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# Monitoring U.S. E-Cigarette Sales: *National Trends*

**This brief report highlights trends in national e-cigarette sales from January 2018 through September 2023.**

## Notice of Revision to Previous Data Estimates

- The data in this brief have been updated to capture new e-cigarette products coded by Circana. Historical sales estimates may differ from previous briefs.

## Federal Regulatory Actions

- The U.S. Food and Drug Administration (FDA) issued an enforcement policy, effective February 2020, prohibiting the sale of flavored prefilled e-cigarette cartridges, which does not apply to tobacco-and menthol-flavored prefilled cartridges, e-liquids, or single use disposable e-cigarettes.
- FDA began issuing marketing denial orders for flavored e-cigarette products as of September 9, 2021.
- On April 15, 2022, FDA was granted authority to regulate products containing nicotine from any source, including synthetic nicotine.
- In April 2022, FDA issued a proposal to eliminate menthol cigarettes and flavored cigars.

## Key Findings

### Total e-cigarettes:

- During the 6-month period ending on September 10, 2023, the total number of e-cigarette products sold in the U.S. has reached 6,277 products; of which 90% were disposable e-cigarettes.[1]
- From February 2, 2020, to September 10, 2023, total e-cigarette unit sales increased by 46.1% (15.7 million units to 22.9 million units); and non-tobacco flavored e-cigarette sales (mint, menthol and other flavors) increased by 63.6% (11.2 million units to 18.4 million units). By September 10, 2023, non-tobacco flavored e-cigarette sales accounted for 80.1% of total unit sales.
- The top ten brands during the period spanning April 18, 2023, through September 10, 2023, were (in descending order of dollar sales) Vuse, JUUL, Breeze Smoke, Elfbar[2], NJOY, HQD, Lost Vape Orion, Loon Maxx, Mr Fog, and Esco Bars. The top five brands and top ten brands accounted for 69.3% and 78.3% of total dollar sales, respectively.
- The 2023 National Youth Tobacco Survey (NYTS) found that 10.0% (1.56 million) of high school and 4.6% (550,000) of middle school students currently used e-cigarettes. Among those who currently used e-cigarettes, 89.4% used flavored e-cigarettes.[3]

### Flavored disposable e-cigarettes:

- From February 2, 2020, to September 10, 2023, disposable e-cigarette sales increased by 221.2% (4.1 million units to 13.1 million units); their unit share increased from 26.0% to 57.2% of total e-cigarette sales. As of September 10, 2023, 78.4% of disposable sales were of flavors other than tobacco, mint and menthol.
- Among youth who used e-cigarettes in 2023, 60.7% used disposable e-cigarettes. The most commonly used flavors of disposable e-cigarettes were fruit (70.5%) and candy, desserts, other sweets (39.8%).[3]

### Menthol flavored e-cigarettes:

- From February 2, 2020, to September 10, 2023, overall menthol-flavored e-cigarette sales increased by 24.9% (5.2 million units to 6.5 million units), including a 24.4% increase in menthol-flavored cartridge sales (4.8 million units to 6.0 million units). As of September 10, 2023, menthol-flavored e-cigarette sales accounted for 28.1% of the overall e-cigarette market and 60.9% of the prefilled cartridge market.
- Among youth who used flavored e-cigarettes in 2023, 20.1% used menthol flavor; 38.7% of students using prefilled cartridges used menthol (NYTS).[3]

## Relevant Issues

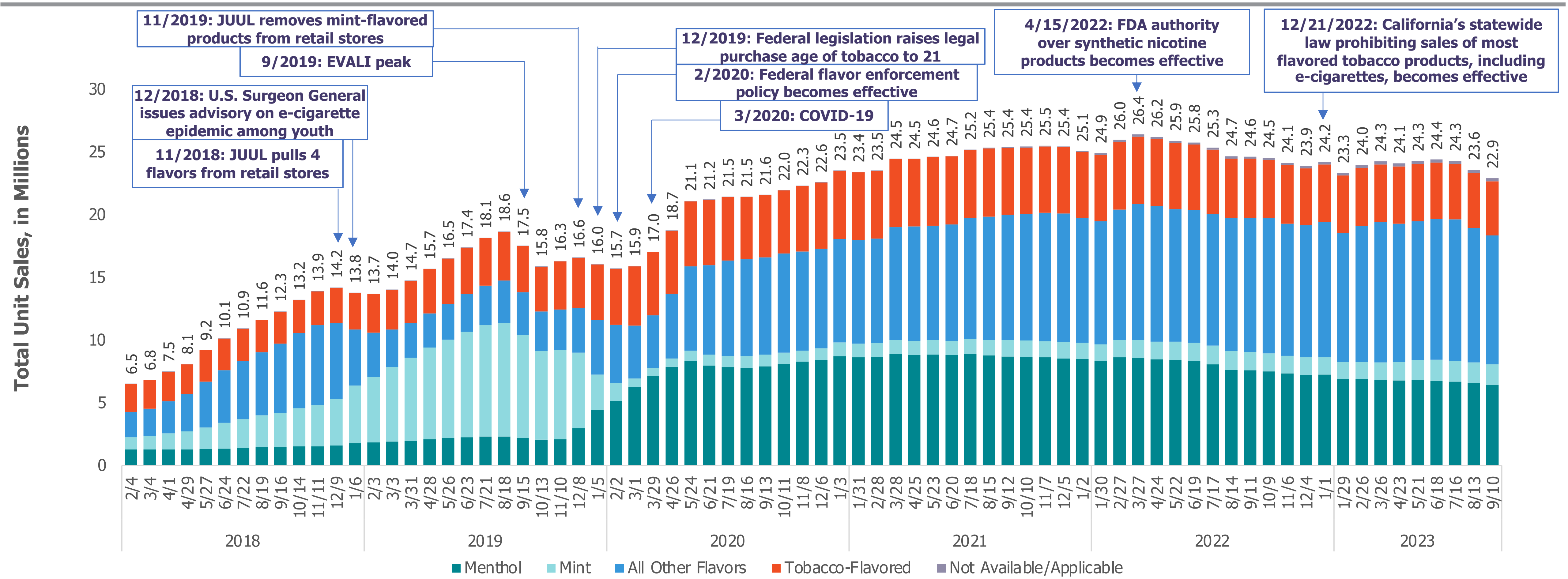
- The e-cigarette or vaping product use-associated lung injury (EVALI) outbreak in late 2019 and COVID-19 pandemic may have affected e-cigarette sales.
- During 2020-2022, additional flavored tobacco products continued to be marketed, such as flavored cigars; or entered the market, such as nicotine pouches.
- Units of e-cigarettes are not adjusted to account for variations in unit size. Large-format disposable e-cigarettes that allow for thousands of "puffs" are now available. Declines in unit sales may not signify declines in prevalence of use or consumption.

