

persisted throughout the 5 years, although the proportion of total payments received by these physicians declined. The variability in payments may reflect differences in marketing strategies, therapeutic indications, and heterogeneity of prescribers across competing agents and therapeutic classes.

This study is limited to 6 novel therapeutic classes with first-in-class launches after 2013. In addition, analyses were based on calendar year, regardless of competing product approval date, potentially limiting payment numbers for products launched late in a calendar year. Moreover, it is unclear why first-in-class and competing manufacturers selected these physicians who initially received payments, including whether they were high-volume prescribers or key opinion leaders. Nevertheless, these findings suggest that industry-physician financial relationships are likely a strategic aspect of competing manufacturers' promotional effort for product launches within therapeutic classes. Physician professional societies may consider providing guidance regarding these financial relationships in the context of product competition within therapeutic classes.

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Online Retailer Nonadherence to Age Verification, Shipping, and Flavor Restrictions on E-Cigarettes

To curtail youth access to vaping products, the 2020 Preventing Online Sales of E-Cigarettes to Children Act implemented a ban on the use of the United States Postal Service (USPS) to ship vaping products and mandated identification (ID)-scan authentication of age on delivery.¹

Supplemental content Sales restrictions on flavored tobacco have also been enacted in 8 US states and 392 cities or counties (as of March 21, 2024),² but some of these do not cover e-commerce.³ We assessed whether online vaping retailers adhered to age verification, shipping method, and flavor restrictions by attempting to purchase flavored vaping products online and have them delivered to residential households in San Diego, California, which has a flavor restriction policy that encompasses e-commerce.⁴

Methods | Throughout October 2023, 16 buyers made attempts to purchase flavored nicotine vaping products that had been pre-selected by study staff on 78 websites that were identified using search engines (Google Search, Google Maps, and Yelp) (eMethods in Supplement 1). Two website purchase attempts were made in matched pairs, with one buyer residing in San Diego and the other residing in another jurisdiction in San Diego County, California, where there was no restriction on the sale of flavored tobacco via e-commerce. All buyers were older than 21 years, provided their actual age and billing information, and attempted to have products delivered to their permanent residential address. Buyers attempted purchases using a preloaded Visa e-gift card or their own credit card and selected USPS as the shipping method if available. Once buyers received an order, they reported details of their interactions with delivery personnel in a survey and returned the parcel to study staff. A laboratory assistant then took pictures of various parts of the parcel for record keeping. The parcel was independently reviewed by 6 trained study staff working in pairs (R.M.H., S.E.E., N.S., T.M., G.B., and E.C.L.) to determine the shipping method, with disagreements adjudicated by an additional reviewer (S.E.E.). The University of California San Diego institutional review board did not consider this study human subjects research. Additional methodological details are provided in the eMethods in Supplement 1.

We report the proportion of deliveries that adhered to age verification, shipping method, and flavored tobacco sales restrictions. The difference in completed delivery rates between matched pairs was assessed using a 2-sided McNemar test with $\alpha = .05$.

Results | Of the 156 purchase attempts made, 114 transactions (73.1%) were processed and 105 deliveries (67.3%) were

Table. Online Vaping Retailer Shipping Practices Among Purchases Delivered to Adults^a Residing in San Diego County, California

Practice characteristics	No. (%)
Completed deliveries ^b	
Among all buyers	105 (67.3)
Buyer in area with local flavor restriction	54 (69.2)
Buyer in area without local flavor restriction	51 (65.4)
Age verification at delivery ^c	
No interaction with delivery personnel	82 (78.1)
Spoke with delivery personnel, but no ID check	16 (15.2)
ID checked, but not scanned by delivery personnel	6 (5.7)
ID scanned by delivery personnel	1 (1.0)
Shipping method used for delivery ^d	
US Postal Service	80 (80.8)
GLS	8 (8.1)
UPS	4 (4.0)
FedEx	3 (3.0)
Swyft	2 (2.0)
DHL	1 (1.0)
Unsure	1 (1.0)

Abbreviation: ID, identification.

^a Aged 21 years or older.

^b Among all 156 purchase attempts (78 in each flavor policy pair).

^c Among 105 completed deliveries.

^d Among 99 completed deliveries with intact parcels.

completed (Table). At least 1 product was delivered from 59 of the 78 retailers (75.6%). Rates of delivery did not significantly differ for buyers residing in San Diego, where there is a local flavored tobacco sales restriction (69.2%), or in other areas of the county where there is no such policy (65.4%) ($P = .58$).

Among the 105 deliveries, only 1.0% of buyers had their ID scanned by delivery personnel as required by law. Most buyers (78.1%) reported no interaction with delivery personnel, 15.2% spoke with delivery personnel but did not have their ID checked, and 5.7% had their ID checked but not scanned by delivery personnel.

There was strong agreement between coders on the shipping methods that retailers used (Cohen $k = 0.77$). Among the 99 completed deliveries with packaging, 80.8% arrived via USPS. Additionally, 8.8% arrived via couriers that had corporate policies that restrict shipment of tobacco, including 4.0% via UPS, 3.0% via FedEx, and 1.8% via DHL.

