

The Vaping Crisis: Who's at Risk & How Widespread is It?

The recent vaping crisis, including the growth in e-cigarette usage and vaping-related illnesses, is appropriately receiving national attention, and New Jersey is not immune to its reach. The Center for Healthcare Analytics, Research and Transformation (CHART) has found through New Jersey hospital claims data that hospitalizations where e-cigarette usage is present start to uptick beginning at age 11 and peak e-cigarette use happens between the ages of 18-24, with the greatest concentration in Middlesex County. Through mid-October, the Centers for Disease Control and Prevention (CDC) reported [1,604 lung injury cases](#) associated with the use of e-cigarettes or vaping. Thirty-four deaths have been confirmed in 24 states, and the New Jersey Department of Health reported Oct. 1 its [first vaping-related death](#). While the CDC has worked with states to come up with definitions to classify confirmed and probable vaping-related cases, inconsistencies in identifying and correctly coding vaping-related illnesses challenge the ability to accurately quantify the true extent of the vaping-related crisis. In an effort to better illuminate who and where vaping affects New Jersey residents CHART examined hospital inpatient and emergency department claims data from January 2017 through August 2019. CHART searched for documentation pointing to e-cigarette usage and recommended codes to capture vaping trends in patients presenting at these facilities. A high-level initial analysis of patient claims including vaping documentation showed New Jersey hospitals are on pace to see nearly 16,000 patients who use e-cigarettes in 2019 alone. This data provides a basis for deeper insight into where and whom vaping is distributed among New Jersey's population and by geographic region.

Coding is Critical

It is critical that clinicians consistently capture the presence of e-cigarette usage in a patient's record and use the recommended codes for vaping. In May 2017, the American Academy of Professional Coders issued guidance for coders instructing them to use the International Classification of Diseases (ICD) 10th revision code F17.290 when a patient presents for any reason and is currently using e-cigarettes. Relying on this coding guidance, CHART organized the claims data of the hospital patient population where vaping usage was present in their record by age, race/ethnicity, and zip code.

Findings

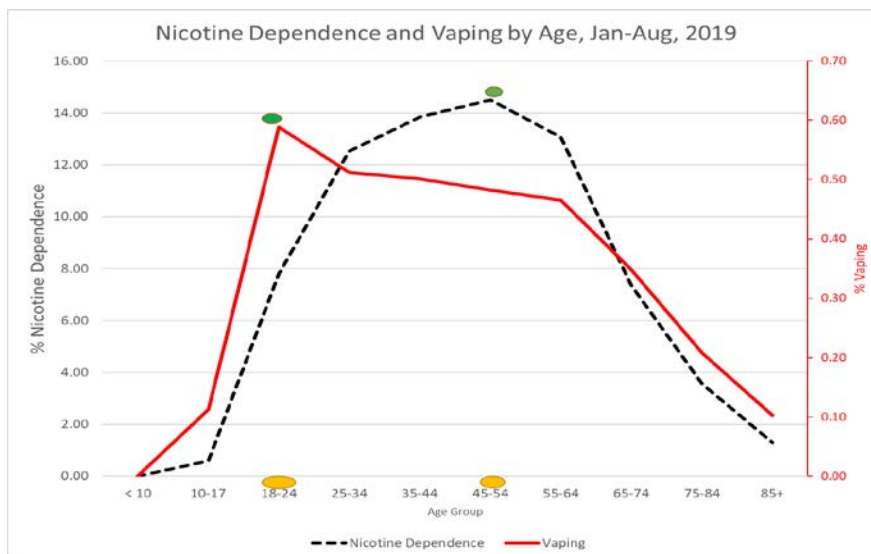
- Low-income and urban centers contain the highest number of patients, while the greatest concentration who vape as a percent of hospital discharge population are in suburban settings with an emphasis on zip codes located in Middlesex county.

Top 5 Zip Codes Based on All Case Volume
1. Jersey City – 07305
2. Lakewood – 08701
3. Atlantic City – 08401
4. Bayonne – 07002
5. Perth Amboy – 08861

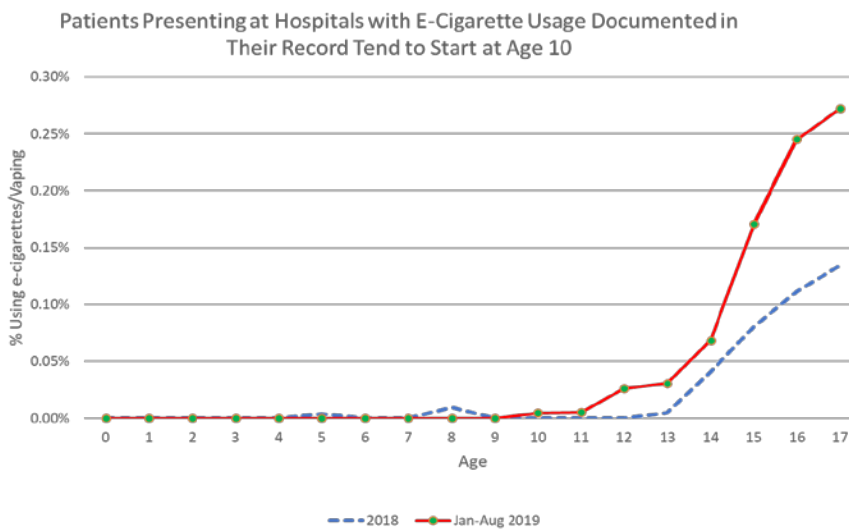
Top 5 Zip Codes Based on Vaping Use Rate
1. Woodbridge – 07095 – Middlesex County
2. Perth Amboy – 08861 – Middlesex County
3. Old Bridge – 08857 – Middlesex County
4. Chatsworth – 08019 – Burlington County
5. South Amboy – 08879 – Middlesex County

- E-cigarettes are overwhelmingly used by males. By race/ethnicity, White and Black populations vape at significantly higher rates than Hispanics, with vaping among Asians noticeably lower compared with other populations.

- Peak e-cigarette penetration occurs among the 18–24 age group while nicotine dependence peaks in the 45–54 age group, suggesting vaping's shift towards younger ages.



- In hospitalizations where e-cigarette usage is present, 2018 data demonstrates an uptick beginning at ages 12-13. In 2019 a significant uptick begins at slightly younger ages, 11-12.



- The growth in e-cigarette usage, based on the presence of ICD-10 code F17.290 in the patient's record, has accelerated in recent years (2017 – 6,088, 2018 – 8,866, 2019 projected – 15,853). This could be the result of a combination of increased activity and better awareness of the need to document e-cigarette usage.

Closing Argument

While many states have taken immediate action to curb the sale of vaping-related products to youth consumers, continuing to gather accurate information is key to mitigating vaping's impact on health status. Besides nicotine, e-cigarettes can contain other harmful ingredients. Brain development continues through age 25 and nicotine exposure has the potential to harm that development. E-cigarettes appear to be the latest delivery mechanism for nicotine (not to mention other harmful or black-market ingredients such as THC). Additional research, and more consistent reporting of e-cigarette usage, will assist the healthcare community in assessing its extent and educating users about the risks associated with vaping.