

TEAM ASTHMA: BACK ON TRACK
Preconference Session
August 4, 2022
SMART Therapy and Asthma
Management in Special Populations

Managing Asthma in Smokers and Vapers
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CHOP Primary Care South Philadelphia

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No Disclosures

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Objectives:

Managing Asthma in Smokers and Vapers

1. Learners will be able to identify resources to help patients quit smoking/vaping
2. Learners will be able to describe the dangers of secondhand smoke

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Source FDA
 It is now illegal for a retailer to sell any tobacco product—including cigarettes, cigars, and e-cigarettes—to anyone under 21. The new federal minimum age of sale applies to all retail establishments and persons with no exceptions.

The T21 law applies to sales of tobacco products - including cigarettes, smokeless tobacco, hookah tobacco, cigars, pipe tobacco, electronic nicotine delivery systems including e-cigarettes and e-liquids - to anyone under 21 years of age.



Source The Truth.com
 Holding JUUL accountable
 Despite FDA ban, JUUL products will remain on the market... for now.
 After the FDA rejected JUUL's plea to stay on the market, the e-cigarette company hit back with an appeal, which temporarily blocks the ban and allows JUUL to continue selling vape products... for now.
 It's no surprise that JUUL, like its predecessor Big Tobacco, has found a way to avoid facing consequences. Regardless, the FDA's action is still a huge move to hold the e-cigarette giant accountable for its role in the teen vaping epidemic.

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JUUL = HIGH NICOTINE DELIVERY SYSTEM

1 POD = (same nicotine) 20 cigarettes

- 2-10x higher than earlier e-cigarette devices

Nicotine without adverse user experience

- No noxious taste/sensation, like cigarettes

80% of 15-24 yo continue using Juul

- Common social media post: "Addicted to my Juul"



Source: Benjamin Rowe et al. Adverse Use of "Pod Mod" E-Cigarettes - Urgent Concern, NCDR 2018



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Doja Cat Cancels Summer Tour Schedule Due To Tonsil Infection Caused By Vaping Habit

THE STAR OPENED UP TO FANS ABOUT HER TONSIL SURGERY AND THE PART VAPING PLAYED IN HER INFECTION AFTER ANNOUNCING SHE WOULDN'T BE PERFORMING THIS SUMMER

05/23/22 ESSENCE MAGAZINE

The Grammy-award-winning artist went on to share that while she is addicted to vaping, she believes with the right discipline, she could cut her use of it sometime in the near future.

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Tobacco product use is started and established primarily during adolescence.^{1,2}

Nearly 9 out of 10 adults who smoke cigarettes daily first try smoking by age 18, and 99% first try smoking by age 26.²

Each day in the U.S., about 1,600 youth smoke their first cigarette and nearly 200 youth start smoking every day.^{2,3}

Flavorings in tobacco products can make them more appealing to youth.^{4,5}

In 2021, 80.2% of high school students and 74.6% of middle school students who used tobacco products in the past 30 days reported using a flavored tobacco product during that time.⁶

In 2021, 85.8% of high school students and 79.2% of middle school students who used e-cigarettes in the past 30 days reported using a flavored e-cigarette during that time.⁶

Content source: [Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion](#)

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The Evolution of E-Cigarette, or Vaping, Products		E-Liquid
	1st GENERATION Disposable e-cigarettes	 <p>E-Liquid</p> <ul style="list-style-type: none"> E-liquid is the liquid that is converted into an aerosol by an e-cigarette, or vaping product. It is typically a mixture of water, food grade flavorings, a choice of nicotine salts, cannabidiol (CBD), propylene glycol (PG) or vegetable glycerin (VG). PG and VG are substances used in e-liquid to produce aerosols that simulate combustible tobacco cigarette smoke. The ratio of PG and VG in the e-liquid can change based on whether flavor (higher levels of PG) or volume (higher levels of VG) is desired. <p>REGULAR E-LIQUID VS CANNABIS E-LIQUID</p> 
	2nd GENERATION E-cigarettes with prefilled or refillable cartridge	
	3rd GENERATION Tanks or Mods (refillable)	
	4th GENERATION Pod Mods (prefilled or refillable)	

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E-LIQUID FLAVORS



Bubble Gum Chocolate Cotton Candy Grape Gummy Bear

Source: E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General, 2016

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EVALI: E-cigarette or Vaping Product Use Associated Lung Injury

- National and state data from patient reports and product sample testing show tetrahydrocannabinol (THC)-containing e-cigarette, or vaping, products, particularly from informal sources like friends, family, or in-person or online dealers, are linked to most EVALI cases and play a major role in the outbreak.
 - Vitamin E acetate is strongly linked to the EVALI outbreak. Vitamin E acetate has been found in product samples tested by FDA and state laboratories and in patient lung fluid samples tested by CDC from geographically diverse states. Vitamin E acetate has not been found in the lung fluid of people that do not have EVALI.
 - Evidence is not sufficient to rule out the contribution of other chemicals of concern, including chemicals in either THC or non-THC products, in some of the reported EVALI cases.
- CDC will continue to update guidance related to EVALI as appropriate.

