Thousands of toddlers have ingested vaping liquids, poison control centers say

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Vaping-related injuries emerged as a public-health crisis in 2019, with thousands of users suffering severe lung problems that required hospitalization.

But in addition to people who inhale from the devices, another group is at risk from ingesting the nicotine-rich liquids: toddlers.

Data from the nation's 55 poison control centers indicate that at least 1,892 children aged 5 or under were exposed to vaping liquids in 2018, in most cases by swallowing them. Consequences can include vomiting and, in a small percentage of cases, irregular heartbeat and seizures. One child died in 2014 after drinking from a refill bottle.

The numbers for toddlers exposed in 2019 have not yet been published, but as of Nov. 30, total vaping-related calls to poison centers for patients of all ages had hit 4,784—the highest number on record. And at the Poison Control Center at Children's Hospital of Philadelphia, which covers eastern Pennsylvania and Delaware, 42 toddler cases had been reported in 2019 as of mid-December.

The numbers illustrate that, as with so many other toxic substances, adults often fail to keep them out of reach of those who are most vulnerable, said Robert A. Bassett, associate medical director of the Poison Control Center at CHOP.

"Many people are very concerned about their child getting into their bleach, or their laundry pods," Bassett said. "But based on how little it takes for nicotine to be deadly for a child, nicotine has the potential to be the most lethal agent in someone's home."

The number of toddlers who ingest vaping liquids is almost certainly far higher than the 2,000 or so cases reported to poison centers each year, said Daniel E. Brooks, medical director of the Banner Poison and Drug Information Center at Banner University Medical Center-Phoenix. When such children are taken straight to the emergency room, poison-control centers generally are not notified.

"The numbers that we have, they're just the tip of the iceberg," Brooks said.

By drinking nicotine-containing fluids, toddlers are consuming the stimulant much faster than an adult who inhales. Nicotine is highly irritating to the digestive system, so toddlers may vomit most of it up before it can be absorbed into the bloodstream. But the nicotine in vaping liquids is so concentrated that a dangerous amount of absorption is possible, leading to a fast, irregular heartbeat or neurological symptoms such as twitching and seizures, he said. If too much of the stimulant is absorbed, the child can stop breathing.

"That stuff can be consumed and kept down and rapidly absorbed, and they get sick real quick," Brooks said. "We get really nervous."

In addition to nicotine, toddlers may be harmed by other ingredients in some vaping liquids, such as THC, the psychoactive substance in marijuana, he said.

In older users, the lung injuries have been blamed on a substance called vitamin E acetate, added to vaping liquids that contain THC.

Critics have accused manufacturers of making vape pens and refill containers with eye-catching, brightly colored exteriors to appeal to teen users. Such packaging is likely to appeal to toddlers as well, Brooks said.

The holidays are an especially risky time, with the presence of college students and other visitors who may be unaware how fast a toddler can get into things. The only solution, Brooks said: keep vaping-related products out of the house.