## Conclusion

Restrictions that exempt certain flavors and product types likely shift sales to the products and flavors that remain on the market. Policies that prohibit all non-tobacco flavored e-cigarettes, including flavored disposable e-cigarettes and menthol-flavored prefilled cartridges, reduce e-cigarette sales and may reduce youth access and use of e-cigarettes.

1. Number of e-cigarette products is counted as the number of unique UPCs (Universal Product Code) in Circana data.
2. Elfbar has begun to rebrand as EBDesign and EBCreate as of March 2023 following a court-ordered injunction. Sales of EBDesign and EBCreate are not aggregated with Elfbar in these estimates.
3. Birdsey J, Cornelius M, Jamal A, et al. Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023. MMWR Morb Mortal Wkly Rep 2023;72:1173–1182..

## Figure 1. National E-Cigarette Unit Sales by Flavor, 4 Week Estimates 2/4/2018 – 9/10/2023*




*Sales data do not reflect sales from vape shops or online retailers; dates represent end of 4-week periods; All Other Flavors category includes fruit, clove/spice, chocolate, alcoholic drink (such as wine, cognac, or other cocktails), candy/desserts/other sweets, some other flavor; e-cigarette accessories and devices sold without e-liquids were excluded (9.5% of total dollar sales in 2022). Unit sales were standardized to reflect the most common package size for each product type. A standardized unit was equal to five prefilled cartridges, one disposable device, or one e-liquid bottle.

## Trends of Unit Sales by Flavor Following FDA's Flavor Enforcement Policy

- From February 2, 2020, to September 10, 2023:
  - Total monthly e-cigarette unit sales increased by 46.1% from 15.7 to 22.9 million units.
  - Tobacco-flavored e-cigarette sales decreased by 3.2% (from 4.5 million units to 4.3 million units); unit share decreased from 28.4% to 18.8%.
  - Non-tobacco flavored e-cigarette sales (mint, menthol and other flavors) increased by 63.6% (11.2 million units to 18.4 million units).
    - Mint-flavored e-cigarette sales increased by 13.8% (from 1.4 million units to 1.6 million units); unit share decreased from 9.0% to 7.0%.
    - Menthol-flavored e-cigarette sales increased by 24.9% (from 5.2 million units to 6.5 million units); unit share decreased from 32.9% to 28.1%.
    - All other-flavored e-cigarette sales increased by 121.8% (from 4.6 million units to 10.3 million units); unit share increased from 29.6% to 44.9%.
- California's e-cigarette unit sales represented 3.5% of national e-cigarette unit sales on December 4, 2022 (i.e., 0.8 million units out of 23.9 million units). Following California's restriction on flavored e-cigarette sales (effective 12/21/2022), unit sales in California decreased by 41.0% during December 4, 2022 and September 10, 2023. This decline represents 34.9% (i.e., 339.0 thousand units out of 971.4 thousand units) of the decline in national e-cigarette sales that occurred during this period.



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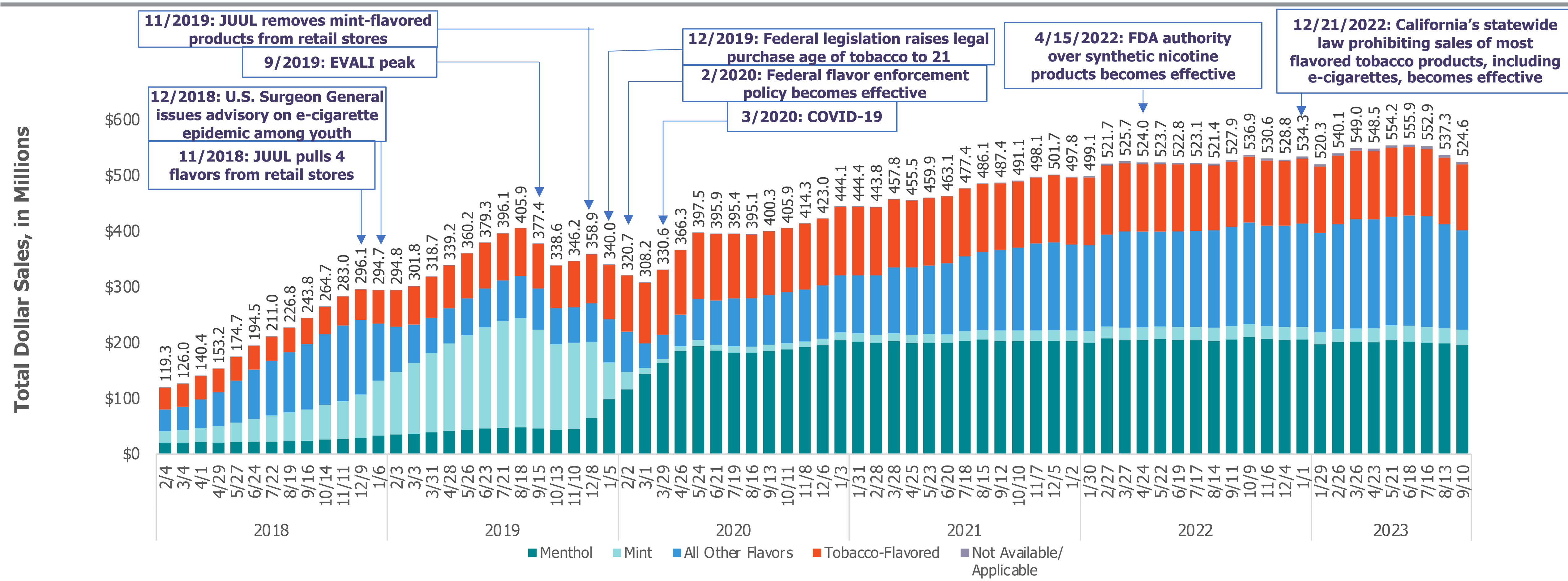
# Figure 2. National E-Cigarette Dollar Sales by Flavor, 4 Week Estimates 2/4/2018 – 9/10/2023*

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## Trends of Dollar Sales by Flavor Following FDA's Flavor Enforcement Policy

- From February 2, 2020, to September 10, 2023:
  - Total monthly e-cigarette dollar sales increased by 63.6% from 320.7 to 524.6 million dollars.
  - Tobacco-flavored e-cigarette sales increased by 17.1% (from 100.6 million dollars to 117.9 million dollars); dollar share (i.e., tobacco flavored proportion of total dollar sales) decreased from 31.4% to 22.5%.
  - Non-tobacco flavored e-cigarette sales (mint, menthol and other flavors) increased by 82.8% (220.0 million dollars to 402.0 million dollars).
    - Mint-flavored e-cigarette sales decreased by 11.6% (from 31.2 million dollars to 27.6 million dollars); dollar share decreased from 9.7% to 5.3%.
    - Menthol-flavored e-cigarette sales increased by 68.7% (from 116.1 million dollars to 195.8 million dollars); dollar share increased from 36.2% to 37.3%.
    - All other-flavored e-cigarette sales increased by 145.8% (from 72.7 million dollars to 178.7 million dollars); dollar share increased from 22.7% to 34.1%.

