



## FLAVORED DISPOSABLE E-CIGARETTES APPEAL TO KIDS AND REMAIN WIDELY AVAILABLE

Flavored disposable e-cigarettes surged in popularity beginning in 2020, following FDA's February 2020 policy that prioritized enforcement against flavored cartridge-based e-cigarettes. In response to data showing a significant rise in disposable products used by youth, FDA announced it would prioritize enforcement against flavored disposable e-cigarettes in September 2020.<sup>1</sup> However, these products have remained widely available and disposable sales have continued to increase.<sup>2</sup>

In recent years, many disposable e-cigarette manufacturers shifted to using synthetic nicotine (nicotine not derived from tobacco) to try to evade FDA regulation, but Congress closed this loophole in 2022, giving FDA regulatory authority over synthetic nicotine. As of July 13, 2022, synthetic nicotine tobacco products without an FDA marketing order are illegal. While no synthetic product has received a marketing order, FDA has taken minimal action to clear the market of these products.

Unlike the "first generation" of disposable e-cigarettes that looked like cigarettes and had limited flavors, disposable e-cigarettes are now sleek, easily concealed, pre-charged, cheaper (some for less than \$5), available in a wide variety of flavors, and can even have higher nicotine concentrations than JUUL.<sup>3</sup> Large-format disposable e-cigarettes that allow for thousands of "puffs" are also widely available. One study aptly described current disposables on the market as "bigger, stronger and cheaper."<sup>4</sup>

### Disposable e-cigarettes have surged in popularity among kids.

- In 2023, 60.7% of youth e-cigarette users reported using disposable e-cigarettes.<sup>5</sup>
- Elf Bar, a disposable e-cigarette, was the most popular brand among youth e-cigarette users in 2023.<sup>6</sup> Older data from the International Tobacco Control (ITC) Youth Survey collected in August 2022 also found that Elf Bar was the top disposable brand reported among a sample of 16–19-year-olds in the United States.<sup>7</sup>
- While fruit and candy flavors are prohibited in cartridge-based e-cigarettes, kids have turned to using these flavors in disposable products. Among current youth users of disposable e-cigarettes, the most commonly used flavor type is fruit (70.5%), followed by candy/dessert/other sweets (39.8%), mint (32.0%) and menthol (18.7%).<sup>8</sup>



(images not to scale)

### Disposables hook kids with their variety of flavors, designs, relatively low prices, high nicotine content, and concealability.

- From February 2, 2020, to December 31, 2023, disposable e-cigarette sales in tracked retail channels\* increased by 212.4% (4.1 million units to 12.7 million units). During this period, the market share of disposable devices increased 26.2% to 57.2% of total e-cigarette sales.<sup>9</sup> In the last quarter of 2023, Breeze and Elf Bar were the best-selling disposable e-cigarettes and were the third and fourth best-selling e-cigarettes overall, after Vuse and Juul.<sup>10</sup>

\* Tracked data includes mass channel and convenience stores; does not include online sales or sales from tobacco and vape shops.

- The popularity of disposables has been driven primarily by candy and fruit flavors, such as iced apple mango and strawberry. As of December 31, 2023, 77.3% of disposable sales were of flavors other than tobacco, mint, menthol, and clear/other cooling.<sup>11</sup>
- Disposable e-cigarettes with cooling flavors—often marketed as ice, cool, chill, freeze, or frost and often in combination with fruit flavors—have also increased (e.g., Blueberry Ice, Peach Freeze).<sup>12</sup> A study in California found that participating young adults who reported using ice flavors were more likely to use disposables than other types of e-cigarette devices, including pod/cartridge products.<sup>13</sup> In 2023, 57.9% of all youth e-cigarette users reported any use of flavors that included the word “ice” or “iced.”<sup>14</sup>
- Disposable e-cigarettes are loaded with nicotine. Between January 2017 and September 2022, the average nicotine strength of disposable e-cigarettes increased 294%, from 1.7% to 5%. As of September 2022, nearly all disposable products sold (95.5%) had 5% (the same as JUUL) or higher nicotine strength.<sup>15</sup>
- Newer disposables can hold a higher volume of e-liquid, and with higher nicotine concentrations, a single disposable device can contain more nicotine than several packs of cigarettes. Between January 2017 and September 2022, average volume capacity of disposable e-cigarettes increased 518%, from 1.1 mL to 5.7mL. By September 2022, high-capacity devices (>6 mL) accounted for 35.7% of dollar sales among disposable e-cigarettes.<sup>16</sup> In comparison, a single JUULpod only contains 0.7 mL of liquid.
- At the same time that disposable e-cigarettes have increased in nicotine strength and size, they have decreased threefold in price per milliliter of e-liquid.<sup>17</sup> This makes these new high nicotine, high volume e-cigarettes particularly appealing for price-sensitive youth.
- They are relatively small and portable and their sleek designs make them easy to conceal.
- Companies are marketing these products as accessible and easy to use. Ready to use right out of the box, manufacturers tout the instant flavor hit and encourage users to try a variety of flavors.

