



Published in final edited form as:

*Nicotine Tob Res.* 2022 March 01; 24(4): 606–611. doi:10.1093/ntr/ntab238.

## Trends in Cigar Sales and Prices, by Product and Flavor Type—the United States, 2016–2020

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### Abstract

**Introduction:** Cigar smoking has increased in recent decades as the cigar product landscape has diversified. This study assessed trends in US cigar sales during 2016–2020.

**Aims and Methods:** Unit sales and average unit price for cigars were assessed during January 3, 2016–June 13, 2020, overall and by product and flavor type, for the 48 contiguous US states and D.C. Assessed cigar types were large cigars, little cigars, and cigarillos; assessed flavor types were tobacco/unflavored, candy/sweets, fruit, menthol, alcohol, coffee, other flavors, and no flavor stated. A joinpoint regression model was used to assess the magnitude and significance of sales trends.

**Results:** During January 3, 2016–June 13, 2020, unit sales of cigarillos increased (average monthly percentage change [AMPC] = 0.7%,  $p < .001$ ), while unit sales of large cigars (AMPC = -0.8%,  $p < .001$ ) and little cigars decreased (AMPC = -0.2%,  $p < .001$ ). The average price of cigarillos gradually decreased since mid-August 2017 (AMPC = -0.1%,  $p < .001$ ), and the average price of little cigars decreased from mid-June 2016 to mid-June 2019 (AMPC = -0.3%,  $p < .001$ ). In contrast, the average price of large cigars increased during the entire study period (AMPC = 0.6%,  $p < .001$ ). Irrespective of cigar type, tobacco-flavored/unflavored products were the most

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#### Supplementary Material

A Contributorship Form detailing each author's specific involvement with this content, as well as any supplementary data, are available online at <https://academic.oup.com/ntr>.

#### Disclaimer

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the US Centers for Disease Control and Prevention. CDC's analyses and calculations are based in part on data reported by Nielsen through its Scantrack Service for the 4-week period ending June 13, 2020, for the Total US All Outlet Combined + Convenience markets. The conclusions drawn from the Nielsen data are those of the authors and do not reflect the views of Nielsen. Nielsen is not responsible for and had no role in and was not involved in analyzing and preparing the results reported herein. Use of Nielsen data does not imply an endorsement of any particular organization, service, or product.

#### Declaration of Interests

*None* declared.

commonly sold cigars during the assessed period; however, sales of other flavors varied by cigar type.

**Conclusions:** Cigar sales and price vary by type over time in the United States, including sales of cigarillos (94.2% of unit sales) increasing as their prices have decreased in recent years. Public health strategies are warranted to address the full scope of cigar types being used in the United States.

**Implications:** Surveillance of cigar sales data, including product characteristics, can provide a timely complement to self-reported survey data of cigar use. This study assessed trends in US cigar sales during 2016–2020, including by product and flavor type. The findings indicate that sales of cigarillos, which comprise most cigar sales in the United States during the assessed period, increased as their prices decreased. Sales of certain flavors, such as candy/sweet cigarillos and coffee large cigars, increased significantly. These findings reinforce the importance of evidence-based strategies, including increasing price and restricting flavors, to reduce the affordability and consumption of cigars in the United States.

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## Introduction

The US Surgeon General has concluded that combustible tobacco products, such as cigarettes and cigars, are responsible for the overwhelming burden of death and disease from tobacco products.<sup>1</sup> Cigar smoking is associated with several of the same health risks as cigarette smoking, such as heart disease, lung cancer, and all-cause mortality.<sup>1,2</sup> The broad category of cigars includes large cigars, little cigars, and cigarillos. Large cigars include premium hand-rolled cigars and machine-made large cigars. Little cigars are the same size and shape as cigarettes and often include a filter. Cigarillos are typically unfiltered, comparable in size to little cigars.

Although cigarette consumption in the United States continues to decline, demand for cigars has increased in recent decades.<sup>1,3</sup> From 2002 to 2012, per capita sales of cigars increased from 30.5 cigars to 57.4.<sup>3</sup> Moreover, self-reported survey data indicate that in 2019, 3.6% (8.7 million) of US adults currently smoked cigars, making it the second most commonly used combustible tobacco product among adults behind cigarettes.<sup>4</sup> During the same year, 5.3% (1.4 million) of US middle and high school students currently used cigars, making it the second most commonly used tobacco product among US middle and high school students after e-cigarettes.<sup>5</sup>