- Differences between trends in unit sales and dollar sales could be due, in part, to inflation and the recent increase in large-format disposable e-cigarettes that allow for thousands of puffs. Higher price per device of large-format disposable e-cigarettes might account for declines in unit sales without comparable declines in dollar sales.



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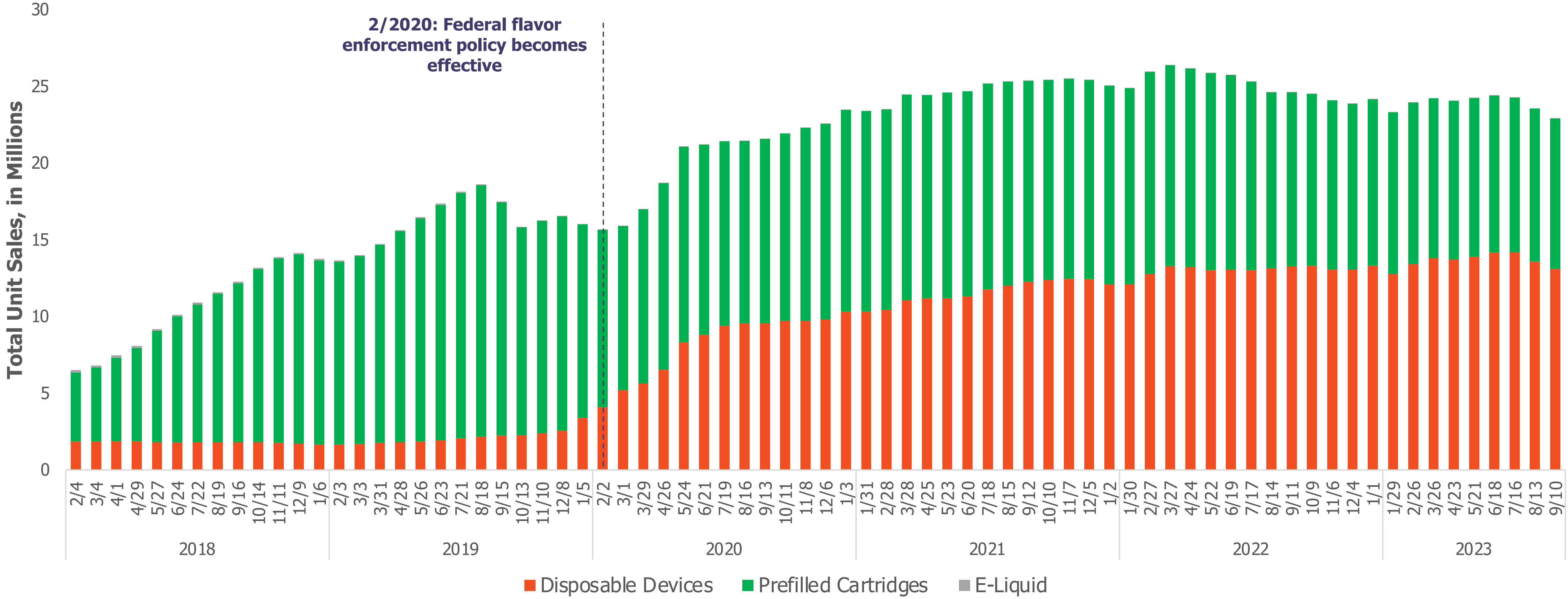
## Figure 3. National E-Cigarette Unit Sales by Product Type, 4 Week Estimates 2/4/2018 – 9/10/2023*




*Sales data do not reflect sales from vape shops or online retailers; dates represent end of 4-week periods; prefilled cartridges include tanks, cartridges, and pods used in rechargeable and reusable e-cigarette devices; disposable devices include nonrechargeable and nonreusable e-cigarette devices that are not intended to be refilled with e-liquid after being depleted; e-liquids are containers of the liquid used in e-cigarette devices, which typically contain a humectant (e.g., propylene glycol), nicotine, and flavoring. Unit sales were standardized to reflect the most common package size for each product type. A standardized unit was equal to five prefilled cartridges, one disposable device, or one e-liquid bottle.

## Trends of Unit Sales by Product Following FDA's Flavor Enforcement Policy

- Following FDA's flavor enforcement policy, which prohibited the sale of flavored prefilled cartridges but exempted disposable devices and menthol and tobacco prefilled cartridges, between February 2, 2020, and September 10, 2023:
    - Sales of disposable devices increased by 221.2% (from 4.1 million units to 13.1 million units).
    - Sales of prefilled cartridges decreased by 15.4% (from 11.6 million units to 9.8 million units).



