

File No. 190312

Committee Item No. 6

Board Item No. 42

COMMITTEE/BOARD OF SUPERVISORS

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Prepared by: John Carroll
Prepared by: John Carroll

Date: May 31, 2019
Date: June 13, 2019

1 [Health Code - Restricting the Sale, Manufacture, and Distribution of Tobacco Products,
2 Including Electronic Cigarettes]

3 Ordinance amending the Health Code to prohibit the sale by tobacco retail
4 establishments of electronic cigarettes that require, but have not received, an order
5 from the Food and Drug Administration (FDA) approving their marketing; and
6 prohibiting the sale and distribution to any person in San Francisco of flavored
7 tobacco products and electronic cigarettes that require, but have not received, an FDA
8 order approving their marketing.

9 NOTE: Unchanged Code text and uncodified text are in plain Arial font.
10 Additions to Codes are in single-underline italics Times New Roman font.
11 Deletions to Codes are in ~~italics Times New Roman font~~.
12 Board amendment additions are in double-underlined Arial font.
13 Board amendment deletions are in ~~Arial font~~.
14 Asterisks (* * * *) indicate the omission of unchanged Code
15 subsections or parts of tables.

16 Be it ordained by the People of the City and County of San Francisco:

17 Section 1. Findings.

18 (a) Despite progress in reducing smoking, tobacco use is still the leading cause of
19 preventable death in the United States. Tobacco kills more than 480,000 people in this
20 country annually – more than AIDS, alcohol, car accidents, illegal drugs, murders, and
21 suicides combined. And beyond this large, impersonal statistic, are countless human beings,
22 whose lives are forever devastated by the irreparable loss of a loved one caused by tobacco
23 use, and the inevitable rupture of family that follows such a loss. And that is to say nothing of
24 the huge financial costs tobacco use places on our health care system, and the constraints on
25 productivity it imposes on our economic system.

1 (b) Electronic cigarettes (or “e-cigarettes”) entered the marketplace around 2007, and
2 since 2014, they have been the most commonly used tobacco product among youth in the
3 United States. The dramatic surge in youth e-cigarette use (“vaping”) is no accident. E-
4 cigarettes are frequently marketed in a variety of flavors with obvious appeal to youth, such as
5 gummy bear, cotton candy, and fruit punch. As of 2017, researchers had identified more than
6 15,500 unique e-cigarette flavors available online. In addition, e-cigarette companies have
7 effectively used marketing strategies, including celebrity endorsements, slick magazine
8 advertisements, social media campaigns, paid influencers, and music sponsorships; to reach
9 youth and young adults. A 2016 study found that 78.2% of middle and high school students—
10 20.5 million youth—had been exposed to e-cigarette advertisements from at least one source,
11 an increase from 68.9% only two years before, in 2014.

12 (c) According to the Centers for Disease Control and Prevention (“CDC”), the number
13 of middle and high school students who reported being current users of tobacco products
14 increased 36%—from 3.6 million to 4.9 million students—between 2017 and 2018. This
15 dramatic increase, which has erased past progress in reducing youth tobacco use, is directly
16 attributable to a nationwide surge in e-cigarette use by adolescents. There were 1.5 million
17 more youth e-cigarette users in 2018 than 2017, and those who were using e-cigarettes were
18 using them more often. Frequent use of e-cigarettes increased from 20 percent in 2017 to 28
19 percent in 2018 among current high school e-cigarette users.

20 (d) The widespread use of e-cigarettes by youth has significant public health
21 consequences. As stated by the Surgeon General, “Most e-cigarettes contain nicotine – the
22 addictive drug in regular cigarettes, cigars, and other tobacco products. Nicotine exposure
23 during adolescence can harm the developing brain – which continues to develop until about
24 age 25. Nicotine exposure during adolescence can impact learning, memory, and attention.
25 Using nicotine in adolescence can also increase risk for future addiction to other drugs. In

1 addition to nicotine, the aerosol that users inhale and exhale from e-cigarettes can potentially
2 expose both themselves and bystanders to other harmful substances, including heavy metals,
3 volatile organic compounds, and ultrafine particles that can be inhaled deeply into the lungs.”

4 (e) And while there is some evidence that the use of e-cigarettes by adults may
5 support smoking cessation under certain circumstances, a 2018 National Academy of
6 Sciences, Engineering, and Medicine report concluded that there was moderate evidence that
7 e-cigarette use in fact *increases* the frequency and intensity of cigarette smoking in the future.

8 (f) In addition, there is a growing body of research concluding that there are significant
9 health risks associated with electronic cigarette use. For example, daily e-cigarette use is
10 associated with increased odds of a heart attack. And the American Lung Association has
11 warned that the inhalation of harmful chemicals through vaping may cause irreversible lung
12 damage and lung disease.

13 (g) To reduce the burden of tobacco use, the City and County of San Francisco (the
14 “City”) licenses tobacco retail establishments. (Health Code Article 19H). In 2017, to address
15 the appeal of flavored tobacco products to youth, the City enacted Ordinance No. 140-17,
16 prohibiting tobacco retail establishments from selling flavored tobacco products. As a result of
17 the referendum process, the ordinance was placed before the voters, who approved the
18 ordinance in June 2018 (Proposition E) by a majority of 68.39%.

19 (h) Notwithstanding these efforts, San Francisco’s youth still access and use tobacco
20 products. According to the most recent Youth Risk Behavior Survey for which local data are
21 available, in 2017, 16.7% of San Francisco’s high school students had tried smoking, 25%
22 had used an electronic cigarette (or “vaped”), and 7.1% reported current e-cigarette use,
23 which is defined as use on at least one day in the past 30 days.

24 (i) Among San Francisco high school students who reported currently using electronic
25 cigarettes, 13.6% reported that they usually purchased their electronic cigarette products in a

1 store. The remaining 86.4% reported that they obtained them from places other than the
2 City's licensed tobacco retail establishments, including friends, other social sources, and
3 internet e-cigarette vendors.

4 (j) To protect the public, especially youth, against the health risks created by tobacco
5 products, Congress enacted the Family Smoking Prevention and Tobacco Control Act
6 ("Tobacco Control Act") in 2009. Among other things, the Tobacco Control Act authorized the
7 U.S. Food and Drug Administration ("FDA") to set national standards governing the
8 manufacture of tobacco products, to limit levels of harmful components in tobacco products
9 and to require manufacturers to disclose information and research relating to the products'
10 health effects.

11 (k) A central requirement of the Tobacco Control Act is premarket review of all new
12 tobacco products. Specifically, every "new tobacco product"—defined to include any tobacco
13 product not on the market in the United States as of February 15, 2007—must be authorized
14 by the FDA for sale in the United States before it may enter the marketplace. A new tobacco
15 product may not be marketed until the FDA has found that the product is: (1) appropriate for
16 the protection of the public health upon review of a premarket tobacco application; (2)
17 substantially equivalent to a grandfathered product; or (3) exempt from substantial
18 equivalence requirements.

19 (l) In determining whether the marketing of a tobacco product is appropriate for the
20 protection of the public health, the FDA must consider the risks and benefits of the product to
21 the population as a whole, including users and nonusers of the product, and taking into
22 account the increased or decreased likelihood that existing users of tobacco products will stop
23 using tobacco products and the increased or decreased likelihood that those who do not use
24 tobacco products will start using them. Where there is a lack of showing that permitting the
25

1 sale of a tobacco product would be appropriate for the protection of the public health, the
2 Tobacco Control Act requires that the FDA deny an application for premarket review.

3 (m) Virtually all electronic cigarettes that are sold today entered the market after 2007,
4 but have not been reviewed by the FDA to determine if they are appropriate for the public
5 health. In 2017, the FDA issued Guidance that purports to give electronic cigarette
6 manufacturers until August 8, 2022 to submit their application for premarket review. The
7 Guidance further purports to allow unapproved products to stay on the market indefinitely,
8 until such time as the FDA complies with its statutory duty to conduct a premarket review to
9 determine whether a new tobacco product poses a risk to public health. In March 2019, the
10 FDA issued draft guidance in which it considered moving the premarket application deadline
11 up by one year for certain flavored e-cigarette products. It is not known when, if ever, this
12 narrow adjustment will become final or will take effect.

13 (n) By the time e-cigarette manufacturers will be required to submit their premarket
14 review applications, e-cigarettes will have been on the market for fifteen years without any
15 FDA analysis of their safety and alleged benefit. If current trends continue, six million more
16 youth in the United States will begin using e-cigarettes between now and then. Until such
17 time as the FDA fulfills its statutory duty to conduct premarket reviews of new tobacco
18 products, a generation of young people will become addicted to tobacco, resulting in an
19 entirely preventable increase in the burdens and tragedies associated with tobacco use. San
20 Francisco is not content to wait until then before addressing, for its residents, what appears
21 from the evidence to be a major public health crisis that is going unattended.

22
23 Section 2. The Health Code is amended by adding new Article 19R, consisting of
24 Sections 19R.1 through 19R.5, to read as follows:
25

1 ARTICLE 19R: PROHIBITING THE SALE OF ELECTRONIC CIGARETTES LACKING FOOD
2 AND DRUG ADMINISTRATION PREMARKET APPROVAL

3 SEC. 19R.1. DEFINITIONS.

4 For purposes of this Article 19R, the following terms have the following meanings:

5 "Director" has the meaning set forth in Health Code Section 19H.2.

6 "Electronic Cigarette" has the meaning set forth in Section 30121 of the California Revenue
7 and Taxation Code, as may be amended from time to time.

8 "Establishment" has the meaning set forth in Health Code Section 19H.2.

9 "New Tobacco Product" has the meaning set forth in 21 U.S.C. § 387j(a)(1), as may be
10 amended from time to time.

11
12 SEC. 19R.2. SALE OR DISTRIBUTION OF ELECTRONIC CIGARETTES LACKING
13 FOOD AND DRUG ADMINISTRATION PREMARKET ORDER OF APPROVAL PROHIBITED.

14 The sale or distribution by an Establishment of an Electronic Cigarette is prohibited where the
15 Electronic Cigarette:

16 (a) Is a New Tobacco Product;

17 (b) Requires premarket review under 21 U.S.C. § 387j, as may be amended from time to time;

18 and

19 (c) Does not have a premarket review order under 21 U.S.C. § 387j(c)(1)(A)(i), as may be
20 amended from time to time.

21
22 SEC. 19R.3. ADMINISTRATIVE REGULATIONS.

23 The Director may adopt rules, regulations, or guidelines for the implementation and
24 enforcement of this Article 19R.

1 SEC. 19R.4. ENFORCEMENT.

2 The Director may enforce Section 19R.2 under Articles 19 et seq. of the Health Code, including
3 but not limited to Article 19H.

4
5 SEC. 19R.5. NO CONFLICT WITH FEDERAL OR STATE LAW.

6 Nothing in this Article 19R shall be interpreted or applied so as to create any requirement,
7 power, or duty that is preempted by federal or state law.

8
9 Section 3. Article 19H of the Health Code is amended by adding new Section 19H.14-
10 3, to read as follows:

11
12 SEC. 19H.14-3. CONDUCT VIOLATING HEALTH CODE ARTICLE 19R
13 (PROHIBITING THE SALE OR DISTRIBUTION OF ELECTRONIC CIGARETTES LACKING
14 FOOD AND DRUG ADMINISTRATION PREMARKET ORDER OF APPROVAL).

15 (a) Upon a decision by the Director that the Permittee or the Permittee's agent or employee
16 has engaged in any conduct that violates Health Code Section 19R:2 (Sale or Distribution of Electronic
17 Cigarettes Lacking Food and Drug Administration Premarket Order of Approval Prohibited), the
18 Director may suspend a Tobacco Sales permit as set forth in Section 19H.19.

19 (b) The Director shall commence enforcement under this Section 19H.14-3 by serving either a
20 notice of correction under Section 19H.21 or a notice of initial determination under Section 19H.22.

21
22 Section 4. The Health Code is hereby amended by adding new Article 19S, consisting
23 of Sections 19S.1 through 19S.6, to read as follows:

1 ARTICLE 19S. PROHIBITING THE SALE AND DISTRIBUTION OF TOBACCO PRODUCTS

2 IN SAN FRANCISCO

3 SEC. 19S.1. DEFINITIONS.

4 For purposes of this Article 19S, the following terms have the following meanings:

5 "Characterizing Flavor" has the meaning set forth in Health Code Section 19Q.2.

6 "Cigarette" has the meaning set forth in Health Code Section 19Q.2.

7 "City" means the City and County of San Francisco.

8 "Constituent" has the meaning set forth in Health Code Section 19Q.2.

9 "Director" means the Director of Health, or the Director's designee.

10 "Distinguishable" has the meaning set forth in Health Code Section 19Q.2.

11 "Distribute" or "Distribution" means the transfer, by any Person other than a common carrier,
12 of a Tobacco Product at any point from the place of Manufacture or thereafter to the Person who sells
13 the Tobacco Product to an individual for personal consumption.

14 "Electronic Cigarette" has the meaning set forth in Section 30121 of the California Revenue
15 and Taxation Code, as may be amended from time to time.

16 "Flavored Tobacco Product" has the meaning set forth in Health Code Section 19Q.2.

17 "Labeling" has the meaning set forth in Health Code Section 19Q.2.

18 "New Tobacco Product" has the meaning set forth in 21 U.S.C. § 387j(a)(1), as may be
19 amended from time to time.

20 "Packaging" has the meaning set forth in Health Code Section 19Q.2.

21 "Person" has the meaning set forth in Health Code Section 19H.2.

22 "Sell," "Sale," and "to Sell" mean any transaction where, for any consideration, ownership of
23 a Tobacco Product is transferred from one Person to another, including but not limited to any transfer
24 of title or possession for consideration, exchange, or barter, in any manner or by any means.

25 "Tobacco Product" has the meaning set forth in Health Code Section 19H.2.

1
2 SEC. 19S.2. PROHIBITION ON SALE OR DISTRIBUTION OF TOBACCO PRODUCTS.

3 (a) No Person shall Sell or Distribute any Flavored Tobacco Product to a Person in San
4 Francisco. There shall be a rebuttable presumption that a Tobacco Product, other than a Cigarette, is
5 a Flavored Tobacco Product if a manufacturer or any of the manufacturer's agents or employees, in
6 the course of their agency or employment, has made a statement or claim directed to consumers or to
7 the public that the Tobacco Product has or produces a Characterizing Flavor, including, but not
8 limited to, text, color, and/or images on the product's Labeling or Packaging that are used to explicitly
9 or implicitly communicate that the Tobacco Product has a Characterizing Flavor.

10 (b) No Person shall Sell or Distribute an Electronic Cigarette to a Person in San Francisco
11 where the Electronic Cigarette:

12 (1) Is a New Tobacco Product;

13 (2) Requires premarket review under 21 U.S.C. § 387j, as may be amended from time
14 to time; and

15 (3) Does not have a premarket review order under 21 U.S.C. § 387j(c)(1)(A)(i), as may
16 be amended from time to time.

17
18 SEC. 19S.3. ADMINISTRATIVE REGULATIONS.

19 The Director may adopt rules, regulations, or guidelines for the implementation of this Article
20 19S.

21
22 SEC. 19S.4. ENFORCEMENT.

23 (a) Violations of this Article 19S or of any rule or regulation issued under this Article shall be
24 punishable by administrative fines imposed pursuant to administrative citations. Administrative Code
25 Chapter 100 "Procedures Governing the Imposition of Administrative Fines," as amended from time to

1 time, shall govern the issuance and enforcement of administrative citations, and collection and review
2 of administrative fines, to enforce this Article and any rule or regulation adopted pursuant to this
3 Article.

4 (b) The City Attorney may at any time institute civil proceedings for injunctive and monetary
5 relief including civil penalties, against any Person for violations of this Article 19S, without regard to
6 whether the Director has assessed or collected administrative penalties.

7 (c) At any time, the Director may refer a case to the City Attorney's Office for civil
8 enforcement, but a referral is not required for the City Attorney to bring a civil action under subsection
9 (b).

10 (d) Any Person that violates any provision of this Article 19S shall be subject to injunctive
11 relief and a civil penalty in an amount not to exceed \$1,000 for each violation, which penalty shall be
12 assessed and recovered in a civil action brought in the name of the people of the City and County of
13 San Francisco by the City Attorney in any court of competent jurisdiction. In assessing the amount of
14 the civil penalty, the court shall consider any one or more of the relevant circumstances presented by
15 any of the parties to the case, including but not limited to, the following: the nature and seriousness of
16 the misconduct giving rise to the violation, the number of violations, the persistence of the misconduct,
17 the length of time over which the misconduct occurred, the willfulness of the misconduct, and the
18 defendant's assets, liabilities, and net worth.

19 (e) The City may recover reasonable attorneys' fees and costs for civil actions brought
20 pursuant to this Section 19S.4.

21 (f) Remedies under this Section 19S.4 are non-exclusive and cumulative to all other remedies
22 available at law or equity.

23
24 **SEC. 19S.5. NO CONFLICT WITH FEDERAL OR STATE LAW.**

1 Nothing in this Article 19S shall be interpreted or applied so as to create any requirement,
2 power, or duty that is preempted by federal or state law.

3
4 **SEC. 19S.6. SEVERABILITY.**

5 If any section, subsection, sentence, clause, phrase, or word of this Article 19S, or any
6 application thereof to any person or circumstance, is held to be invalid or unconstitutional by a
7 decision of a court of competent jurisdiction, such decision shall not affect the validity of the remaining
8 portions or applications of the Article. The Board of Supervisors hereby declares that it would have
9 passed this ordinance and each and every section, subsection, sentence, clause, phrase, and word not
10 declared invalid or unconstitutional without regard to whether any other portion of this Article or
11 application thereof would be subsequently declared invalid or unconstitutional.

12
13 Section 5. Effective and Operative Dates.

14 (a) This ordinance shall become effective 30 days after enactment. Enactment occurs
15 when the Mayor signs the ordinance, the Mayor returns the ordinance unsigned or does not
16 sign the ordinance within ten days of receiving it, or the Board of Supervisors overrides the
17 Mayor's veto of the ordinance.

18 (b) This ordinance shall become operative six months after the effective date.