**FDA’s February 2020 e-cigarette policy left kid-friendly, flavored disposable e-cigarettes on the market and widely available.**

- FDA’s policy removed flavored, cartridge-based products from the market, but explicitly excluded disposable e-cigarettes (“An example of products that would not be captured by this definition include completely self-contained, disposable products”).<sup>18</sup> As previously noted, despite FDA’s announcement that it would prioritize enforcement against flavored disposable e-cigarettes, these products remain widely available.
- Some manufacturers shifted to making disposable e-cigarettes in the same flavors as the pre-filled pods they used to make.
- FDA’s deficient policy fueled the sales of flavored disposable e-cigarettes. A May 2020 industry analyst report noted, “We expect brands in the disposable e-cig segment to continue to gain share as long as they are not covered by the FDA’s restriction on non-tobacco/non-menthol flavor variants.”<sup>19</sup>
- A convenience store employee similarly attributed the explosion of disposable products to FDA’s policy, “These products for the most part didn’t exist at retail in any consistent manner a year ago,” says Kraig Knudsen, tobacco category manager at Circle K’s Heartland Division, Lisle, Ill. “All those companies said, ‘Here’s a loophole. I’m going to just create a disposable, have any kind of flavor I want and sell a boatload of them.’ It’s worked for them.”<sup>20</sup>
- Likely the most widely known disposable e-cigarette brand, Puff Bar, skyrocketed in popularity following FDA’s February 2020 policy and spurred copycats in an innumerable array of flavors.<sup>21</sup> The brand reached more than \$170 million in sales in 2020,<sup>22</sup> and by mid-June 2020, industry analysts declared Puff Bar as one of the “biggest winners in disposables.”<sup>23</sup> After FDA sent Puff Bar a warning letter in 2020, the company switched to using synthetic nicotine in its products to try to evade regulation because at that time, FDA did not have the authority to regulate synthetic nicotine. By December 2022, after FDA started



regulating synthetic nicotine products, Puff Bar was claiming to only sell non-nicotine e-cigarettes.<sup>24</sup>

### **Campaign for Tobacco-Free Kids, April 25, 2024**

<sup>1</sup> FDA Statement, National Survey Shows Encouraging Decline in Overall Youth E-Cigarette Use, Concerning Uptick in Use of Disposable Products, September 9, 2020, <https://www.fda.gov/news-events/press-announcements/national-survey-shows-encouraging-decline-overall-youth-e-cigarette-use-concerning-uptick-use>.

<sup>2</sup> CDC Foundation & Information Resources, Inc., “Monitoring U.S. E-Cigarette Sales: National Trends,” <https://www.cdcfoundation.org/programs/monitoring-e-cigarette-use-among-youth>. Data from Information Resources, Inc. (IRI), which includes e-cigarette sales data from convenience stores, gas stations and other retail store chains. Sales from the internet and tobacco-specialty stores, including vape shops, are not included.

<sup>3</sup> Williams, R, “The rise of disposable JUUL-type e-cigarette devices,” *Tobacco Control* 9(e1):e134-e135, 2020.

<sup>4</sup> Diaz, MC, et al., “Bigger, stronger and cheaper: growth in e-cigarette market driven by disposable devices with more e-liquid, higher nicotine concentration and declining prices,” *Tobacco Control*, published online August 3, 2023.

<sup>5</sup> Birdsey J., et al. “Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023,” *MMWR*, 72(44): 1173–1182, November 3, 2023, <https://www.cdc.gov/mmwr/volumes/72/wr/mm7244a1.htm>.

<sup>6</sup> Cooper, M, et al., “E-Cigarette Use Among Middle and High School Students—United States, 2022,” *MMWR* 71(40):1283-1285, October 7, 2022, <https://www.cdc.gov/mmwr/volumes/71/wr/pdfs/mm7140a3-H.pdf>.

<sup>7</sup> HAMMOND D, REID JL, BURKHALTER R, HONG D. TRENDS IN SMOKING AND VAPING AMONG YOUNG PEOPLE: FINDINGS FROM THE ITC YOUTH SURVEY. MAY 2023; UNIVERSITY OF WATERLOO

<sup>8</sup> Birdsey J., et al. “Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023,” *MMWR*, 72(44): 1173–1182, November 3, 2023, <https://www.cdc.gov/mmwr/volumes/72/wr/mm7244a1.htm>.

<sup>9</sup> CDC Foundation & Information Resources, Inc., “Monitoring U.S. E-Cigarette Sales: National Trends,” <https://www.cdcfoundation.org/programs/monitoring-e-cigarette-use-among-youth>. Data from Information Resources, Inc. (IRI), which includes e-cigarette sales data from convenience stores, gas stations and other retail store chains. Sales from the internet and tobacco-specialty stores, including vape shops, are not included.

<sup>10</sup> CDC Foundation & Information Resources, Inc., “Monitoring U.S. E-Cigarette Sales: National Trends,” <https://www.cdcfoundation.org/programs/monitoring-e-cigarette-use-among-youth>. Data from Information Resources, Inc. (IRI), which includes e-cigarette sales data from convenience stores, gas stations and other retail store chains. Sales from the internet and tobacco-specialty stores, including vape shops, are not included.