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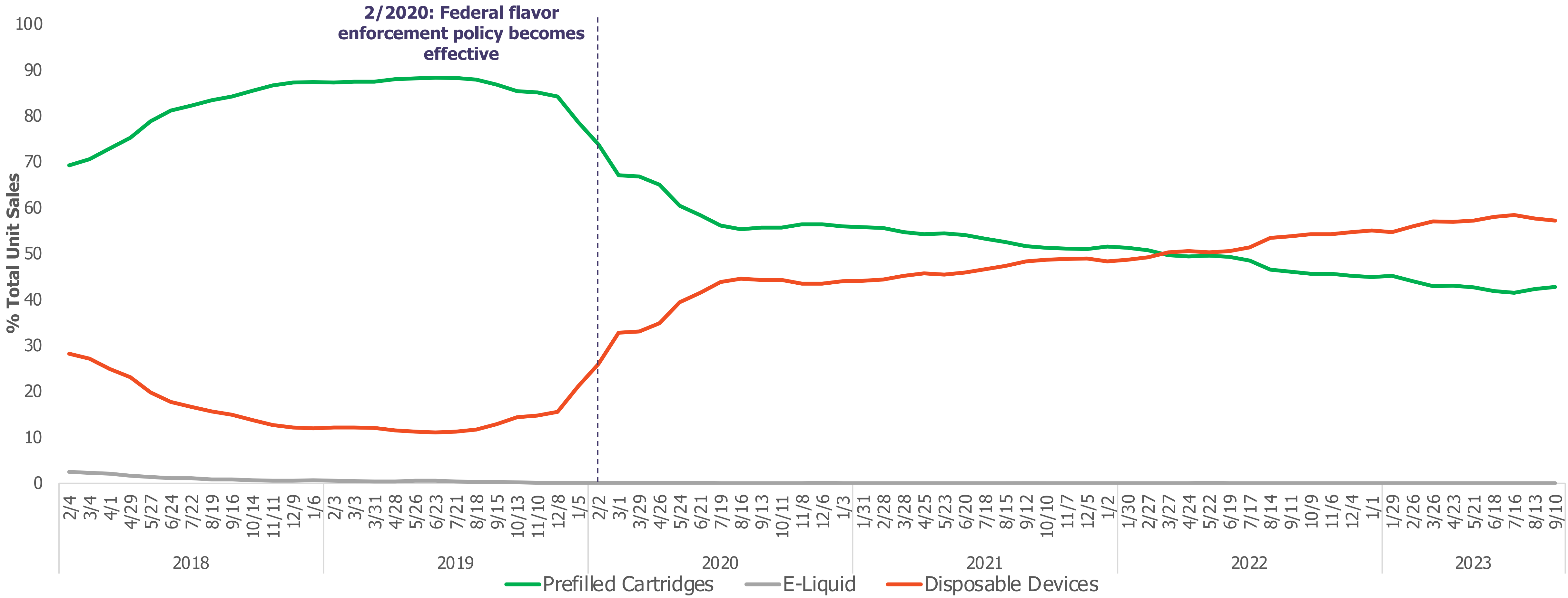
# Figure 4. National E-Cigarette Unit Share by Product Type, 4 Week Estimates 2/4/2018 – 9/10/2023*

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## Trends of Unit Share by Product Following FDA's Flavor Enforcement Policy

- Following FDA's flavor enforcement policy, which prohibited the sale of flavored prefilled cartridges but exempted disposable devices and menthol and tobacco prefilled cartridges, between February 2, 2020, and September 10, 2023:
  - Unit share of disposable devices increased from 26.0% to 57.2%.
  - Unit share of prefilled cartridges decreased from 73.9% to 42.8%.



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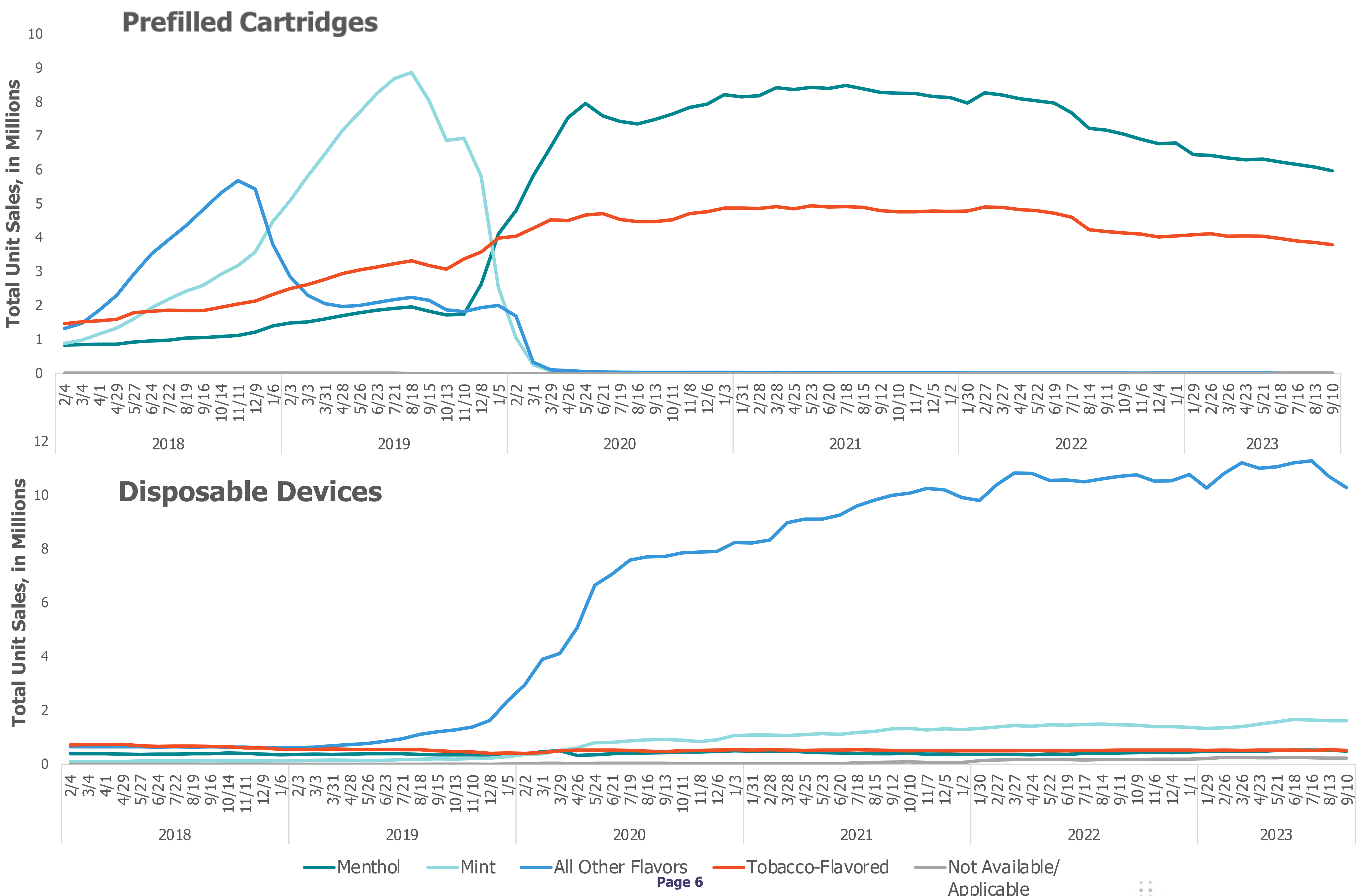
# Figure 5. National E-Cigarette Unit Sales by Product Type and Flavor, 4 Week Estimates 2/4/2018 – 9/10/2023