Self-reported survey data also indicate that the use of certain cigar types is particularly prominent among young people, including little cigars.<sup>6</sup> The use of little cigars among young people is partly driven by the availability of these products in flavors that are otherwise prohibited in conventional cigarettes.<sup>6,7</sup> Other factors potentially increasing their appeal to consumers, particularly youth, include availability in single-unit quantities and lower prices compared to cigarettes.<sup>8</sup> Some cigarette products have been modified by manufacturers by wrapping them in brown paper and increasing their weight, which classifies the products as cigars for tax purposes, thereby reducing their price relative to cigarettes.<sup>9</sup> In addition, some or all of the loose tobacco in cigars can be emptied out and

replaced with marijuana while retaining the tobacco leaf wrap, which is often called a “blunt.”<sup>10</sup>

Retail sales data can be a timely complement to self-reported surveys, which are frequently conducted once annually and might not fully capture emergent trends. To date, some studies have assessed trends in cigar sales<sup>11-13</sup>; however, little is known about more recent trends in cigar sales volume and price, particularly by product and flavor type. This study used Nielsen data to assess US trends in cigar sales during 2016–2020, overall and by product and flavor type. Given the different types of cigars available in the United States, as well as the emergence of policies to prohibit the sale of flavored tobacco products such as little cigars,<sup>14</sup> retail sales data could provide timely subannual data to inform public health policy and practice.

## Methods

### Data Source

Retail sales data in 4-week aggregates were obtained from The Nielsen Company (Nielsen) for January 3, 2016–June 13, 2020. Data were included for 48 US states and the District of Columbia; data from Hawaii and Alaska were not available. These data included product-specific characteristics associated with each Universal Product Code (UPC), as well as dollar sales and unit sales for each UPC. These data are reflective of sales in convenience stores, food/grocery stores, pharmacies, mass merchandisers, club stores, discount/dollar stores, and US military commissaries. Sales through the Internet or tobacco specialty stores are not included.

### Measures

Cigar products were categorized into three product types (large cigars, little cigars, or cigarillos) based on the description, size (eg, giant, queen, large, mini), presence of tip or filter, and extensive online search on brand-specific information.<sup>12</sup> A small fraction of cigar products (0.3% of total dollar sales) could not be categorized because of insufficient information, and were excluded from the analyses.

Cigar products were categorized into eight exclusive flavor categories based on the flavor description in the dataset: tobacco/unflavored, candy/sweets, fruit, menthol, alcohol, coffee, other flavors, and not stated. The tobacco/unflavored category included tobacco-flavored products and unflavored products. The “other flavors” category included mint, cannabis, clove, and concept flavors such as “purple wave” and “midnight hour.” Products without flavor description were categorized as “not stated.”

### Analysis

Both unit and dollar sales were assessed. To aggregate unit sales, units were standardized following the approach by Wang et al<sup>13</sup>: one unit was equal to one large cigar, one pack of 20 little cigars, or one pack of 2 cigarillos. Average price per unit was calculated as total dollar sales divided by total standardized units. Unit sale share was calculated as unit sales of a specific category (eg, product type or flavor), divided by total unit sales.

Trends in unit sales and average unit price were assessed overall and by product and flavor type across 4-week periods (referred to as “month” henceforth). Joinpoint regression models,<sup>15</sup> accounting for autocorrelated errors, were used to detect points in time where the sales direction changed and to quantify the relative amount of change. Average monthly percentage change (AMPC) and corresponding 95% confidence intervals were estimated for the segments of changes and overall changes. For all analyses,  $p < .05$  was used to determine statistical significance. Analyses were performed using R version 4.0.2, Joinpoint Regression Program version 4.8.0.0, and Microsoft Excel.

## Results

During January 2016–June 2020, monthly cigarillo unit sales increased from about 131 million to 190 million by an average of 0.7% per month ( $p < .001$ ) during the entire study period (Figure 1, Appendix Table 1). For large cigars, unit sales decreased during the study period (AMPC =  $-0.8%$ ,  $p < .001$ ). For little cigars, unit sales decreased (AMPC =  $-0.2%$ ,  $p < .001$ ) during the entire study period; however, sales increased during January 2016–mid-August 2016 (AMPC =  $1.6%$ ,  $p = .01$ ), but decreased since then (AMPC =  $-0.5%$ ,  $p < .001$ ).

During January 2016–June 2020, the average cigarillo price for a pack of 2 have remained unchanged ( $\$1.31$ ; AMPC =  $0.0%$ ,  $p = .8$ ) for the entire study period (Figure 2, Appendix Table 1). For large cigars, the average price for one increased from  $\$1.44$  to  $\$2.06$  during the study period (AMPC =  $0.6%$ ,  $p < .001$ ). For little cigars, the average price for a pack of 20 was unchanged ( $\$2.94$ ) during the entire study period (AMPC =  $0.0%$ ,  $p = .6$ ); however, it decreased during mid-June 2016–June 2019 (AMPC =  $-0.3%$ ,  $p < .001$ ).