12/28/2019

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EVALI remains a diagnosis of exclusion because, at present, no specific test or marker exists for its diagnosis, and evaluation should be guided by clinical judgment. Rapid recognition of EVALI patients by healthcare providers is critical to reduce severe outcomes.

Influenza cannot be distinguished from EVALI by signs, symptoms, clinical features at presentation (medical examination), or testing. Acute respiratory illness in a patient with a history of e-cigarette/vaping and THC exposure could be caused by influenza viruses, other respiratory infections, EVALI, or all of the above.

Patient Interview

When evaluating patients with respiratory symptoms (e.g., cough, chest pain, and shortness of breath), gastrointestinal symptoms (e.g., abdominal pain, nausea, vomiting, stomach pain, and diarrhea), or nonspecific constitutional symptoms (e.g., fever, chills, and weight loss):

- Ask about recent use of e-cigarette, or vaping, products in a confidential and nonjudgmental manner.
- If product use is confirmed, the types of substances used (e.g., THC, nicotine) and where they were obtained should be ascertained.

•Learn best practices for the patient interview with [Don't Forget to Ask-see slide 30.](#)

Physical Examination

- Assess vital signs and pulse oximetry.

Laboratory Testing and Imaging

•Laboratory testing should be guided by clinical findings.

•A chest radiograph (CXR) should be considered for patients with a history of e-cigarette, or vaping, product use, who have respiratory or gastrointestinal symptoms, particularly when chest pain, dyspnea, or decreased oxygen saturation (<95% while breathing room air) are present.

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As per the CDC-CIGARS:

- Regular cigar smoking is associated with an increased risk for cancers of the lung, esophagus, larynx (voice box), and oral cavity (lip, tongue, mouth, throat).^{1,2}
- Cigar smoking is linked to gum disease and tooth loss.²
- Heavy cigar smokers and those who inhale deeply may be at increased risk for developing coronary heart disease.^{1,2}
- Heavy cigar smoking increases the risk for lung diseases, such as emphysema and chronic bronchitis.^{1,2}



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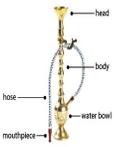
ODG: Using a hookah to smoke tobacco poses serious health risks to smokers and others exposed to the smoke from the hookah.

Hookahs are water pipes that are used to smoke specially made tobacco that comes in different flavors, such as apple, mint, cherry, chocolate, coconut, licorice, cappuccino, and watermelon.^{1,2}

Although many users think it is less harmful, hookah smoking has many of the same health risks as cigarette smoking.^{1,2}

Hookah is also called *narghile*, *argileh*, *shisha*, *hubble-bubble*, and *goza*.^{1,2} Hookahs vary in size, shape, and style.²

A typical modern hookah has a head (with holes in the bottom), a metal body, a water bowl, and a flexible hose with a mouthpiece.^{2,4} Hookah smoking is typically done in groups, with the same mouthpiece passed from person to person.^{1,2,3,4}



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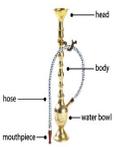
ODG: Using a hookah to smoke tobacco poses serious health risks to smokers and others exposed to the smoke from the hookah.

Hookah Smoke and Cancer

- The charcoal used to heat the tobacco can raise health risks by producing high levels of carbon monoxide, metals, and cancer-causing chemicals.^{1,4}
- Even after it has passed through water, the smoke from a hookah has high levels of these toxic agents.⁴
- Hookah tobacco and smoke contain several toxic agents known to cause lung, bladder, and oral cancers.^{1,4}
- Tobacco juices from hookahs irritate the mouth and increase the risk of developing oral cancers.^{4,7}

Other Health Effects of Hookah Smoke

- Hookah tobacco and smoke contain many toxic agents that can cause clogged arteries and heart disease.^{1,4}
- Infections may be passed to other smokers by sharing a hookah.²
- Babies born to women who smoked water pipes every day while pregnant weigh less at birth (at least 3½ ounces less) than babies born to nonsmokers.^{2,8}
- Babies born to hookah smokers are also at increased risk for respiratory diseases.⁴



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How Secondhand Smoke Harms Adults^{1,3,8}

- Even if you have never smoked, secondhand smoke can still cause:
 - Heart disease
 - Lung cancer
 - Stroke

Even brief exposure to secondhand smoke can be harmful to your heart and blood vessels.