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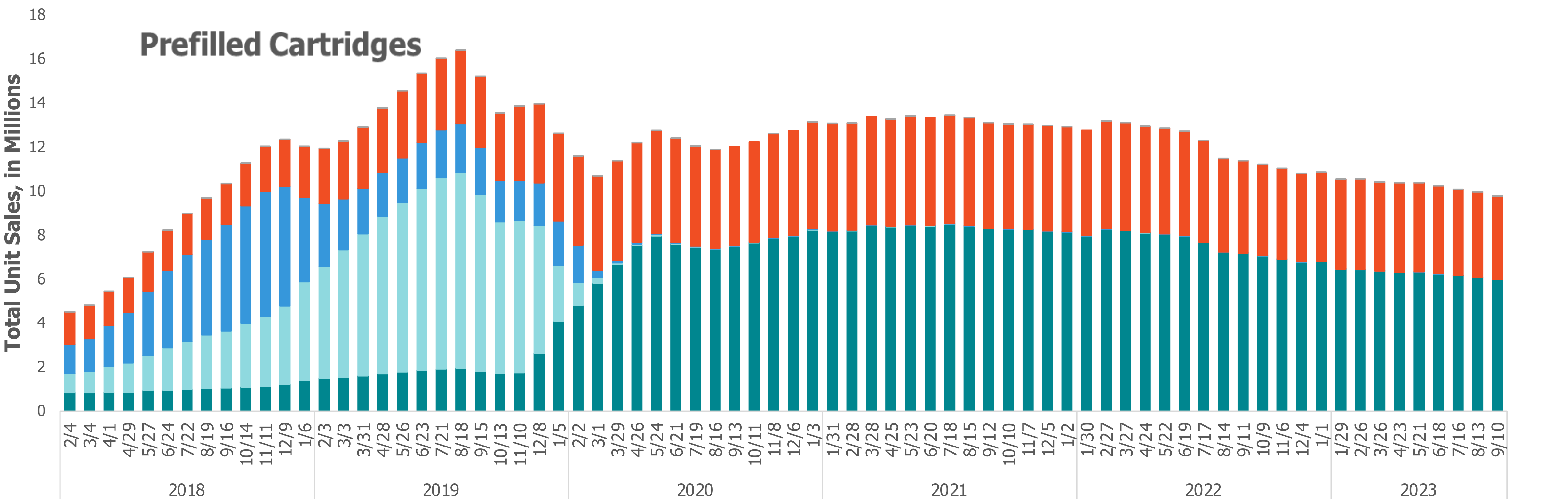
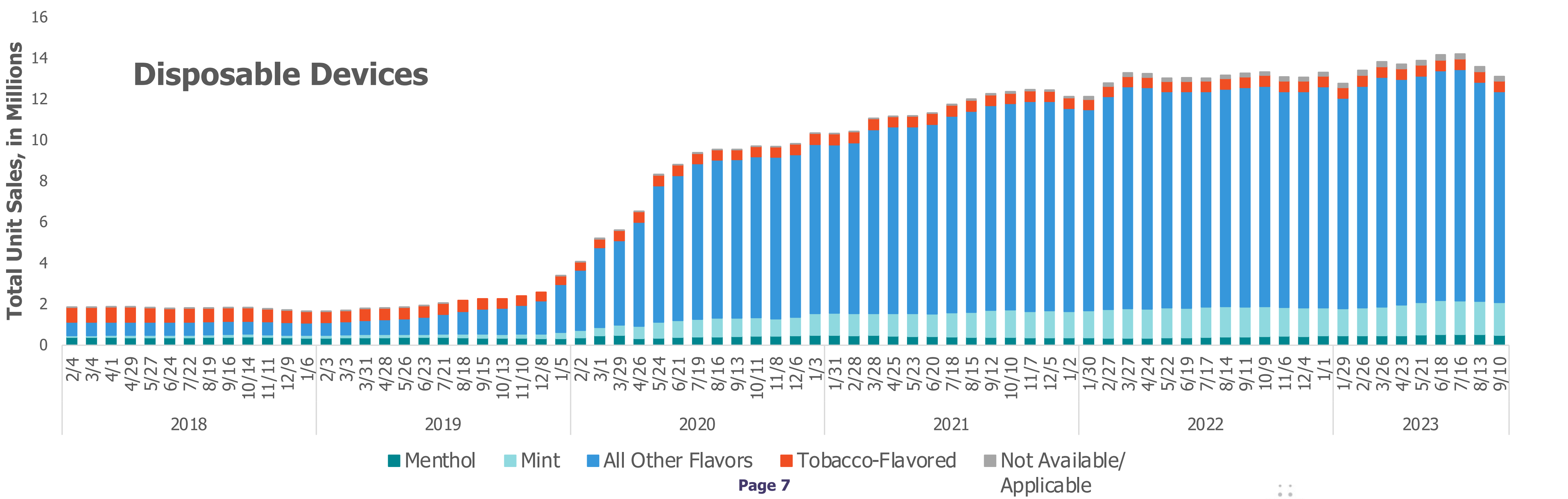
# Figure 6. National E-Cigarette Unit Sales by Product Type and Flavor, 4 Week Estimates 2/4/2018 – 9/10/2023