Discussion | These results demonstrated pervasive nonadherence to age verification, shipping, and flavored tobacco restrictions among online tobacco retailers. Study limitations include that the data came from only 1 US county; however, its tobacco control ordinances are some of the strongest in the country. Jurisdictions should consider whether to permit online tobacco sales and, if permitted, ensure that retail policies such as flavor restrictions unambiguously cover online sales.⁵ Routine surveillance of online retailers may identify opportunities to strengthen the implementation of existing public health laws designed to reduce sales of tobacco products to individuals aged 20 years or younger.

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COMMENT & RESPONSE

Tirzepatide for Weight Reduction in Chinese Adults With Obesity

To the Editor A recent study¹ reported that once-weekly treatment with tirzepatide can effectively lead to weight reduction. However, we have several concerns about this article. First, the effect of lifestyle in this study requires further exploration.

Supplemental Online Content

Harati RM, Ellis SE, Satybaldiyeva N, et al. Online Retailer Nonadherence to Age Verification, Shipping, and Flavor Restrictions on E-Cigarettes. *JAMA*. Published online November 11, 2024. doi:10.1001/jama.2024.21597

eMethods. Additional Information on Study Design and Measures

eReferences.

This supplementary material has been provided by the authors to give readers additional information about their work.

Supplemental Online Content

eMethods. Additional information on Study Design and Measures.

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Identification of vaping retailers on search engines

We focused on identifying retailers on search engines because consumers are using them to search for products—about 68% of consumers search for information about products and retailers prior to making purchases online.¹ Search engines allow prioritization of results to geographic areas, making it possible to understand the websites consumers would likely come in contact with if they searched for nicotine vape products online.² We executed searches for vaping products on three internet search browsers (*Google Search*, *Google Maps*, and *Yelp*) with the goal of amassing a list of websites that consumers in San Diego County, California would likely identify.

A first set of retailers, which we refer to as “search-based,” can be identified by a consumer through a search engine that rank-orders search results based on relevance (e.g., *Google Search*). These retailers might be located within the jurisdiction that a consumer searched from or elsewhere. We identified search-based retailers by executing Google searches with five shopping indicative terms (i.e., *buy*, *order*, *shop*, *retailer*, or *sale*) in combination with a vape or product-indicative term (i.e., *vape*, *e-cig*, *JUUL*, *vuse*, *NJOY*). For example, *order vape* was one query and this would be included in a search like “where can I order vapes online?” Previous analyses demonstrated that nearly all websites returned in the first two pages (97%) of search results using these keywords directed to e-commerce websites that sold nicotine vaping products, so the first two pages of search results were included for study.³

A second set of retailers, which we refer to as “map-based,” are those that a consumer might find when searching for vaping products using *Google Maps* or *Yelp*. To identify map-based retailers, we executed searches for “vape shop” and “vape store” on the Yelp Fusion API and the Nearby Search function of the Google Places API, along with geographic information that included the latitude and longitude of the center of each of the 108 Zip Code Tabulation Areas (ZCTAs) in San Diego County and the distance in meters from each ZCTA center to the furthest geographic extent

of the ZCTA border. From this any uniform resource locators (URLs) that directed to another website were extracted from the record for further review.

The results from each search strategy were then combined across search strategies and deduplicated. Each URL was then visited by study staff to determine whether it might allow consumers to buy flavored vaping products and have them delivered to a residential address in San Diego County, California and those that appeared they may deliver were retained. The final resulting URLs predominantly included e-commerce sites selling multiple products; however, a couple manufacturer sites were also identified.

Flavor product selection

Study staff pre-selected a list of flavored vaping products from the identified websites. Since, at the time of analysis there was no available list of product flavor determinations, we looked for products that were marketed with explicit flavor descriptors (e.g., “cherry” or “sour apple”) and tried to select a product that was the least expensive in this category. These pre-selected products were then given to buyers to attempt to purchase.

Measures and procedures for documenting adherence to laws

Completed deliveries: After purchases were digitized, a review of products delivered and pre-selected product lists was conducted. Six trained study staff working in pairs of two (E.C.L., G.B., N.S., R.M.H., S.E., and T.M.) independently reviewed images of the purchased product and compared them to the products that buyers were instructed to purchase from the pre-selected list. If the product delivered matched a product assigned to a buyer to purchase, it was considered a completed delivery. Coders unanimously agreed that all purchases were correctly documented as completed delivery.

Age verification at delivery: In the buyer post-delivery survey, age verification at delivery was recorded using three questions: “Did you speak with a delivery person when the package arrived?”, “Did the delivery person ask to see a valid state-issued ID to confirm your age?”, and “Did the delivery person scan your ID?”. Response options for each of these were: “Yes” or “No.”

Shipping method: Six trained study staff working in pairs of two (E.C.L., G.B., N.S., R.M.H., S.E., and T.M.) also independently reviewed images of the shipping label that products were delivered with to document the shipping method that was used. Pre-selected options included: United States Postal Service (USPS), GLS, UPS, FedEx, SWYFT, and DHL; as well as an option to document another deliverer and fill in the name or indicate that they were unsure what the shipping method was.

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