How Secondhand Smoke Harms Children^{1,3,8}

- Because their bodies are still growing, infants and young children are especially vulnerable to health risks from secondhand smoke.
- Babies who breathe secondhand smoke are more likely to die unexpectedly from sudden infant death syndrome (SIDS), also called crib death, than babies who are not exposed to smoke from burning tobacco products.
- Babies exposed to secondhand smoke in the womb or after birth are born and grow up with weaker lungs than babies that are not exposed to secondhand smoke.
- Babies and children who breathe secondhand smoke are sick more often with bronchitis, pneumonia, and ear infections than those that are not exposed to secondhand smoke.
- For children with asthma, breathing secondhand smoke can trigger an asthma attack.

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Children Can't Hide from Secondhand Smoke at Home. Here's Why.^{1,2}

- Smoking in another room like a bathroom or bedroom can still spread secondhand smoke through the air in your home. In an apartment building, secondhand smoke can go in between apartments.
- Smoking outside in a hall or stairwell does not protect children inside. Smoke goes under doors, windows, and through cracks.
- Opening a window or using a fan does not protect children from secondhand smoke.
- Air purifiers and air fresheners do not remove secondhand smoke.
- Smoke from one cigarette can stay in a room for hours.
- Separating people who smoke from those who don't smoke, cleaning the air and ventilating buildings does not fully protect children or adults from secondhand smoke.

The **aerosol from e-cigarettes** is not harmless. It can contain cancer-causing chemicals, heavy metals like nickel, tin, and lead, among other things.

12/15/17, CDC 11

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E-CIGARETTES & SECONDHAND SMOKE

Secondhand aerosol

- Known harmful toxicants & carcinogens found in emissions
- Heavy metals, formaldehyde, & nicotine
- **NOT "safe"**



Source: Willey SC, Jewson BP. Section on Tobacco Control. Electronic Nicotine Delivery Systems. Pediatrics. 2015 Nov;135(5):1018-26.

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Marijuana can be used in a number of ways.^{2,3} The most common ways include:

- Smoked in joints (like a cigarette), in blunts (cigars or cigar wrappers that have been partly or completely refilled with marijuana), or in bongs (pipes or water pipes)
- Vaped using electronic vaporizing devices (like vape pens) or other vaporizers
- Mixed or infused into foods or drinks (called edibles) like cookies, cakes, or brownies, or tea, cola, or alcohol

Additionally, some people inhale the oil concentrates and other extracts from the cannabis plant—this is known as dabbing. THC oils and concentrates used in vaping and dabbing often involve using highly concentrated forms of THC and may contain additives or be contaminated with other substances that may be harmful.⁴

Source: CDC

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Health Effects and Risks
There are health risks associated with using marijuana regardless of how it is used. These include:

Heart Health
Marijuana can make the heartbeat faster and can make blood pressure higher immediately after use.^{11,12} It could also lead to increased risk of stroke, heart disease, and other vascular diseases.^{13,14}

Driving
Marijuana, like alcohol, negatively affects several skills required for safe driving. It can slow reaction time and ability to make decisions.^{15,16}

Marijuana can impair coordination and distort perception.^{17,18}

The use of multiple substances (such as marijuana and alcohol) at the same time can increase impairment.¹⁹

Some studies have shown an association between marijuana use and car crashes; however, more research is needed.^{20,21}

Lung Health
Smoked marijuana, regardless of how it is smoked, can harm lung tissues and cause scarring and damage to small blood vessels.^{22,23} While more research on the health consequences of breathing secondhand marijuana smoke is needed, there is concern that it could cause harmful health effects, including among children.

Mental Health
Marijuana use has been linked to social anxiety, depression, and schizophrenia (a type of mental illness where people might see or hear things that aren't there), but scientists don't yet fully understand the relationships between these mental health disorders and marijuana use.²⁴

Unintentional Poisoning
Edibles, or food and drink products infused with marijuana, have some different risks than smoked marijuana, including a greater risk of poisoning. Children can mistake edibles for regular food or candy. Consuming marijuana can make children very sick. Since marijuana use has been legalized in some states, unintentional poisonings in children have increased, with some instances requiring emergency medical care.²⁵

SOURCES: CDC

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ADOLESCENT DEVELOPMENT AND NICOTINE

Intense neurodevelopmental molding and maturation

- Brain regions associated with **motivation, impulsivity, and addiction**

Greater vulnerability to addiction

- Especially nicotine**

Adolescent exposure increases risk:

- Mood issues
- Attention problems

Source: National Academies of Sciences, Engineering, and Medicine. Public health consequences of e-cigarettes. Washington, DC: National Academies Press, 2018.

