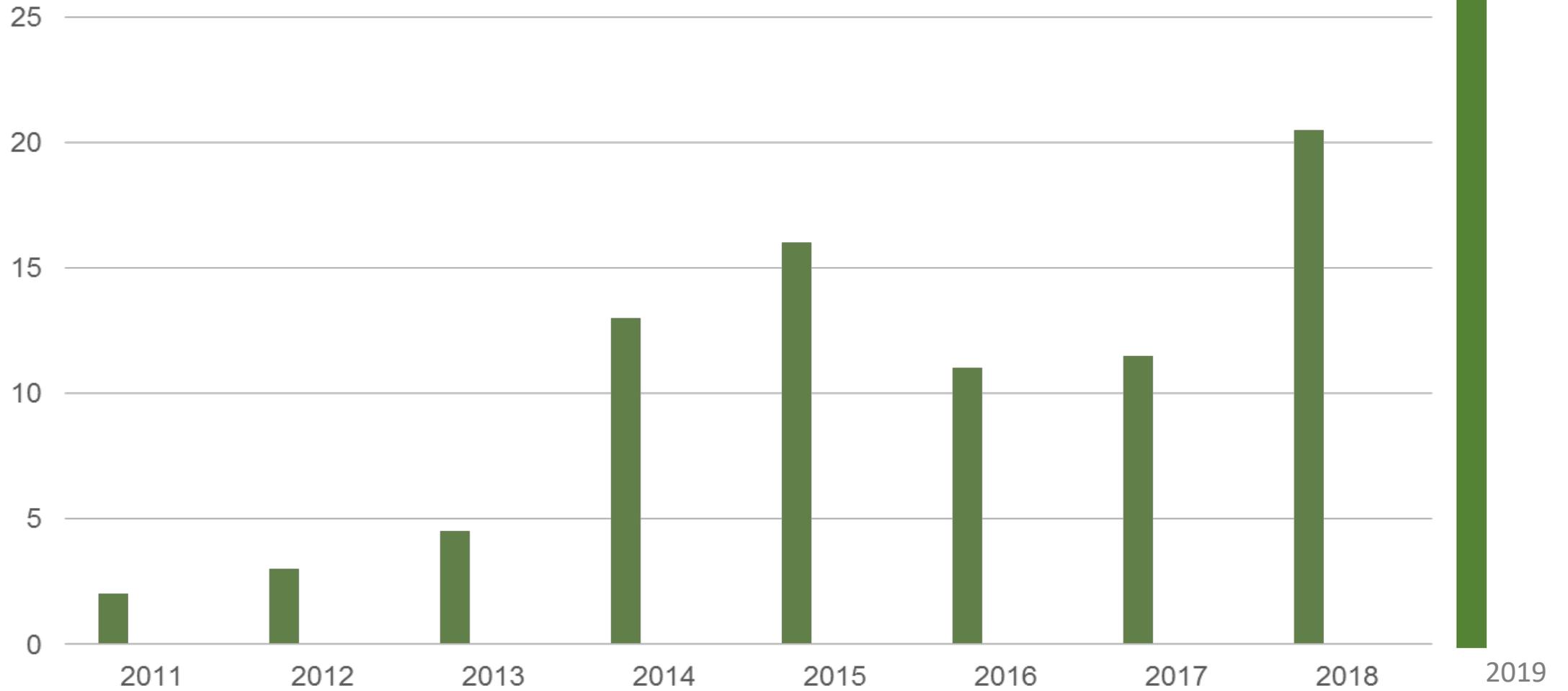
Who Vapes?

Just looking at
Young Adult (18- 24) ESD Users



37.8 Dual users (cigarettes and e cigarettes)

Epidemic of Youth Vaping

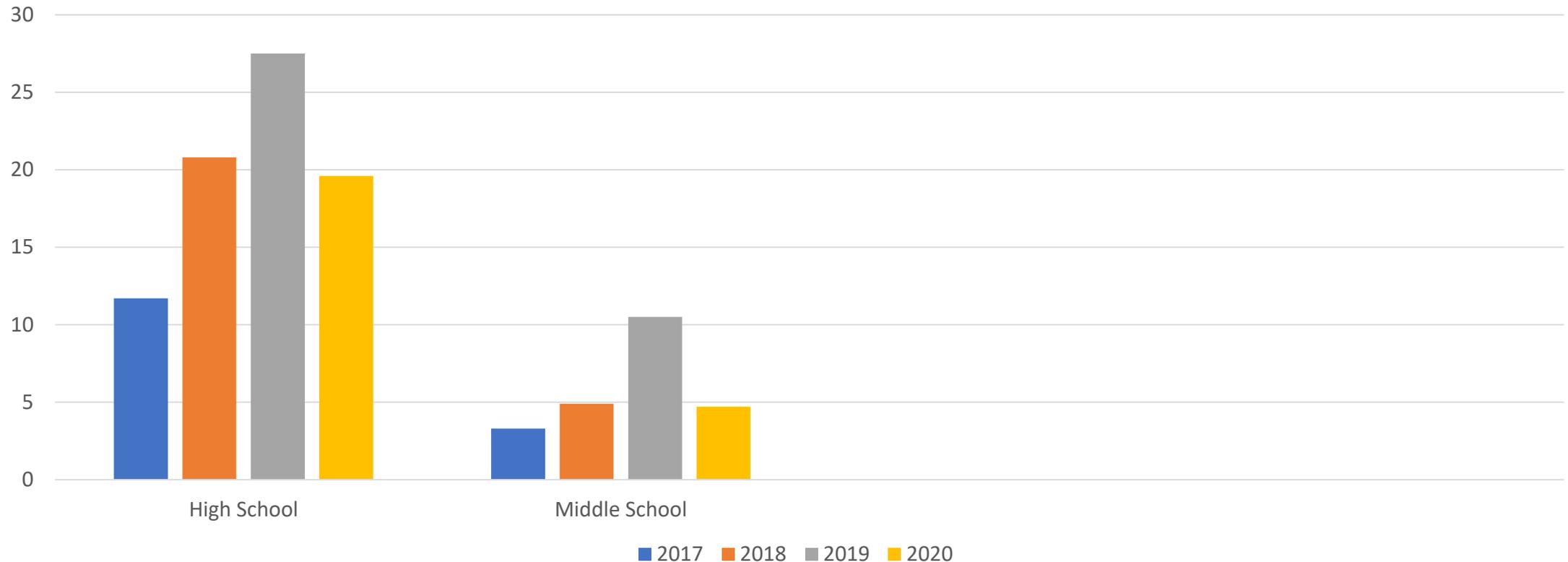


2020 National Youth Tobacco Survey

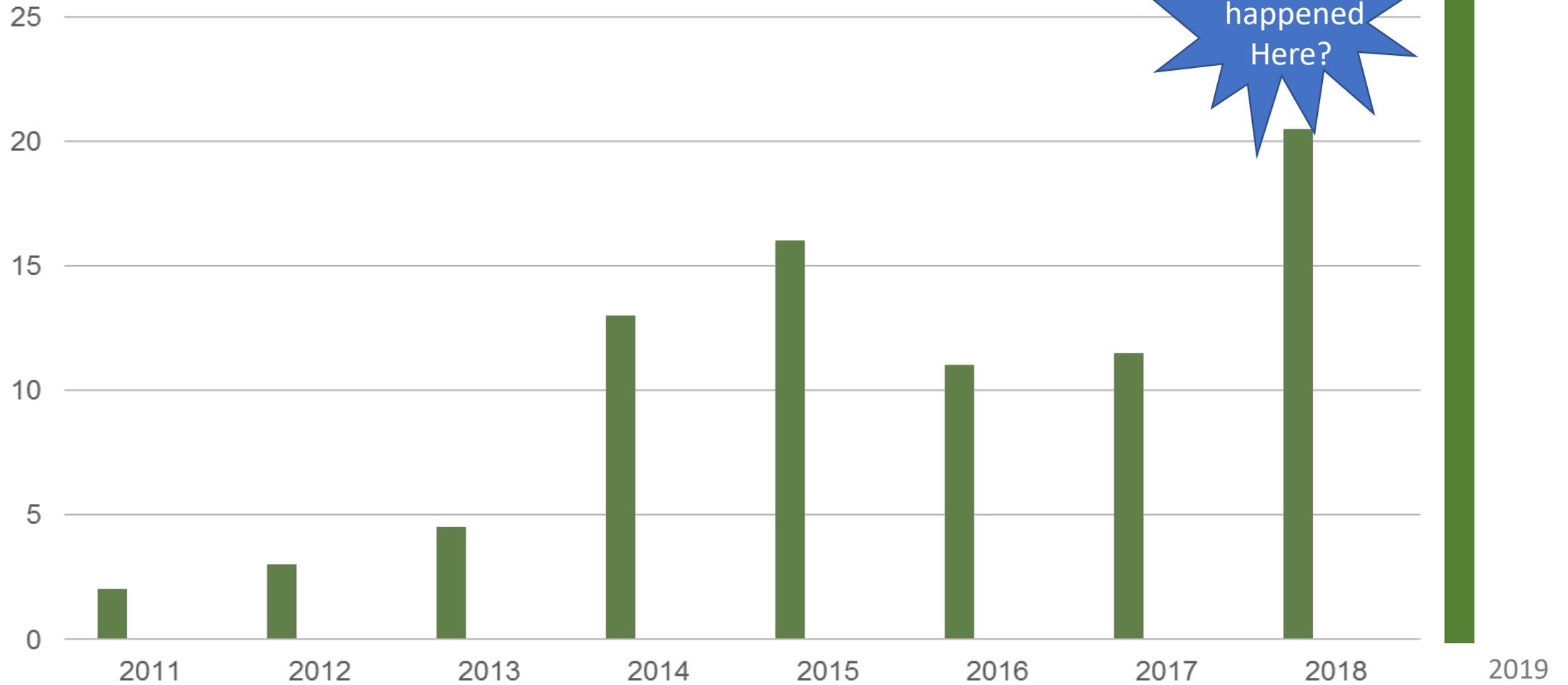
Released Sept 9, 2020

**Use of Electronic Cigarettes decreased in 2020:
19.6% of High School students and 4.7% of Middle School students report current use.**

Current use of Electronic Cigarettes and Vaping Products



2018 was the beginning of the increase in youth vaping.....



JUUL introduces a very concealable product that delivers a very powerful hit of nicotine.

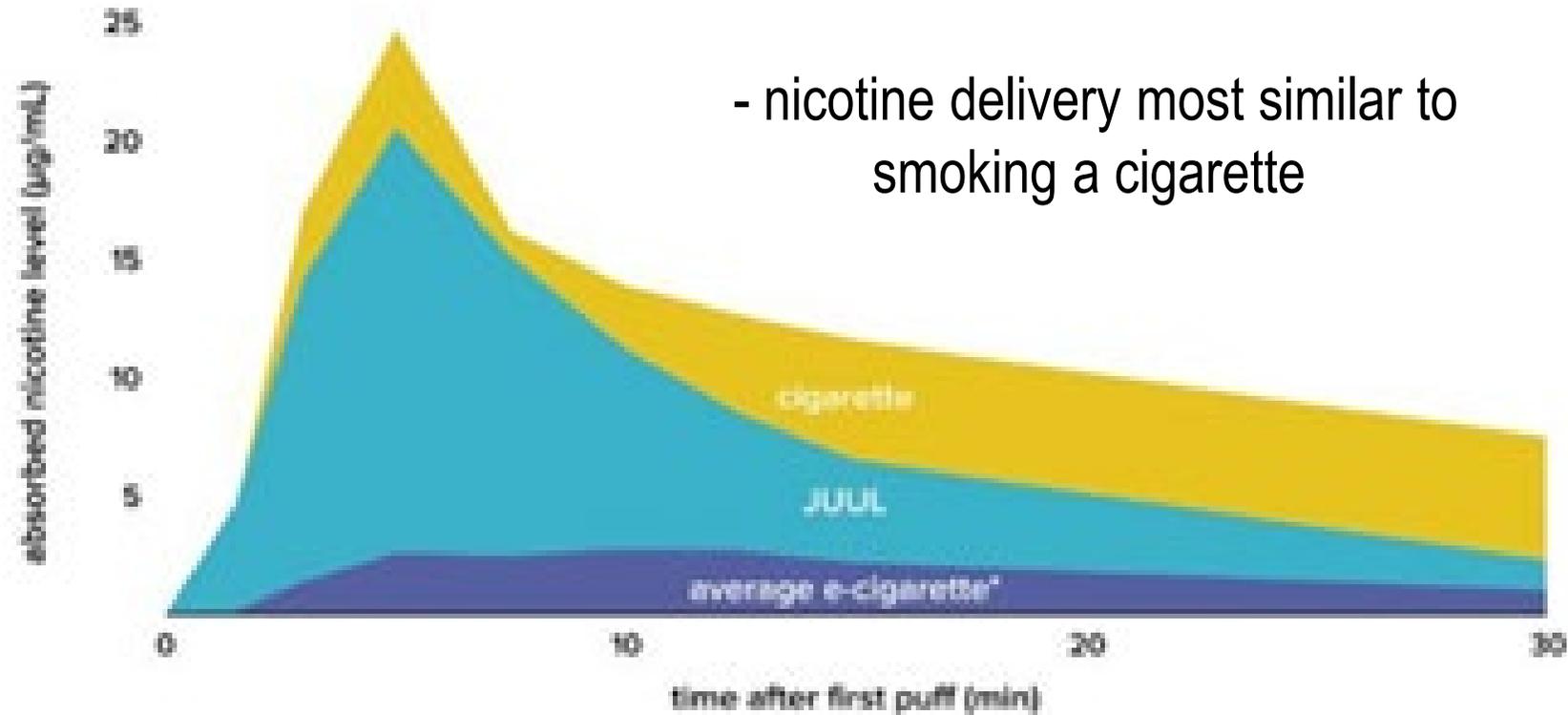
JUUL
SMOKING EVOLVED



Natural nicotine salts rather than free-base nicotine formula



Nicotine salts make nicotine very absorbable (bigger nicotine hit) and smooth (less harsh)



