

Measuring the Population's Use of Specific Brands, Makes and Models of Vaping Devices and E-Liquids

Christopher Russell Ph.D.

Centre for Substance Use Research

Glasgow, United Kingdom.

russell@csures.org

Funding Declaration

The Centre for Substance Use Research (CSUR) receives funding from JUUL Labs to conduct behavioral research that characterizes the prevalence, patterns of use, and perceptions of JUUL vaping products in different populations.

All research is conducted independently of JUUL Labs by research staff at the Centre for Substance Use Research.

JUUL Labs Inc. has no input to or control over study design, contents of survey instruments, sample recruitment, data analysis, interpretation, writing or reporting of research findings.

Estimating the population health impact of e-cigarettes

The long-term health risks of e-cigarette use are unknown, and likely will not be well characterized for several years.

The best available evidence suggests that, under typical conditions of use, the aerosol emitted by e-cigarettes typically contains fewer and lower concentrations of toxicants and carcinogens than are present in smoke from combustible tobacco cigarettes.

Regular long-term inhalation of e-cigarette aerosol is, however, unlikely to be without biological effects in humans.

Estimating the population health impact of e-cigarettes

The wide commercial availability of e-cigarettes in a city or country makes it possible for e-cigarettes to be used by population sub-groups, such as youth and non-smokers, in ways that could increase rather than reduce net population harm.

The potential for e-cigarettes to yield a net benefit to population health therefore depends on how they are used in relation to smoked tobacco products.

Estimating the population health impact of e-cigarettes

E-cigarettes have the greatest potential to benefit population health when they are:

1. Used in place of more harmful tobacco products (e.g. cigarettes) by individuals who currently use such products *and* were unlikely to have quit or reduced their use of such products in the absence of e-cigarettes.

AND

2. Not used by individuals who are not current users of more harmful tobacco products *and* would likely have not initiated or re-initiated use of such products in the absence of e-cigarettes.

Estimating the population health impact of e-cigarettes

Starting point: Who is using e-cigarettes?

Problem: No such thing as ‘an e-cigarette’

Marketing of an increasing number and heterogeneity of:

- Vaping devices (e.g. size, shape, voltage)
- E-liquids (e.g. flavors, quality, constituents)
- Use behaviors (e.g. frequency of use, volume of use, puff duration, puff frequency).

Who is using *your* e-cigarettes and e-liquids?

Substantiating behavioral claims about specific products

1. “Our vaping products have low appeal/are rarely used by youth.”
2. “We estimate that around [number] adults have switched completely from smoking cigarettes to using our vaping products.”
3. “Non-tobacco e-liquid flavors are critical for helping adult smokers switch to vaping.”

“Our vaping products have low appeal/are rarely used by youth.”

National data suggests youth use of e-cigarettes surged considerably between 2017 and 2018, with 4.9% of middle school students and 20.8% high school students in 2018 estimated to have used an e-cigarette in the past 30 days (compared to 3.3% and 11.7%, respectively, in 2017).

These data indicate around 3.5 million middle and high school students have used an e-cigarette in the past 30 days, up from around 2 million in 2017.

Who is using *your* e-cigarettes and e-liquids?

In September 2018, in response to these data, the U.S. Food and Drug Administration (FDA) announced e-cigarette use among youth had become an ‘epidemic’.

FDA believes that much of the increase in youth use of e-cigarettes was driven by one manufacturer – JUUL.

Who is using *your* e-cigarettes and e-liquids?

In 2018, there was an alarming increase in the frequency of media and anecdotal reports from parents, educators, school superintendents and public health experts of widespread use of the JUUL e-cigarette among middle and high school students, both on school grounds and in social settings outside of school.

Teachers and parents were specifically identifying JUUL as the brand of e-cigarette they were witnessing their students and children using.

These eye-witness reports are powerful drivers of public policy and public sentiment towards vaping.

Who is using *your* e-cigarettes and e-liquids?

How sure can we be that people who say they are using/seeing a JUUL are actually using/seeing a JUUL?

MYLE



JUNO



ZIIP



**SMOK
INFINIX**



EONSMOKE MYBLU



JUUL



**VUSE
ALTO**



**VAPECCINO
MATE1**



eonsmoke SALT BASED 6% NICOTINE JUUL COMPATIBLE

FOUR PODS CITRUS BURST



WARNING: This product contains nicotine. Nicotine is an addictive chemical.

