How to identify e-cigarette brands available in the United States during 2020-2022: Development and usability study

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Abstract

Background: Prior studies have demonstrated that the e-cigarette market contains a large number of brands. Identifying these existing e-cigarette brands is a key element of market surveillance, which will further assist in policy making and compliance checks.

Objective: To facilitate the surveillance of the diverse product landscape in the e-cigarette market, we constructed a semantic database of e-cigarette brands that have appeared in the US market as of 2020-2022.

Methods: In order to build the brand database, we searched and compiled e-cigarette brands from a comprehensive list of retail channels and sources, including (1) e-liquid and disposable brands sold in web-based stores, (2) e-cigarette brands sold in brick-and-mortar stores and collected by the Nielsen Retail Scanner Data, (3) e-cigarette brands compiled by Wikipedia, (4) self-reported e-cigarette brands from the 2020 International Tobacco Control Four-Country Smoking and Vaping (ITC 4CV) US survey, and (5) e-cigarette brands on Twitter. We also estimated the top 5 e-cigarette brands by sales volume in brick-and-mortar stores, by the frequency and variety of offerings in web-based shops, and by the frequency of self-reported brands from the 2020 ITC 4CV US survey.

Results: As of 2020-2022, a total of 912 e-cigarette brands have been sold by various retail channels. During 2020-2022, the top 5 brands are JUUL, vuse, njoy, blu, and logic in brick-and-mortar stores; blu, king, monster, twist, and air factory for e-liquids in web-based stores; hyde, pod mesh, suorin, vaporlax, and xtra for disposables sold in web-based stores; and smok, aspire, vaporesso, innokin, and eleaf based on self-reported survey data.

Conclusions: As the US Food and Drug Administration enforces the premarket tobacco market authorization, many e-cigarette brands may become illegal in the US market. In this context, how e-cigarette brands evolve and consolidate in different retail channels will be critical for understanding the regulatory impacts on product availability. Our semantic database of e-cigarette brands can serve as a useful tool to monitor product and marketplace development, conduct compliance checks, assess manufacturers' marketing behaviors, and identify regulatory impacts.