Reasons for liking JUUL among youth users

Pharmacologic effects

52.2% - It gives me a buzz

17.5% - It helps me concentrate

12.2% - It gives me energy

Product Characteristics

42.7% - like the flavors

21.3% - like the size

20.1% - It's easy to change pods

Social Reasons

36.1% - My friends use it

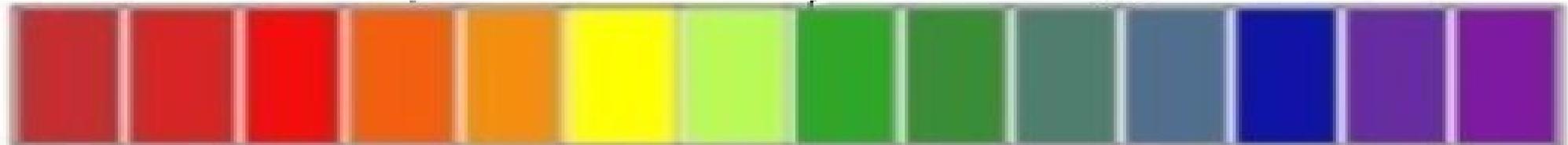
Comparison to Other E Cigs

17.6% - believed it was less harmful than other e cigs

9.7% - liked that it produced less vapor

34% - easy to conceal from teachers and parents

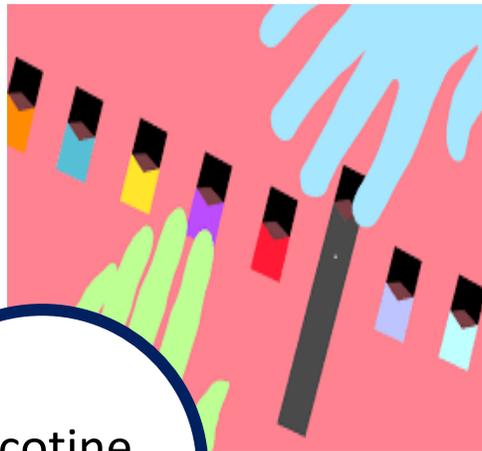
The idea that nicotine delivery can be changed by use of nicotine salts changed the industry.



acidic

neutral

alkaline



Nicotine Salts

Benzoic Acid

Free Base Nicotine

Vape juice is now available in Nicotine salt or Free Base.

What's the difference?

- Contains Benzoic Acid
- Faster absorption
- Low to super high strength options
- Satisfying in high concentrations
- Less flavor complexity
- Less cloud production
- More expensive



- No additive
- Slower absorption
- Low to medium strength options
- Harsh in high concentrations
- More flavor complexity
- More cloud production
- Suitable for most vaping styles
- Less expensive

Public Health Concerns

- Public Safety
- Preventing disease
- Promoting healthy behaviors



Public Health
Prevent. Promote. Protect.

Vaping is perceived as **SAFER** than smoking

It doesn't mean that it is **SAFE**



No Smell ~ Smoke Anywhere

**TASTES & SMOKES BETTER THAN A
REAL CIGARETTE!**

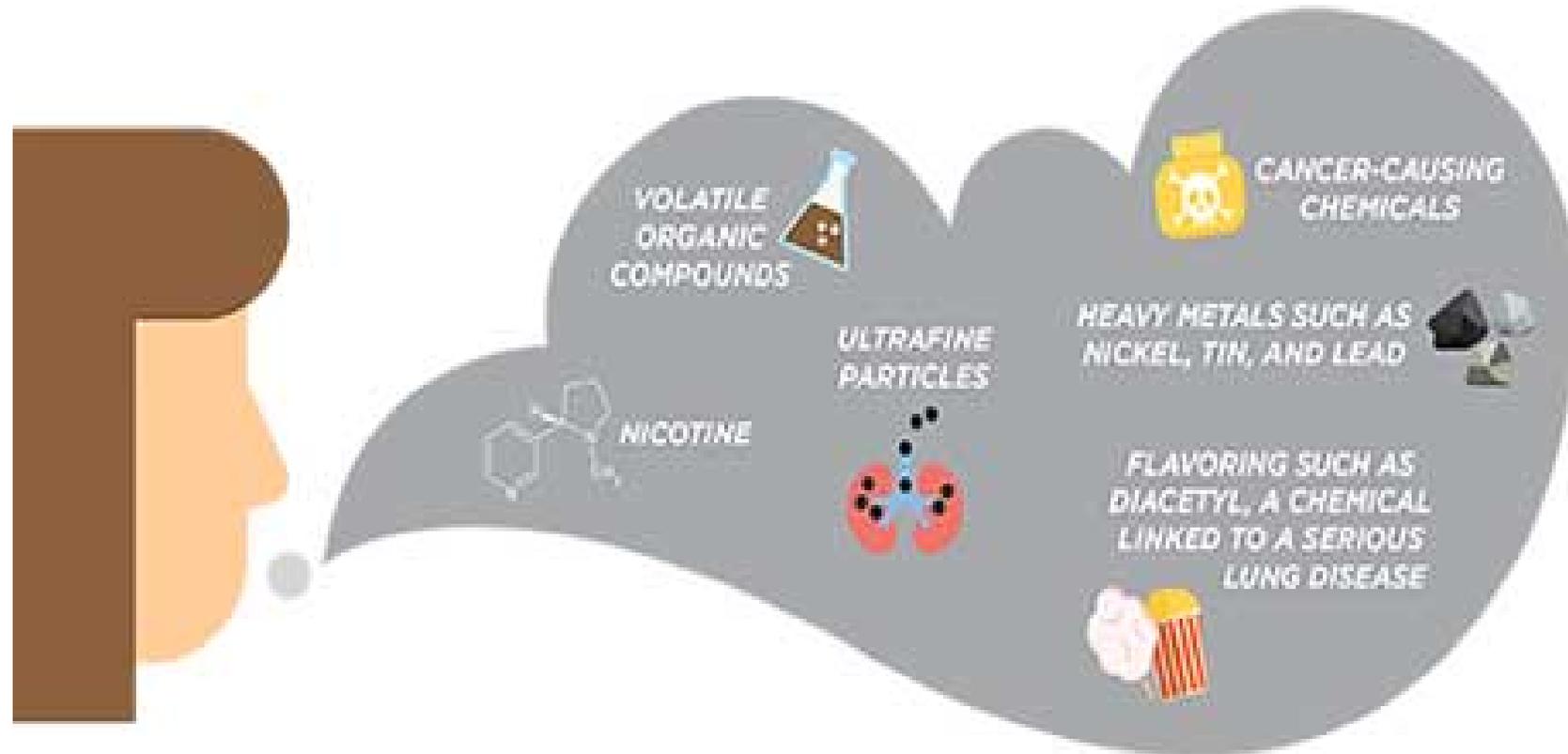
- No Toxic Chemicals!
- No Tar or Yellow Teeth
- No Smelly Clothes
- Smoke Anywhere!

complete kit!

The advertisement features a woman in a red dress holding a lit cigarette. To her right is a black mesh carrying case containing a grey and silver electronic cigarette and a yellow-tinted liquid cartridge. The background is dark blue with a subtle pattern.

“It’s just vapor...”

What is in e-cigarette aerosol?



Toxicity of Products Found in Vaping Solutions

A variety of substances that are known to be toxic, carcinogenic or cause disease have been identified in vaping liquid solutions and aerosols.

These include:

- Delivery solvents;
- Flavorings;
- Carbonyl compounds;
- Minor tobacco alkaloids;
- Tobacco specific nitrosamines;
- Reactive oxygen species;
- Metals;
- Other toxicants.

Toxicity varies by formulation and device used.

Vaping and Cardiovascular Disease

Nicotine raises the heart rate and increases blood pressure, which can lead to hypertension and other heart disease.



Vaping and the Lungs

Vapor emitted and inhaled from e-cigarettes has been shown to contain tiny particles that are small enough to reach deep into the lungs.

- asthma
- inflammation
- restricted airways





POPCORN LUNGS

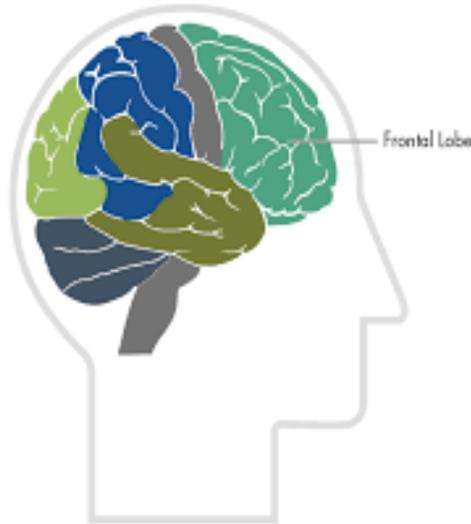
THAT'S A CONDITION THAT DAMAGES YOUR LUNGS' SMALLEST AIRWAYS AND MAKES YOU COUGH AND FEEL SHORT OF BREATH

Bronchiolitis Obliterans

Related to chemical used to flavor give microwave popcorn the sweet, buttery flavor that are used in vape juices. Many manufacturers have stopped using this chemical.

Brain Risks for Youth and Young Adults

Nicotine exposure from any form of tobacco is harmful to the developing adolescent brain



Frontal lobe, the area responsible for executive functioning, reasoning, decision-making skills, self-discipline, and impulse control is still rapidly developing

- Exposure to nicotine interferes with this development, potentially leading to cognitive and learning issues
- Youth and young adults are also uniquely at risk for long-term, long-lasting effects of exposing their developing brains to nicotine. These risks include nicotine addiction, mood disorders, and permanent lowering of impulse control.
- Nicotine also changes the way synapses are formed, which can harm the parts of the brain that control attention and learning.

Brain Risks for Youth and Young Adults



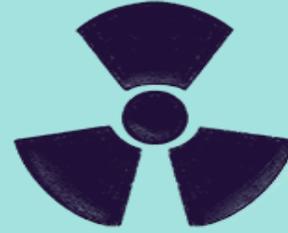
The nicotine in e-cigarettes and other tobacco products can prime the adolescent brain for addiction to other drugs such as cocaine.

Until about age 25, the brain is still growing.

Each time a new memory is created or a new skill is learned, stronger connections – or synapses – are built between brain cells.

Young people's brains build synapses faster than adult brains. Because addiction is a form of learning, adolescents can get addicted more easily than adults.