19
20 Section 6. Severability. If any section, subsection, sentence, clause, phrase, or word of
21 this ordinance, or any application thereof to any person or circumstance, is held to be invalid
22 or unconstitutional by a decision of a court of competent jurisdiction, such decision shall not
23 affect the validity of the remaining portions or applications of the ordinance. The Board of
24 Supervisors declares that it would have passed this ordinance and each and every section,
25 subsection, sentence, clause, phrase, and word not declared invalid or unconstitutional

1 without regard to whether any other portion of this ordinance or application thereof would be
2 subsequently declared invalid or unconstitutional.

3
4 Section 7. Undertaking for the General Welfare. In enacting and implementing this
5 ordinance, the City is assuming an undertaking only to promote the general welfare. It is not
6 assuming, nor is it imposing on its officers and employees, an obligation for breach of which it
7 is liable in money damages to any person who claims that such breach proximately caused
8 injury.

9
10 APPROVED AS TO FORM:
11 DENNIS J. HERRERA, City Attorney

12 By: 
13 ANNE PEARSON
Deputy City Attorney

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LEGISLATIVE DIGEST

[Health Code - Restricting the Sale, Manufacture, and Distribution of Tobacco Products, Including Electronic Cigarettes]

Ordinance amending the Health Code to prohibit the sale by tobacco retail establishments of electronic cigarettes that require, but have not received, an order from the Food and Drug Administration (FDA) approving their marketing; and prohibiting the sale and distribution to any person in San Francisco of flavored tobacco products and electronic cigarettes that require, but have not received, an FDA order approving their marketing.

Existing Law

Local law requires that all retail establishments in San Francisco that sell tobacco products, including electronic cigarettes, obtain a permit from the Department of Public Health to do so. (Health Code Article 19H). Local law also prohibits permitted tobacco retail establishments from selling flavored tobacco products, including electronic cigarettes, to any person. (Health Code Article 19Q).

At the federal level, the Family Smoking Prevention and Tobacco Control Act ("Tobacco Control Act") authorizes the U.S. Food and Drug Administration ("FDA") to set national standards governing the manufacture of tobacco products, to limit levels of harmful components in tobacco products and to require manufacturers to disclose information and research relating to the products' health effects.

A central requirement of the Tobacco Control Act is premarket review of all new tobacco products. Specifically, every "new tobacco product"—defined to include any tobacco product not on the market in the United States as of February 15, 2007—must be authorized by the FDA for sale in the United States before it may enter the marketplace. A new tobacco product may not be marketed until the FDA has found that the product is: (1) appropriate for the protection of the public health upon review of a premarket tobacco application; (2) substantially equivalent to a grandfathered product; or (3) exempt from substantial equivalence requirements.

In determining whether the marketing of a tobacco product is appropriate for the protection of the public health, federal law requires that the FDA consider the risks and benefits of the product to the population as a whole, including users and nonusers of the product, and taking into account the increased or decreased likelihood that existing users of tobacco products will stop using tobacco products and the increased or decreased likelihood that those who do not use tobacco products will start using them. Where there is a lack of showing that permitting the sale of a tobacco product would be appropriate for the protection of the public health, the Tobacco Control Act requires that the FDA deny an application for premarket review.

Amendments to Current Law

The proposed ordinance would amend the Health Code to prohibit permitted tobacco retail establishments located in San Francisco from selling electronic cigarettes that require premarket review by the FDA, but have not undergone such review. It would also prohibit the sale to any person in San Francisco, including via mail or internet, of: 1) flavored tobacco products, including electronic cigarettes; and 2) electronic cigarettes that require FDA premarket review, but have not undergone such review.

Background Information

Despite progress in reducing smoking, tobacco use is still the leading cause of preventable death in the United States. Tobacco kills more than 480,000 people in this country annually – more than AIDS, alcohol, car accidents, illegal drugs, murders, and suicides combined.

Electronic cigarettes (or “e-cigarettes”) entered the marketplace around 2007, and since 2014, they have been the most commonly used tobacco product among youth in the United States. According to the Centers for Disease Control and Prevention (“CDC”), the number of middle and high school students who reported being current users of tobacco products increased 36%—from 3.6 million to 4.9 million students—between 2017 and 2018. This dramatic increase, which has erased past progress in reducing youth tobacco use, is directly attributable to a nationwide surge in e-cigarette use by adolescents. There were 1.5 million more youth e-cigarette users in 2018 than 2017, and those who were using e-cigarettes were using them more often. Frequent use of e-cigarettes increased from 20 percent in 2017 to 28 percent in 2018 among current high school e-cigarette users.

The widespread use of e-cigarettes by youth has significant public health consequences. As stated by the Surgeon General, “Most e-cigarettes contain nicotine – the addictive drug in regular cigarettes, cigars, and other tobacco products. Nicotine exposure during adolescence can harm the developing brain – which continues to develop until about age 25. Nicotine exposure during adolescence can impact learning, memory, and attention. Using nicotine in adolescence can also increase risk for future addiction to other drugs. In addition to nicotine, the aerosol that users inhale and exhale from e-cigarettes can potentially expose both themselves and bystanders to other harmful substances, including heavy metals, volatile organic compounds, and ultrafine particles that can be inhaled deeply into the lungs.”

And while there is some evidence that the use of e-cigarettes by adults may support smoking cessation under certain circumstances, a 2018 National Academy of Sciences, Engineering, and Medicine report concluded that there was moderate evidence that e-cigarette use in fact increases the frequency and intensity of cigarette smoking in the future.

In addition, there is a growing body of research concluding that there are significant health risks associated with electronic cigarette use. For example, daily e-cigarette use is associated with increased odds of a heart attack. And the American Lung Association has

warned that the inhalation of harmful chemicals through vaping may cause irreversible lung damage and lung disease.

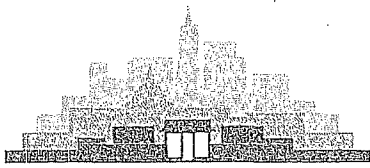
Notwithstanding the City's efforts to reduce youth tobacco use, San Francisco's youth still access and use tobacco products. According to the most recent Youth Risk Behavior Survey for which local data are available, in 2017, 16.7% of San Francisco's high school students had tried smoking, 25% had used an electronic cigarette (or "vaped"), and 7.1% reported current e-cigarette use, which is defined as use on at least one day in the past 30 days.

Among San Francisco high school students who reported currently using electronic cigarettes, 13.6% reported that they usually purchased their electronic cigarette products in a store. The remaining 86.4% reported that they obtained them from places other than the City's licensed tobacco retail establishments, including friends, other social sources, and internet e-cigarette vendors.

Virtually all electronic cigarettes that are sold today entered the market after 2007, but have not been reviewed by the FDA to determine if they are appropriate for the public health. In 2017, the FDA issued Guidance that purports to give electronic cigarette manufacturers until August 8, 2022 to submit their application for premarket review. The Guidance further purports to allow unapproved products to stay on the market indefinitely, until such time as the FDA complies with its statutory duty to conduct a premarket review to determine whether a new tobacco product poses a risk to public health.

By the time e-cigarette manufacturers will be required to submit their premarket review applications, e-cigarettes will have been on the market for as much as fifteen years without any FDA analysis of their safety and alleged benefit. If current trends continue, six million more youth in the United States will begin using e-cigarettes between now and then.

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SAN FRANCISCO

OFFICE OF SMALL BUSINESS

CITY AND COUNTY OF SAN FRANCISCO
LONDON BREED, MAYOR

OFFICE OF SMALL BUSINESS
REGINA DICK-ENDRIZZI, DIRECTOR

April 29, 2019

Ms. Angela Calvillo, Clerk of the Board
City Hall Room 244
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

RE: BOS File No. 190312 – Restricting the Sale, Manufacture, and Distribution of Tobacco Products, Including Electronic Cigarettes

Small Business Commission Recommendations to the Board of Supervisors (BOS):

1. **Do not approve of the legislation as written. Motion passed (6-1); and,**
2. **In order to preserve the economic health of San Francisco small businesses, consider the following proposed amendments. Passed unanimously (7-0).**
 - a. Exempt existing compliant tobacco retailers from the ban on selling electronic cigarette products and prohibit new tobacco retailers from selling e-cigarette products until FDA pre-market review. However, if that is not considered, establish a reasonable period of enactment of the ban, not less than seven months, comparable to the flavored tobacco ban¹;
 - b. Include declarative language that this legislation would be a temporary ban contingent upon a determination by the FDA regarding pre-market review;
 - c. Ensure that by mail or online e-cigarette retailers would be subject to the same fines or fees that brick and mortar retailers would be subject to;
 - d. Commission a formal study of black market activity and sales of e-cigarette products relating to this legislation and the flavored tobacco ban;
 - e. Determine a means for mitigating revenue losses incurred as a result of this legislation for brick and mortar retailers in San Francisco through compensation measures;
 - f. Include a requirement that an economic impact analysis be commissioned through the City Controller's office to determine what type of impact this ban would have on City losses (i.e. tax revenue and abatement fees) and brick and mortar business revenue loss in San Francisco.

Dear Ms. Calvillo,

On April 22, 2019 the Small Business Commission (SBC or the Commission) conducted a regularly scheduled and duly noticed public hearing to consider the proposed Ordinance, introduced by Supervisor Shamann Walton, which would amend the Health Code to restrict the sale, manufacture, and distribution of tobacco products, including electronic cigarettes. The SBC appreciated that Supervisor Walton took the time to address many questions and concerns regarding the legislation. At the hearing, the SBC consequently voted on two separate motions recommending that: 1) the Board of Supervisors not approve BOS File No. 190312 as written (6-1), and 2) the Board of Supervisors approve the legislation upon the consideration of six amendments (7-0).

¹ The Commission recognizes that an operative date of six months from the effective date of the Ordinance is included in the legislation.

Director's Note:

There are approximately 738 San Francisco licensed tobacco retailers who may be economically impacted by this proposed Ordinance. As discussed during the meeting and cited below, these San Francisco licensed tobacco retailers also boast high rates of compliance with local tobacco control laws, which are some of the strictest in the country. Conservatively, a small business could stand to \$70,000-\$90,000 a year in revenue. Most severely, small businesses that only sell this product would have to close six months after enactment. The Commission highly recommends, thusly, that the BOS consider alternative measures (discussed by the Commission below) that would prevent youth access; especially where adult users will continue to be able to purchase e-cigarette products in neighboring localities. Additionally, where proposed BOS File No. 190311 will exempt JUUL, an e-cigarette product development company who currently leases City property and whose products are sold to 41 states with far less restrictive tobacco control laws, and will allow the continuance of their operations for the remainder of their lease (9.5 years), the same exemption should be afforded to existing San Francisco licensed retail establishments. Without extending an equivalent exemption, the small business community may infer that the City values JUUL's economic health, a company valued at \$38 billion, more highly than the economic health of San Francisco small businesses. [*End Director's note.*]

The Commission is supportive of the legislative intent of BOS File No. 190312 which is to ultimately reduce and prevent the consumption of tobacco products, particularly among youth. However, the Commission discussed myriad concerns relative to the means of achieving that policy goal. Specifically, that the policy goal of limiting youth access will likely not be met via a ban on the sale of electronic cigarette (e-cigarette) products by San Francisco licensed tobacco retailers, particularly where neighboring localities will continue to sell the product. **And, where the legislation will likely not have the intended effect of reducing youth access, it will have the untended and outsized harmful economic effect on San Francisco licensed tobacco retailers who are otherwise compliant with local tobacco control laws.**

The primary justification for this Ordinance is that e-cigarette products have not received a determination from the federal Food and Drug Administration (FDA) regarding whether or not they may be legally marketed. The Tobacco Control Act requires that manufacturers of new or modified tobacco products to submit a premarket application and obtain a market authorization order before they market their products (Tobacco Control Act Sec. 910 (b)). Responsive to *national* increases in youth e-cigarette use, the FDA issued draft guidelines on March 13, 2019 requiring that manufacturers of all flavored electronic cigarette products (other than tobacco-, mint-, and menthol-flavored) to submit premarket applications by Aug. 8, 2021. With regard to tobacco, mint, and menthol flavored e-cigarette products, the FDA noted that those flavors are preferred by adults and will have until August 8, 2022 to submit premarket applications².

The Commission recognized that some e-cigarette companies did in fact market to youth populations, primarily flavored tobacco products. However, the Commission also identified that licensed tobacco retailers in San Francisco have been allowed by all governmental levels, since 2007, to sell this product and that they have been largely compliant with local, state, and Federal tobacco control laws³. **They**

² Office of the Commissioner, Press Announcements - Statement from FDA Commissioner Scott Gottlieb, M.D., on advancing new policies aimed at preventing youth access to, and appeal of, flavored tobacco products, including e-cigarettes and cigars U S Food and Drug Administration Home Page (2019), <https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm633291.htm>.

³ The FDA has conducted 222 Compliance Check Inspections in San Francisco since 2012. There have been eight total charges: two involved an e-cigarette product – one charge involved a formula retailers and one charge involved a San Francisco small business owner, both failed to verify the respective purchaser's age. And, the San Francisco Department of Public Health reported that in 2018, there were 21 instances by 20 businesses where it was found that a licensed tobacco retailer did not verify a purchaser's age, or just 3% of businesses were found not to be in compliance.

additionally acknowledged that flavored tobacco products have already been banned by the City and County of San Francisco and the City does not yet know what, if any, impact this has had on youth use of those products. The Commission asked the Supervisor to confirm that this proposed ban would be lifted if or when an e-cigarette product received market authorization from the FDA. The Supervisor confirmed that it would be a temporary ban.

The findings of BOS File No. 190312 referenced *local* data reported by the federal Centers for Disease Control's Youth Risk Behavior Survey (YRBS)⁴. It was reported that among San Francisco high school students who reported to currently use e-cigarettes [$\sim 7\%$], 13.1% of them or usually got them from a store. The Commission then inquired, if approximately 1% of San Francisco high schoolers are accessing these products in stores, what additional or alternative efforts would the Supervisor consider to curb youth access. The Commission also asked if the Supervisor knew or had retrieved data on, specifically where San Francisco youth were accessing e-cigarette products. The Supervisor shared that there are many studies out there regarding youth access and his belief that if these products are not on store shelves, that youth will be less likely to access them. He also shared that it is just as important that adults will not be able to access them because they have not completed their premarket review as required by the FDA.

The Commission noted that the YRBS data source referenced in the legislative findings indicates that San Francisco youth use of e-cigarettes decreased significantly between 2015 and 2017⁵. They then asked the Supervisor that, given this, what specifically, in the current local tobacco control framework is not working. The Supervisor replied that youth and adults are continuing to use a product that has not yet received a premarket review determination by the FDA and, that if the product is less accessible they will be less likely to be used.

The Commission also shared their concerns that if a ban on e-cigarette products is authorized, that activity on the already vibrant black market would increase. They also shared that sales in neighboring localities would also likely increase and therefore also result in City losses via tax revenue and abatement fees. The Commission also postulated that where it appears that youth are accessing e-cigarette products on the black market⁶, more data should be collected to better understand how to prevent it. The Commission then asked whether youth access would be more controllable without an outright ban. The Supervisor did not specifically address the issue of control, however, he did share that local law enforcement would continue to enforce the local laws.

The Commission identified that e-cigarette products yield a higher revenue as compared to other products due to their high cost, and, that many stores will be left with large inventories that they will not be able to sell. And, where all levels of government have allowed the sale of these products, San Francisco small businesses rightfully relied on that revenue. They also shared that many small business owners may find themselves in positions where they will not be able to pay their commercial rent because they may not generate their projected revenue.

The Commission asked, where there is not a strong indication that youth are accessing them in stores, and where San Francisco licensed tobacco retailers boast high tobacco control law compliance rates, if the Supervisor would consider a more gradual implementation of the ban, or alternative strategies to the ban. The Supervisor indicated that he would not be amendable to any changes to the legislation as it is written,

⁴ San Francisco, CA 1997-2017 Tobacco Use Results, Centers for Disease Control High School YRBS, <https://nccd.cdc.gov/youthonline/App/Results.aspx?LID=CA> (last visited Apr 26, 2019).

⁵ Between 2015 and 2017 youth reporting to have ever used e-cigarettes declined by 22%. Between 2015 and 2017, youth reporting to be currently using e-cigarettes declined by 47%

⁶ 2017 San Francisco YRBS data indicates that the majority of youth currently using e-cigarette products (86.4% of 7.1%) acquire them from sources other than a store.

but would be open to additional legislation that would assist small businesses. The Commission reiterated that many San Francisco small businesses will likely, upon enactment, immediately find themselves in positions where they will not be able to make their mortgage or pay their commercial rents, and may have to move out of the City. When asked what additional legislation or adjustment tools might look like, the Supervisor welcomed suggestions from the small business community and reiterated his commitment toward providing assistance through a subsequent piece of legislation. He also indicated that stores could start preparing for the ban now.

Additionally, the Commission expressed concern that there are many products on the market that are not specifically deemed safe by the FDA but nonetheless, can have adverse health effects on consumers. For example: sugar, alcohol, and cannabis. The Commission questioned, what impacts could this legislation have on other products not specifically deemed safe for consumption. The Supervisor would not comment on any product other than e-cigarettes.

Data has also shown that e-cigarette products have helped many adults quit smoking cigarettes. Where evidence indicates that San Francisco licensed tobacco retailers are not selling to youth, and with numerous local tobacco control laws, **the Commission expressed concern that this ban would have the unintended consequence of driving adult e-cigarette users back to using cigarettes, which notably, are not banned.** The Supervisor shared that [national] data shows that tobacco use was down until e-cigarettes.

The Commission concurred that they held a number of concerns relative to the potential effectiveness of this proposed ban on e-cigarettes. The vast majority noted that, given that the majority of youth users are reporting to access these products through social sources and the black market, it is unlikely that this ban would have the intended effect on reducing youth use. More, in allowing this ban to move forward and given the close proximity of other localities that will continue to sell e-cigarette products, this legislation will have unintended yet harmful economic consequence for San Francisco small business owners who are otherwise compliant with the law. This will be especially true without also including an economic transition strategy for these businesses. The Commission concluded that historically, bans such as the one proposed, can have and have had severe and unintended societal consequences.

Thank you for considering the Commission's recommendations. Please feel free to contact me should you have any questions.