During the study period, total unit sales and unit sale share were greatest for cigarillos (9 688 537 764, 94.2% of unit sales), followed by little cigars (318 202 059, 3.1% of unit sales), and large cigars (274 519 531, 2.7% of unit sales; Appendix Table 2). Tobacco-flavored/unflavored products were the most common for all three product types assessed; annual unit sale share of tobacco-flavored/unflavored products was 83%–87% for large cigars, 51%–54% for little cigars, and 49%–52% for cigarillos during January 2016–June 2020. For cigarillos, fruit flavor had the second greatest unit sale share, followed by candy/sweet flavors. Unit sales of tobacco-flavored/unflavored cigarillos increased by an average 0.9% per month overall ( $p < .001$ ); unit sales of candy/sweet- (AMPC =  $1.0%$ ,  $p < .001$ ) and other- (AMPC =  $2.5%$ ,  $p < .001$ ) flavored products also increased. For large cigars, candy/sweet and alcohol-flavored products were most popular after tobacco-flavored/unflavored products. Unit sales of tobacco-flavored/unflavored large cigars decreased overall (AMPC =  $-1.0%$ ,  $p < .001$ ); unit sales of candy/sweet- (AMPC =  $0.8%$ ,  $p < .001$ ) and coffee- (AMPC =  $9.8%$ ,  $p < .001$ ) flavored products increased, while the unit sales of fruit-flavored products decreased (AMPC =  $-4.4%$ ,  $p < .001$ ). For little cigars, menthol had the second highest proportion of overall sales, followed by fruit and candy/sweet flavors. Unit sales of tobacco-flavored/unflavored little cigars decreased overall (AMPC =  $-0.3%$ ,  $p < .001$ ); unit sales of alcohol-flavored products also decreased (AMPC =  $-6.6%$ ,  $p < .001$ ).

## Discussion

During January 2016–June 2020, unit sales of cigars increased in the United States. This increase was driven by steady growth in cigarillo sales during the assessed period, despite decreases in sales of large cigars and little cigars. Moreover, cigarillos were the most commonly sold cigar product, comprising 94.2% of overall sales, followed by little cigars (3.1%) and large cigars (2.7%). During August 2017–June 2020, the average price of cigarillos decreased. These findings re-inforce the importance of evidence-based strategies, including increasing price, to reduce the affordability and consumption of the full scope of cigar types being used in the United States, particularly among youth.

The current study found that decreases in unit sales of large cigars were accompanied by increases in the price of large cigars; in contrast, the price of cigarillos and little cigars re-mained unchanged during the full study period. When comparing to other higher priced products such as cigarettes, the relatively low cost of cigar products can be an appealing alternative to cigarettes, especially among youth.<sup>6,16</sup> Increasing price is the single most effective strategy for reducing cigarette consumption through both reducing initiation and increased cessation.<sup>1,17</sup> Similarly, studies have shown that increases in the price of cigars can effectively reduce cigar usage.<sup>1,18</sup> For example, Jawad et al estimated that a 10% price increase of cigars reduces cigar demand by 8%.<sup>18</sup> Therefore, pricing is an important public health strategy for reducing cigar consumption, including preventing not only youth use but also potential tobacco product substitution.

The majority of cigar products sold during the assessed period were tobacco-flavored/unflavored products (annual market share of 50%–80%) and fruit was the second most commonly sold flavor for cigarillos and menthol was the second most commonly sold flavor for little cigars. Addressing flavored tobacco product sales, particularly candy/sweet flavored cigarillos is important for public health because flavors can mask the harshness of tobacco, making them more appealing to youth and young adults.<sup>6,7</sup> States and communities have adopted population-wide strategies to prevent youth use of flavored tobacco products, including policies that are specific to cigars. In 2009, New York City prohibited the sale of flavored cigars and smokeless tobacco products, though that policy excluded mint, menthol, and wintergreen and allowed flavored sales to continue in certain adult-only tobacco retailers.<sup>7</sup> Similarly, Maine adopted a law in 2009 that prohibited the sale of flavored cigars, exempting premium cigars.<sup>19</sup> An analysis of New York's flavor policy found that cigar sales declined by 7.4%, compared with a 12% national increase.<sup>20</sup> Similar policies later were adopted by jurisdictions in California, Minnesota, and Rhode Island.<sup>7</sup> In 2020, five states (California, Massachusetts, New Jersey, New York, and Rhode Island) adopted statewide laws that prohibited the sale of all flavored tobacco products, including menthol.<sup>14</sup> In April 2021, the US Food and Drug Administration announced that it plans to issue product standards to ban all characterizing flavors, including menthol, in cigars. The increased sales of cigars documented in this study, coupled with the high proportion of sales that were for flavored products, reinforce the importance of such standards for preventing and reducing cigar use in the United States.