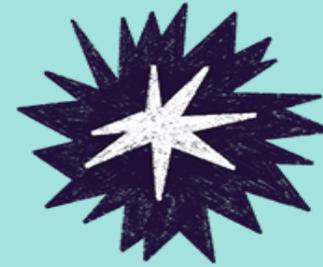
What Are the Risks of Vaping?



Toxic substances



Nicotine



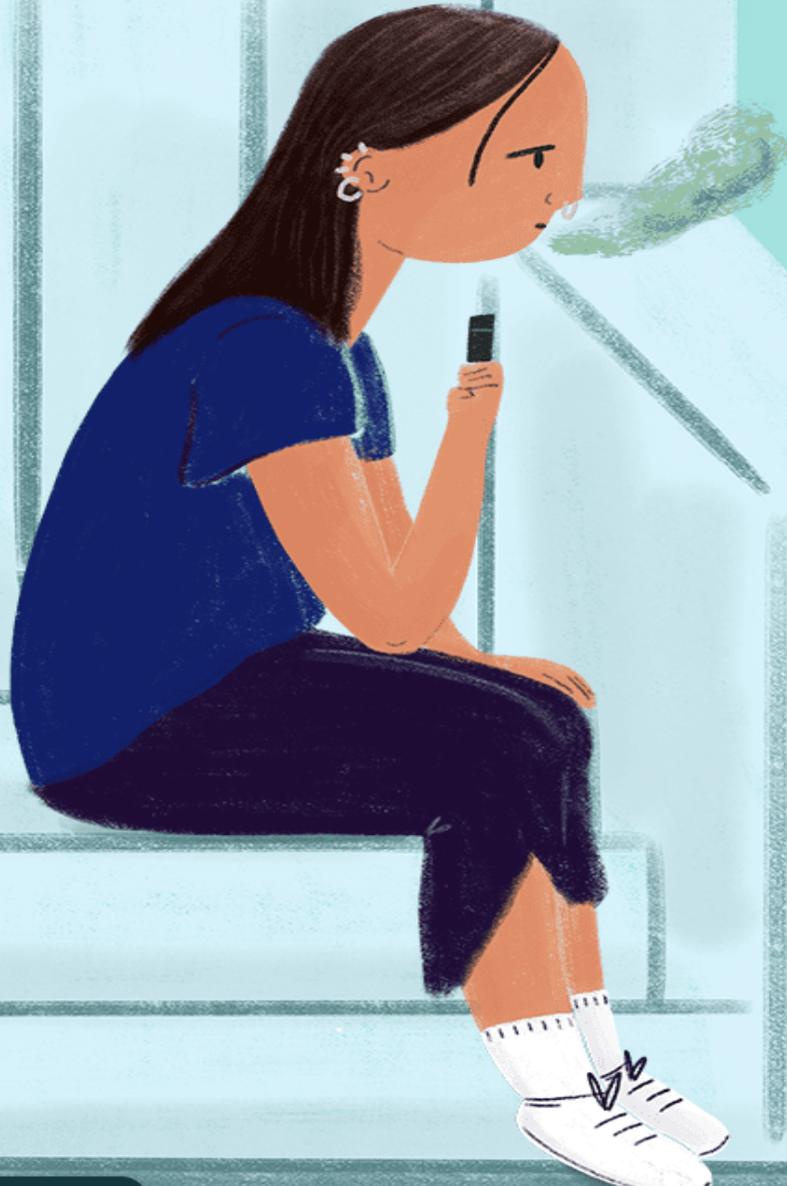
Devices can explode



Addictive



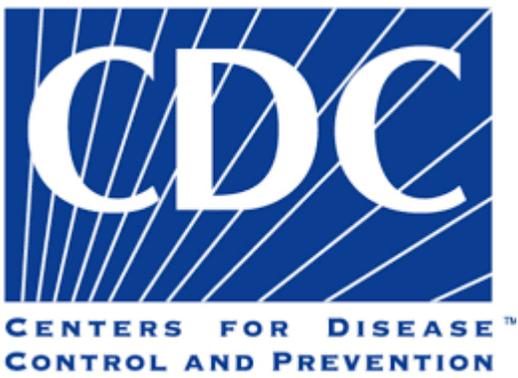
Unknown effects



We are just starting to learn about the dangers of vaping ...

- e-cigarettes (vapes) compromised the immune system making users more vulnerable to flu and pneumonia.

- Flavored liquids labels as “food grade” or “generally recognized as safe” for food and drinks may be unsafe when heated and inhaled.



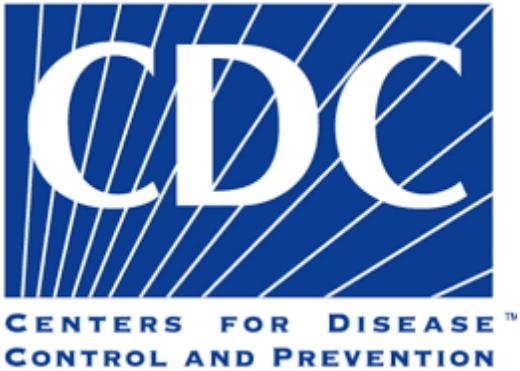
Between July and February of 2020

2,807 individuals living in the U.S. were hospitalized with severe lung injury and there were 68 deaths.

EVALI E-cigarette or vaping product use associated lung injury

All reported using vaping products.

- 82% reported using THC-containing products; 33% reported exclusive use of THC-containing products.
- 57% reported using nicotine-containing products; 14% reported exclusive use of nicotine-containing products.



- While it appears that vitamin E acetate is associated with EVALI, there are many different substances and product sources that are being investigated, and there may be more than one cause.

Key Facts about Vitamin E Acetate

- Vitamin E acetate is used as an additive, most notably in THC-containing vaping products.
- Vitamin E is a vitamin found in many foods, including vegetable oils, cereals, meat, fruits, and vegetables. It is also available as a dietary supplement and in many cosmetic products, like skin creams.
- Vitamin E acetate does not cause harm when ingested as a vitamin supplement or applied to the skin. However, research suggests that when vitamin E acetate is inhaled, it may interfere with normal lung functioning.

Post EVALI



The lung damage in some people who have become ill after vaping nicotine or marijuana products resembles a chemical burn.

“All 17 of our cases show a pattern of injury in the lung that looks like a [toxic chemical exposure](#), a toxic chemical fume exposure, or a chemical burn injury,”

Patients with [lung illness from vaping](#) had tissue damage and cell death in the lining of their airways, and in the lungs themselves. As the body reacts and tries to heal, the tissue swells and can narrow the airways. Dead cells slough off into the airways, blocking them further, and fluids leak into the lungs’ air sacs.

The swelling, tissue damage and fluid buildup can make it impossible to breathe.

New Products
Pose New
Concerns



Regulation on ESD*/e-cigarette sales

*Electronic Smoking Device

FDA Ban - Effective February 6, 2020

- The FDA banned the sale of flavored, cartridge-based ESD products (such as JUUL®), other than tobacco-flavored and menthol.
- *This ban does not regulate self-contained, disposable products or bottled e-liquid for tank-based systems.*

Puff Bars



Designed to “fill the needs made by recent changes to e-cigarette legislation.” (from the Puff Bar website)

Designed in the U.S., produced in China, flavoring made in Malaysia.

No maintenance, charging or refilling.

Puff to activate.

Comes in 2 mg and 5 mg nicotine strength

Approximately 300 puffs per disposable (equivalent to 1 pack of cigarettes).

Comes in a variety of fun flavors (unlike JUUL)



COOL MINT

WATERMELON





Disposables are quickly replacing JUUL in popularity among youth.

Because of a loophole disposable e cigarettes like PUFF bars were not included in the FDA ban on flavored cartridge- based e-cigarettes effective February 6, 2020.

BUT...

Sales of disposable e cigarettes such as Puff Bars was banned in Maryland by the Comptroller of Maryland on February 10, 2020.

PUFF Bar lookalikes - all disposable



EZZY OVAL

POP disposable system



VGOD



RUSH





ZYN is a fresh way to enjoy nicotine. They are smoke free, spit-free and nicotine free.

Contains a pharmaceutical grade version of nicotine salt found naturally in nicotine leaves.

What's in the pouch?

Nicotine salt

Stabilizers (used to maintain pouch consistency)

Fillers (used to add bulk to the pouches)

pH adjustors

Sweetners

Flavorings

Developed when there started to be side effects to vaping as an alternative product.



Copy cat products –

Possibly useful for smoking cessation (not FDA tested) but concerns about youth use and self dosing.



Vaping
and
COVID 19

Vaping may increase your risk of developing COVID-19

Vaping damages your lungs

E-cigarettes can directly damage lung cells. This damage is likely to lead to reduced lung function and leave you more susceptible to lung infections, including COVID-19.

The lungs are constantly exposed to the viruses and bacteria that we breathe in, and it's important that the immune system acts promptly to remove these. But vaping damages key immune cells making it harder for the body to effectively respond to infections.

Vaping during the COVID Quarantine

Based on research by Rescue Agency

Experimenters seemed to have decreased their use.

Experimenters are defined as youth who had used less than 100 times in their life, were occasional users or had recently started using.

Reasons for decrease:

- Fewer peer interactions
- Less access to products
- Previously was a social activity only, occasions for use have decreased
- Sellers have increased prices
- Have had time to reflect on their motivations for past use and realized that peer pressure was a motivation.

Vaping during the COVID Quarantine

Based on research by Rescue Agency

Regular users seemed to have increased their use.

Reasons for increase:

- Boredom, too much time on their hands
- Fewer social interactions
- Many are high risk youth and being at home is a stressor, vaping is a way to cope
- Acceleration of addiction due to boredom and stress of being at home
- Increase in social media, especially snapchat, selling of vapes.

Vaping during the COVID Quarantine

Based on research by Rescue Agency

Other Changes in Use

Shift from JUUL to disposables like the PUFF bar.

- Costs less (between \$8 and \$12)
- Easier to get
- Comes in a variety of flavors (JUUL is restricted to tobacco and mint)



Changes in Youth Attitudes and Knowledge

Based on focus groups by Rescue Agency

- Most teens no longer think vapes are harmless
- Acknowledgement of chemicals in vapes and harmful effects
- “Popcorn lung” is often cited
- Risk associated with both nicotine and THC vapes
- Reduced athletic performance is most experienced side effect
- Formaldehyde fact is well known.

Resources for Quitting

Best Method for Quitting Vaping = ?

Research shows that the best method for quitting SMOKING is a combination of counseling and a medication such as the Nicotine patch, gum or Chantix.

Maryland Tobacco Quitline

Tobacco treatment for all

Age 13 and older for any tobacco product

Three Ways to Connect

- 1) Call 1-800 Quit Now
- 2) Go online to SmokingStopsHere.com and click enroll
- 3) Text Ready to 200-400

Truth Initiative

Texting support for youth to quit vaping

Text "Ready" to 88-709

Resources for Parents

The Truth Initiative has a resource for parents to help their children with quitting.
Text QUIT to 202 899-7550

CDC Talk with Your Teen About E-Cigarettes: A Tip Sheet for Parents
https://ecigarettes.surgeongeneral.gov/documents/SGR_ECig_ParentTipSheet_508.pdf

HealthyChildren.Org Facts for Parents About E-Cigarettes and Vaping
<https://www.healthychildren.org/English/health-issues/conditions/tobacco/Pages/Facts-For-Parents-About-E-Cigarettes-Electronic-Nicotine-Delivery-Systems.aspx>



The End

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SUBSTANCE USE & THE DEVELOPING BRAIN

BHA- CAYAS DIVISION

MAY 20 2021

***IMPACT OF SUBSTANCE USE (SU) ON
THE DEVELOPING BRAIN***

Impact of SU on the Developing Brain

Public Service Announcements (PSAs):

Brain On Drugs PSA: https://youtu.be/F0kCYP_iPtg



Impact of SU on the Developing Brain

Adolescents (*typically ages 12-17*)

Brain changes during the adolescent developmental period is a complex time for brain *and* body development, all of which can be negatively impacted by substance use.

Exposure to illicit drugs and alcohol during this timeframe interrupts the brain development and related cognitive and behavioral functioning (*Wetherill & Tapert, 2012*).