Sincerely,



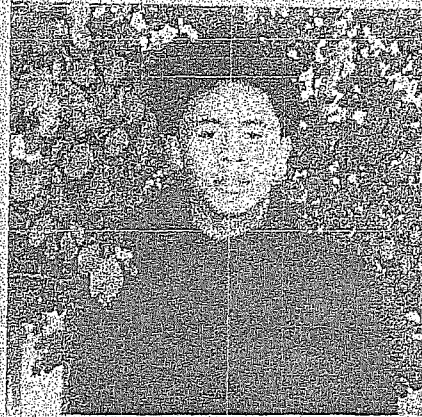
Regina Dick-Endrizzi
Director, Office of Small Business

cc: Shamann Walton, Member, Board of Supervisors,
Sophia Kittler, Mayor's Liaison to the Board of Supervisors
Lisa Pagan, Office of Economic and Workforce Development
John Carroll, Clerk, Public Safety and Neighborhood Services Committee



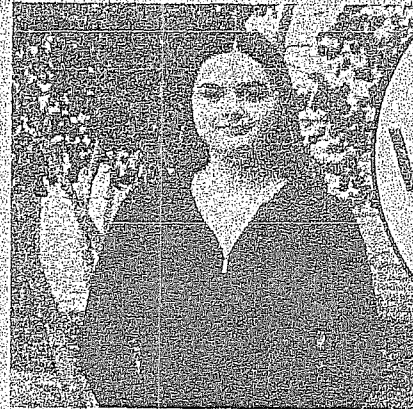
"I think it would be fine, I mean how bad could it be."

Aekm Kaur '21



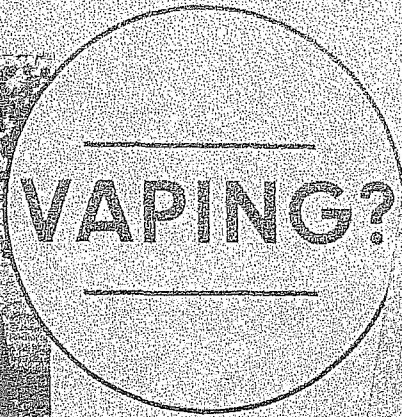
"I think everyone should do it everyday. It's great. Just the best. You could even say amazing."

Elijah Pham '20



"It's just kinda gross because of all the chemicals, I wouldn't."

Chayse Mashburn '22



IS IT COOL
TO JUUL?

Electronic Cigarette Use and Myocardial Infarction Among Adults in the US Population Assessment of Tobacco and Health

Dharma N. Bhatta, PhD, MPH; Stanton A. Glantz, PhD

Background—E-cigarettes are popular for smoking cessation and as an alternative to combustible cigarettes. We assess the association between e-cigarette use and having had a myocardial infarction (MI) and whether reverse causality can explain the observed cross-sectional association between e-cigarette use and MI.

Methods and Results—Cross-sectional analysis of the Population Assessment of Tobacco and Health Wave 1 for association between e-cigarette use and having had and MI. Longitudinal analysis of Population Assessment of Tobacco and Health Waves 1 and 2 for reverse causality analysis. Logistic regression was performed to determine the associations between e-cigarette initiation and MI, adjusting for cigarette smoking, demographic and clinical variables. Every-day (adjusted odds ratio, 2.25, 95% CI: 1.23–4.11) and some-day (1.99, 95% CI: 1.11–3.58) e-cigarette use were independently associated with increased odds of having had an MI with a significant dose-response ($P < 0.0005$). Odds ratio for daily dual use of both products was 6.64 compared with a never cigarette smoker who never used e-cigarettes. Having had a myocardial infarction at Wave 1 did not predict e-cigarette use at Wave 2 ($P > 0.62$), suggesting that reverse causality cannot explain the cross-sectional association between e-cigarette use and MI observed at Wave 1.

Conclusions—Some-day and every-day e-cigarette use are associated with increased risk of having had a myocardial infarction, adjusted for combustible cigarette smoking. Effect of e-cigarettes are similar as conventional cigarette and dual use of e-cigarettes and conventional cigarettes at the same time is riskier than using either product alone. (*J Am Heart Assoc.* 2019;8:e012317. DOI: 10.1161/JAHA.119.012317.)

Key Words: e-cigarettes • epidemiology • myocardial infarction • smoking

Cardiovascular disease is the leading cause of death in the United States¹ and tobacco smoking is a major modifiable risk factor for cardiovascular disease, including myocardial infarction.² The risk of myocardial infarction is 2- to 5-fold higher among young smokers compared with never smokers,^{2,3} with a non-linear dose-response curve with even the low levels of exposure associated with smoking a single

cigarette a day⁴ or breathing secondhand smoke conferring substantial risk.⁵

E-cigarettes are promoted as a smoking cessation device and less dangerous way to self-administer nicotine than conventional cigarettes^{6,7} and people with cardiovascular disease are using e-cigarettes as a smoking cessation aid.⁸ Like conventional cigarettes, e-cigarettes deliver nicotine as an inhaled aerosol of nicotine and ultrafine particles.⁹ Fine particles increase cardiovascular risk.¹⁰ E-cigarettes and combustible cigarettes have similar effects on endothelial function which increases the risk of cardiovascular disease.^{11–15} E-cigarettes increase oxidative stress and the release of inflammatory mediators,^{11,16} induce platelet activation, aggregation, and adhesion¹⁷ and alters cardiovascular function in mice.^{18–20} Acute exposure to electronic cigarettes with nicotine increases aortic stiffness²¹ and cardiac sympathetic tone (reflected in heart rate variability) in a way associated with increased cardiac risk.¹³ Nevertheless, the 2018 National Academies of Science, Engineering, and Medicine report *Public Health Consequences of E-Cigarettes*²² observed that “there are no epidemiological studies evaluating clinical outcomes such as coronary heart disease . . . This lack of data on e-cigarettes and clinical and subclinical

From the Center for Tobacco Control Research and Education (D.N.B., S.A.G.), Helen Diller Family Comprehensive Cancer Center (D.N.B., S.A.G.), and Department of Medicine (Cardiology), Cardiovascular Research Institute, and Philip R Lee Institute for Health Policy Studies (S.A.G.), University of California, San Francisco, San Francisco, CA.

Accompanying Tables S1 through S6 and Figure S1 are available at <https://www.ahajournals.org/doi/suppl/10.1161/JAHA.119.012317>

Correspondence to: Stanton A. Glantz, PhD, Center for Tobacco Control Research and Education, University of California, San Francisco, 530 Parnassus Ave, Suite 366, San Francisco, CA 94143-1390. E-mail: stanton.glantz@ucsf.edu

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Clinical Perspective

What Is New?

- Both e-cigarettes and combustible cigarettes are independently associated with increased risk of myocardial infarction.
- Dual use of e-cigarettes and combustible cigarettes is riskier than using either product alone and switching from combustible cigarettes to e-cigarettes is not associated with lower risk of myocardial infarction than continuing to smoke; complete cessation is the only way to reduce risk of myocardial infarction.
- These results are unlikely because of reverse causality, where smokers who had myocardial infarctions started using e-cigarettes in an effort to quit smoking.

What Are the Clinical Implications?

- E-cigarettes should not be promoted or prescribed as a less risky alternative to combustible cigarettes and should not be recommended for smoking cessation among people with or at risk of myocardial infarction.

atherosclerotic outcomes represents a major research need." Since then, 2 studies, 1 using data from the National Health Interview Survey²³ and another using data from the Behavioral Risk Factors Surveillance Survey,²⁴ found cross-sectional associations between e-cigarette use and having had a myocardial infarction among daily e-cigarette users controlling for cigarette smoking and other risk factors. Nevertheless, this finding remains controversial, because of concerns about reverse causality based on the possibility that after having a myocardial infarction smokers switched to e-cigarettes, which would induce a spurious association between e-cigarette use and myocardial infarction.^{25,26} We use the Population Assessment of Tobacco and Health²⁷ (PATH) data set to test for the relationship between e-cigarette use and myocardial infarction, controlling for cigarette use, demographic and clinical variables and use the longitudinal data from PATH to test the reverse causality hypothesis.

Methods

Study Population and Design

We used PATH Waves 1 and 2 (Figure S1), a nationally representative population-based longitudinal cohort study to collect data on uses of tobacco products, health outcomes, risk perception, and attitudes.²⁷ The restricted use PATH data set is available at the University of Michigan National Addiction & HIV Data Archive Program.²⁸ The Wave 1 data

set contained 32 320 adults aged ≥ 18 years and 28 362 adults in Wave 2, of whom 26 447 completed a Wave 1 interview. Wave 1 data were collected from September 2013 to December 2014 and Wave 2 data were collected 1 year later (from October 2014 to October 2015). PATH uses a 4-stage stratified probability sample technique. The weighted response rate at Wave 1 household screener was 54.0%; among screened households, overall weighted response rate at Wave 1 adult interview was 74.0%. The weighted retention rate for continuing adult at Wave 2 was 83.1%, and the weighted recruitment rate including youth aged < 18 years at Wave 1 and ≥ 18 years (and so counted as adults at Wave 2) was 85.7%.²⁸ Informed consent was obtained by PATH. The University of California San Francisco (UCSF) Committee on Human Research approved this study.

Outcome Variables

Wave 1: Participants who responded "Yes" to the question "Has a doctor, nurse, or other health professional ever told you that you had a heart attack (myocardial infarction)?" were considered as having had a myocardial infarction.

Wave 2: Participants who responded "Yes" to the question "In the past 12 months, has a doctor, nurse, or other health professional told you that you had a heart attack (myocardial infarction)?" were considered as having had a myocardial infarction.

Independent Variables

Electronic cigarette use

Respondents who reported that they have ever used e-cigarettes, have used fairly regularly, and currently use every day were classified as "Every-day users." Respondents who reported that they have ever used e-cigarettes, have used fairly regularly, and currently use some days were considered as "Some-day users." Respondents who reported that they have ever used e-cigarettes and currently do not use them were considered "Former users." Respondents who reported that they have never used e-cigarettes, even once or twice were considered "Never users." Current experimental e-cigarette users (current e-cigarette users but never used e-cigarettes fairly regularly) were not included in the main analysis but were considered some-day users in a sensitivity analysis.

Cigarette smoking

Respondents who reported that they smoked at least 100 cigarettes in their lifetime and currently smoke every day were classified as "Every-day smokers." Respondents who reported that they smoked at least 100 cigarettes in their lifetime and currently smoke some days were classified as "Some-day

smokers.” Respondents who ever smoked cigarettes and have not smoked in the past 12 months or currently do not smoke at all were classified as “Former smokers.” Respondents who reported that they have never smoked a cigarette, even 1 or 2 puffs were classified as “Never smokers.” Respondents who were current smokers but who had not smoked 100 cigarettes (experimental smokers) were excluded from the main analysis, but included in a sensitivity analysis as some-day smokers.

Demographic variables

Demographic variables were assessed at Wave 1: age, body mass index (BMI), sex (men or women), race/ethnicity (white, black, Asian, and others), poverty level/income (below poverty: <100% of poverty line, at or above poverty: ≥100% of poverty line [poverty was calculated using this formula: $[\text{effective family income}]/[\text{poverty guideline}] \times 100 = \text{family income as a percentage of the household size poverty guideline.}]$) and education.

Clinical variables

Wave 1: Respondents who answered “Yes” to the question “Has a doctor, nurse, or other health professional ever told you that you had a high blood pressure?” were considered as having “high blood pressure.” Respondents who answered “Yes” to the question “Has a doctor, nurse or other health professional ever told you that you had a high cholesterol?” were considered as having “high cholesterol.” Respondents who answered “Yes” to the question “Has a doctor, nurse, or other health professional ever told you that you had a diabetes, sugar diabetes, high blood sugar, or borderline diabetes?” were considered as having “diabetes mellitus.”

Wave 2: Respondents who answered “Yes” to the question “In the past 12 months, has a doctor, nurse or other health professional told you that you had a high blood pressure?” were considered as having “high blood pressure.” Respondents who answered “Yes” to the question “In the past 12 months, has a doctor, nurse, or other health professional told you that you had a high cholesterol?” were considered as having “high cholesterol.” Respondents who answered “Yes” to the question “In the past 12 months, has a doctor, nurse, or other health professional told you that you had a diabetes, sugar diabetes, high blood sugar, or borderline diabetes?” were considered as having “diabetes mellitus.”

Analysis

We calculated weighted estimates of e-cigarette and cigarette use and clinical and demographic variables at Wave 1 for the overall sample. We used Wave 1 sampling weights for analysis

of Wave 1 and Wave 2 sampling weights for analysis of Wave 2²⁸ accounting for the complex survey design for all the outcomes.²⁹

Multivariable logistic regressions were performed to examine the associations between e-cigarette use (former, some day and every day) and myocardial infarction at Wave 1 controlling for cigarette smoking (former, some day and every day), age, BMI, sex, poverty level, race/ethnicity, education, and clinical variables.

We tested for interaction between e-cigarette use and cigarette smoking in a logistic regression by combining some-day and every-day users into “current e-cigarette use” and “current smoking,” then ran the logistic regression with these variables, their interaction, and the demographic and clinical variables. The *P* value for the interaction was 0.671. Likewise, we analyzed interaction for “former e-cigarette use” and “former smoking”, and *P* value for this model was 0.192. As a result, interaction terms were omitted from the remaining analysis.

We tested for dose-response by replacing the categorical use variables with continuous variables (0=never, 1=former, 2=some day, 3=every day) in logistic regressions including the demographic and clinical variables.

We assessed the possibility of reverse causality accounting for the observed association between having had a myocardial infarction at Wave 1 being due to people who had a myocardial infarction preferentially trying to quit smoking with e-cigarettes. Specifically, we used logistic regression to predict every day e-cigarette use at Wave 2 as a function of having had a myocardial infarction at Wave 1 adjusting for age, BMI, sex, poverty level, and race/ethnicity among only every day, and only current (every day and some day) cigarette smoker at Wave 1 (excluding all e-cigarette users) as well as in the entire longitudinal sample.

We used “survey package” in R software for statistical analyses.

Results

Table 1 shows the descriptive statistics at Wave 1 baseline; 643 (2.4%) adults reported that they had a myocardial infarction. Table 2 shows the descriptive statistics stratified by myocardial infarction status at Wave 1 and first myocardial infarctions between Waves 1, 2, and 3 and Table S1 shows the descriptive statistics stratified by e-cigarette use at Wave 1. Among the adults who had myocardial infarctions as of Wave 1, 10.2% reported that they were former e-cigarette users, 1.6% were some-day e-cigarette users and 1.5% were every-day e-cigarette users, 58.8% adults reported that they were former cigarette smokers, 3.4% were some-day cigarette smokers and 20.4% were every-day cigarette smokers. The number of e-cigarette users who had first

Table 1. Demographic, Clinical, and Tobacco Use Variables at Wave 1 Baseline (N=32 320)

Variables	Weighted Percentage
Myocardial infarction	
Yes	2.4
Tobacco use	
E-cigarette user	
Never	85.0
Former	12.6
Some day	1.4
Every day	1.0
Cigarette smoker	
Never	34.3
Former	46.9
Some day	3.8
Every day	15.0
Dual users*	69.0%
Demographic	
Age in y, mean (±SD)	46.7 (17.9±SD)
Body mass index (±SD) kg/m ²	28.0 (7.5±SD)
Sex	
Men	48.1
Women	51.9
Poverty level/income	
Below poverty (<100% of poverty guideline)	25.2
Race/ethnicity	
White alone	77.8
Black alone	12.4
Asian alone	5.5
Other, including multiracial	4.3
Education	
Less than high school	4.5
High school or equivalent	36.6
Some college and associate	31.0
Bachelor and advanced degree	27.9
High blood pressure	
Yes	27.8
High cholesterol	
Yes	23.0
Diabetes mellitus	
Yes	14.0

*Current (every day+some day) dual users=current cigarette smoker used e-cigarette at Wave 1/current e-cigarette user at Wave 1.

myocardial infarctions between Waves 1 and 2 (only 6 some-day and 2 every-day e-cigarette users) and Waves 2 and 3 (only 1 some-day and 3 every-day e-cigarette users) was small, so, as required by PATH reporting rules, we combined some-day and every-day e-cigarette users in Table 2 for the first myocardial infarction between Waves 1 and 2, and Waves 2 and 3.

The cross-sectional multivariable analysis of the relationship between e-cigarette use and having had a myocardial infarction at Wave 1 (Table 3) adjusting for cigarette smoking, demographic, and clinical variables yielded significant increases in the odds of having had a myocardial infarction for some-day e-cigarette users (adjusted odds ratio, 1.99, 95% CI: 1.11–3.58) and every-day e-cigarette users (adjusted odds ratio, 2.25, 95% CI: 1.23–4.11). The risk of having had a myocardial infarction was not significantly elevated in former e-cigarette users (adjusted odds ratio, 1.25, 95% CI: 0.93–1.69). All variance inflation factors were <1.1, indicating that the effects of e-cigarette and conventional cigarette use were independent risk factors for myocardial infarction.

As expected, any cigarette smoking, age, BMI, sex, poverty level, education, and high blood pressure, high cholesterol, and diabetes mellitus were significantly associated with increased risk of myocardial infarction.

There was a significant dose-response for both e-cigarette use ($P<0.0005$) and smoking ($P=0.019$) and myocardial infarction controlling for demographic and clinical variables (detailed results not shown).

The longitudinal analysis did not reveal any statistically significant associations between e-cigarette use at Wave 1 and having had a first myocardial infarction by Wave 2, perhaps because of the small numbers of first myocardial infarctions in e-cigarette users between Waves 1 and 2 (Table S2). Daily cigarette smoking was also not significantly associated with having had a first myocardial infarction at Wave 2.

The sensitivity analysis including current experimental e-cigarette user with some-day e-cigarette user and current experimental cigarette smokers with some-day cigarette smokers yielded similar results as the main analysis (Table S3).