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WHAT DOESN'T WORK

"Just Say No" and D.A.R.E.

- Not effective
- Authoritarian

May actually increase youth awareness and experimentation

- Sparks curiosity
- False sense of use rates
- Feeling of being "abnormal" for not using

Source: Pridett et al. "Just Say No to Opioids? Adu Child Actually Make Things Worse." NYTimes, 2021.

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WHAT DOES?

Truth campaign/Truth Initiative

- Deterred **hundreds of thousands** of teens from starting smoking
- Harnessed youthful rebellion
- Not smoking **NOT** about pleasing a parental authority figure

People your parents' age tried to manipulate you, get you addicted to a product that would kill you

This is quitting: is a quit vaping/smoking mobile program for teens and young adults

Become AnEx: is a digital quit smoking plan and online community

Source: Family et al. The Influence of the National Truth Initiative Campaign on Smoking Initiation. ASPH 2016.

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APPROACH TO COUNSELING

Non-judgement

Motivational Interviewing

- Person-centered counseling method
- Addresses ambivalence

Get their perspective

- Ask why, before suggesting why not

Facts may not get you very far

- But they have role

Share Your Concerns - "Can I offer some Advice?"

- Emphasizing your role as healthcare "consultant"

Source: KOTWEL. Motivational Interviewing in a Brief Encounter: A Skills-Based Book for the AHP. <https://www.aahp.org/sites/default/files/2019-05/20190501book.pdf>

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TREATMENT OPTIONS

Healthcare providers: trusted sources of healthcare advice for patients and families

Effective prevention & treatment options

E-cigarette & Tobacco Use

- 1-800-QUIT-NOW (784-8669)
- Teen.smokefree.gov

Marijuana Problem use

- Substance Abuse Helpline (SAMHSA): 1-800-662-HELP (4357)

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CONVERSATIONS WITH PATIENTS

Patient: What are the risk of e-cigarettes?

- Unknown harmful things in these products, including nicotine. E-cigarette strongly associated with going on to use traditional cigarettes.

Patient: My friends use e-cigarettes that don't have any nicotine in them.

- Nicotine is very common in e-cigarettes, and e-cigarettes may not be labeled to accurately show their ingredients. Nicotine is very addictive and can harm your brain.

Source: E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General, 2016



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CONVERSATIONS WITH PATIENTS

Patient: I thought e-cigarettes were used to help people quit smoking.

- The evidence isn't clear on whether e-cigarettes help people quit smoking regular cigarettes, but we already know that e-cigarette use is a health risk for young people. For example, nicotine can harm brain development, and your brain continues developing until around age 25.

Patient: I've heard e-cigarettes are less harmful than regular cigarettes.

- They may not contain as many dangerous chemicals as cigarettes, but that doesn't mean they're safe to use. Many of the chemicals in e-liquids and in the aerosol from e-cigarettes are known to cause cancer in humans.

Source: E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General, 2016



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CONVERSATIONS WITH PATIENTS

Patient: There's no smoke from e-cigarettes – just harmless water vapor.

- The aerosol that's created when an e-cigarette heats up the e-liquid is not just water vapor and is not harmless either for users or for others who are exposed to it secondhand. Besides nicotine, which is harmful to young people's health on its own, heavy metals that can cause respiratory distress and disease have been found in e-cigarette aerosol. Chemicals that are known to cause cancer and that have been linked to lung disease can also be present in e-cigarette aerosol.

Source: E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General, 2016



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DON'T FORGET TO ASK
ASSESSING THE RISK OF LUNG INJURY IN PATIENTS
USING E-CIGARETTE, OR VAPING, PRODUCTS



You should ask all patients
about their use of e-cigarettes, or vaping, products.