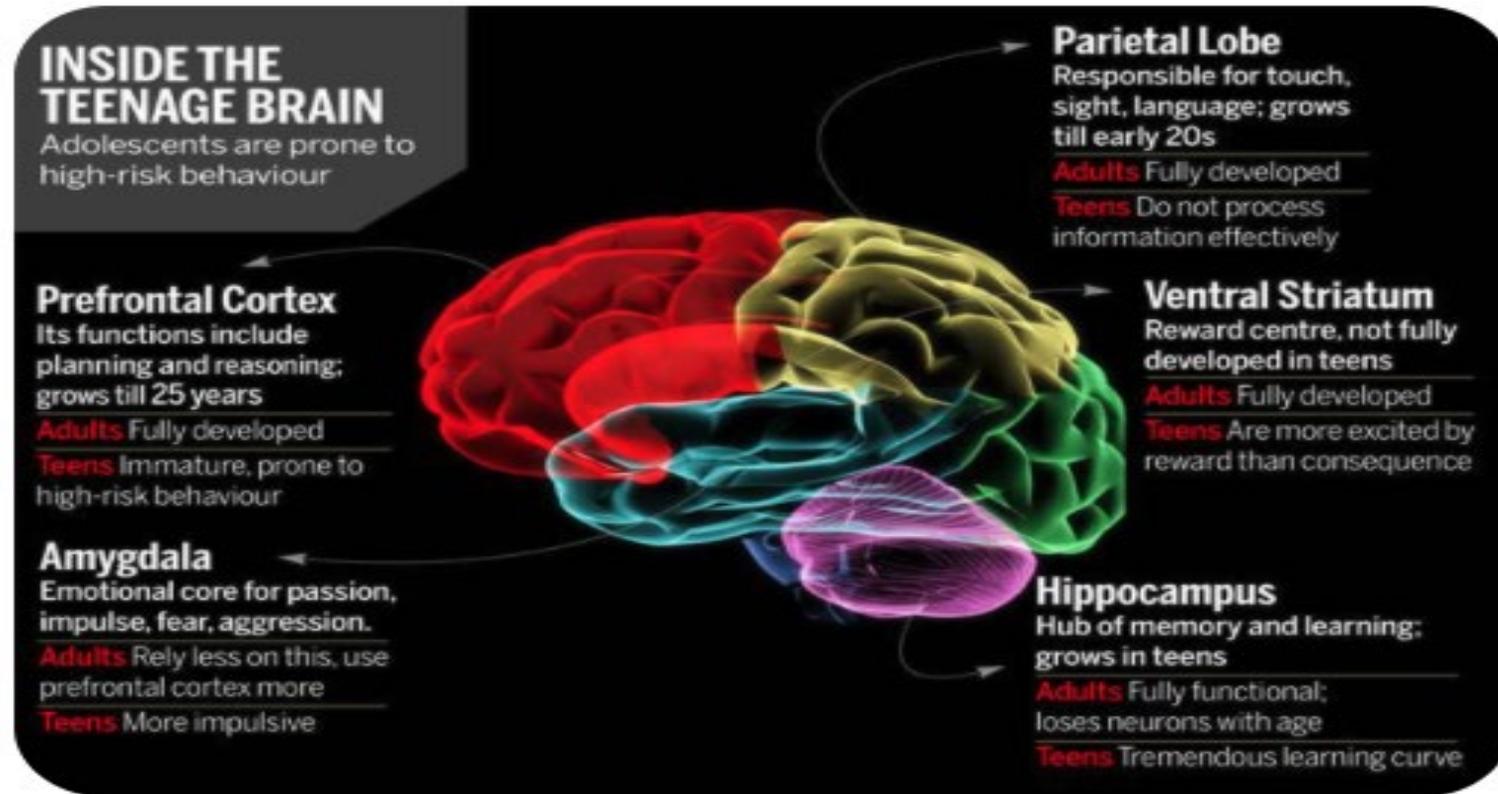
Impact of SU on the Developing Brain

Young Adults (*typically ages 18-25*)

Experiences significant transitional changes which bring about unique challenges. Oftentimes these challenges lead to experimentation with substances.

- Believed to use substances like alcohol and marijuana the most.
- More likely to continue using into adulthood if use started in adolescence.

Impact of SU on the Developing Brain



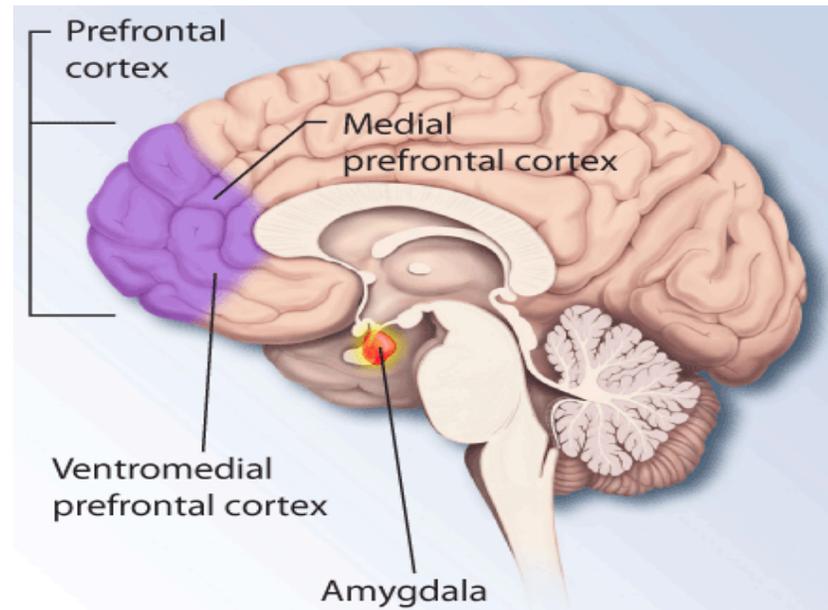
(Image pulled from <https://bhartithewriter.com>; no copyright infringement intended)

Impact of SU on the Developing Brain

The brain's prefrontal cortex is the last area of the brain to fully develop.

It is responsible for:

- impulse control
- attention
- focusing
- organization
- personality
- logical responses
- mood regulation



Impact of SU on the Developing Brain

Research suggests that the adolescent brain development puts this population at risk for reward seeking and risky choices. (*Bava and Tapert, 2010*)

Use of substances inhibits normal brain functioning, which results in:

- significant negative consequences within brains that aren't fully developed.
- possibility of permanent damage (abnormal changes).

Impact of SU on the Developing Brain

Effects of the abnormalities include:

- declined academic performance (lower IQ)
- poor peer and/or familial relationships
- increased risk-taking behaviors to include unsafe sex
- criminal behavior
- increased drug use
- addiction
- co-occurring disorders

Impact of SU on the Developing Brain

Factors known to influence the relationship between substance use and mental health problems include:

- age at first use
- number of drugs used
- frequency of use
- genetic vulnerability



TYPES OF DRUGS

Drug Type Chart

Examples of drug types:

| Stimulants | Depressants | Hallucinogens |
|--------------|---------------------------------|--|
| marijuana | marijuana | marijuana |
| amphetamines | alcohol | lysergic acid diethylamide (LSD or "acid") |
| cocaine | benzodiazepines | dimethyltryptamine (DMT) |
| nicotine | flunitrazepam (Rohypnol) | psilocybin |
| caffeine | gamma-hydroxybutyric acid (GHB) | peyote |

Image from Medical News Today (*no copyright infringement intended*)

For more info on different types of drugs:

<https://streetdrugs.org/>

Stimulants

Stimulants increase alertness & elevates mood by targeting the brain's dopamine and norepinephrine neurotransmitters.

- Dopamine influences mood
- Norepinephrine affects blood vessels, heart rate, breathing, blood pressure, etc.

Common stimulants include:

- Ritalin
- Adderall
- Concerta
- Marijuana

Stimulants

Side effects of stimulants include:

- faster breathing
- higher body temperature
- increased/rapid heart rate
- increased energy



Vaping

Vaping is the act of inhaling and exhaling the vapor produced by heating nicotine liquid (*often called “juice”*) of an electronic cigarette (*e-cigarette or e-cig*), vape pen, or personal vaporizer.

- Believed to contain high levels of nicotine (=1 pack of cigarettes)
- Contains carcinogenic compounds
- Highly addictive
- Can be used to vape marijuana
- Easy to hide/ use discreetly

Vaping

Side effects of vaping include:

- decreased attention span
- gastrointestinal problems
- lung failure
- low oxygen levels



Image from CDC.gov; no copyright infringement intended.

Depressants

Depressants have a relaxing effect on the user due to its calming effect on the central nervous system and decreased brain functioning.

Common depressants include:

- Ambien
- Xanax
- Klonopin
- Valium
- Ativan
- Alcohol
- Marijuana



Depressants

Side effects of depressants include:

- lowered energy
- slowed breathing
- slowed heart rate
- lower body temperature
- decreased brain functioning

Side effects of alcohol misuse include:

- liver damage
- heart problems
- dependence
- blackouts

Opioids

Opioids are a type of depressant that slows the body down and makes the user sleepy.

Common opioids include:

- Heroin
- Fentanyl
- Oxycodone, OxyContin, Percodan, Percocet
- Codeine
- Morphine
- Methadone
- Hydromorphone
- Vicodin

Opioids

Opioids may be prescribed by a treating clinician, such as a doctor, or obtained illegally.

- Typically used to reduce pain, manage opioid dependence or produce a state of euphoria.

Youth usually obtained opioids from family, friends, and/or medical prescriptions (e.g., dental procedures, sports injuries, etc.).

- The earlier the age of opioid exposure, the greater the vulnerability to developing an Opioid Use Disorder (OUD).

Hallucinogens

Hallucinogens are known to alter the user's sense of reality. These effects are correlated to an increase in serotonin levels in the brain's frontal cortex which is the response area for cognition, perception and mood.

Common types of hallucinogens include:

- PCP
- LSD
- Psilocybin (e.g. magic mushrooms)
- Mescaline (peyote)
- Marijuana

Hallucinogens

Side effects of hallucinogens include:

- delusional thoughts
- bizarre physical motions
- auditory, visual, sensory, tactile hallucinations



Marijuana

Marijuana contains a psychoactive chemical called delta-9-tetrahydrocannabinol (THC). This chemical is what alters the mental state of the user.

- Marijuana falls into the categories of depressant, stimulant and hallucinogenic.
- Various strains/ types of marijuana produces different effects on the user.
- Common symptoms/ effects of marijuana include:
 - sense of euphoria (stimulant effect)
 - sense of relaxation (depressant effect)
 - heightened sensory perception (hallucinogenic effect)

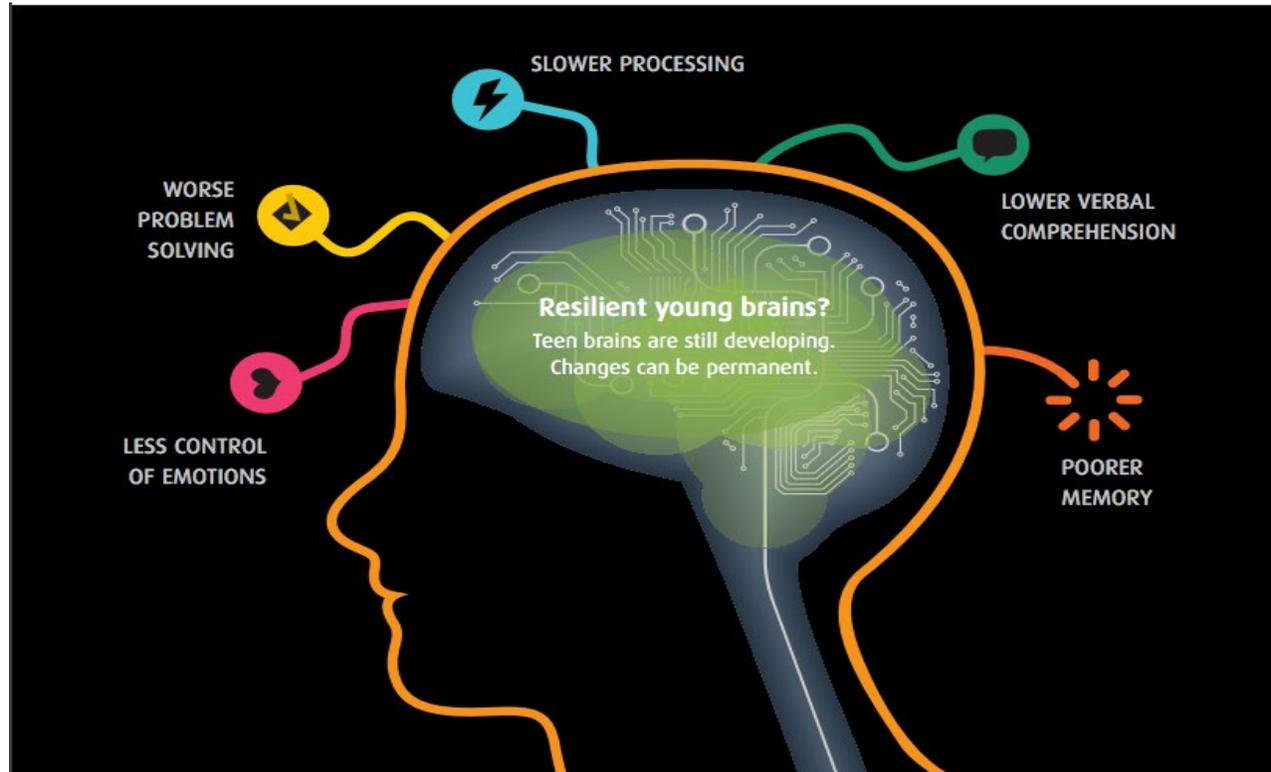
Marijuana

Side effects of marijuana include:

- increased heart rate
- nausea
- cannabinoid hyperemesis
- heartburn
- slurred speech
- dizziness
- slowed breathing
- memory problems, poor concentration
- paranoia
- hallucinations/ psychosis
- perception



Marijuana



Impact of Marijuana Use on Teen Brain

Image from <http://getsmartdfc.com/marijuana-impact-on-young-brain/>

(no copyright infringement intended)

Medical Marijuana

Medicinal Marijuana

In the US, medicinal or medical marijuana is primarily used for chronic pain management.

- It is believed to be a safer alternative to opioids and replaces use of NSAIDs for those unable to take medicines such as Advil or Ibuprofen.

Users of medicinal marijuana reported it allowed them to resume activities of daily living without feeling drugged out/ disengaged.

Medical Marijuana

Is used:

- to manage nausea and vomiting
- to treat eating disorders (e.g. anorexia)
- treatment for glaucoma
- treatment for PTSD
- treatment for schizophrenia
- to minimize pain & wasting syndrome in HIV
- treatment for irritable bowel syndrome & Crohn's disease
- to treat epilepsy

Medical Marijuana

As of 2020, medical marijuana is legal in 33 states to include Delaware, Maryland, D.C. and West Virginia.

To get medical marijuana:

- One needs a written statement from an approved licensed physician attesting user has a medical condition that qualifies for medical marijuana as part of treatment regimen.
- Medical marijuana ID card
- Purchase from a state approved dispensary.

Impact of COVID-19

Increased stressors led some teens to self-medicating.

- Overarching issue of youth in need of services not getting these services due to inability of professionals/clinicians to appropriately assess the problem due to various public health emergency mandates.
- Ongoing research is needed to better understand and address the emerging threats of COVID-19 on our youth.

Impact of COVID-19

“...epidemic hidden in a pandemic.”

Dr. Andrea Raby of Bayless Integrated Healthcare, calls the **threat to our youth who are now at increased risk of substance use disorder and overdose in the wake of the COVID-19 pandemic** is an “epidemic hidden in a pandemic”.

<https://ktar.com/story/3404009/adolescents-at-risk-in-drug-overdose-rise-during-covid-19-pandemic/>

- CDC’s latest provisional drug overdose death counts through May 2020 suggest an increase of overdose deaths during the COVID-19 pandemic.



Treatment

Treatment Modalities

Clinical best practices in substance use treatment for adolescents has been an ongoing focus in research for decades. Some of these best practices include:

- SBIRT (*Screening, Brief Intervention, Referral to Treatment*)
- Motivational Interviewing
- Harm Reduction Model
- Cognitive behavioral approaches
- Family-based treatment models
- Self-help sobriety support groups
- Mindfulness/ Spirituality

Treatment Considerations

It is essential for treating clinicians to evaluate youth for co-occurring disorders that could further complicate access to, or engagement in, treatment.

Per the American Academy of Pediatrics, despite the high rates of mental health comorbidity, significant treatment gaps continue to exist, with only 4.6% of youth receiving comprehensive dual diagnoses care.

Treatment Options

There are several available treatment options, clinical and nonclinical, within Maryland's Public Behavioral Health System (PBHS) to help our youth address their behavioral health needs.

These options include:

- Traditional Outpatient Programs (OP)
- Intensive Outpatient Programs (IOP)
- Partial Hospitalization Programs (PHP)
- Inpatient Psychiatric Hospitalization
- ASAM Level 0.5- 4.0
- Young Adult Recovery Housing (YARH) Programs
- Adolescent Clubhouses (ACH)- *nonclinical*

Optum

Assistance with referrals to these programs or requests for authorization for these services are handled by Optum, the current Administrative Service Organization (ASO) for Maryland Medicaid.

For more information:

<https://maryland.optum.com/content/ops-maryland/maryland/en/about-us.html>

Optum Staff can also be reached at (800) 888- 1965

REFERENCES

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Wetherill, R., & Tapert, S. F. (2013). Adolescent brain development, substance use, and psychotherapeutic change. *Psychology of Addictive Behavior*, 27(2) 393-402. doi:10.1037/a029111

Bava, S., & Tapert, S. F. (2010). Adolescent brain development and the risk for alcohol and other drug problems. *Neuropsychol Rev*, 20, 398-413. doi: 10.1007/s11065-010-9146-6

Robinson, C.A. and Wilson, J.D. Management of opioid misuse and opioid use disorders among youth. *Pediatrics* May 2020 145 (Supplement 2) S153-S164; DOI: <https://doi.org/10.1542/peds.2019-2056C>

References

Centers for Disease Control and Prevention. [CDC Health Alert Network Advisory: Increase in Fatal Drug Overdoses Across the United States Driven by Synthetic Opioids Before and During the COVID-19 Pandemic](#). CDCHAN-00438, 2020 Dec 14.

RESOURCES

Data Resources

- Youth Risk Behavior Surveillance System (YRBSS):
<https://www.cdc.gov/healthyyouth/data/yrbs/index.htm>
- Maryland YRBSS Data:
<https://www.cdc.gov/healthyyouth/data/yrbs/results.htm>
- Monitoring the Future (*through NIDA*)
<https://www.drugabuse.gov/drug-topics/trends-statistics/monitoring-future>

Treatment Resources

- MDH-BHA Telebehavioral Health Provider Locator Map:
<https://telebehavioralhealth-maryland.hub.arcgis.com/>
- Maryland Association of Behavioral Health Authorities (MABHA):
<https://www.marylandbehavioralhealth.org/wp-content/uploads/2020/12/DirectoryMABHA-Updated-September-2020.pdf>
- Behavioral Health Treatment Services Locator:
<https://findtreatment.samhsa.gov/>

Additional Resources

Optum:

- Provider Manual:
<https://maryland.optum.com/content/ops-maryland/maryland/en/bh-providers/manual.html>
- Children, Youth and Family Information:
<https://maryland.optum.com/content/ops-maryland/maryland/en/participants-families/child-family.html>
- Non-Behavioral Health Providers:
<https://maryland.optum.com/content/ops-maryland/maryland/en/non-bh-providers.html>

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Addiction A Brain Disease

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Not a Moral Issue or a Personal Weakness

- People don't always understand why or how someone becomes addicted to drugs. They mistakenly think that people who use drugs lack moral principles or willpower and that they can just stop
- The reality is addiction is a complex disease that changes both the structure and function of the brain. Addiction is characterized by drug seeking and use that is compulsive or difficult to control despite the harmful consequences



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The Pleasure Principle

- Most drugs affect the brain's "pleasure" system, causing euphoria as well as overflowing the brain with the chemical dopamine
- In a "normal" functioning brain the "pleasure" system motivates a person to repeat behaviors need to thrive (eating, spending time with people we love, exercise, etc.)
- The surge of dopamine in the "pleasure" system that reenforces unhealthy behaviors like using drugs is what leads people to repeating the negative behaviors again and again (addiction)



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The Who and Why of Addiction

- There is no one factor that leads to addiction, for example:
- Biology-genetics, ethnicity, gender and the presence of other behavioral and mental disorders may influence risk for drug use and addiction
- Environment- a person's environment can include many different influences including family and friends, physical and sexual abuse, early exposure to drugs, economic status and general quality of life can all greatly affect a person's risk for drug use and addiction



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The Who and Why of Addiction

- Development-genetic and environmental factors interact with critical developmental stages in a person life. While taking drugs at any stage in life can lead to addiction, the earlier/ younger a person begins using drugs, the more likely they are to become dependent or addicted to the substance.
- Mental Illness- research shows that some people dealing with mental illness are at an increase for addiction. Some people who live with anxiety or mood disorder, depression, antisocial personality disorder and conduct disorder are at an increased risk for drug use as a way to alleviate the pain that they feel and manage the thoughts that they may not be able to control



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What's The Cure?

- Like most chronic diseases there are treatment options, and the disease of addiction can be successfully managed. People who are recovering from addiction will always have some risk for relapse, but research show that combining treatment with behavioral therapy and a tailored approach towards addressing any co-occurring medical, mental and social issues can lead to successful recovery



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What's The Cure?

- Treatment of chronic diseases involves changing deeply rooted behaviors, and relapse doesn't mean treatment has failed. When a person recovering from an addiction relapses, it indicates that the person needs to resume treatment, modify it, or try another treatment option.
- While relapse is a normal part of recovery, for some drugs, it can be very dangerous—even deadly. If a person uses as much of the drug as they did before quitting, they can easily overdose because their bodies are no longer adapted to their previous level of drug exposure. An overdose happens when the person uses enough of a drug to produce uncomfortable feelings, life-threatening symptoms, or death



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What We've Learned?

- Drug addiction is a chronic disease characterized by drug seeking and use that is compulsive or difficult to control
- Brain changes that occur over time with drug use can interfere with a person's ability to resist intense urges to use drugs.. This is why addiction is a relapsing disease
- Most drugs affect the brain's pleasure system by flooding it with the chemical dopamine, which reinforces the pleasure you can feel from unhealthy behaviors (drug use), leading people to repeat the behavior



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What We've Learned?

- No single factor leads to addiction. The more factors a person has, the greater the risk an individual has of becoming addicted
- Drug addiction treatment can be successfully managed, but treatment is not a “one size-fits all” process. Treatment plans should be client focused and help address co-occurring medical, mental and behavioral health issues
- Relapse does not mean that treatment failed. Recovery is a lifelong process, and it requires lifestyle changes which is never easy. If an individual experiences a relapse, encourage treatment, therapy and offer support



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Overdose and Treatment Options

*Rania Mohamed
Community Engagement Liaison
Baltimore City Health Department
Overdose Prevention Team*



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What we'll cover

- What lead us to this epidemic?
- State and local statistics
- Recognizing the signs of an overdose
- Naloxone
- Treatment options



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Brief History

- Epidemic came in 3 waves
 - 1. 1991 deaths involving opioids began to rise due to over prescribing
 - 2. 2010 from pills to heroin. With decreased prescription access, those addicted sought out heroin
 - 3. 2013 Increase in deaths related to synthetic opioids such as Fentanyl
 - 4. Prescription medication, along with presence of Fentanyl has led to an increase in deaths across the U.S.
 - 2013-2019, Baltimore City saw a 271% increase in fatal overdoses

visit <https://www.dualdiagnosis.org/infographics/history-of-the-opioid-epidemic> for a more in-depth look at the History Opioid Epidemic in America



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Fentanyl in the drug supply

- In 2018, of the 814 Opioid related deaths, a total of 758 of them involved Fentanyl. That is 93% of the total death rate.
- Fentanyl is 50-100 times more potent than Morphine
- Two milligrams of Fentanyl – equivalent to six or seven grains of salt- is considered a lethal dose.