Reverse Causality

There were 1990 respondents who started using e-cigarettes between Waves 1 and 2 (Table 4). Having had a myocardial infarction at Wave 1 did not predict every-day e-cigarette use at Wave 2 among overall follow-up sample ($P=0.687$), every-day cigarette smokers at Wave 1 ($P=0.675$), or current cigarette smokers at Wave 1 ($P=0.634$), adjusting for demographic and clinical variables. Similar results were

Table 2. Myocardial Infarctions, Tobacco Use, Clinical, and Demographic Variables

Variables (at Wave 1)	Myocardial Infarction at Wave 1 (All Respondents)		P Value*
Tobacco Use	Yes (n=643)	No (n=31 531)	
E-cigarette user	Weighted percent		
Never	86.7	85.0	0.073
Former	10.2	12.6	
Some day	1.6	1.4	
Every day	1.5	1.0	
Cigarette smoker			
Never	17.4	34.7	<0.001
Former	58.8	46.6	
Some day	3.4	3.9	
Every day	20.4	14.8	
Myocardial infarction at Wave 1 (excluding dual users)			
E-cigarette use only (n=18 294)	Yes	No	
Never	96.0	93.4	0.017
Former	2.7	5.7	
Some day	0.3	0.3	
Every day	1.0	0.6	
Cigarette smoker only (n=26 652)			
Never	18.5	36.4	<0.001
Former	61.2	48.1	
Some day	2.5	3.2	
Every day	17.8	12.3	
First Myocardial Infarction Between Waves 1 and 2 (Excluding Respondents Who Had MI at Wave 1)			
Tobacco Use	Yes (n=117)	No (n=25 609)	P Value*
E-cigarette user			
Never	86.5	84.9	0.645
Former	10.4	12.6	
Some day+every day†	3.1	2.5	
Cigarette smoker			
Never	7.8	34.0	<0.001
Former	68.8	47.6	
Some day	5.5	3.8	
Every day	18.3	14.6	
First Myocardial Infarction Between Waves 2 and 3 (Excluding Respondents Who Had MI at Wave 1)			
Tobacco Use	Yes (n=89)	No (n=22 967)	P Value*
E-cigarette user			
Never	89.1	84.9	0.410
Former	9.2	12.6	
Some day+every day†	1.7	2.5	

Continued

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Table 2. Continued.

Variables (at Wave 1)	Myocardial Infarction at Wave 1 (All Respondents)		
	Yes (n=643)	No (n=31,531)	P Value*
Tobacco Use			
Cigarette smoker			
Never	20.3	34.6	0.107
Former	61.1	47.0	
Some day	2.1	3.8	
Every day	16.5	14.7	
Demographics (at Wave 1)			
Age in y, mean (\pm SD)	66.5 (\pm 13.17)	46.1 (\pm 17.7)	<0.001
Body mass index (\pm SD) kg/m ²	29.7 (\pm 10.2)	28.0 (\pm 7.4)	<0.001
Sex			
Men	71.1	47.5	<0.001
Women	28.9	52.5	
Poverty level/income			
Below poverty	24.8	25.2	0.885
At or above poverty	75.2	74.8	
Race/ethnicity			
White	84.3	77.7	<0.001
Black	10.5	12.4	
Asian	0.9	5.6	
Other	4.3	4.3	
Education			
Less than high school	11.7	4.3	<0.001
High school or equivalent	46.1	36.3	
Some college and associate	28.1	31.2	
Bachelor and advanced degree	14.1	28.2	
Clinical status			
High blood pressure			
Yes	72.5	26.8	<0.001
High cholesterol			
Yes	67.7	21.9	<0.001
Diabetes mellitus			
Yes	39.6	13.4	<0.001

*Chi-square for counts, *t* test for continuous variables.

[†]Some-day and every-day e-cigarette users combined because PATH does not allow reporting results for cell sizes <3, and there were only 2 everyday e-cigarette users who had first myocardial infarctions between Waves 1 and 2 and only 3 every-day e-cigarette users who had first myocardial infarctions between Waves 2 and 3. Wave 1 data were collected from September 2013 to December 2014, Wave 2 from October 2014 to October 2015, and Wave 3 from October 2015 to October 2016.

obtained for any e-cigarette use (every day or some day) at Wave 2 (Table S4).

Discussion

This study confirms earlier^{23,24} findings that e-cigarette use is an independent risk factor for having had a myocardial

infarction controlling for cigarette smoking, demographic and clinical risk factors. The magnitudes of the effects in this study are similar to the updated analysis by Alzahrani and Glantz³⁰ using the 2014, 2015, and 2016 from the National Health Interview Survey (some-day e-cigarette user [odds ratio: 1.99, 95% CI: 1.11–3.58 in this study versus 1.49: 1.08–2.09 in Alzahrani et al] and every-day e-cigarette user

Table 3. Adjusted Odds Ratios for Myocardial Infarction at Wave 1

Variables	AOR (95% CI)	P Value
E-cigarette use		
Never	Reference	
Former	1.25 (0.93–1.69)	0.147
Some day	1.99 (1.11–3.58)	0.024
Every day	2.25 (1.23–4.11)	0.010
Cigarette use		
Never	Reference	
Former	1.48 (1.01–2.15)	0.047
Some day	2.38 (1.40–4.06)	0.002
Every day	2.95 (1.91–4.56)	<0.001
High blood pressure		
Yes	2.08 (1.56–2.77)	<0.001
High cholesterol		
Yes	3.01 (2.31–3.92)	<0.001
Diabetes mellitus		
Yes	1.49 (1.09–2.03)	0.013
Age in y	1.07 (1.06–1.08)	<0.001
Body mass index, kg/m ²	1.02 (1.00–1.03)	0.016
Sex		
Women	0.27 (0.18–0.39)	<0.001
Poverty level/income		
At or above poverty	0.72 (0.49–1.04)	0.086
Race/ethnicity		
White	Reference	
Black	0.86 (0.63–1.16)	0.324
Asian	0.31 (0.07–1.38)	0.127
Other	1.37 (0.83–2.25)	0.226
Education		
Less than high school	1.49 (1.05–2.13)	0.030
High school or equivalent	Reference	
Some college and associate	0.97 (0.72–1.29)	0.814
Bachelor and advanced degree	0.62 (0.44–0.87)	0.007
Sample size	32 320	
VIF	<1.1	

Adjusted odds ratio adjusts for cigarette smoking (former, some day and every day), age, body mass index, sex, poverty level, race/ethnicity, education, and clinical variables. VIF indicates variance inflation factor.

[2.25: 1.23–4.11 versus 2.14: 1.41–3.25]). Odds of myocardial infarction among former e-cigarette users are not significantly elevated in either study. The increased odds of myocardial infarction are similarly and significantly associated with smoking in both studies, with higher estimates in the

present study (former [1.48: 1.01–2.15 versus 1.70: 1.51–1.91], some day [2.38: 1.40–4.06 versus 2.36: 1.80–3.09] and every day [2.95: 1.91–4.56 versus 2.72: 2.29–3.24]). Vindhyal et al³¹ reported that e-cigarette use is significantly associated with MI (odds ratio [OR] 1.56 [1.45–1.68]), stroke (OR 1.30 [1.20–1.40]), and circulatory problems (OR 1.44 [1.25–1.65]) using the 2014, 2016, and 2017 National Health Interview Survey. Ndunda and Muutu²⁴ found that compared with non-users, e-cigarette users (without specifying frequency of use, but controlling for smoking and other risk factors) the odds of having had a myocardial infarction (OR 1.59 [1.53–1.66]) that was lower than in this study, although the CIs overlapped. They also found higher risks for angina or coronary heart disease (OR 1.4 [1.35–1.46]) and stroke (OR 1.71 [1.64–1.8]) using 2016 Behavioral Risk Factor Surveillance System.

Both the present and earlier^{23,24} results are based on cross-sectional analysis, which raises the possibility of reverse causality,^{25,26} specifically that after having had a myocardial infarction people might preferentially attempt to quit smoking using e-cigarettes. In a cross-sectional analysis of the National Health Interview Survey, Stokes et al⁸ reported that individuals with cardiovascular disease who recently quit smoking or recently attempt to quit were more likely to use e-cigarettes than those who did not report a recent quit attempt, which may indicate that e-cigarettes were being used for smoking cessation. We used the longitudinal data in PATH to test directly for reverse causality by testing whether having had a myocardial infarction at Wave 1 predicted e-cigarette use at Wave 2 among people who were cigarette smokers at Wave 1 (Table 4). The results did not approach statistical significance ($P>0.62$ for all outcomes), strongly suggesting that reverse causality is not an issue. In addition, the presence of a statistically significant dose-response is consistent with a causal effect.

Our results on the lack of reverse causality are consistent with Gaalema et al³² who concluded based on longitudinal analysis of the first 2 waves of PATH, that having a myocardial infarction was not a significant predictor of initiating non-combusted tobacco (mostly e-cigarettes) use ($P=0.20$). Furthermore, they found, “cardiac status was significantly negatively associated with switching completely from combusted to non-combusted products. While 9.2% of those with no change in health status switched (from combusted tobacco, mostly cigarettes) to non-combusted use, none of those experiencing a new MI switched ($P=0.0015$).” Thus, any differential misclassification is in the direction opposite to what would be required for reverse causality to explain our results, which strengthens our conclusion that e-cigarette use is associated with the risk of having had an MI. Our finding is also consistent with Alzahrani et al’s²⁶ cross-sectional analysis of reverse causality using the National Health Interview Survey, which found a non-significant

Table 4. Reverse Causality Analysis: Adjusted Odds Ratios for Every Day e-Cigarette Use at Wave 2*

Variables at Wave 1	Among Overall Follow-Up Sample		Among Every-Day Cigarette Smoker at Wave 1†		Among Current Cigarette Smoker at Wave 1†	
	AOR (95% CI)	P Value	AOR (95% CI)	P Value	AOR (95% CI)	P Value
MI						
No	Reference		Reference		Reference	
Yes	0.85 (0.38–1.90)	0.687	0.80 (0.28–2.26)	0.675	0.79 (0.30–2.07)	0.634
High blood pressure						
Yes	1.08 (0.83–1.41)	0.550	0.89 (0.63–1.26)	0.526	0.88 (0.64–1.21)	0.422
High cholesterol						
Yes	1.08 (0.79–1.47)	0.618	1.38 (0.94–2.03)	0.106	1.54 (1.08–2.18)	0.019
Diabetes mellitus						
Yes	0.92 (0.61–1.38)	0.684	0.96 (0.66–1.40)	0.820	0.95 (0.65–1.38)	0.775
Age	0.97 (0.96–0.98)	<0.001	0.97 (0.96–0.98)	<0.001	0.98 (0.97–0.99)	<0.001
Body mass index, kg/m ²	0.99 (0.98–1.00)	0.147	1.00 (0.99–1.02)	0.735	1.00 (0.98–1.01)	0.847
Sex						
Women	0.72 (0.59–0.89)	0.002	0.81 (0.60–1.10)	0.183	0.83 (0.64–1.09)	0.195
Poverty level/income						
At or above poverty	1.01 (0.80–1.28)	0.918	1.36 (1.04–1.78)	0.028	1.26 (0.98–1.62)	0.077
Race/ethnicity						
White	Reference		Reference		Reference	
Black	0.28 (0.18–0.43)	<0.001	0.24 (0.12–0.51)	<0.001	0.26 (0.14–0.50)	<0.001
Asian	0.31 (0.13–0.73)	0.009	0.18 (0.02–2.07)	0.171	0.24 (0.04–1.51)	0.133
Other	0.92 (0.63–1.35)	0.683	0.97 (0.53–1.76)	0.916	0.93 (0.53–1.63)	0.804
Education						
Less than high school	0.62 (0.38–1.00)	0.056	0.95 (0.48–1.89)	0.884	0.83 (0.44–1.56)	0.565
High school or equivalent	Reference		Reference		Reference	
Some college and associate	1.03 (0.82–1.28)	0.814	1.26 (0.96–1.66)	0.099	1.15 (0.90–1.48)	0.257
Bachelor and advanced degree	0.40 (0.28–0.56)	<0.001	1.38 (0.84–2.29)	<0.001	1.01 (0.67–1.52)	0.973
VIF	<1.1		<1.1		<1.1	
Number of new e-cigarette users between Waves 1 and 2	1990		776		946	
Sample size	26 447		7378		9284	
Minimum detectable effect (OR) [‡]	1.51		1.39		1.35	

Adjusted odds ratio (AOR) adjusts for age, BMI, sex, poverty level, race/ethnicity, education, and clinical variables. BMI indicates bone mass index; OR, odds ratio; VIF, variance inflation factor.

*Some-day and former e-cigarette users excluded from the analysis.

†Excluding e-cigarette users.

‡To achieve 0.80 power with $\alpha=0.005$ (2-tail) with observed sample size calculated using GPower 3.1.92.

association between MI and e-cigarette use when controlling for covariates.

Like Alzahrani et al,^{23,30} we found that the increased odds of having had a myocardial infarction associated with e-cigarette use were independent of the increased odds associated with smoking. This result means that dual use of e-cigarettes and conventional cigarettes, the most common use pattern for e-cigarette users, is more dangerous than use of either product alone (69% of current e-cigarette users were also smoking

cigarettes in our sample at Wave 1, which is similar to the 70% Stokes et al⁸ reported among people with cardiovascular disease in the National Health Interview Survey). For example, the total odds of having had a myocardial infarction among every-day cigarette smokers who also use e-cigarettes every day (dual users)—the most common use pattern (Table 1)—is (odds of myocardial infarction among every-day smokers) × (odds of myocardial infarction among every-day e-cigarette user) = 2.95 × 2.25 = 6.64 compared with a never cigarette

smoker who has never used e-cigarettes (which is similar from additional regression analysis estimating the effect directly, Adjusted Odds Ratio (AOR): 5.06, 95% CI: 1.99–12.83, Table S5). Odds of having had a myocardial infarction for individuals who switched from every-day combustible cigarette smoking to every-day e-cigarette use would change by a factor of $([\text{odds of myocardial infarction among former combustible cigarette smokers}] \times [\text{odds of myocardial infarction among every-day e-cigarette user}]) / (\text{odds of myocardial infarction among every-day combustible cigarette smoker}) = 3.33/2.95 = 1.13$, which is virtually no benefit in terms of myocardial infarction risk. More importantly, the total odds of having had a myocardial infarction for an individual who switched from every-day combustible cigarette smoking to every-day e-cigarette use compared with quitting smoking would be $([\text{odds of myocardial infarction among former smokers}] \times [\text{odds of myocardial infarction among every-day e-cigarette user}]) / (\text{odds of myocardial infarction among former cigarette smokers}) = (1.48 \times 2.25) / 1.48 = 2.25$.

As discussed above, we cannot infer temporality from the cross-sectional finding that e-cigarette use is associated with having had an MI and it is possible that first MIs occurred before e-cigarette use. PATH Wave 1 was conducted in 2013 to 2014, only a few years after e-cigarettes started gaining popularity on the US market around 2007. To address this problem we used the PATH questions “How old were you when you were first told you had a heart attack (also called a myocardial infarction) or needed bypass surgery?” and the age when respondents started using e-cigarettes and cigarettes (1) for the very first time, (2) fairly regularly, and (3) every day. We used current age and age of first MI to select only those people who had their first MIs at or after 2007 (Table S6). While the point estimates for the e-cigarette effects (as well as other variables) remained about the same as for the entire sample, these estimates were no longer statistically significant because of a small number of MIs among e-cigarette users after 2007. Note that this analysis does not capture reinfarctions occurring after 2007, whose risk could be increased by e-cigarette use as it is for continued smoking conventional cigarettes.^{33,34}

One could argue that the cleanest study would have been one that only examined the association of sole e-cigarette use with myocardial infarction. In contrast, most e-cigarette users are dual users with cigarettes so it is important to study the effects of e-cigarette use simultaneously with cigarette use. Our analysis quantified the additional risk of MI associated with e-cigarette use in addition to cigarette smoking among dual users. Limiting the analysis to sole e-cigarette users would not only be less clinically relevant, but would substantially reduce the sample size and the power of the analysis to detect an effect.

Limitations

While PATH is a longitudinal study, there were only 8 people who used e-cigarettes and had first myocardial infarctions during this follow-up, so there was not enough power to detect an effect. Confirming this problem, every-day and former-conventional cigarette smoking were not significant either. While longitudinal studies are more desirable than cross-sectional studies, the reality is that it will be years before enough myocardial infarctions have occurred to do a meaningful analysis. In the meantime, millions of people are using e-cigarettes and clinicians are being asked about them and this cross-sectional analysis can be used to inform decision making about these products.

Response for both e-cigarette and combustible cigarette use were self-reported, which could lead to recall bias. Participants with myocardial infarction might over-report e-cigarette and cigarette use, but previous work found that compared with biochemical monitoring with cotinine levels, self-reporting in myocardial infarction survivors tended to understate the prevalence of smoking.³⁵ Myocardial infarction was self-reported which also could lead recall bias, but the questions “Has a doctor, nurse, or other health professional ever told you that you had a heart attack (myocardial infarction)?” and “In the past 12 months, has a doctor, nurse, or other health professional told you that you had a heart attack (myocardial infarction)?” have been found to have high agreement (81%–98%) with medical records.^{36,37}

Other possible risk factors including family history of myocardial infarction, angina, and heavy alcohol use are not available in the PATH data set. There is no information on the duration since smoking or e-cigarette cessation. In the main analysis, it also is unknown whether the reported myocardial infarction occurred before or after the respondents’ initiated e-cigarettes and cigarettes use.

Conclusions

As one would expect based on what is known about the biological effects of e-cigarette use, in the cross-sectional analysis some-day and every-day e-cigarette use is associated with increased risk for having myocardial infarction, adjusted for combustible cigarette smoking, demographic and clinical variables. This result is unlikely because of reverse causality. Former, some-day, and every-day combustible cigarette smoking is also independently associated with myocardial infarction among adults in the United States. Dual use of the e-cigarette and combustible cigarettes results in higher risk of myocardial infarction than using either product alone and switching from cigarettes to e-cigarettes was not associated

with any benefits in terms of reduced myocardial infarction risk. E-cigarettes should not be promoted or prescribed as a less risky alternative to combustible cigarettes and should not be recommended for smoking cessation among people with or at risk of myocardial infarction.

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Disclosures

None.

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SUPPLEMENTAL MATERIAL

Table S1. Myocardial Infarctions, tobacco use, clinical, and demographic variables.