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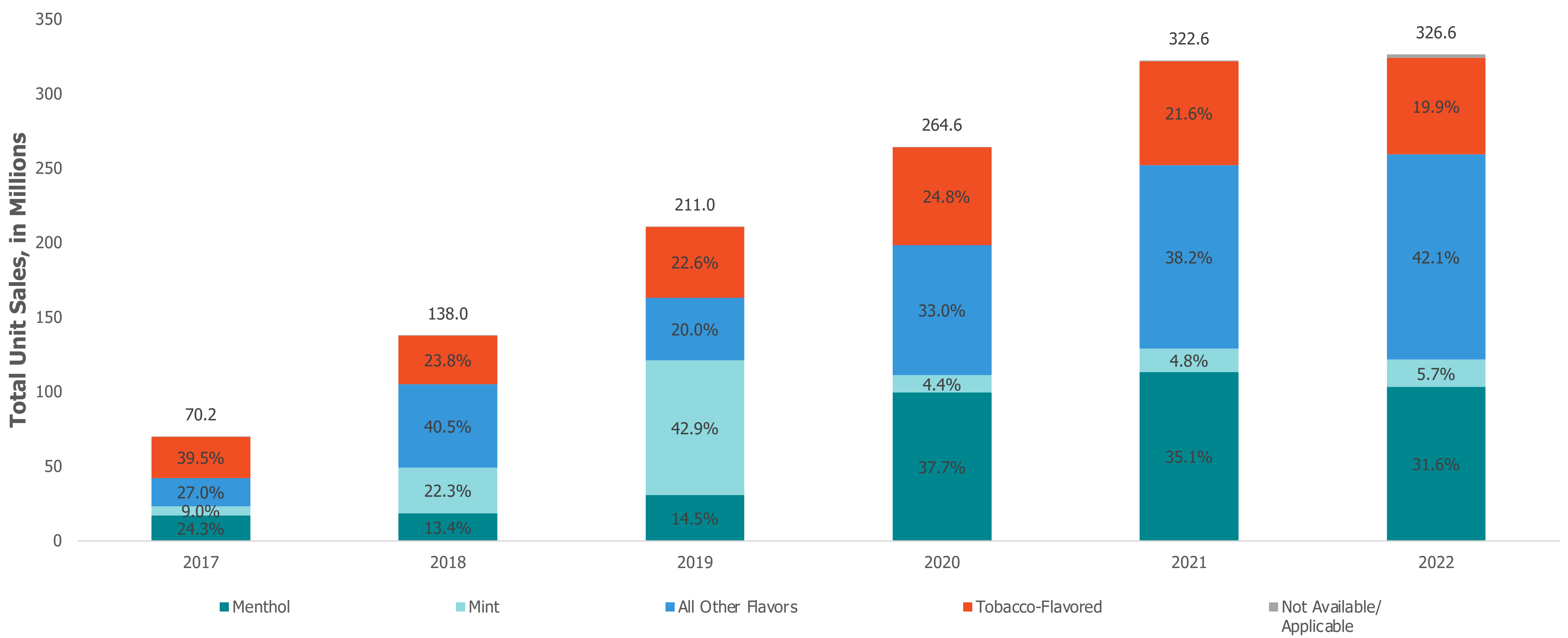
# Figure 7. National E-Cigarette Unit Sales by Flavor, Annual Estimates 2017 – 2022*

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## Unit Sales Annual Trends by Flavor (2021 - 2022)

- From 2021 to 2022:
  - Annual total e-cigarette unit sales increased by 1.2% (from 322.6 million units to 326.6 million units);
  - Unit sales of menthol-flavored e-cigarettes decreased by 8.9% (from 113.4 million units to 103.3 million units);
  - Unit sales of tobacco-flavored e-cigarettes decreased by 7.0% (from 69.8 million units to 64.9 million units);
  - Unit sales of mint-flavored e-cigarettes increased by 18.9% (from 15.6 million units to 18.6 million units); and
  - Unit sales of other-flavored e-cigarettes increased by 11.7% (from 123.2 million units to 137.5 million units).



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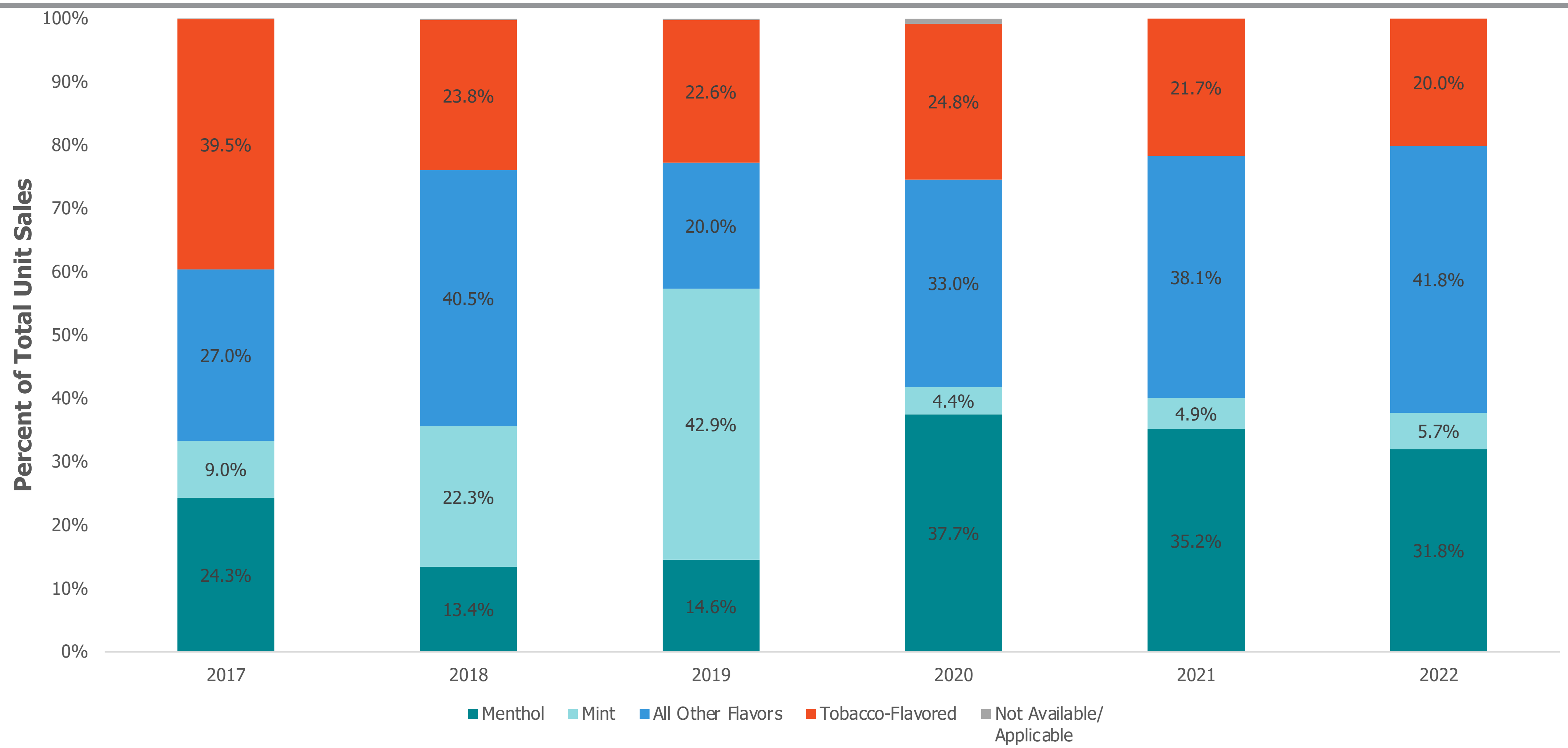
# Figure 8. Unit Share of National E-Cigarette Unit Sales by Flavor, Annual Estimates 2017 – 2022*

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## Unit Share Annual Trends by Flavor (2021 - 2022)

- From 2021 to 2022:
  - Unit share of menthol-flavored e-cigarette sales decreased from 35.1% to 31.6%;
  - Unit share of tobacco-flavored e-cigarette sales decreased from 21.6% to 19.9%;
  - Unit share of mint-flavored e-cigarette sales increased from 4.8% to 5.7%; and
  - Unit share of other-flavored e-cigarette sales increased from 38.2% to 42.1%.