<sup>11</sup> CDC Foundation & Information Resources, Inc., “Monitoring U.S. E-Cigarette Sales: National Trends,” <https://www.cdcfoundation.org/programs/monitoring-e-cigarette-use-among-youth>. Data from Information Resources, Inc. (IRI), which includes e-cigarette sales data from convenience stores, gas stations and other retail store chains. Sales from the internet and tobacco-specialty stores, including vape shops, are not included.

<sup>12</sup> Ali, FRM, et al., “Trends in unit sales of cooling flavoured e-cigarettes, USA, 2017-2021,” *Tobacco Control*, doi: 10.1136/tc-2022-057395, published online July 15, 2022.

<sup>13</sup> Leventhal, A, et al., “‘Ice’ flavoured e-cigarette use among young adults,” *Tobacco Control* 32(1):114-117, 2023.

<sup>14</sup> Birdsey J., et al. “Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023,” *MMWR*, 72(44): 1173–1182, November 3, 2023, <https://www.cdc.gov/mmwr/volumes/72/wr/mm7244a1.htm>.

<sup>15</sup> Diaz, MC, et al., “Bigger, stronger and cheaper: growth in e-cigarette market driven by disposable devices with more e-liquid, higher nicotine concentration and declining prices,” *Tobacco Control*, published online August 3, 2023.

<sup>16</sup> Diaz, MC, et al., “Bigger, stronger and cheaper: growth in e-cigarette market driven by disposable devices with more e-liquid, higher nicotine concentration and declining prices,” *Tobacco Control*, published online August 3, 2023.

<sup>17</sup> Diaz, MC, et al., “Bigger, stronger and cheaper: growth in e-cigarette market driven by disposable devices with more e-liquid, higher nicotine concentration and declining prices,” *Tobacco Control*, published online August 3, 2023.

<sup>18</sup> FDA, *Enforcement Priorities for Electronic Nicotine Delivery Systems (ENDS) and Other Deemed Products on the Market Without Premarket Authorization*, Guidance for Industry, January 2020, at Note 20, <https://www.fda.gov/media/133880/download>.

<sup>19</sup> Goldman Sachs, “Americas Tobacco: Nielsen Data Through 5/16 - Cig Consumption Increases as Cig Vol Declines Continue to Moderate,” May 26, 2020.

<sup>20</sup> “Disposable E-Cigarettes: The Darlings of the Vaping Segment,” *CSP Magazine*, February 2021, [https://www.gqdigitalpublishing.com/publication/?m=20858&i=691381&p=62&mkt\\_tok=eyJpIjoiTnpBeFlqa3IOMjJTWpdndylnQioiYjY0U53eHNpcWxjdzhcL0JhRmF0cDIwS0R1aE9OcTJzYmZVaTZJN1p0eFpHWUVxYzdoWjNOdDB6Q1NoZGI0b0FBelV5U0RiMmVhJSWhqSlc5MXdqQWhScHFUN2RUbVMzY2U4N2VibjYxa0o1SmtvVEhoMWZjYlc2UVFrRTJ6Nm1lakkifQ%3D%3D](https://www.gqdigitalpublishing.com/publication/?m=20858&i=691381&p=62&mkt_tok=eyJpIjoiTnpBeFlqa3IOMjJTWpdndylnQioiYjY0U53eHNpcWxjdzhcL0JhRmF0cDIwS0R1aE9OcTJzYmZVaTZJN1p0eFpHWUVxYzdoWjNOdDB6Q1NoZGI0b0FBelV5U0RiMmVhJSWhqSlc5MXdqQWhScHFUN2RUbVMzY2U4N2VibjYxa0o1SmtvVEhoMWZjYlc2UVFrRTJ6Nm1lakkifQ%3D%3D)

<sup>21</sup> Ramamurthi, D, et al., “Flavour spectrum of the Puff family of disposable e-cigarettes,” *Tobacco Control* 32(e1):e71-e77, 2021.

<sup>22</sup> Goldman Sachs, “Americas Tobacco: Nielsen Data thru 12/26: Total nicotine volumes decelerate slightly,” January 5, 2021.

<sup>23</sup> Goldman Sachs, “Americas Tobacco: Tobacco Nielsen Data Through 6/13 - Nicotine Consumption Picks Up As Cig/Smokeless Vols Improve,” June 23, 2020.

<sup>24</sup> FDA, *FDA Notifies Companies, Including Puff Bar, to Remove Flavored Disposable E-Cigarettes and Youth-Appealing E-Liquids from Market for Not Having Required Authorization*, July 20, 2020, <https://www.fda.gov/news-events/press-announcements/fda-notifies-companies-including-puff-bar-remove-flavored-disposable-e-cigarettes-and-youth>. Wolfe, E, “Controversial E-Cigarette Company Puff Bar Say It’s Suspending U.S. Sales,” *Fair Warning*, July 13, 2020, <https://www.fairwarning.org/2020/07/e-cigarette-company-suspends->

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