Variables (at Wave 1)	E-cigarette Use at Wave 1 (Weighted percent)				P-value*
	Never	Former	Some Day [^]	Every Day	
Myocardial Infarction					
Yes	2.4	1.9	2.6	3.4	0.073
No	97.6	98.1	97.4	96.6	
Cigarette smoker					
Never	40.7	3.6	1.9	0.5	<0.001
Former	50.3	34.7	16.2	51.2	
Some day	2.0	11.4	14.2	19.9	
Every day	7.0	50.3	67.7	28.4	
Demographics					
Age in years, mean (\pm SD)	48.6 (\pm 17.9)	36.8 (\pm 14.4)	35.7 (\pm 13.5)	41.0 (\pm 15.2)	<0.001
Body Mass Index (\pm SD) kg/m ²	28.1 (\pm 7.5)	27.7 (\pm 7.0)	27.7 (\pm 7.0)	27.9 (\pm 6.6)	<0.001
Sex					
Male	46.8	54.3	54.2	54.4	<0.001
Female	53.2	45.7	45.8	45.6	
Poverty level/income					
Below poverty	22.9	33.1	27.4	35.1	<0.001
At or above poverty	77.1	66.9	72.6	64.9	
Race/ethnicity					
White	77.6	78.6	79.1	84.8	<0.001
Black	12.5	12.0	10.3	6.6	
Asian	5.9	3.6	3.1	2.7	
Other	3.9	5.7	7.5	5.9	
Education					
Less than high school	35.1	13.2	39.6	39.9	<0.001
High school or equivalent	4.7	3.5	3.9	3.4	
Some college and associate	29.5	37.8	41.8	42.9	
Bachelor and advanced degree	30.8	15.5	14.7	13.7	
Clinical status					
High blood pressure					
Yes	29.2	21.1	22.6	23.1	<0.001
No	70.8	78.9	77.4	76.9	
High cholesterol					
Yes	24.5	15.5	14.4	18.6	<0.001
No	75.5	84.5	85.6	81.4	
Diabetes mellitus					
Yes	14.8	9.9	11.8	11.3	<0.001
No	85.2	90.1	88.2	88.7	

*Chi-square for counts, t-test for continuous variables.

Wave 1 data were collected from September 2013 to December 2014

Table S2. Adjusted odds ratios for myocardial infarction (MI) at Wave 2, excluding respondents who had a MI at Wave 1.

Variables	AOR (95% CI)	P-value
E-cigarette user at wave 1		
Never	Reference	
Former	1.10 (0.56, 2.18)	0.775
Some day	2.12 (0.64, 7.08)	0.225
Every day	-	-
Cigarette smoker at wave 1		
Never	Reference	
Former	3.40 (0.66, 17.50)	0.147
Some day	6.66 (1.30, 34.00)	0.025
Every day	3.05 (0.57, 16.49)	0.198
High blood pressure		
Yes	1.74 (0.80, 3.79)	0.165
High cholesterol		
Yes	0.82 (0.37, 1.85)	0.642
Diabetes mellitus		
Yes	1.64 (0.56, 4.82)	0.372
Age	1.06 (1.03, 1.08)	<0.001
Body Mass Index	1.01 (0.99, 1.04)	0.289
Sex		
Female	0.47 (0.22, 1.03)	0.062
Poverty level/income		
At or above poverty	1.23 (0.54, 2.81)	0.616
Race/ethnicity		
White	Reference	
Black	1.07 (0.50, 2.26)	0.870
Asian	-	-
Other	1.46 (0.40, 5.37)	0.568
Education		
Less than high school	2.20 (0.51, 9.53)	0.299
High school or equivalent	Reference	
Some college and associate	0.93 (0.43, 2.01)	0.864
Bachelor and advanced degree	0.10 (0.02, 0.59)	0.012
Sample size	25,820	
VIF	<1.2	

Adjusted Odds Ratio adjusts for cigarette smoking (former, some day and every day), age, BMI, sex, poverty level, race/ethnicity, education, and clinical variables.
VIF: Variance Inflation Factor

Table S3. Adjusted odds ratio for myocardial infarction at Wave 1 baseline including experimental e-cigarette users and smokers as some day users.

Variables	AOR (95% CI)	P-value
E-cigarette user		
Never	Reference	
Former	1.27 (0.95, 1.69)	0.113
Some day	1.62 (1.04, 2.54)	0.037
Every day	2.20 (1.20, 4.05)	0.013
Cigarette smoker		
Never	Reference	
Former	1.47 (1.01, 2.14)	0.047
Some day	2.22 (1.37, 3.60)	0.002
Every day	2.94 (1.91, 4.51)	<0.001
High blood pressure		
Yes	2.09 (1.60, 2.72)	<0.001
High cholesterol		
Yes	3.10 (2.40, 3.99)	<0.001
Diabetes mellitus		
Yes	1.46 (1.09, 1.97)	0.013
Age in years	1.07 (1.06, 1.08)	<0.001
Body Mass IndexI	1.02 (1.00, 1.03)	0.026
Sex		
Female	0.28 (0.20, 0.40)	<0.001
Poverty level/income		
At or above poverty	0.73 (0.52, 1.02)	0.069
Race/ethnicity		
White	Reference	
Black	0.83 (0.63, 1.09)	0.186
Asian	0.32 (0.08, 1.23)	0.101
Other	1.34 (0.84, 2.12)	0.217
Education		
Less than high school	1.52 (1.08, 2.14)	0.020
High school or equivalent	Reference	
Some college and associate	1.01 (0.77, 1.33)	0.923
Bachelor and advanced degree	0.64 (0.45, 0.89)	0.011
Sample size	32,320	
VIF	<1.1	

Adjusted Odds Ratio adjusts for cigarette smoking (former, some day and every day), age, BMI, sex, poverty level, race/ethnicity, education, and clinical variables.

VIF: Variance Inflation Factor

Table S4. Adjusted odds ratios for current (every day or some day) e-cigarette use at Wave 2.*

Variables at Wave 1	Among overall follow up sample		Among every day cigarette smoker at wave 1‡		Among current cigarette smoker at wave 1‡	
	AOR (95% CI)	P-value	AOR (95% CI)	P-value	AOR (95% CI)	P-value
MI						
No	Reference		Reference		Reference	
Yes	1.45 (0.94, 2.25)	0.099	1.52 (0.90, 2.56)	0.121	1.40 (0.86, 2.28)	0.173
High blood pressure						
Yes	1.32 (1.12, 1.55)	0.001	1.16 (0.96, 1.41)	0.125	1.16 (0.97, 1.38)	0.114
High cholesterol						
Yes	0.91 (0.74, 1.12)	0.384	1.08 (0.83, 1.42)	0.567	1.13 (0.89, 1.44)	0.303
Diabetes mellitus						
Yes	0.93 (0.72, 1.18)	0.543	1.03 (0.81, 1.32)	0.789	1.05 (0.83, 1.31)	0.697
Age	0.97 (0.96, 0.98)	<0.001	0.97 (0.96, 0.97)	<0.001	0.97 (0.96, 0.98)	<0.001
Body Mass Index	1.00 (0.99, 1.00)	0.359	1.00 (0.99, 1.01)	0.806	1.00 (0.99, 1.01)	0.981
Sex						
Female	0.83 (0.73, 0.94)	0.006	1.10 (0.91, 1.33)	0.317	1.06 (0.90, 1.25)	0.482
Poverty level/income						
At or above poverty	0.91 (0.78, 1.05)	0.202	1.29 (1.09, 1.53)	0.004	1.19 (1.02, 1.39)	0.032
Race/ethnicity						
White	Reference		Reference		Reference	
Black	0.38 (0.30, 0.48)	<0.001	0.35 (0.24, 0.51)	<0.001	0.39 (0.27, 0.55)	<0.001
Asian	0.55 (0.39, 0.78)	0.001	0.69 (0.51, 1.52)	0.363	0.69 (0.36, 1.33)	0.279
Other	1.05 (0.84, 1.31)	0.659	1.07 (0.75, 1.51)	0.721	1.12 (0.84, 1.49)	0.451
Education						
Less than high school	0.89 (0.65, 1.21)	0.449	1.13 (0.77, 1.67)	0.532	1.07 (0.75, 1.53)	0.705
High school or equivalent	Reference		Reference		Reference	
Some college and associate	1.06 (0.90, 1.24)	0.475	1.42 (1.18, 1.69)	<0.001	1.31 (1.09, 1.56)	0.004
Bachelor and advanced degree	0.38 (0.31, 0.47)	<0.001	1.52 (1.08, 2.13)	0.018	1.18 (0.90, 1.54)	0.234
Number of new e-cigarette users between Waves 1 and 2	1,990		776		946	
Sample size	26,447		7,378		9,284	
VIF	<1.2		<1.1		<1.1	
*Former e-cigarette users excluded from the analysis.						

‡ Excluding e-cigarette users

Adjusted Odds Ratio adjusts for age, BMI, sex, poverty level, race/ethnicity, education, and clinical variables.

VIF: Variance Inflation Factor

Table S5. Cross-sectional associations between conventional cigarette smoker and myocardial infarction at Wave 1 baseline among daily cigarette only users and daily dual users.

Variables	AOR (95% CI)	P-value
Cigarette smoker		
Never cigarette and e-cigarette user	Reference	
Every day cigarette smoker and never e-cigarette user	2.86 (1.70, 4.79)	<0.001
Every day cigarette and every day e-cigarette user	5.06 (1.99, 12.83)	<0.001
High blood pressure		
Yes	1.80 (0.95, 3.42)	0.073
High cholesterol		
Yes	3.11 (2.03, 4.77)	<0.001
Diabetes mellitus		
Yes	1.54 (0.93, 2.55)	0.095
Age in years	1.06 (1.04, 1.08)	<0.001
Body Mass Index	1.02 (0.99, 1.04)	0.260
Sex		
Female	0.24 (0.12, 0.50)	<0.001
Poverty level/income		
At or above poverty	0.80 (0.45, 1.43)	0.457
Race/ethnicity		
White	Reference	
Black	0.81 (0.47, 1.41)	0.456
Asian	0.16 (0.02, 1.14)	0.071
Other	0.64 (0.24, 1.74)	0.387
Education		
Less than high school	0.83 (0.44, 1.55)	0.557
High school or equivalent	Reference	
Some college and associate	0.90 (0.51, 1.61)	0.734
Bachelor and advanced degree	0.45 (0.18, 1.09)	0.082
Sample size	10,230	
VIF	<1.6	

VIF: Variance Inflation Factor

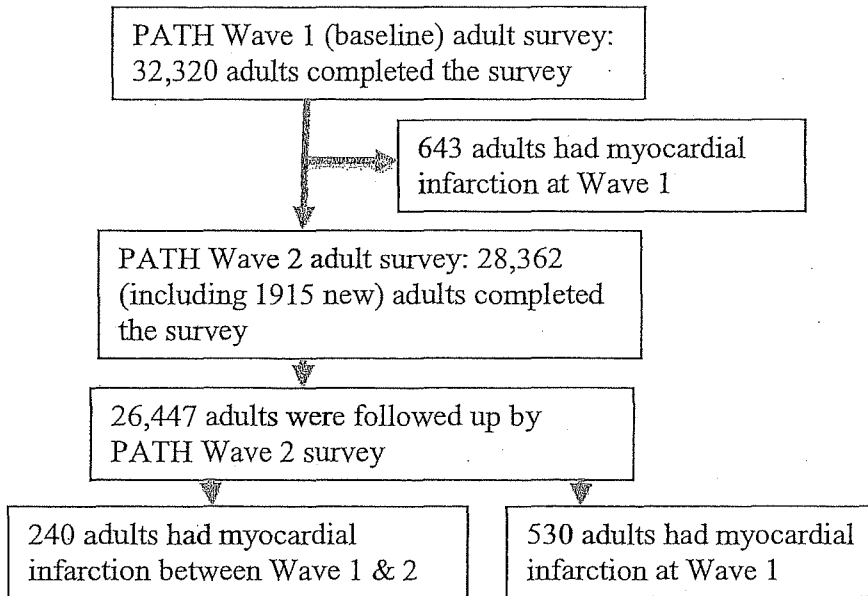
Table S6. Adjusted odds ratios for myocardial infarction at Wave 1.

Variables	MI 2007 or later		Entire sample	
	AOR (95% CI)	P-value	AOR (95% CI)	P-value
E-cigarette use				
Never	Reference		Reference	
Former	1.27 (0.85, 1.88)	0.250	1.25 (0.93, 1.69)	0.147
Some day	1.52 (0.43, 5.30)	0.515	1.99 (1.11, 3.58)	0.024
Every day	1.90 (0.69, 5.22)	0.216	2.25 (1.23, 4.11)	0.010
Cigarette use				
Never	Reference		Reference	
Former	1.62 (0.97, 2.68)	0.066	1.48 (1.01, 2.15)	0.047
Some day	2.34 (1.16, 4.75)	0.020	2.38 (1.40, 4.06)	0.002
Every day	3.22 (1.91, 5.42)	<0.001	2.95 (1.91, 4.56)	<0.001
High blood pressure				
Yes	2.24 (1.35, 3.72)	0.002	2.08 (1.56, 2.77)	<0.001
High cholesterol				
Yes	2.32 (1.54, 3.51)	<0.001	3.01 (2.31, 3.92)	<0.001
Diabetes mellitus				
Yes	1.24 (0.76, 2.03)	0.384	1.49 (1.09, 2.03)	0.013
Age in years				
	1.06 (1.04, 1.07)	<0.001	1.07 (1.06, 1.08)	<0.001
Body Mass Index				
	1.02 (1.01, 1.03)	<0.001	1.02 (1.00, 1.03)	0.016
Sex				
Female	0.33 (0.21, 0.53)	<0.001	0.27 (0.18, 0.39)	<0.001
Poverty level/income				
At or above poverty	0.76 (0.45, 1.28)	0.307	0.72 (0.49, 1.04)	0.086
Race/ethnicity				
White	Reference		Reference	
Black	1.03 (0.65, 1.64)	0.903	0.86 (0.63, 1.16)	0.324
Asian	0.18 (0.03, 1.24)	0.086	0.31 (0.07, 1.38)	0.127
Other	1.67 (0.78, 3.56)	0.189	1.37 (0.83, 2.25)	0.226
Education				
Less than high school	1.63 (0.80, 3.33)	0.185	1.49 (1.05, 2.13)	0.030
High school or equivalent	Reference		Reference	
Some college and associate	1.21 (0.74, 1.95)	0.447	0.97 (0.72, 1.29)	0.814
Bachelor and advanced degree	0.65 (0.37, 1.13)	0.131	0.62 (0.44, 0.87)	0.007
Sample size				
	31,815		32,320	
Number of MI's (total)				
	284		699	
Number of MI's (among ecig users)				
	Never =181 Former= 61 Some day =10 Every day =6		Never =433 Former= 128 Some day =19 Every day =19	
VIF				
	<1.2		<1.1	

Adjusted Odds Ratio adjusts for cigarette smoking (former, some day and every day), age, body mass index, sex, poverty level, race/ethnicity, education, and clinical variables.

VIF: Variance Inflation Factor

Figure S1. Flow diagram for sample.





NATIONAL FEDERATION OF FILIPINO AMERICAN ASSOCIATIONS
2429 OCEAN AVENUE AVENUE SAN FRANCISCO, CALIFORNIA 94127 Phone 415 564 6262

June 6, 2019

1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

To the San Francisco Board of Supervisors -

Since 1997, the National Federation of Filipino American Associations (NaFFAA) has promoted the welfare and well-being of the four million Filipinos and Filipino Americans throughout the United States. That mission extends to the city of San Francisco, where I serve as the Region 8 Chair for NaFFAA. Having worked across a number of business sectors and diverse organizations, I have developed a keen sense of the best interests of the Filipino community in San Francisco and their businesses.

City Hall's proposal to ban the sale of vapor products will run counter to those interests. This ordinance will not succeed, and will result in particularly harsh consequences for our city's small business owners, especially those in minority communities like my fellow Filipinos. I oppose this legislation and I hope the Board will vote against it.

This ordinance will have serious negative impacts on small business owners across the city. The San Francisco Small Business Commission – which estimated that businesses could lose \$70,000—\$90,000 a year in sales if the ban passes – voted 6-1 against the proposal. If that's not enough of a sign that this legislation is a bad idea, consider the fact that there are hundreds of retail locations across the city. Most of these are owned by minorities and immigrants. This ban would deprive those individuals of a major source of income, particularly when they are among the most vulnerable

Additionally, tobacco cigarette smoking prevalence is particularly high among Filipinos in America, according to the Centers for Disease Control and Prevention. As our community works to improve its health and quit smoking, nicotine alternatives such as vapor products will be crucial in helping all San Franciscans quit. The Board should not deprive responsible adults of the products they want and need to improve their quality of life.

The Filipino community is as concerned as any in the city about preventing youth access to vapor products. I just believe that this is not the right way to do it. I encourage the Board to work with small business owners and community members to develop commonsense policies that achieve their goals – not put undue burdens on our city's minority communities. I encourage the Board not to pass this ordinance.

Sincerely,

Rudy Asercion
Region 8 Chair

The National Federation of Filipino American Associations (NaFFAA) is a private, non-profit tax-exempt organization established in 1997 to promote the active participation of Filipino Americans in civic and national affairs. NaFFAA is the largest national affiliation of Filipino American institutions, organizations and individuals. Its thirteen-member regions cover the continental United States, Alaska, Hawaii, Guam, the Marianas Islands, and American Samoa. NaFFAA partners with local affiliate organizations and national coalitions in monitoring legislation and public policy issues affecting Filipino Americans and advocating for issues of common concern.

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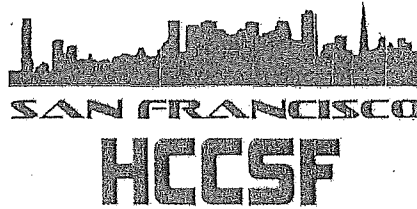
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Hispanic Chambers of Commerce of San Francisco
Cámaras de Comercio Hispanas de San Francisco



June 4, 2019

1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

To the Board of Supervisors,

The Hispanic Chambers of Commerce of San Francisco (HCCSF), works to promote and facilitate business in the San Francisco and Bay Area. We write to you today regarding the Board of Supervisors' proposed legislation to ban the sale of vapor products in the city of San Francisco. The HCCSF opposes this ordinance due to major, long-lasting negative consequences it will have for San Francisco small businesses.