FUMA Pods JUUL Compatible



Lush Ice

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

+PODS QUALITY FLAVOR WATERMELON



COMPATIBLE PODS
4 PODS / 6% NICOTINE

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

VAPOR4LIFE FLAVORED VIV[®] PODS

ORANGE MANGO PINEAPPLE



WARNING: This product contains nicotine. Nicotine is an Addictive chemical.

MR FOG MANGO

4 Pods
6.0% Strength



JUUL Compatible

Warning: This product contains nicotine. Nicotine is an addictive chemical.

AIRBENDER TM



4 Pods - 5% Nicotine

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

MANGO zalt [nic - salt]




[5.0% STRENGTH]

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

JUUL 5.0% NICOTINE STRENGTH

MANGO
4 Pods



The Alternative For Adult Smokers

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

sea 100[™] MINT

4 Pods
5.0% Strength



JUUL COMPATIBLE PODS

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

LOON PODS We're a Little Salty

ICE Strawberry BUZZ

50mg SALT NICOTINE

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

The 3x product is in no way authorized, approved, or licensed by JUUL Labs, Inc. or any of its affiliates or subsidiaries.

3x



Kiwi
4 pod - 5% SALT NIC

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

Z



WATERMELON
4 Pods - 2% Nicotine

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

CYCLONE PODS

NON-NICOTINE

MANGO VAPOR PODS

4 JUUL COMPATIBLE POD

VQ PODS

Mango BLISS

Compatible with JUUL[®]
4 Pods, 5% Salt Nicotine 1ml

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

+PODS QUALITY FLAVOR WATERMELON



COMPATIBLE PODS
4 PODS / 6% NICOTINE

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

Hypothesis...

Establishing the percentage of people who *verbally* report they have used a [EC name] in the past 30 days who do not then *visually* identify [EC name] as an e-cigarette they have used in the past 30 days will yield more precise estimates of the prevalence of use and characteristics of users of [EC name] in the population.

Research Questions

1. What percentage of people who report they have used a [EC Name] in the past 30 days do not, when shown an image of a [EC Name], identify a [EC Name] as a device they have used in the past 30 days?
2. What percentage of people who identify the [EC Name] as a device they have used in the past 30 days misidentify the [EC Name] as something other than a [EC Name]?
3. To what extent do users of other brands of e-cigarettes/vaping devices identify those devices as being a [EC Name]?

Q1

Have you used a [EC Name] in the past 30 days?
(Yes)

N Youth

N Young Adults

N Older Adults

Q2

Below are images of [number] e-cigarette/vaping devices. Scroll down to see all the images.
Tap or click each e-cigarette/vaping device that you have used in the last 30 days, even once or twice.

X%
Selected [EC Name]

X%
Selected [EC Name]

X%
Selected [EC Name]

Q3

SHOWN IMAGE OF [EC NAME]
You said you have used the device in this image in the last 30 days. What do you call this device?

X%
Correctly Identified
as [EC Name]

X%
Correctly Identified
as [EC Name]

X%
Correctly Identified
as [EC Name]

Summary

People who self-report current use of specific e-cigarette/vaping device in response to a verbal question may not then recognise an image of that e-cigarette/vaping device.

People who are using a specific e-cigarette/vaping device may misidentify that device as some other brand name.

Population surveys that ask people if they have used a [EC name] in the past 30 days without showing an accompanying image of [EC name] may potentially over-estimate or under-estimate the prevalence of use of specific brands of e-cigarette/vaping devices in the population.

Why two and three-step verification of individuals' use of specific products is critically important

- Prevalence of use of [EC name] in the general population of adults and youth
- Impact of use of [EC name] on population's use of more harmful tobacco products
- Use of [EC name] in different flavors
- Sources of access to [EC name]
- Reasons for starting and continuing to use [EC name]
- Perceptions of the health and addiction risks of using [EC name]
- Perceived dependence on [EC name]

Does [your product] meet the population health standard?

To what extent is [your product]:

1. Used in place of more harmful tobacco products (e.g. cigarettes) by individuals who currently use such products *and* were unlikely to have quit or reduced their use of such products in the absence of [your product].

AND

2. Not used by individuals who are not current users of more harmful tobacco products *and* would likely have not initiated or re-initiated use of such products in the absence of [your product].

Thanks for listening

Questions?

For slides: russell@csures.org