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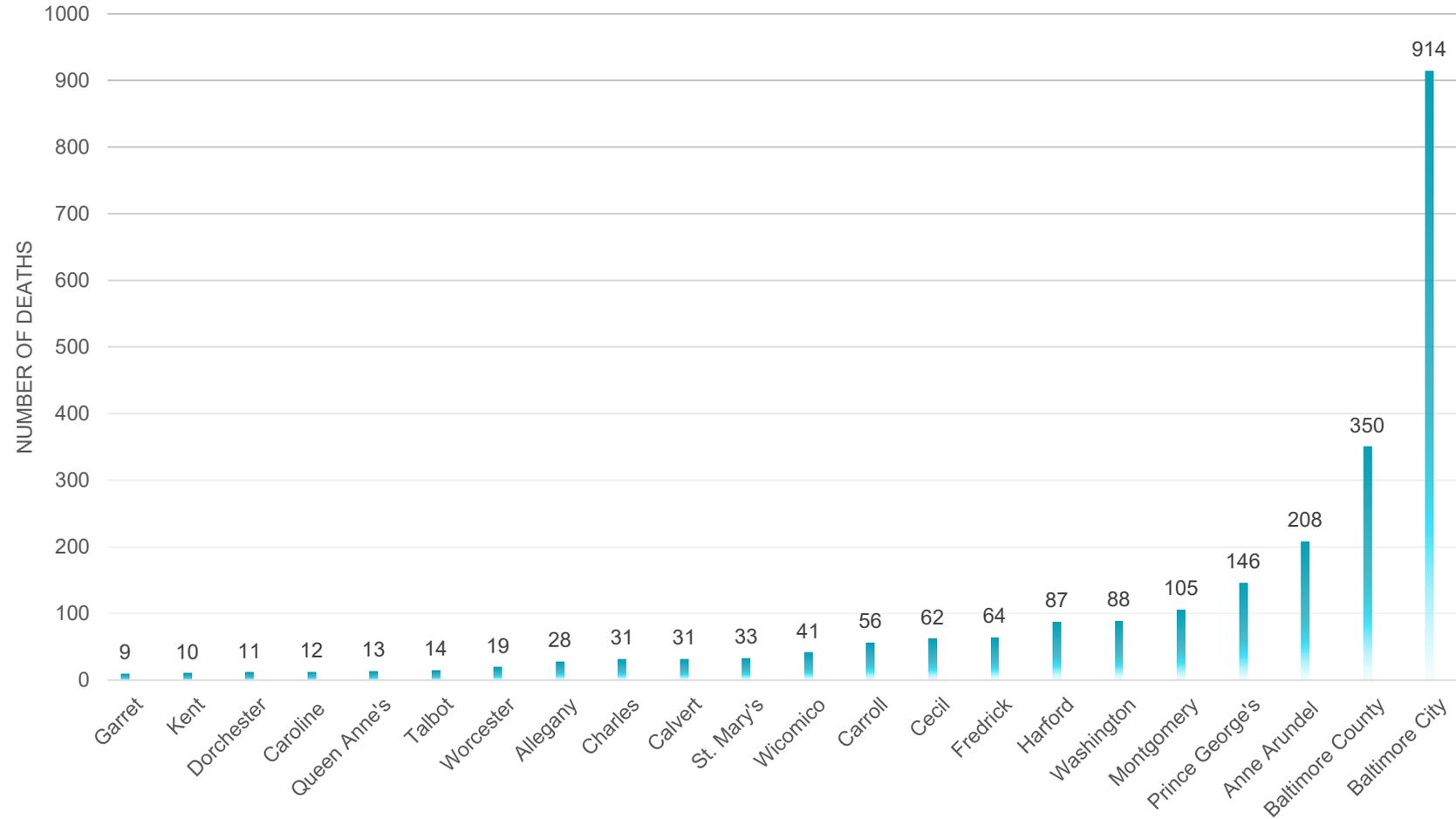




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 **BALTIMORE**
CITY HEALTH
DEPARTMENT

COMPARISON OF INTOXICATION-RELATED DEATHS BY PLACE OF OCCURRENCE, 2019



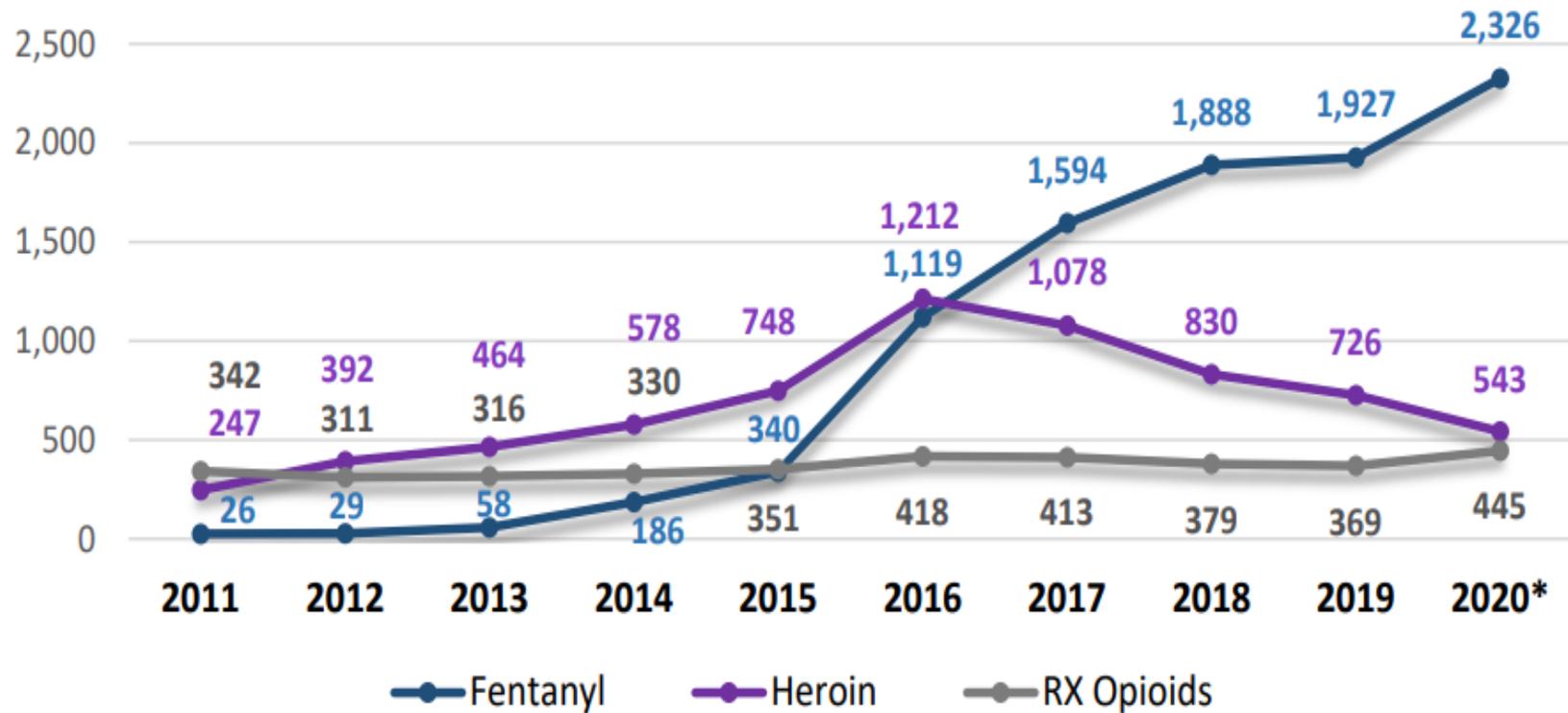
https://health.maryland.gov/vsa/Documents/Overdose/Annual_2019_Drug_Intox_Report.pdf



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Figure 3. Intoxication Death by Opioid Type
*2011 through 2020**



*2020 data are preliminary and subject to change

<https://beforeitstoolate.maryland.gov/wp-content/uploads/sites/34/2021/04/2020-Annual-Report-Final.pdf>

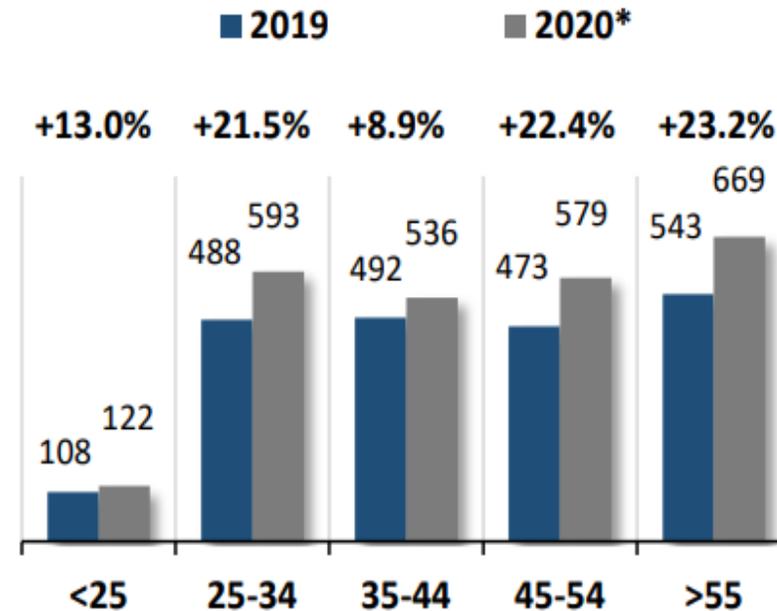


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Figure 6: Opioid-Related Fatal Overdoses by Age, Gender, and Race/Ethnicity
January through December, 2019 vs. 2020

- Opioid-related fatal overdoses increased across all age groups in 2020.
- Opioid-related fatalities increased the most (numerically and by percentage) among people over the age of 55.
- Individuals under the age of 25 saw significantly fewer opioid-related fatal overdoses than other age cohorts.



Note: In 2019, age could not be determined in two cases.

*2020 data are preliminary and subject to change <https://beforeitstoolate.maryland.gov/wp-content/uploads/sites/34/2021/04/2020-Annual-Report-Final.pdf>

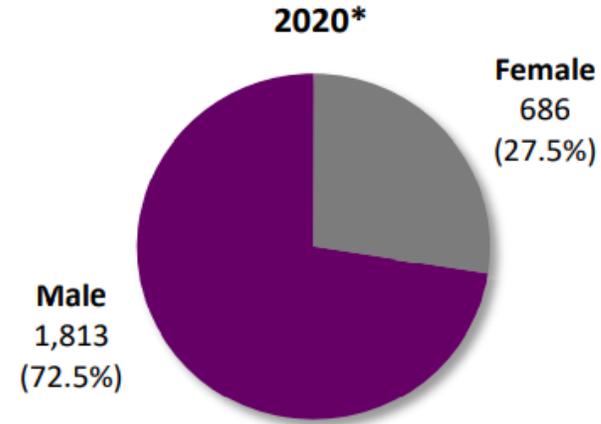


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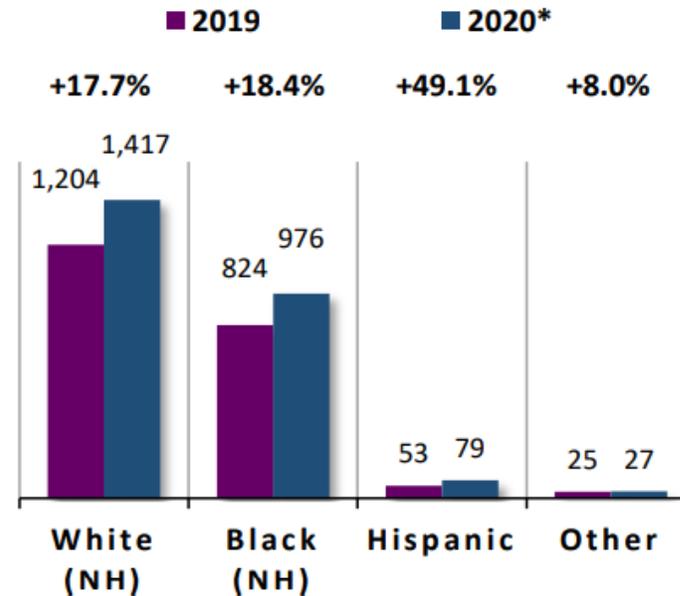
Gender

- Gender trends have remained consistent in 2020 as compared to previous years. Opioid-related fatal overdoses involving males vastly outnumbered those involving females.
- In 2019, males made up 72.6 percent of opioid-related fatal overdoses.