## Limitations

This study is subject to at least three limitations. First, sales from Hawaii and Alaska, as well as those from the Internet and tobacco specialty shops were not included; therefore, unit sales reported in this study underestimate the total sales volume in the United States. Second, the study could not assess purchaser age; the assessed sales could reflect products purchased by adults or those obtained directly or indirectly by youths. Third, cigar products were categorized into these three product types based on product description in the data and online searches, which might be subject to misclassification; however, this only applied to 0.3% of total dollar sales. Finally, this study could not account for various factors that might have also impacted patterns of sales, including other tobacco product use (eg, e-cigarettes), tobacco control policies (eg, federal flavor prohibitions), and public health emergencies (eg, COVID-19 and EVALI [e-cigarette, or vaping, product use-associated lung injury]).

## Conclusions

Cigarillos were the most commonly sold cigar product, with sales increasing steadily as prices remained generally unchanged with slight decreases in recent years. Sales of certain flavors increased depending on cigar type. Comprehensive strategies that address the full scope of cigar products and flavors are warranted to prevent and reduce cigar use in the United States, especially among youth and young adults. These include longstanding strategies, such as increasing price,<sup>1</sup> and emerging strategies such as the restriction on flavor sales. Further surveillance of cigar demand, including through more rapidly collected mechanisms such as retail sales, is important to inform the development, implementation, and sustainment of efforts to address cigar use at the national, state, and local levels.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

## Funding

This work was funded by the US Centers for Disease Control and Prevention (CDC).

## Data Availability

The data underlying this article were provided by The Nielsen Company (Nielsen) under license/by permission. Data will be shared on request to the corresponding author with permission of Nielsen.

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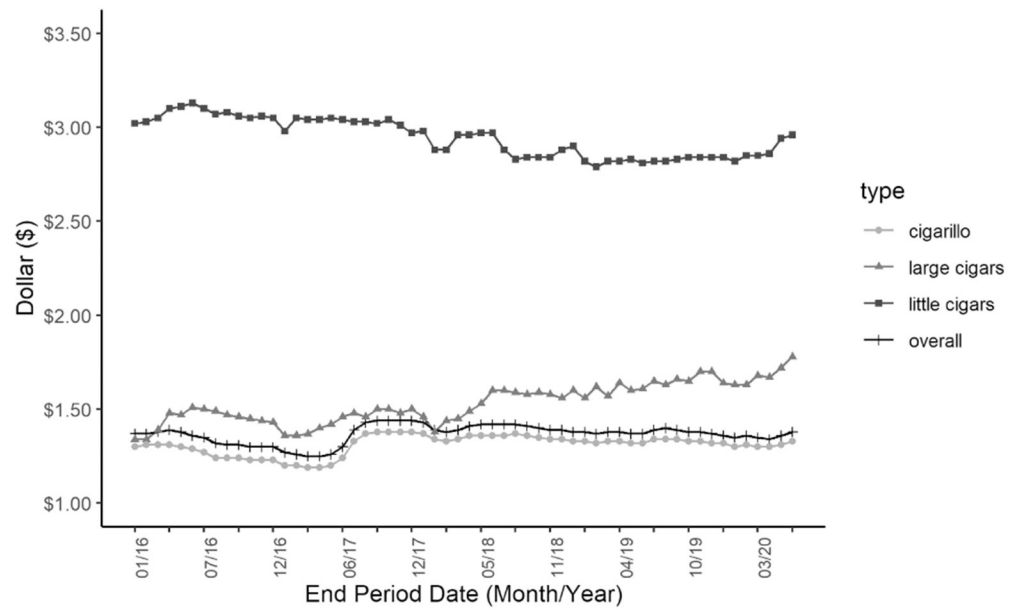
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**Figure 1.** Monthly unit sales of cigars by cigar type, January 2016–June 2020. Cigar unit sales were calculated by 4-week period. Because of the large variation in monthly unit sales of different cigar products over time, the unit sales depicted on the y-axis were log-transformed to facilitate clearer visualization of trends. However, the labels on the y-axis display the actual unit sales values. A gap was also inserted on y-axis, between 8 million and 13 million for visualization. One unit equals one large cigar, one pack of 20 little cigars, or one pack of 2 cigarillos.





**Figure 2.**

Average monthly unit price of cigars by cigar type, January 2016–June 2020. One unit equals one large cigar, one pack of 20 little cigars, or one pack of 2 cigarillos. Average price per unit was calculated as the total dollar sales divided by total standardized units.