This is particularly important for patients with any of the following symptoms:

- Respiratory: cough, chest pain, shortness of breath
- Gastrointestinal: abdominal pain, nausea, vomiting
- Constitutional: fever, chills, weight loss

ASK WITH EMPATHY AND UNDERSTANDING

Some patients may not be comfortable talking about their cigarette or vaping product use, especially when using products that contain THC or CBD. To put patients at ease, the questionnaire, assessment tool, and report of questionnaire should be:

- Anonymous
- Confidential
- Age appropriate
- Culturally sensitive
- Available in the patient's preferred language

Adolescents and young adults are more likely to share sensitive information if an ask is presented in a way that respects their privacy.

You may need to ask additional questions that are appropriate to each patient's special situation or circumstances.

RESOURCES

For information on lung disease, tobacco, and e-cigarettes, visit <https://www.cdc.gov/tobacco/diseases/>. For assistance and support in quitting, visit <https://www.cdc.gov/tobacco/quitnow/>. For more information on lung disease, visit <https://www.cdc.gov/lungdisease/>. For more information on e-cigarettes, visit <https://www.cdc.gov/e-cigarettes/>.

Resources to help patients quit the use of e-cigarettes, or vaping, products can be found at <https://www.cdc.gov/quitnow/>.

ASK WHAT, HOW, AND WHERE

WHAT: Ask the patient if they have used or used previously, or intend to use, products of the e-cigarette, or vaping, type, including the brand or trademark used.

- Most ENUJ patients report using THC-containing products to reduce the onset of symptoms.

HOW: Ask how often patients have used these products, and how they use the products.

- Many ENUJ patients report frequent or, more than five times per day, use of e-cigarettes, or vaping, products. One prompt that may help to determine intent to be ask how often the patient intends to change their cigarette?

WHERE: Ask where the e-cigarette, or vaping, products were obtained.

- Most ENUJ patients report using products from informal sources, including friends, family, online, or in person dealers.

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As the asthma educator, what do we need to know and do for this patient: Tyrec

For the grandmother:

Informed the patient's care giver(s) that both second and third hand smoke are asthma triggers. Recommended quitting smoking.

For help and support to quit smoking try 1-800-QUIT-NOW (1-800-784-8669)

Other sources of smoke: incense, candles, fireplace

For all patients in middle school and older:

Provided anticipatory guidance/counseling about all types of smoking: cigarettes, cigars, e-cigarettes, hookah, marijuana and the health risks from them especially for patients with asthma.

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As the asthma educator, what do we need to know and do for this patient: Tyrec

For Tyrec:

<https://www.thetruth.com/about-truth/collaboration/this-is-quitting>

"With This is Quitting – the first-ever text-to-quit vaping service – the help and support you need is just a text away. All you have to do to get started is text **DITCHJUUL** to **88709** or enter your phone number in the form below.

It's super easy, completely free, and available 24-7 to help with cravings, stresses, and slips. But listen, we're not here to spam you or tell you what to do. This is "your" journey, and we're just along for the ride – at the ready with motivational messages and inspirational stories from people who've been where you are to keep you going.

Because it's text-based, you can use it 24 hours a day, 7 days a week, 365 days a year. And it's confidential--you don't need to worry about us going to your parents or school or health department with updates on your quitting progress."

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RESOURCES:

<https://www.aapcublications.com/news/2019/01/28/ecigarettes012819>

[Pediatrics](#)

February 2019, VOLUME 143 / ISSUE 2

From the American Academy of Pediatrics

[Policy Statement](#)

E-Cigarettes and Similar Devices

Brian P. Jenssen, Susan C. Walley, SECTION ON TOBACCO CONTROL

<https://smokefree.gov>

https://www.cdc.gov/tobacco/data_statistics/fact_sheets/index.htm

<https://www.hhs.gov/surgeongeneral/reports-and-publications/tobacco/index.html>

Cotly, Alexander L., et al. e-cigarette or vaping product use-associated lung injury: developing a research agenda. *Am J respir crit care med* vol 202, iss6, pp795-802 sep 15 2020

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One More thing...

Wellness vapes or "nutritional supplement diffusers" - which allow users to inhale ingredients such as vitamin B12, caffeine, melatonin or essential oils - have grown in popularity alongside e-cigarettes. They come in slim cartridges with bright packaging and eye-catching names like Inhale **Health** and NutriAir, are sold on websites around the globe, and are mostly marketed towards young people. Some claim to fight ADHD or treat anxiety or depression.

But regulators and other experts warn that these products don't live up to their claims. In the US, the Food and Drug Administration warned consumers late last year that wellness vapes are **unproven, ineffective and could be harmful** if used. **The vapes don't need FDA approval** to be on the market because they don't contain nicotine, and the agency has not authorized any vaping products to treat or prevent health conditions or diseases."

Katherine Gammon 07/08/22 The Guardian

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