EVALI Epidemic Continues

Rashelle Bernal vaped and ended up in an induced coma for a week. She was one of almost 3000 people who were hospitalized during 2019 and early 2020 with severe lung damage from vaping and became part of what is now known as the epidemic of e-cigarette, or vaping, product use-associated lung injury (EVALI).

For many, the EVALI epidemic is a distant, pre-COVID memory.

But the vaping-related injuries are still happening. And for Bernal, the aftermath is her reality. Her pulmonologist from that time described the harm from the vape ingredients as an oil spill in her lungs. Eventually, the toxins would probably clear. But she will likely wrestle with the injuries for a very long time.

More than 3 years later, she frequently finds herself in the emergency department.

"If I get sick, if there's anything that irritates my lungs — it could be something as simple as pollen in the air – it will cause me to get like a bacterial infection or other issues, and I can't breathe," Bernal, now 30, said in a recent interview with Medscape Medical News. "I get really winded, to the point where I'll walk up the stairs and I feel like I just ran a mile."

In 2019 and 2020, a media firestorm erupted as hospitals notified the public of outbreaks of vaping-related lung injuries. News headlines reported e-cigarettes were killing teens from Texas to the Bronx. Investigators at the US [Centers for Disease Control and Prevention](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html) (CDC) tracked most of the cases to vitamin E acetate, an additive in illicit cannabis vaping products intended to promote the metabolism of tetrahydrocannabinol (THC). The agency stopped tracking EVALI in February 2020.

But 2 months later, in April 2020, the agency's [National Center for Health Statistics](https://www.cdc.gov/nchs/data/icd/vaping-announcement-final-12-09-19.pdf) (CDC/NCHS) implemented a diagnostic code, U07.0, for healthcare professionals in the United States to diagnose EVALI for the first time. The code is also used for lung damage related to use of electronic cigarettes and "dabbing" — a method of inhaling cannabis. Damage could include [inflammation of the lungs](https://www.nhlbi.nih.gov/health/hypersensitivity-pneumonitis#:~:text=Hypersensitivity%20pneumonitis%20happens%20in%20some,term%20inflammation%20in%20the%20lungs.), pulmonary hemorrhage, and [eosinophilic pneumonia](https://www.atsjournals.org/doi/10.1164/rccm.201710-1967CI).

Devika Rao, MD, a pediatric pulmonology specialist at UT Southwestern Medical Center in Dallas, has cared for most of her EVALI patients in the hospital.

"But they got worse and they would present to our emergency room; their chest X-rays and CT scans showed extensive lung disease," Rao said, adding that the damage was striking among patients all under age 18. "They were short of breath. Their oxygen levels were low. They had diminished lung function. And they had a lot of GI issues like abdominal pain and weight loss from nausea and vomiting."

"These overwhelming inflammatory reactions that we see with EVALI," said Karen M. Wilson, MD, MPH, a pediatric hospitalist at the University of Rochester Medical Center in Rochester, New York, and a tobacco use researcher. "You might find some microvascular changes with normal inhaling of smoke or aerosol, but you're not going to find macro changes like we see with the EVALI.

CT scans of lungs proved to be a critical diagnostic tool for doctors. Most of the images from patients showed acute inflammation and diffuse lung damage. Ehab Ali, MD, a critical care and pulmonary disease medicine specialist in Louisville, Kentucky, said the damage was often spread across both lungs in many areas and appeared opaque and hazy, known as 'ground glass.'

Ali said other factors, like the age of the patient — about three quarters of EVALI patients are under age 34, according to the CDC — would spur him to ask about vaping. But because so many patients were young, discerning vape usage wasn't always easy.

"When you're talking to teenagers, if you ask them upon admission, with the parents in the room, they're going say 'no,' " said Rachel Boykan, MD, a pediatric hospitalist at Stony Brook Children's in Stony Brook, New York. She added that her hospital is still seeing cases.

Rao said it often takes two to three people asking a patient about any vape usage before they confess.

Bernal, who was 27 at the time of her hospital admission for EVALI, said she bought vapes with THC at a retail shop in California. She'd been a traditional marijuana smoker, using the leaf product, but switched when someone told her it was healthier to vape THC than inhale smoke from burned marijuana leaves into her lungs. "I thought this was safe."

"I feel like this is my fault." Bernal said. "Had I not smoked, I would be fine, and that's hard to live with. Every day. Telling yourself, 'It's your fault.' It's been how many years now? And I still haven't found peace yet. I don't know if ever will."