The San Francisco Small Business Commission recently voted 6-1 in opposition to the ban. The HCCSF fully support the Commission and its position on small business issues in the city. Their recent vote should serve as a clear signal to all of City Hall that the ordinance is ill advised.

Further, the HCCSF have a number of concerns relative to the potential effectiveness of this proposed ban on vapor products. It is unlikely that this ban would have the intended effect on reducing youth use. Minors will simply go outside the city limits and find a way to access the products they want. By allowing this ban to move forward and given the close proximity of other localities that will continue to sell vapor products, it will simply harm business owners inside San Francisco city limits – and push their customers outside the city.

This legislation will have harmful economic consequences for San Francisco small business owners. According to the Small Business Commission, retail store owners could lose as much as \$70,000 to \$90,000 a year in sales. This would be potentially devastating to the hundreds of independent store owners in San Francisco, the majority of which are minorities and immigrants.

Ultimately, this legislation will continue to reinforce the truth that the city and county of San Francisco are not friendly to businesses. City Hall has a long track record of imposing costly regulations that are overly burdensome on small business owners, and the vapor ban would be no different. The HCCSF recently attended a meeting in which a city supervisor stated that he does not care for businesses. To hear this statement from a representative of our city, a civil servant to the entire district, was incredibly disappointing but not terribly surprising.

The HCCSF supports the Board's goal of reducing youth access to vapor products. There is simply a better way to do so than an outright ban – through careful analysis of these issues, we can write commonsense policies that prevent youth access while allowing businesses to stay open. For these reasons, we urge the Public Safety and Neighborhood Services Committee to vote "no" on the vapor ban.

Sincerely yours;

Carlos Solórzano-Cuadra
CEO

Hispanic Chambers of Commerce
Of San Francisco (HCCSF)
Office: 415.735.6120 - E mail: carlos@hccsf.com Cc: Board of Directors

3597 Mission Street ♦ San Francisco ♦ CA ♦ 94110

415-735-6120 ♦ 415-259-1498

E-mail info@hccsf.com ♦ www.hccsf.com



Arab Cultural and Community Center
2 Plaza Street, San Francisco, CA 94116

1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

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Public Safety & Neighborhood Services Committee
Item 6, Leg. 190312

Honorable Supervisors,

The Arab Cultural and Community Center (ACCC) was established in 1973 in San Francisco. We serve 6,000 people a year with direct social service, youth and cultural programming. The Arab community is diverse in income, ethnicity and religion, but our programming has inevitably had to direct attention to those fleeing war since the 1990's. We are a diaspora that have found a home for generations in San Francisco and, where many have become established, we still have considerable demographics of low-income residents and vulnerable populations. The Middle Eastern, Arab, Muslim, and South Asian communities have been living in a real state of fear, especially in the current climate and with laws coming down from the Federal level. One of our member trade organizations is the Arab American Grocer Association (AAGA). This industry has been suffering as workers and operators face increased criminalization of the corner market industry with constant sting operations, predatory lawsuits, difficulty in understanding new laws, and increased enforcement from State and Local regulatory bodies. As exemplified in a recent Immigrant Rights Commission Hearing, many members of our Yemeni community, who also make up a large demographic of our store owners, are battling restrictions in sending money to family still in their country of origin. We ask you understand this context as it relates to the onslaught of legislation that targets and devalues this industry. We are writing as a Community Organization in San Francisco to express our concern and opposition to Ordinance 190312 unless there are substantial amendments and protections for our compliant brick and mortar businesses. We stand alongside the proposed health goals, but ask that the City does a better job of working with our communities in aligning needs, and meaningfully transition a low-income immigrant workforce that relies on this sector.

Thank you.

ACCC Board

TO:
Supervisors Walton, Mandelman, Stefani
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

FROM:
Amit Jung DL
Name
haightashbury@sbaco@gmail.com
Address
1827 Haight St, San Francisco
CA 94106

I oppose ban to e-cigs coz my wstmer
are telling me that flavor e-cigs/e-cigs
help them to get out of combustion smo-
king. It actually helping people to
feel better about their health. Some
people say it's strange city to ban
good & allow traditional one.

66139

Supervisors Walton, Mandelman, Stefani
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

FROM:
Roger Boyd
Name
25 Van Ness Ste 340
Address
SF CA 94102

Please stop the Ban on Vaping
It is my choice 2 smoke because im
an adult... see marijuana is legal
yet we cant buy a better nicotine
product if your going to Ban Smoking
Ban Cigarettes completely

TO:
Supervisors Walton, Mandelman, Stefani
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

FROM: Citizen Four
Name SF, CA
Address

Our bodies, our choice!
Get government out of
our stores and our lives!

6690
Supervisors Walton, Mandelman, Stefani
1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

FROM: SMANKAR K.C
Name 1589 height St SF 94117
Address

~~Be aware~~

Because I support freedom of
choice. I have better experience
on e-cigs rather than
traditional cigarettes.



University of California
San Francisco

Toxic JUUL Waste at High Schools, Public Parks and Beaches

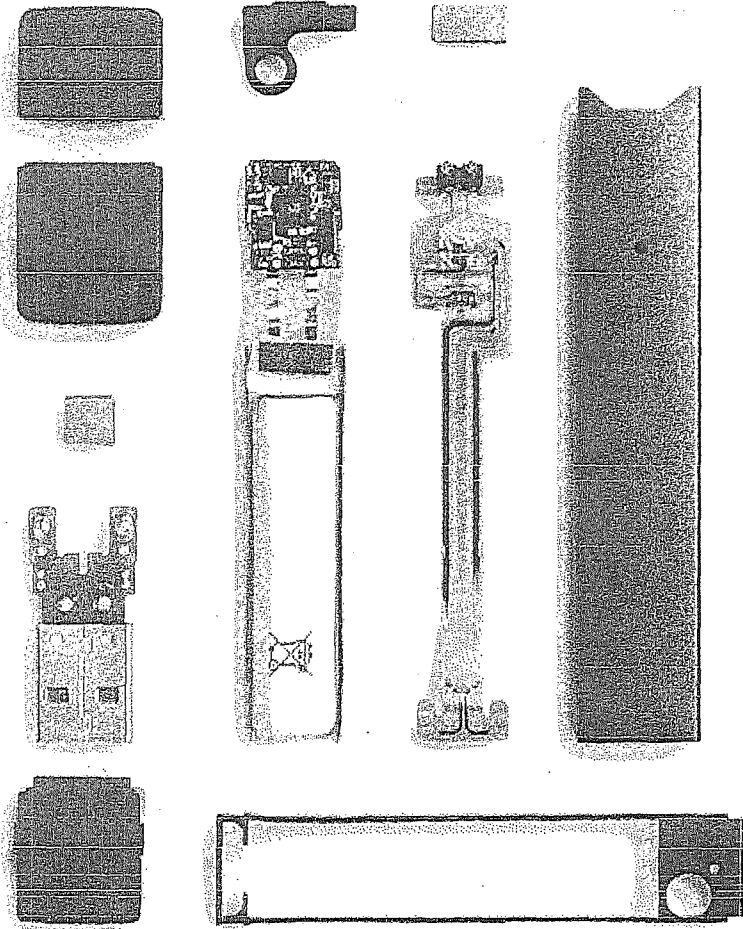
Jeremiah Mock, MSc, PhD
Associate Professor
University of California, San Francisco
Institute for Health & Aging
jeremiah.mock@ucsf.edu

Methods

- Purposefully selected 12 public high schools in the San Francisco Bay Area, stratified by demographics of student populations
- Conducted systematic collections of waste in parking lots and perimeter areas on one day
- Recorded locations of items
- Identified and classified items

JUUL Device

6623



1. Painted metal case
2. Plastic internal case and parts
3. Microprocessor circuit board and temperature regulation system – toxic metals, likely including lead and mercury
4. LED lamp
5. Lithium-ion battery – hazardous waste, fire risk, cannot be disposed in trash.

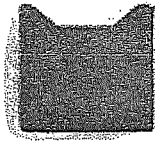
Pods



1. Plastic caps
2. Gold-plated contact
3. Metal pipe
4. Silicon seal

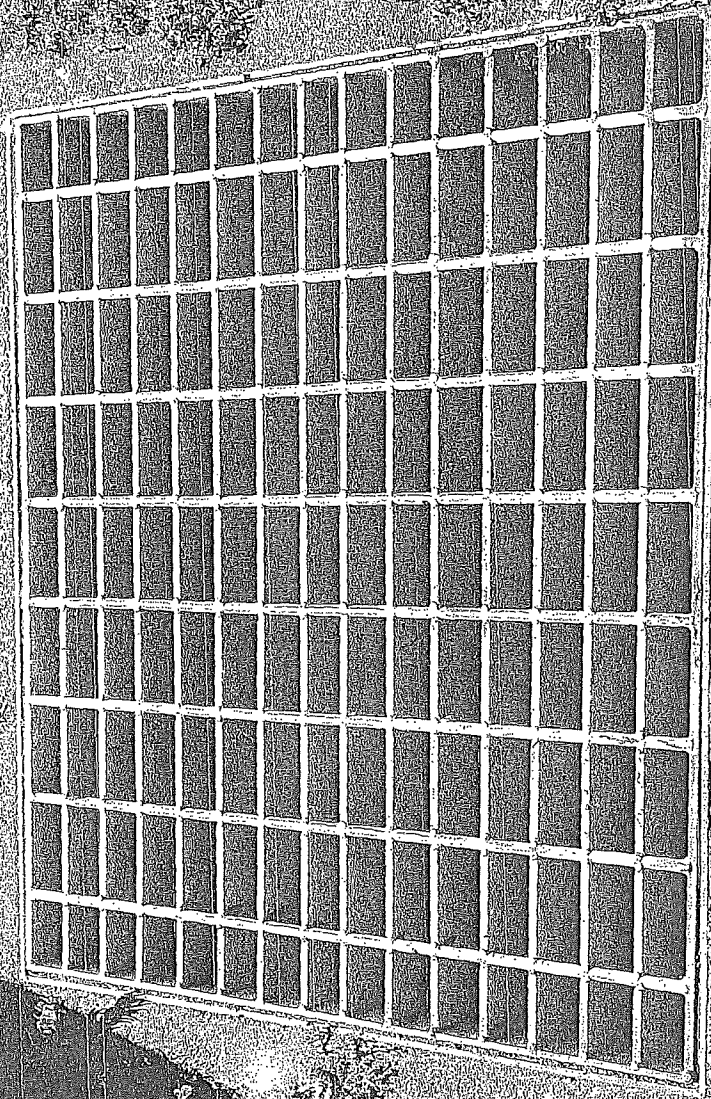


5. Polycarbonate plastic chamber
6. Glycerol, propylene glycol, benzoic acid, and flavorants

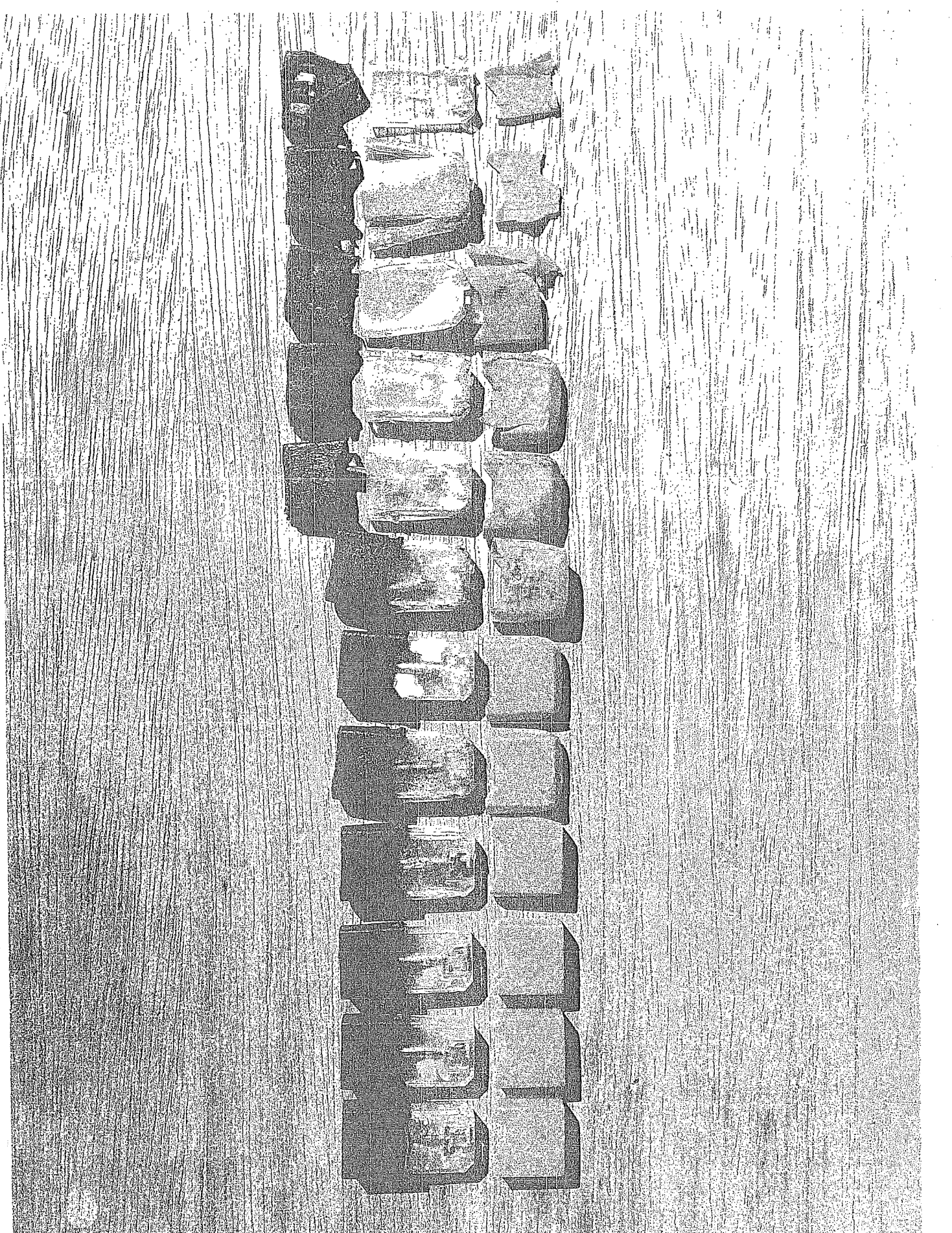


7. Nicotine salts – EPA- regulated toxic substance – poisonous to humans and animals, adverse ecological effects on insects and aquatic species.





NO DUMPING
DRAINAGE TO WAST





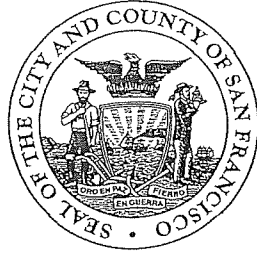
6628



6630

Waste Item	171 JUUL and JUUL-like items collected at 12 schools
Device	0
Pod new	25
Pod weathered	22
Black pod cap	49
Cap Classic Tobacco	1
Cap Virginia Tobacco	1
Cap Mint	38
Cap Mango	19
Cap Cucumber	7
Cap Menthol	1
Cap Cream	3
Cap Fruit	2
JUULCool Mint 5% 4-pack	0
JUULMango 5% 4-pack	1
JUULUnkown 4-pack	1

BOARD of SUPERVISORS



City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

MEMORANDUM

TO: Kiely Hosmon, Director, Youth Commission
FROM: John Carroll, Assistant Clerk,
Public Safety and Neighborhood Services Committee
DATE: March 27, 2019
SUBJECT: LEGISLATIVE MATTER INTRODUCED

The Board of Supervisors' Public Safety and Neighborhood Services Committee has received the following ordinance, introduced by Supervisor Walton on March 19, 2019. This item is being referred for comment and recommendation.

File No. 190312

Ordinance amending the Health Code to prohibit the sale by tobacco retail establishments of electronic cigarettes that require, but have not received, an order from the Food and Drug Administration (FDA) approving their marketing; and prohibiting the sale and distribution to any person in San Francisco of flavored tobacco products and electronic cigarettes that require, but have not received, an FDA order approving their marketing.

Please return this cover sheet with the Commission's response to John Carroll, Assistant Clerk, Public Safety and Neighborhood Services Committee.

RESPONSE FROM YOUTH COMMISSION Date: April 16, 2019

No Comment
 Recommendation Attached



Chairperson, Youth Commission

Youth Commission
City Hall ~ Room 345
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4532



(415) 554-6446
(415) 554-6140 FAX
www.sfgov.org/youth_commission

YOUTH COMMISSION
MEMORANDUM

TO: John Carroll, Clerk, Public Safety and Neighborhood Services Committee
FROM: Youth Commission
DATE: Tuesday, April 16, 2019
RE: Referral response to BOS File No. 190312 – [Health Code - Restricting the Sale, Manufacture, and Distribution of Tobacco Products, Including Electronic Cigarettes]

At our **Monday, April 15, 2019, meeting**, the Youth Commission voted unanimously to support the following motion:

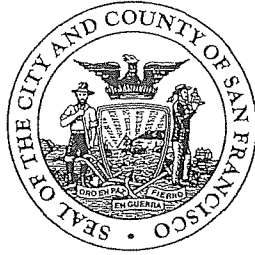
To support BOS File No. 190312 – [Health Code - Restricting the Sale, Manufacture, and Distribution of Tobacco Products, Including Electronic Cigarettes]

Youth Commissioners thank the Board of Supervisors for their attention to this issue. If you have any questions, please contact our office at (415) 554-6446, or your Youth Commissioner.

A handwritten signature in black ink, appearing to read "Bahlam Vigil".