Race/Ethnicity

- Opioid-related fatal overdoses increased across all racial/ethnic groups in 2020.
- In 2020, 56.7 percent of opioid-related fatalities involved non-Hispanic White Marylanders, and 39.1 percent involved non-Hispanic Black Marylanders.
- Opioid-related fatal overdoses grew the most among Hispanic Marylanders (by 49.1 percent).



*2020 data are preliminary and subject to change <https://beforeitstoolate.maryland.gov/wp-content/uploads/sites/34/2021/04/2020-Annual-Report-Final.pdf>



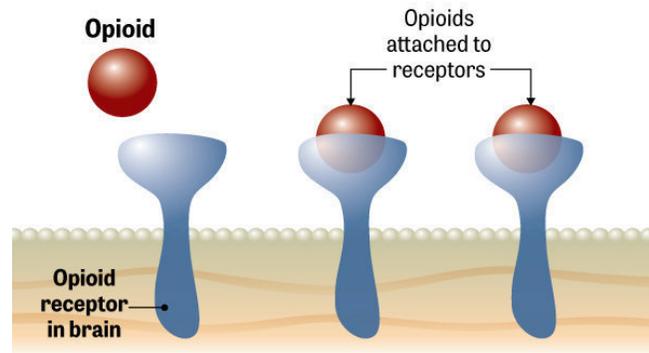
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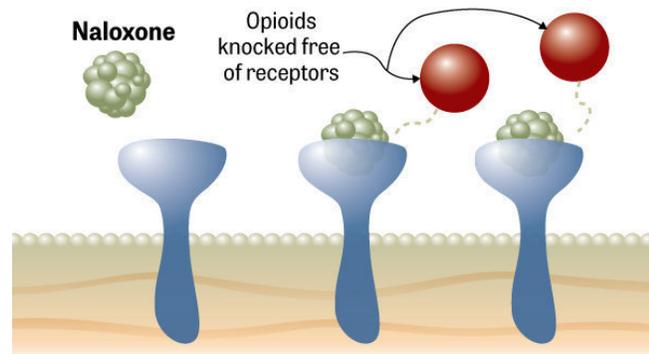
Naloxone

OPIOID OVERDOSE

The brain has many receptors for opioids. An overdose occurs when too much of an opioid (heroin, OxyContin, Percocet) fit into too many receptors, stopping the person's breathing.



Naloxone has a stronger affinity to the opioid receptors than opioid drugs, so it knocks the opioids off the receptors for a short time. This allows the person to breathe again and reverses the overdose.



- Overdose victims stop or have labored breathing during an overdose because opioids fit into specific receptors that also affect the drive to breathe.
- Takes 1-3 minutes to become effective
- Will only block Opioids. Meaning; if the individual mixed different drugs (i.e. Cocaine, Ecstasy or Marijuana), they will still have the high from the other drug.



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Recognizing the Signs of an Overdose



Will not wake up or respond to your voice or touch



Fingernails and lips are turning blue or grey



Breathing is soft or non-existent



Slow heartbeat and/or low blood pressure



Pupil very small, also called "pinpoint pupil"



Cold, clammy skin.

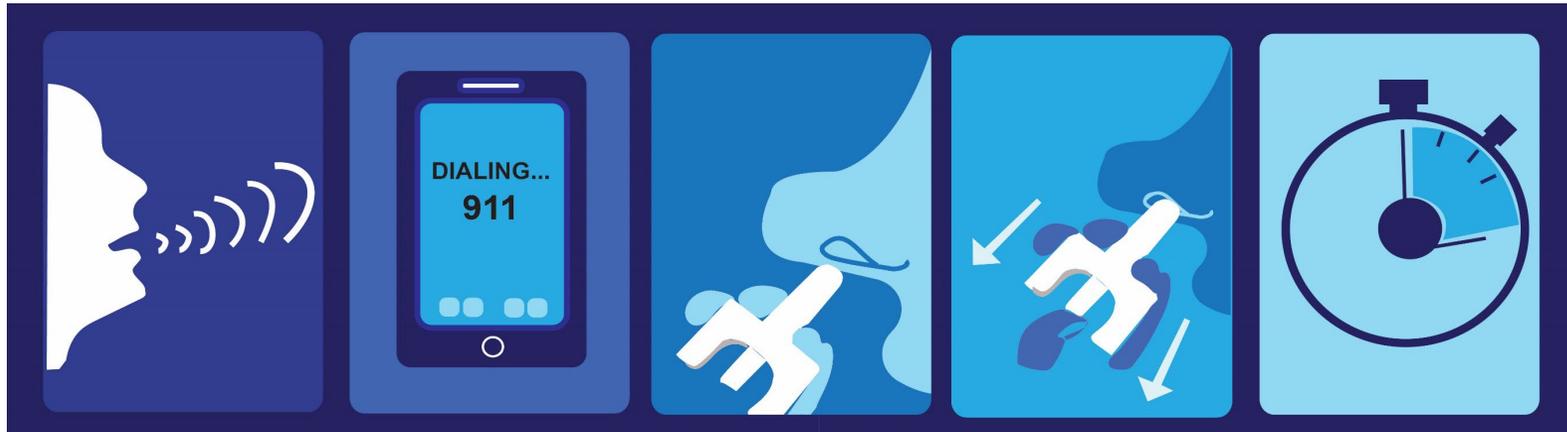


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Administering Naloxone

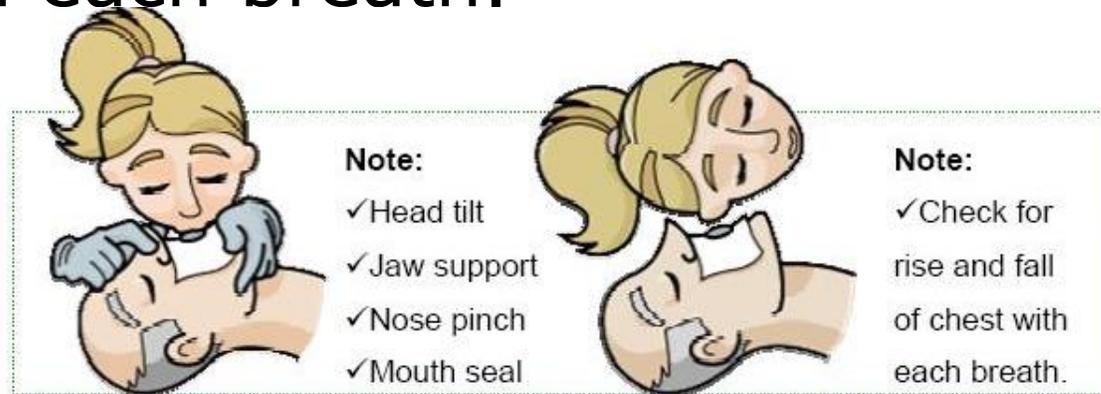
- **Step 1:** Try to wake the person
- **Step 2:** Call 911
- **Step 3:** Administer Naloxone
- **Step 4:** Begin Rescue Breathing
- **Step 5:** Recovery position



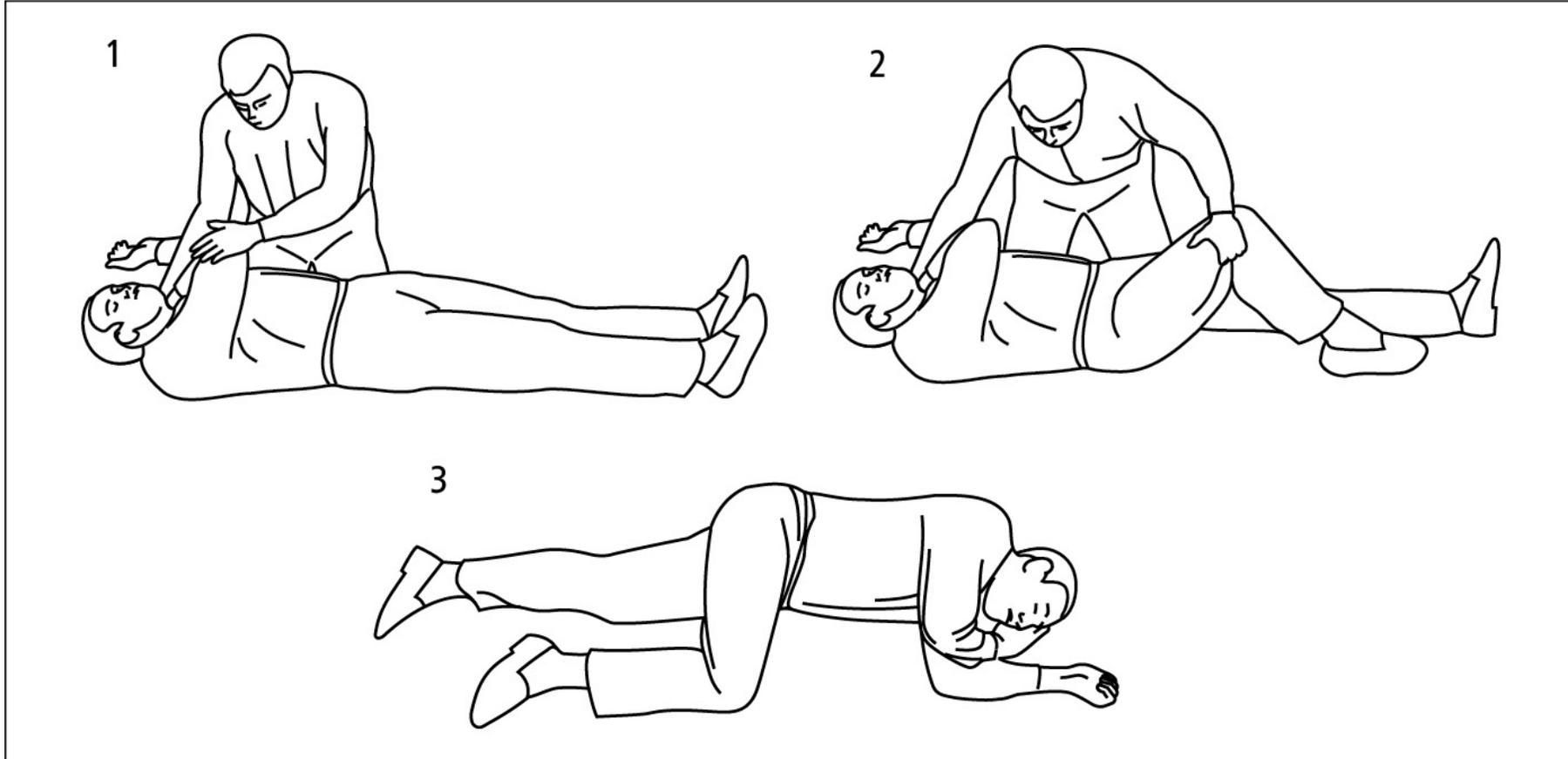
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Rescue Breathing

- If the person has labored breathing or is not breathing at all, it is vital to conduct rescue breathing. Tilt the head back, pinch the nose closed and give one slow breath every 5 seconds until the person resumes breathing on their own or until the paramedics arrive. Watch to see that their chest rises and falls with each breath.



Recovery Position



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After Administered..

- The individual will go into automatic withdrawal. These symptoms can include:
 - nausea, vomiting, dizziness, diarrhea, stomach pain, fever, sweating, body aches, weakness, tremors or shivering, increased heart rate, increased blood pressure
 - feeling nervous, restless, or irritable



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After Administered..

- The medication will block opioids for 30-90 minutes to reverse the respiratory depression that would otherwise lead to death from overdose.
- With a time limitation of effectiveness, it is possible for the individual to overdose again, without using again. For this reason it is important to stay with them individual until EMS arrives. If this is not possible, place them in the recovery position.