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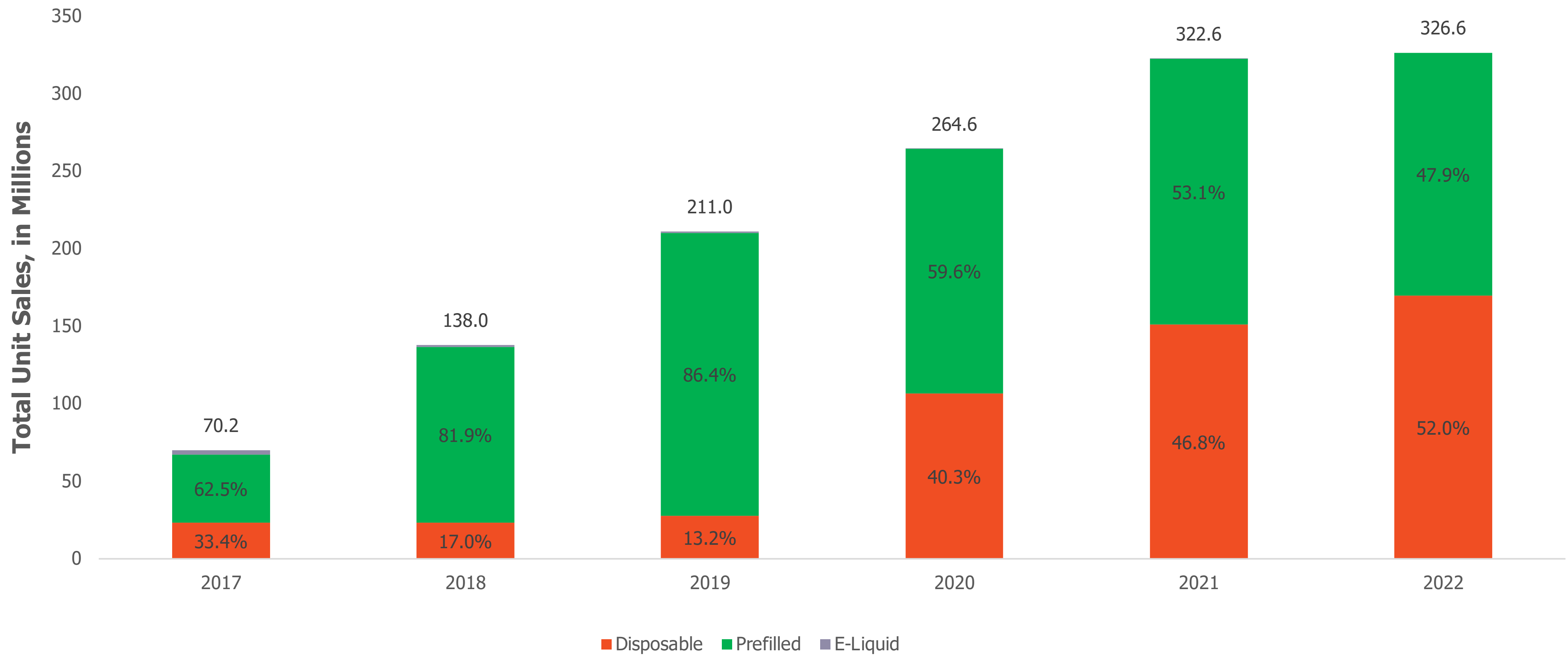
## Figure 9. National E-Cigarette Unit Sales by Product Type, Annual Estimates 2017 – 2022*

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## Unit Sales Annual Trends by Product (2021 - 2022)

- From 2021 to 2022:
  - Annual total e-cigarette unit sales increased by 1.2% (from 322.6 million units to 326.6 million units);
  - Unit sales of disposable e-cigarettes increased by 12.5% (from 151.0 million units to 169.8 million units); and
  - Unit sales of prefilled cartridge e-cigarettes decreased by 8.7% (from 171.4 million units to 156.6 million units).



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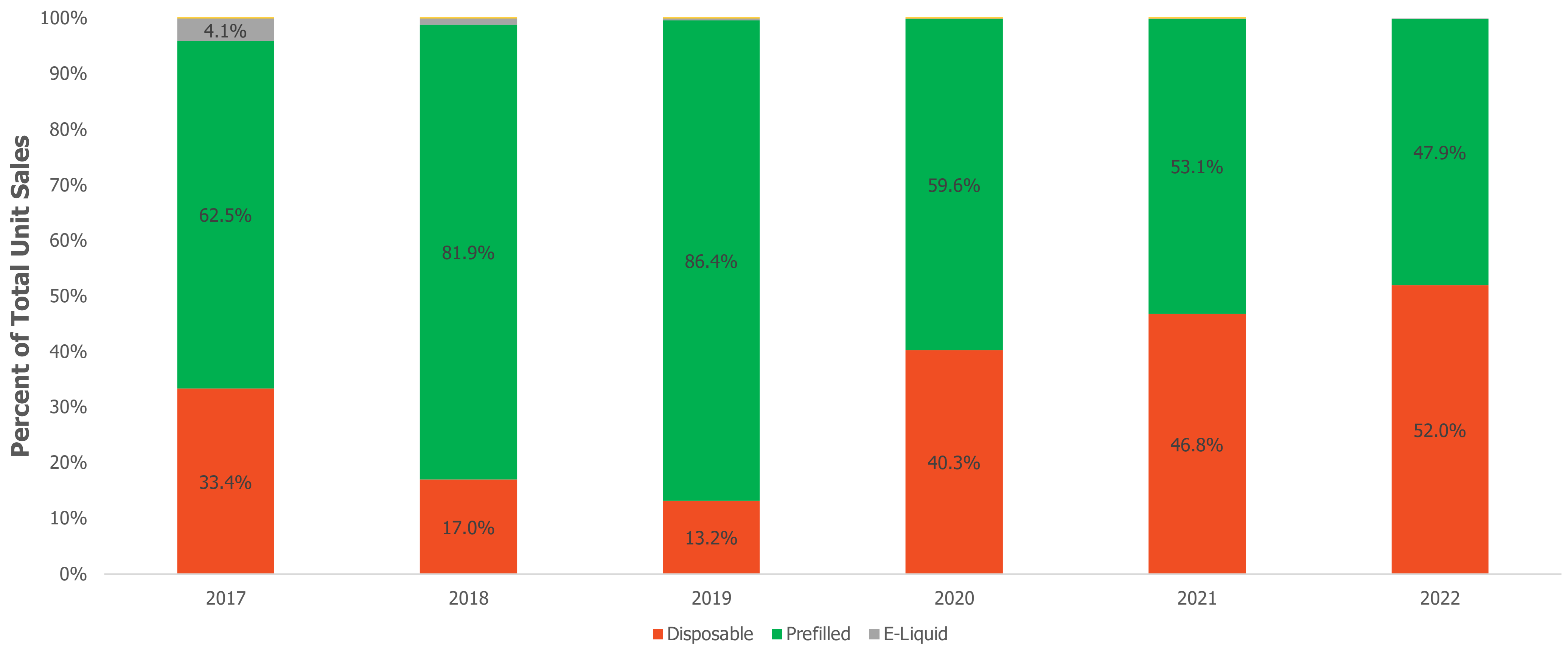
# Figure 10. Unit Share of National E-Cigarette Unit Sales by Product Type, Annual Estimates 2017 – 2022*