Bahlam Vigil, Chair
Adopted on April 15, 2019
2018-2019 San Francisco Youth Commission

BOARD of SUPERVISORS



City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

MEMORANDUM

TO: Dr. Grant Colfax, Director, Department of Public Health
Mark Morewitz, Commission Secretary, Health Commission

FROM: John Carroll, Assistant Clerk,
Public Safety and Neighborhood Services Committee,
Board of Supervisors

DATE: March 27, 2019

SUBJECT: LEGISLATION INTRODUCED

The Board of Supervisors' Public Safety and Neighborhood Services Committee has received the following proposed legislation, introduced by Supervisor Walton on March 19, 2019:

File No. 190312

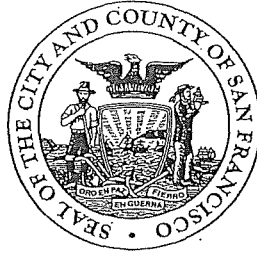
Ordinance amending the Health Code to prohibit the sale by tobacco retail establishments of electronic cigarettes that require, but have not received, an order from the Food and Drug Administration (FDA) approving their marketing; and prohibiting the sale and distribution to any person in San Francisco of flavored tobacco products and electronic cigarettes that require, but have not received, an FDA order approving their marketing.

If you have any comments or reports to be included with the file, please forward them to me at the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

c: Greg Wagner, Department of Public Health
Dr. Naveena Bobba, Department of Public Health
Sneha Patil, Department of Public Health

6633

BOARD of SUPERVISORS



City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

MEMORANDUM

TO: Regina Dick-Endrizzi, Director
Small Business Commission, City Hall, Room 448

FROM: John Carroll, Assistant Clerk, Public Safety and Neighborhood Services
Committee, Board of Supervisors

DATE: March 27, 2019

SUBJECT: REFERRAL FROM BOARD OF SUPERVISORS
Public Safety and Neighborhood Services Committee

The Board of Supervisors' Public Safety and Neighborhood Services Committee has received the following legislation, which is being referred to the Small Business Commission for comment and recommendation. The Commission may provide any response it deems appropriate within 12 days from the date of this referral.

File No. 190312

Ordinance amending the Health Code to prohibit the sale by tobacco retail establishments of electronic cigarettes that require, but have not received, an order from the Food and Drug Administration (FDA) approving their marketing; and prohibiting the sale and distribution to any person in San Francisco of flavored tobacco products and electronic cigarettes that require, but have not received, an FDA order approving their marketing.

Please return this cover sheet with the Commission's response to me at the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, California 94102.

RESPONSE FROM SMALL BUSINESS COMMISSION - Date: _____

No Comment
 Recommendation Attached

Chairperson, Small Business Commission

BOARD of SUPERVISORS



City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 554-5184
Fax No. 554-5163
TDD/TTY No. 554-5227

MEMORANDUM

TO: Kiely Hosmon, Director, Youth Commission

FROM: John Carroll, Assistant Clerk,
Public Safety and Neighborhood Services Committee

DATE: March 27, 2019

SUBJECT: LEGISLATIVE MATTER INTRODUCED

The Board of Supervisors' Public Safety and Neighborhood Services Committee has received the following ordinance, introduced by Supervisor Walton on March 19, 2019. This item is being referred for comment and recommendation.

File No. 190312

Ordinance amending the Health Code to prohibit the sale by tobacco retail establishments of electronic cigarettes that require, but have not received, an order from the Food and Drug Administration (FDA) approving their marketing; and prohibiting the sale and distribution to any person in San Francisco of flavored tobacco products and electronic cigarettes that require, but have not received, an FDA order approving their marketing.

Please return this cover sheet with the Commission's response to John Carroll, Assistant Clerk, Public Safety and Neighborhood Services Committee.

RESPONSE FROM YOUTH COMMISSION Date: _____

No Comment
 Recommendation Attached

Chairperson, Youth Commission

Carroll, John (BOS)

From: Gee, Natalie (BOS)
Sent: Friday, June 07, 2019 9:34 AM
To: Carroll, John (BOS)
Subject: FW: Letter of evidence on e-cigarettes
Attachments: San Francisco - E-Cigarette Letter of Evidence - June 3 2019.pdf

Categories: 2019.06.07 - PSNS, 190312

Good morning John,

Can you please add this to File No. 190312?

Thank you!

Natalie Gee 朱凱勤, Chief of Staff

Office of District 10 **Supervisor Shamann Walton**


1 Dr. Carlton B. Goodlett Pl, San Francisco | Room 282

Direct: 415.554.7672 | **Office:** 415.554.7670

Sign up for Supervisor Walton's [monthly newsletter!](#)

Follow Supervisor Walton on [Facebook](#).

From: Mahoney, Margaret (Maggie) (CDC/DDNID/NCCDPHP/OSH) (CTR) [mailto:och5@cdc.gov]
Sent: Monday, June 03, 2019 8:35 AM
To: Smith, Derek (DPH) <derek.smith@sfdph.org>
Cc: King, Brian a. (CDC/DDNID/NCCDPHP/OSH) <iyn3@cdc.gov>; Gee, Natalie (BOS) <natalie.gee@sfgov.org>
Subject: Letter of evidence on e-cigarettes

 This message is from outside the City email system. Do not open links or attachments from untrusted sources.

Hi Derek,

Attached please find a letter of evidence on e-cigarettes. We hope that this is helpful.

Sincerely,

Maggie Mahoney, JD
Public Health Analyst
Carter Consulting, Inc.
Policy, Strategy, and Translation Team
CDC Office on Smoking and Health
MMahoney@cdc.gov
404-718-6708

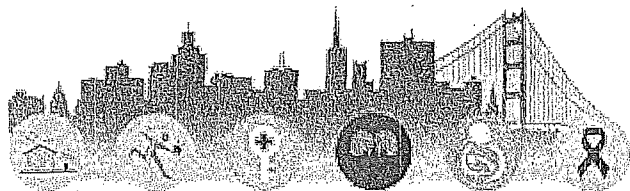
From: Smith, Derek (DPH) <derek.smith@sfdph.org>
Sent: Tuesday, May 21, 2019 4:03 PM
To: King, Brian a. (CDC/DDNID/NCCDPHP/OSH) <iyn3@cdc.gov>
: Gee, Natalie (BOS) <natalie.gee@sfgov.org>
Subject: Request for letter of evidence on e-cigarettes

Dear Mr. King-

I would like to request a letter of evidence from the Centers for Disease Control and Prevention on the topic of health impacts of electronic cigarettes. Of greatest interest to our community is the effect on youth, the biological impacts of e-cigarettes, general nicotine harms, and any knowledge your agency has gained regarding youth pathway to nicotine addiction. Our community is looking to get a full picture of the impact of e-cigarettes from our national health authority and truly values the perspective of the CDC. If you could kindly address such a letter of evidence to our Supervisor Shamann Walton or his chief of staff Natalie Gee (copied here), it would be most helpful. Thankful for your expertise and perspective to inform our local health promotion work with special focus on our most precious asset- our youth.

Best regards,
Derek

Derek R. Smith, MSW, MPH
Director- Tobacco Free Project
Community Health Equity & Promotion Branch
San Francisco Department of Public Health
25 Van Ness, 5th Floor
San Francisco, CA 94102
628.206.7640
derek.smith@sfdph.org
www.sftobaccofree.org



POPULATION HEALTH DIVISION
SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH



June 3, 2019

Office on Smoking and Health
Centers for Disease Control and Prevention
4770 Buford Highway
MS S107-7
Atlanta, Georgia 30341-3717

Supervisor Shamann Walton
City and County of San Francisco
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, Ca. 94102-4689

Mr. Walton:

Per your request, I am submitting this statement of the scientific evidence regarding electronic cigarettes (e-cigarettes). For the record, I am not submitting this statement for or against any specific legislative proposal; this statement is not intended to be used as testimony by any federal employee in furtherance of a deposition, trial, or similar proceeding for a private litigation matter (where the United States Government is not a party); and this statement is not intended to act as an endorsement or appearance of endorsement of any specific entity or proposal.

E-cigarettes were first introduced in the United States around 2007, and since that time, their use has increased, particularly among youth and young adults.^{1,2} E-cigarettes are known by many different names and come in many different shapes and sizes. Some e-cigarettes are made to look like regular cigarettes, cigars, or pipes. Larger devices such as tank systems, or “mods,” do not resemble other tobacco products. Other e-cigarettes mimic the shapes of everyday items such as USB sticks, pens, and highlighters. Regardless of their shape or size, most e-cigarettes have a battery, a heating element, and a place to hold a liquid.³ More recently, other forms of electronic tobacco products have also entered or been approved to enter the U.S. marketplace. This includes an electronic heated tobacco product, IQOS, which FDA authorized for sale in the U.S. in 2019.⁴

The Health Risks of E-Cigarette Use

The health risks posed by different tobacco products are not identical. Cigarettes and other combusted tobacco products cause most of the burden of death and disease from tobacco use in the U.S.⁵ However, the use of e-cigarettes is not safe for youth, young adults, pregnant women, or adults who do not currently use tobacco products.⁶

E-cigarettes produce an aerosol by heating a liquid that usually contains nicotine—the addictive drug in regular cigarettes, cigars, and other tobacco products— as well as flavorings, and other chemicals that

help to make the aerosol.⁷ Users inhale this aerosol into their lungs. Bystanders can also breathe in this aerosol when the user exhales into the air.⁸ In addition to involuntarily exposing non-users, including youth, to these chemicals, if the products are altered, they can also expose bystanders to other psychoactive substances such as marijuana.⁹

The Surgeon General has concluded that “[e]-cigarette aerosol is not harmless. It can contain harmful and potentially harmful constituents, including nicotine.”¹⁰ It can expose users to a variety of chemicals and other toxicants produced or emitted during the heating/aerosolization process, including ultrafine particles and heavy metals, volatile organic compounds, and cancer-causing chemicals.^{11,12} E-cigarette flavorings are generally recognized as safe when eaten, but can cause adverse health effects when inhaled. One flavoring, diacetyl, is a chemical linked to serious lung disease.¹³ A recent study showed that adolescents who used e-cigarettes with fruit flavorings were exposed to significantly higher levels of carcinogens compared to adolescents who used non-flavored e-cigarettes.¹⁴

Health Risks of Nicotine Exposure Among Youth and Young Adults

Nicotine is highly addictive. Adolescents are especially vulnerable to the addictive effects of nicotine, which harms adolescent brain development.^{15,16} This is important because brain development continues until approximately age 25.³ Nicotine exposure during certain periods of development can impair the development of brain circuits and neurons, changing the way the brain works.^{17,18,19} Nicotine exposure during adolescence may have lasting adverse consequences for brain development, including cognitive maturation and effects on working memory and attention.^{20,21,22,23,24} Animal models suggest that adolescent exposure to nicotine increases susceptibility to addiction to other substances, including alcohol, cocaine, methamphetamine, and opioids.^{25,26} In addition, youth who initiate the use of nicotine through e-cigarettes could be at increased risk for using other tobacco products, such as regular cigarettes, in the future.^{27,28,29}

New types of e-cigarettes—such as JUUL, which currently has the greatest market share of any e-cigarette in the United States—use a new form of nicotine formulation called nicotine salts.^{30,31} Nicotine salts allow particularly high levels of nicotine to be inhaled more easily and with less irritation than the free-base nicotine that has typically been used in most tobacco products, including e-cigarettes.³² This is of particular concern for young people, because it could make it easier for them to initiate the use of nicotine through these products and also make it easier to progress to regular e-cigarette use and nicotine dependence.³³ Of additional concern is the fact that a majority of youth and young adult JUUL users do not know that JUUL always contains nicotine.³⁴

Almost all adult tobacco product users begin using these products as youth or young adults. For example, nearly 9 out of 10 cigarette smokers first tried smoking by age 18, and after age 25, almost no smokers began smoking or transitioned to daily smoking.³⁵ Therefore, focusing on preventing youth and young adult initiation is a critical component to addressing the burden of tobacco product use on the population.

Health Risks of Nicotine Exposure Among Pregnant Women

Although e-cigarette aerosol generally has fewer harmful substances than cigarette smoke, e-cigarettes and other products containing nicotine are not safe to use during pregnancy. The 2016 Surgeon General’s Report concluded that the use of products containing nicotine—including e-cigarettes—by

pregnant women can result in pre-natal and post-natal harm, including damage to brain and lung development. For example, nicotine delivered during pregnancy could result in sudden infant death syndrome, as well as altered development of the corpus callosum, deficits in auditory processing, and increased risk for obesity.³⁶ Pregnant women who smoke are encouraged to talk to their health care provider about the risks and benefits of Food and Drug Administration (FDA)-approved medications.³⁷

Evidence Related to E-cigarettes for Adult Smoking Cessation

Adults who smoke may have the potential to reduce their risk of smoking-attributable disease and death if they completely transition to non-combustible tobacco products, such as e-cigarettes. However, a majority of e-cigarette users continue to engage in dual use of both e-cigarettes and cigarettes, which is not an effective way to fully safeguard your health from the risks of smoking.³⁸

The current evidence is insufficient to recommend e-cigarettes for quitting combustible tobacco smoking.^{39,40} To date, the few studies on the issue are mixed. A Cochrane Review found evidence from two randomized controlled trials that e-cigarettes with nicotine can help smokers stop smoking in the long term compared with placebo (non-nicotine) e-cigarettes,⁴¹ and a more recent trial in the United Kingdom found that e-cigarettes were more effective than nicotine replacement therapy when both products were accompanied by behavioral support.⁴² However, there are limitations to the existing research, including the small number of trials, small sample sizes, limited generalizability to the U.S. population, and wide margins of error around the estimates.

E-cigarette manufacturers who wish to market their products for smoking cessation can apply to the FDA Center for Drug Evaluation and Research for approval. However, to date, no tobacco product has received FDA approval as a smoking cessation aid.

Patterns of E-Cigarette Use

In the United States, adults are less likely than youth to use e-cigarettes. In 2017, 2.8% of U.S. adults were current e-cigarette users.⁴³ In 2015, among adult e-cigarette users overall, 58.8% also were current regular cigarette smokers, 29.8% were former regular cigarette smokers, and 11.4% had never been regular cigarette smokers.⁴⁴ Among current e-cigarette users aged 45 years and older in 2015, most were either current or former regular cigarette smokers, and 1.3% had never been cigarette smokers. In contrast, among current e-cigarette users aged 18–24 years, 40.0% had never been regular cigarette smokers.⁴⁵

E-cigarettes have been the most commonly used tobacco product among U.S. youth since 2014.^{46,47} Current e-cigarette use increased 78% among high school students from 2017 (11.7%) to 2018 (20.8%).⁴⁸ In 2018, more than 3.6 million U.S. middle and high school students used e-cigarettes in the past 30 days, including 4.9% of middle school students and 20.8% of high school students.⁴⁹ Due to this increase, the U.S. Surgeon General issued an e-cigarette advisory in December 2018 that called e-cigarette use among U.S. youth an epidemic.⁵⁰ The advisory was only the fifth advisory from the U.S. Surgeon General in the past two decades, and the first ever on tobacco product use.

The use of multiple tobacco products among youth is common,⁵¹ with e-cigarettes the most commonly used product in combination with other tobacco products.⁵² In 2017, about 9 of every 100

high school students (9.2%) and about 2 of every 100 middle school students (2.4%) reported current use of two or more tobacco products.⁵³

Any tobacco use by youth might lead to nicotine dependence,⁵⁴ and youth who use multiple tobacco products are at higher risk for developing nicotine dependence.⁵⁵ The prevalence of youth reporting symptoms of nicotine dependence was 2–3 times higher for multiple product users than that for single product users.⁵⁶ Given that nicotine dependence is a major determinant of whether a person becomes a long-term user of tobacco products, reducing experimentation by youth and initiation of all forms of tobacco product use is important to preventing future dependency on, and more frequent use of, these products.^{57,58}

Youth Vulnerability to Tobacco Marketing and Flavors

Advertising and flavors are two key drivers of increased e-cigarette use among young people.

Adolescents are highly vulnerable to tobacco industry marketing, smoking imagery in movies, and peer influence, and are not able to fully appreciate the health risks they face in the future.⁵⁹ In 2006, U.S. District Court Judge Gladys Kessler concluded that, regarding the tobacco industry's marketing practices, "from the 1950s to the present, different defendants, at different times and using different methods, have intentionally marketed to young people under the age of twenty-one in order to recruit 'replacement smokers' to ensure the economic future of the tobacco industry."⁶⁰ In 2014, the Surgeon General stated that "the root cause of the smoking epidemic is also evident: the tobacco industry aggressively markets and promotes lethal and addictive products, and continues to recruit youth and young adult as new consumers of these products."⁶¹

In 2016, the U.S. Surgeon General concluded that e-cigarettes are marketed by using a wide variety of media channels and approaches that have been used in the past for marketing conventional tobacco products to youth and young adults.⁶² For example, in 2016, an estimated 4 in 5 (20.5 million) U.S. middle and high school students were exposed to e-cigarette advertisements from at least one source, a significant increase over 2014 and 2015. Nearly seven in 10 youths (17.7 million) were exposed to e-cigarette advertising in retail stores in 2016, while approximately two in five were exposed on the Internet or on television, and nearly one in four were exposed through newspapers and magazines.⁶³

Although manufacturers have consistently maintained that their flavored tobacco products are intended for adult smokers, data demonstrate that flavors in tobacco products increase the appeal of these products to youth, promote youth initiation, and may contribute to lifelong tobacco use.^{64,65} A study that looked at youth use of all tobacco products in 2017 found that among current tobacco users, 63.6% of middle and high school aged youth reported using at least one flavored (including menthol) product.⁶⁶ This study found the proportion of youth tobacco users who reported flavored product use increased significantly between 2016 and 2017, largely owing to an increase of flavored e-cigarettes. In 2017, the proportion of youth tobacco users who reported flavored product use was 58.7% for e-cigarettes, 49.0% for cigars, 48.6% for cigarettes, 44.5% for any smokeless tobacco, and 30.6% for hookah.⁶⁷

Another recent study showed that among high school students during 2017-2018, current use of any flavored e-cigarettes increased among current e-cigarette users (60.9% to 67.8%), and current use of menthol or mint flavored e-cigarettes increased among all current e-cigarette users (42.3% to 51.2%) and current exclusive e-cigarettes users (21.4% to 38.1%).⁶⁸ Another analysis of data from 2013-2014

found that the majority of youth ever-users reported that the first product they had used was flavored, including 81.0% of ever e-cigarette users; moreover, youth tobacco product users consistently reported product flavoring as a reason for use across all product types, including e-cigarettes (81.5%), hookahs (78.9%), cigars (73.8%), smokeless tobacco (69.3%), and snus pouches (67.2%).⁶⁹

Strategies to Prevent and Reduce E-Cigarette Use among Young People

The Family Smoking Prevention and Tobacco Control Act gave FDA the authority to undertake a number of actions to address e-cigarette use, including:

- Setting product standards, including prohibiting flavorings in e-cigarettes and reducing nicotine levels in products.
- Restricting the promotion, marketing, and advertising of e-cigarettes, including prohibiting brand-name sponsorship of events.
- Establishing minimum package sizes.
- Prohibiting self-service displays.⁷⁰

The Tobacco Control Act does not limit the authority of state, local, tribal, or territorial governments to enact any tobacco-related policies related to the sale, distribution, or possession of tobacco products; exposure to these products; or access to them. Thus, the U.S. Surgeon General stated, even if FDA fully exercises all of its existing authority over e-cigarettes, “State, local, tribal and territorial governments should implement population-level strategies to reduce e-cigarette use among youth and young adults,”⁷¹ including:

- Incorporating e-cigarettes and other electronic tobacco products in smoke-free and tobacco-free policies.
- Licensing retailers and restricting young peoples’ access to tobacco products, including e-cigarettes and other electronic tobacco products, in retail settings.
- Implementing price policies for tobacco products, including e-cigarettes and other electronic tobacco products.
- Reducing access to flavored tobacco products, including e-cigarettes and other electronic tobacco products.
- Curbing tobacco product advertising and marketing that is appealing to young people.
- Developing initiatives to educate people about the harms of e-cigarettes and other electronic tobacco products.^{72,73,74,75}

The most effective tobacco control policies have most often originated at the local level.^{76,77}

Summary

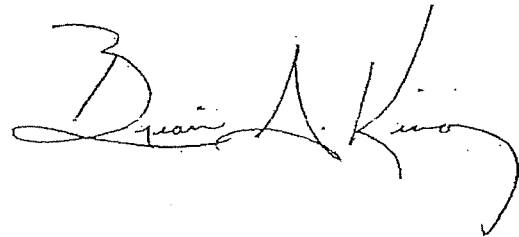
E-cigarettes have the potential to benefit adult smokers who are not pregnant if used as a complete substitute for regular cigarettes and other smoked tobacco products. While e-cigarettes have the potential to benefit some people and harm others, scientists still have a lot to learn about whether e-cigarettes are effective for quitting smoking. E-cigarettes are not safe for youth, young adults, pregnant women, or adults who do not currently use tobacco products.