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Treatment Option

- Medication Assisted Treatment
 - M: **medications** including methadone, naltrexone, and buprenorphine
 - A: medications **assist** by suppressing opioid cravings, allowing clients to focus on their individualized recovery
 - T: the medication is a part of the overall **treatment** plan to manage symptoms



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Medications For Treatment

| | | | |
|------------------------------------|--|--|--|
| <p>How it's taken</p> |  <p>Methadone Liquid, edible wafer or tablet</p> |  <p>Buprenorphine Tablet, oral dissolving strip or implant</p> |  <p>Naltrexone Tablet or injection</p> |
| <p>What it does</p> | <p>A long-acting opioid medication that reduces cravings and symptoms of withdrawal and blocks euphoric effects of other opioids</p> | <p>An opioid medication that reduces cravings and symptoms of withdrawal and weakens euphoric effects of many opioids until the effects eventually level off</p> | <p>After mandatory 7- to 10-day withdrawal from all opioids, this non-opioid drug blocks effects of opioids and reduces cravings</p> |
| <p>How often it's taken</p> | <p>Daily</p> | <ul style="list-style-type: none"> • Tablet or strip: Daily • Implant: Every six months | <ul style="list-style-type: none"> • Tablet: Every one to three days • Injection: Monthly |
| <p>Where it's available</p> | <p>Certified Opioid Treatment Program (OTP), also known as a methadone clinic</p> | <p>Doctor, nurse practitioner or physician assistant with training to prescribe in office-based setting or some opioid treatment programs</p> | <p>Doctor or pharmacist</p> |



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<https://www.coloradohealthinstitute.org/research/providing-medication-assisted-treatment-colorado>



Understanding MAT

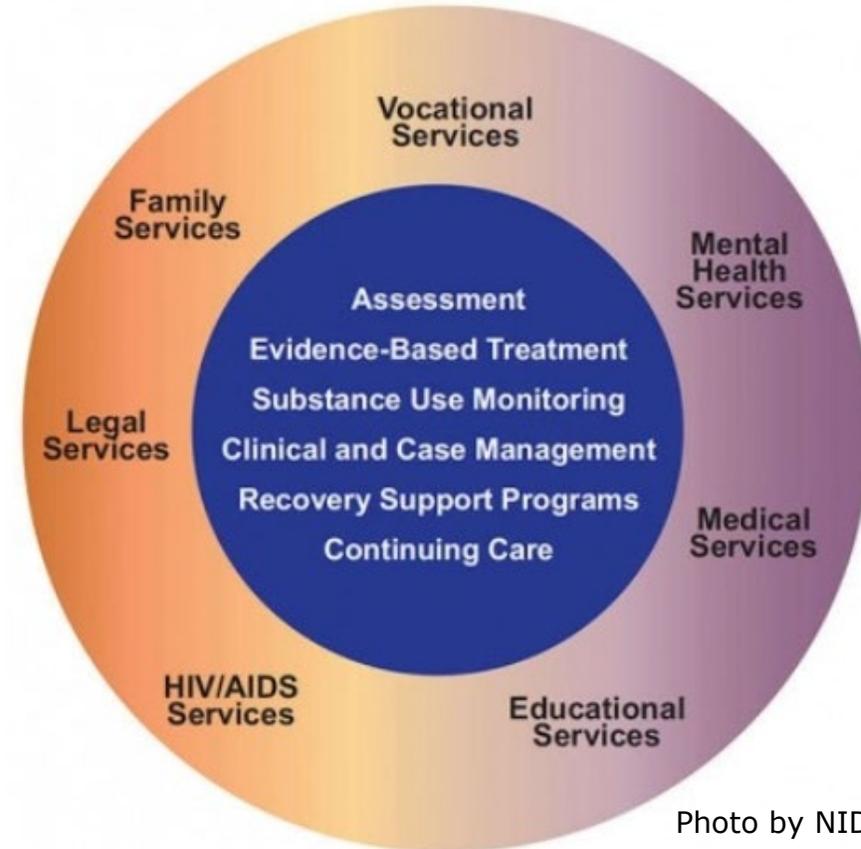
- Misunderstandings of MAT & addiction
 - MAT does not replace one addiction with another
 - Addiction is defined by cravings, compulsive drug seeking, and continued use despite negative consequences. Individuals in successful treatment and recovery no longer experience these symptoms.
 - Relapse does not mean treatment has failed
 - Recovery is a lifelong process and a lapse in sobriety is very common
 - Relapse rates while in recovery are 40-60%



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Overall Treatment

- The best treatment programs provide a combination of therapies and other services to meet the needs of every individual patient



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<https://www.drugabuse.gov/publications/drugfacts/treatment-approaches-drug-addiction>



MAT is not the only option

- Understanding that recovery is just as unique as the person is key
- MAT is one of the tools in our tool-kit for a person to enter recovery
- Other treatment options can be comprised of multiple service components, including the following:
 - Individual & group counseling
 - Inpatient & residential treatment
 - Intensive outpatient treatment
 - Partial hospital programs
 - Detox/Abstinence
 - Case or care management
 - Recovery support, Peer support
 - 12-Step fellowship
 - Eastern Medicine (i.e. acupuncture)



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Reducing Stigma

- Addiction is a chronic disease and not a moral failing
- Replace stigmatizing language like junkie or addict with person who uses drugs



WHAT ADDICTION IS NOT:

- A **CHOICE**
- A **MORAL FAILING**
- A **MATTER OF WILLPOWER**
- A **SIGN OF WEAKNESS**
- A **CONDITION TO BE ASHAMED OF**
- A **SITUATION WHICH WILL SOLVE IT SELF**
- **SOMETHING WHICH SHOULD BE FACED ALONE**



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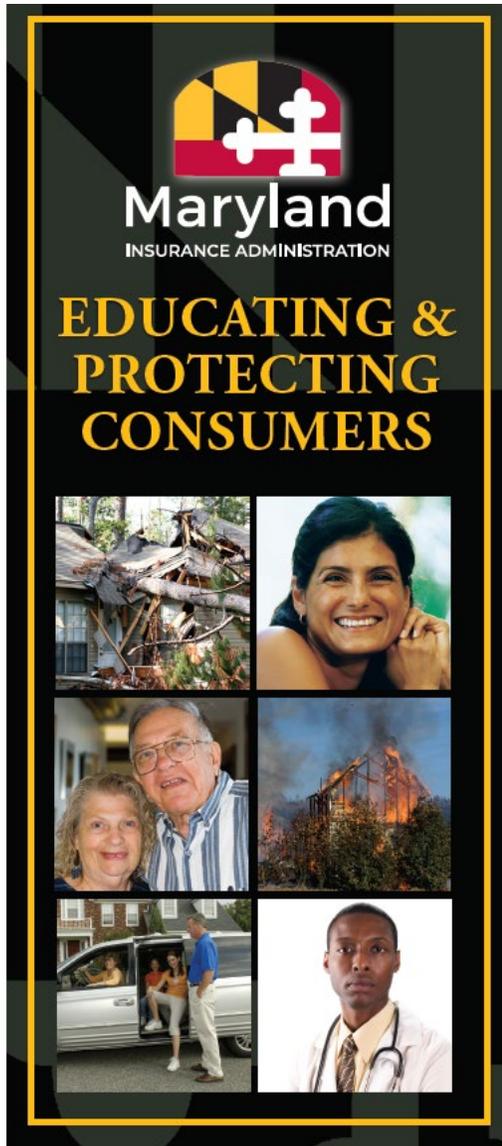
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How the Maryland Insurance Administration Can Assist Consumers that have been Denied Substance Use or Mental Health Illness Treatment

Louis Butler, Jr., Director
Appeals & Grievances Unit
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What is the Maryland Insurance Administration



The Maryland Insurance Administration (MIA) is the state agency that regulates insurance in Maryland. The MIA:

- Licenses insurers and insurance producers (agents or brokers).
- Examines the business practices of licensees to ensure compliance.
- Monitors solvency of insurers.
- Reviews/approves insurance policy forms.
- Reviews insurance rates to ensure rates are not inadequate, excessive or unfairly discriminatory.
- Investigates consumer and provider complaints and allegations of fraud.



Types of Complaints the Maryland Insurance Administration Can Review

If you feel that your insurer or insurance producer acted improperly, you have the right to file a complaint. Examples of improper actions include:

- Improperly denying or delaying payment of all or portions of a claim;
- Improperly terminating your insurance policy;
- Raising your insurance premiums without proper notice;
- Making false statements to you in connection with the sale of insurance or processing of insurance claims; and,
- Overcharging you for services, including premium finance charges.

If you have a health plan ID card issued in 2021, and it says "MIA", then the MIA can review your complaint.



Types of Complaints the MIA Cannot Review

The MIA cannot address complaints or inquiries involving insurance contracts which are not regulated by the State of Maryland. This includes the following:

- Self-funded or self-insured plans
- Medical Assistance (Medicaid)
- Medicare and Medicare HMO's
- Federal Employee Health Benefit Programs
- Uniformed Services Family Health Plans
- Contracts issued and delivered to the policyholder in another state.



Health Appeal Process

If your health care provider tells you that a certain service or medication is needed, but your health insurance carrier or HMO disagrees, you have the right to appeal that decision.

Denials may include:

- A claim denial. This is where your carrier or HMO has denied payment for a service or medication that was provided.
- An authorization denial. This is when a medication or treatment requires a referral or prior authorization from your provider, but this authorization has been denied by your insurance carrier or HMO.



Health Appeal Process

In addition, you can appeal if:

- You were approved for a lower level of care than you asked for; or
- You believe the in-network or approved provider is too far away or the wait is too long; or
- You received an approval for fewer visits than your provider thinks you need.

You are entitled to a written denial unless you or your provider agrees to an alternative care plan.



Health Appeal Process

The written denial will explain how to file an internal appeal to your health insurance carrier or HMO, as well as how to file a complaint with the Maryland Insurance Administration.

If you have any questions about filing a health insurance or HMO complaint, or you have a denial of benefit that involved an emergency case, please reach out to the Maryland Insurance Administration at 1-800-492-6116.



How to Obtain Pre-Authorization

To start the process of obtaining authorization for an inpatient admission for mental illness, emotional health disorder or a substance use disorder, call the number on the back of the patient's health insurance ID card first.



How to Obtain Pre-Authorization

The insurance company will ask what facility you would like to use for the patient and/or what treatment is required. The insurance company will tell you what documents they need in order to make a determination about coverage.



How to Obtain Pre-Authorization

If a patient is in imminent danger to self or others, and the determination is made by the patient's physician or psychologist and a member of the medical staff of the facility who has admitting privileges, then a health insurance company cannot deny the first 24 hours of an admission based on medical necessity. Notify the insurance company as soon as possible.



Maryland
INSURANCE ADMINISTRATION

How to Obtain Pre-Authorization

For an emergency inpatient admission for treatment of a mental illness, emotional health disorder, or substance use disorder, the insurance company must make a decision on whether to pre-authorize the treatment within 2 hours of receiving the requested documents.



How to Obtain Pre-Authorization

If the insurance company denies the request for an admission, call the Maryland Insurance Administration (MIA) at 1-800-492-6116. The MIA is available 24 hours a day for complaints in emergencies when care has not yet been rendered. In an emergency, the MIA will make a decision within 24 hours.



How to Obtain Pre-Authorization

If the MIA does not regulate the health insurance plan, your complaint will be sent to the agency that does regulate the plan. An insurance company is not allowed to retaliate against a provider for filing an appeal of a denial with the insurance company or a complaint with the MIA.



Contact Information

The Health Education and Advocacy Unit of the Office of the Attorney General of Maryland can assist with filing an appeal or complaint. They can be reached at 410-528-1840 (in Baltimore) or 1-877-261-8807.



Pre-Authorization May Not be Required in Certain Circumstances



An insurer, nonprofit health service plan, or HMO that provides coverage for substance use disorder benefits or prescription drugs may not require preauthorization for prescription drugs used for substance use treatment of an opioid use disorder and if the prescription contains methadone, buprenorphine or naltrexone.



Maryland Insurance Administration Resources for Mental Health and Substance Use Disorders

- [MHPAEA Enforcement Actions](#)
- [Key Terms](#)
- [Frequently Asked Questions](#)
- **NEW** Consumer Advisory: [Getting started with help for mental health problems](#)
- [Maryland's Opioid Crisis and how the Maryland Insurance Administration Can Help Presentation](#)
- [Consumer Guide to Understanding Your Health Insurance coverage for Mental Health & Substance Use Disorders](#)
- [Guía Del Consumidor Para Comprender La Cobertura Del Seguro De Salud Para La Salud Mental Y Trastorno Por Uso De Substancias](#)
- [Navigating Private Health Insurance Coverage for Mental Health and Substance Use Disorder Emergencies](#)
- **NEW** Understanding Health Insurance Coverage for Mental Health and Substance Use: [Video](#)



Questions?

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