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## Unit Share Annual Trends by Product (2021 - 2022)

- From 2021 to 2022:
  - Unit share of disposable e-cigarette sales increased from 46.8% to 52.0%; and
  - Unit share of prefilled cartridge e-cigarette sales decreased from 53.1% to 47.9%.



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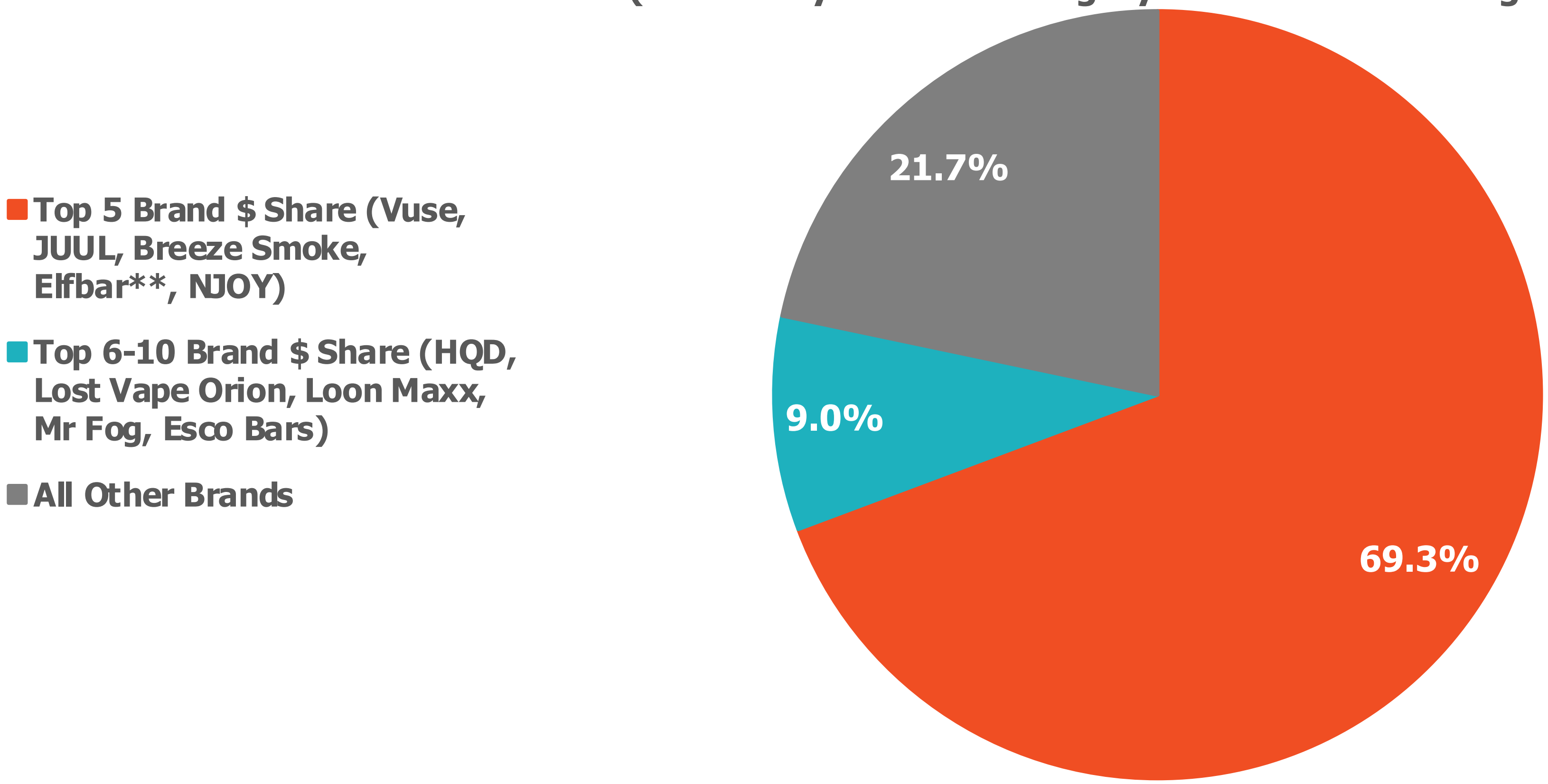
# Figure 11. Dollar Market Share of Top Brands, 4/18/2023 – 9/10/2023*

Percent Total Market (Dollar) Share
(Circana Syndicated Category: Electronic Smoking Devices)

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**Elfbar has begun to rebrand as EBDesign and EBCreate as of March 2023 following a court-ordered injunction. Sales of EBDesign and EBCreate are not aggregated with Elfbar in these estimates.

## Dollar Share by Top Brand Aggregates
### (Circana Syndicated Category: Electronic Smoking Devices)

- The top ten brands during the period spanning April 18, 2023, through September 10, 2023, were (in descending order of dollar sales) Vuse, JUUL, Breeze Smoke, Elfbar**, NJOY, HQD, Lost Vape Orion, Loon Maxx, Mr Fog, and Esco Bars. The top five brands and top ten brands accounted for 69.3% and 78.3% of total dollar sales, respectively.



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