Preventing youth and young adults from trying their first tobacco products, and reducing the number of youth and young adults that transition to become regular, daily tobacco product users into adulthood, are two key components to ending the tobacco epidemic. Youth and young adults are especially vulnerable to nicotine addiction, and the heavy marketing and use of flavorings used to sell tobacco products, including e-cigarettes.^{78,79}

The diversification of the tobacco product landscape – specifically the increase in e-cigarette use – is important to consider in the development of public health interventions to protect the public from known health risks. Scientific evidence on the health effects of e-cigarettes continues to emerge. However, there is sufficient scientific evidence to support the implementation of population-based policies to protect the public, especially young people, from risks associated with these products.

Thank you for your attention to this important public health issue.

Sincerely,

A handwritten signature in black ink, appearing to read "Brian A. King". The signature is fluid and cursive, with a large initial "B" and a long, sweeping tail on the "K".

Brian A. King, PhD, MPH
Deputy Director for Research Translation
Office on Smoking and Health
U.S. Centers for Disease Control and Prevention

¹ U.S. Department of Health and Human Services. E-cigarette Use Among Youth and Young Adults. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

² U.S. Department of Health and Human Services. Surgeon General's Advisory on E-cigarette Use Among Youth. December 2018. Available at: <https://e-cigarettes.surgeongeneral.gov/documents/surgeon-generals-advisory-on-e-cigarette-use-among-youth-2018.pdf>.

³ U.S. Department of Health and Human Services. Surgeon General's Advisory on E-cigarette Use Among Youth. December 2018. Available at: <https://e-cigarettes.surgeongeneral.gov/documents/surgeon-generals-advisory-on-e-cigarette-use-among-youth-2018.pdf>.

⁴ U.S. Food & Drug Administration. FDA permits sale of IQOS Tobacco Heating System through premarket tobacco product application pathway. April 20, 2019. Available at: <https://www.fda.gov/news-events/press-announcements/fda-permits-sale-iqos-tobacco-heating-system-through-premarket-tobacco-product-application-pathway>.

⁵ U.S. Department of Health and Human Services. *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014.

⁶ U.S. Department of Health and Human Services. E-cigarette Use Among Youth and Young Adults. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

⁷ U.S. Department of Health and Human Services. E-cigarette Use Among Youth and Young Adults. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

⁸ U.S. Department of Health and Human Services. E-cigarette Use Among Youth and Young Adults. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

⁹ U.S. Department of Health and Human Services. E-cigarette Use Among Youth and Young Adults. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

¹⁰ U.S. Department of Health and Human Services. E-cigarette Use Among Youth and Young Adults. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

¹¹ U.S. Department of Health and Human Services. *E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

¹² Centers for Disease Control and Prevention. "Electronic Cigarettes." Available from https://www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm. Accessed on May 10, 2019.

¹³ U.S. Department of Health and Human Services. *E-Cigarette Use Among Youth and Young Adults: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

¹⁴ Rubenstein ML, Delucchi K, Benowitz NL, Ramo DE. Adolescent Exposure to Toxic Volatile Organic Chemicals from E-Cigarettes. *Pediatrics*. 2018;141(4):e20173557. <https://doi.org/10.1542/peds.2017-3557>.

¹⁵ U.S. Department of Health and Human Services. *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.

¹⁶ U.S. Department of Health and Human Services. *E-cigarette Use among Youth and Young Adults: A Report of the Surgeon General*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

¹⁷ U.S. Department of Health and Human Services. *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014.

¹⁸ England LJ, Bunnell RE, Pechacek TF, Tong VT, McAfee TA. Nicotine and the developing human: A neglected element in the electronic cigarette debate. *American Journal of Preventive Medicine* 2015. <http://dx.doi.org/10.1016/j.amepre.2015.01.015>.

¹⁹ Thompson BI, Levitt P, Stanwood GD. Prenatal exposure to drugs: effects on brain development and implications for policy and education. *National Review of Neuroscience* 2009; 10(4):303–312. <http://dx.doi.org/10.1038/nm2598>.

²⁰ England LJ, Bunnell RE, Pechacek TF, Tong VT, McAfee TA. Nicotine and the developing human: A neglected element in the electronic cigarette debate. *American Journal of Preventive Medicine* 2015.

<http://dx.doi.org/10.1016/j.amepre.2015.01.015>.

²¹ Thompson BI, Levitt P, Stanwood GD. Prenatal exposure to drugs: effects on brain development and implications for policy and education. *National Review of Neuroscience* 2009; 10(4):303–312. <http://dx.doi.org/10.1038/nrn2598>.

²² Poorthuis RB, Goriounova NA, Couey JJ, Mansvelter HD. Nicotinic actions on neuronal networks for cognition: general principles and long-term consequences. *Biochemical Pharmacology* 2009;78(7):668–676. <http://dx.doi.org/10.1016/j.bcp.2009.04.031>.

²³ Jacobsen LK, Krystal JH, Menci WE, Westerveld M, Frost SJ, Pugh KR. Effects of smoking and smoking abstinence on cognition in adolescent tobacco smokers. *Biological Psychiatry* 2005;57:56–66. <http://dx.doi.org/10.1016/j.biopsych.2004.10.022>.

²⁴ Musso F, Bettermann F, Vucurevic G, Stoeter P, Konrad A, Winterer G. Smoking impacts on prefrontal attentional network function in young adult brains. *Psychopharmacology (Berl)*. 2007;191:159–169. <http://dx.doi.org/10.1007/s00213-006-0499-8>.

²⁵ U.S. Department of Health and Human Services. E-cigarette Use Among Youth and Young Adults. A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.

²⁶ Klein LC. Effects of adolescent nicotine exposure on opioid consumption and neuroendocrine responses in adult male and female rats. *Exp Clin Psychopharmacol* 2001;9:251–61.

²⁷ U.S. Department of Health and Human Services. *The Health Consequences of Smoking—50 Years of Progress: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2014. Printed with corrections, January 2014.

²⁸ U.S. Department of Health and Human Services. *E-cigarette Use among Youth and Young Adults: A Report of the Surgeon General*. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health; 2016.

²⁹ National Academies of Sciences, Engineering, and Medicine. 2018. Public Health Consequences of E-Cigarettes. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24952>.

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Carroll, John (BOS)

From: Gee, Natalie (BOS)
Sent: Friday, June 07, 2019 9:33 AM
To: Carroll, John (BOS)
Subject: FW: AHA Supports Supervisor Walton's Policy
Attachments: AHA Support Letter Walton Policy June 6.pdf

Categories: 2019.06.07 - PSNS, 190312


Good morning John,

Can you please add this to File No. 190312?

Thank you!

Natalie Gee 朱凱勤, Chief of Staff
Office of District 10 **Supervisor Shamann Walton**
1 Dr. Carlton B. Goodlett Pl, San Francisco | Room 282
Direct: 415.554.7672 | **Office:** 415.554.7670
Sign up for Supervisor Walton's [monthly newsletter!](#)
Follow Supervisor Walton on [Facebook](#).

From: Blythe Young [mailto:Blythe.Young@heart.org]
Sent: Thursday, June 06, 2019 5:38 PM
To: Nick Day <nick@50p1.com>; Gee, Natalie (BOS) <natalie.gee@sfgov.org>
Subject: AHA Supports Supervisor Walton's Policy

 This message is from outside the City email system. Do not open links or attachments from untrusted sources.

Hi Nick and Natalie,

Wanted to make sure you had our official letter of support for the policy – this has been delivered all SF Supervisors.

Thanks!
Blythe



Blythe Young
Community Advocacy Director
American Heart Association
426 17th Street | Oakland | CA | 94612
O 510.903.4038 | M 707.834.4399



American
Heart
Association.

Bay Area Division

426 17th St, Ste. 300, Oakland, CA 94612
Phone (510) 903-4050 Fax (510) 903-4049

www.heart.org

June 6th, 2019

2018-2019

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The American Heart Association supports the proposal to prohibit the sale of non-FDA approved e-cigarette and vaping products/devices in the City of San Francisco. This proposed policy will reduce access to the products that are the tobacco industry's key strategy for targeting and addicting new nicotine users, particularly youth.

Cigarette smoking is the leading cause of preventable disease and death in the United States, claiming on average 480,000 lives each year. Evidence shows that smoking increases the risk for heart disease and stroke. It increases the risk for blood clots, decreases the ability to exercise, and decreases the good cholesterol in our bodies. In California, approximately 1 in 10 young adults (18-24 years old) currently use e-cigarettes and mounting evidence shows that young people who start with e-cigarettes are likely to become the addicted cigarette smokers of tomorrow. The best way to prevent tobacco-related illness and death is to prevent people from starting to smoke in the first place.

The tobacco industry is actively and aggressively working to addict new young people, particularly those from communities of color, and their tools are e-cigarette and vaping products like Juul. They know that products formulated with nicotine salts make the inhalation of nicotine seamlessly smooth and highly appealing to youth.

Ending the sale of non-FDA approved e-cigarette and vaping products will help protect our community from nicotine addiction and is crucial to preventing tobacco-related death, disease and nicotine poisoning. The American Heart Association respectfully asks for your support of this vital health policy. We ask that you put the health of your constituents above tobacco industry profits and help ensure that all San Francisco residents have the healthy and prosperous lives they deserve.

Sincerely,

Michelle A. Albert, MD MPH
Co-President, Board of Directors
Bay Area Division, American Heart Association

Carroll, John (BOS)


From: Carroll, John (BOS)
Sent: Friday, June 07, 2019 9:27 AM
To: Mandelman, Rafael (BOS); Stefani, Catherine (BOS); Walton, Shamann (BOS)
Cc: Mundy, Erin (BOS); Herzstein, Daniel (BOS); Gee, Natalie (BOS); Calvillo, Angela (angela.calvillo@sfgov.org); Somera, Alisa (BOS); Board of Supervisors, (BOS)
Subject: FW: Comment Letters BOS File No. 190312 - June 7 Special PSNS Meeting Agenda Item No. 6
Attachments: Public Comment - Item 6 - 6/7 Meeting; Public Comment Item 6 (6/7 Meeting)
Categories: 190312

Good morning, Chair Mandelman and members of the Public Safety and Neighborhood Services Committee.

I am forwarding the two attached comment letters from my inbox, related to agenda item no 6 on today's special meeting agenda. These letters were sent direct to me, and are now added to the file.

Best to you,

John Carroll
Assistant Clerk
Board of Supervisors
San Francisco City Hall, Room 244
San Francisco, CA 94102
(415) 554-4445

 Click [here](#) to complete a Board of Supervisors Customer Service Satisfaction form.

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Carroll, John (BOS)

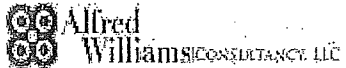
From: Board of Supervisors, (BOS)
Sent: Friday, June 07, 2019 9:07 AM
To: BOS-Supervisors; Carroll, John (BOS)
Subject: FW: E-Cigarette Legislation
Attachments: E-cig Ltr to Supes.pdf

Categories: 190311, 190312, 2019.06.07 - PSNS

From: Al Williams <al@awconsul.com>
Sent: Friday, June 7, 2019 8:37 AM
To: Board of Supervisors, (BOS) <board.of.supervisors@sfgov.org>
Cc: Carroll, John (BOS) <john.carroll@sfgov.org>; Renato Guerrero <lalagunasf@gmail.com>; dontayeball <dontayeball@gmail.com>; Marcus Tartt <mtartt@recenter.org>; Ellouise Patton <ellouise0959@gmail.com>; Marsha Maloof <marsha@pendergrasssmith.com>
Subject: E-Cigarette Legislation

This message is from outside the City email system. Do not open links or attachments from untrusted sources.

Please see attached letter from the Bayview Merchants Association.



P O Box 460549
San Francisco, CA 94146-0549
415-467-4675
www.awconsul.com



3801 Third Street, Suite 1068
San Francisco, CA 94124

June 7, 2019

1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689
Public Safety & Neighborhood Services Committee

Item 6, Leg. 190312 – Health Code Amendment

To the Board of Supervisors:

Bayview Merchants Association's (BMA) supports the proposed legislation to prohibit the sale by of tobacco retail establishments of electronic cigarettes that require, but have not received, an order from the Food and Drug Administration approving their marketing. However, BMA is greatly concerned about the adverse economic impact the current legislation and this amendment may have on small neighborhood businesses. BMA encourages the Board of Supervisors to take appropriate steps to limit the adverse economic impact of this legislation on small businesses throughout the City and to use revenue generated by the lease of City property to manufacturers of electronic cigarettes to mitigate those impacts.

Thank you for your consideration.

Sincerely,

Al Williams
BMA President

Cc: John Carroll, Clerk

Carroll, John (BOS)

From: Miriam Zouzounis <miriam.zouzounis@gmail.com>
Sent: Thursday, June 06, 2019 4:16 PM
To: Carroll, John (BOS)
Subject: Public Comment Item 6 (6/7 Meeting)
Attachments: ACCC Public Comment - Item 6.pdf

Categories: 2019.06.07 - PSNS, 190311, 190312

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Thank you!



Arab Cultural and Community Center

2 Plaza Street, San Francisco, CA 94116

1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

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Public Safety & Neighborhood Services Committee
Item 6, Leg. 190312

Honorable Supervisors,

The Arab Cultural and Community Center (ACCC) was established in 1973 in San Francisco. We serve 6,000 people a year with direct social service, youth and cultural programming. The Arab community is diverse in income, ethnicity and religion, but our programming has inevitably had to direct attention to those fleeing war since the 1990's. We are a diaspora that have found a home for generations in San Francisco and, where many have become established, we still have considerable demographics of low-income residents and vulnerable populations. The Middle Eastern, Arab, Muslim, and South Asian communities have been living in a real state of fear, especially in the current climate and with laws coming down from the Federal level. One of our member trade organizations is the Arab American Grocer Association (AAGA). This industry has been suffering as workers and operators face increased criminalization of the corner market industry with constant sting operations, predatory lawsuits, difficulty in understanding new laws, and increased enforcement from State and Local regulatory bodies. As exemplified in a recent Immigrant Rights Commission Hearing, many members of our Yemeni community, who also make up a large demographic of our store owners, are battling restrictions in sending money to family still in their country of origin. We ask you understand this context as it relates to the onslaught of legislation that targets and devalues this industry. We are writing as a Community Organization in San Francisco to express our concern and opposition to Ordinance 190312 unless there are substantial amendments and protections for our compliant brick and mortar businesses. We stand alongside the proposed health goals, but ask that the City does a better job of working with our communities in aligning needs, and meaningfully transition a low-income immigrant workforce that relies on this sector.


Thank you.

ACCC Board

Carroll, John (BOS)

From: Arab American Grocers Association (AAGA) <ArabGrocersAssn@gmail.com>
Sent: Tuesday, June 04, 2019 11:59 PM
To: Carroll, John (BOS)
Subject: Public Comment - Item 6 - 6/7 Meeting
Attachments: Item 6 - Arab American Grocers Association Public Comment.pdf

Categories: 190311, 190312, 2019.06.07 - PSNS

 This message is from outside the City email system. Do not open links or attachments from untrusted sources.

Hello,
Please see attached public comment for Item 6 on the upcoming friday agenda. Thank you!

Best,
AAGA Board



Arab American Grocers
Association (AAGA)

1 Dr. Carlton B. Goodlett Place
City Hall, Room 244
San Francisco, Ca. 94102-4689

Public Safety & Neighborhood Services Committee
Item 6, Leg. 190312

To the Board of Supervisors,

The Arab American Grocers Association represents over 400 businesses in San Francisco that have been consistent civic partners across generations while maintaining establishments that are vital to our communities and city culture. The factors facing this sector are many: workforce depletion via the gig economy, online retail, predatory lawsuits, construction, onerous fees, permits, and regulations and an environment of fear and confusion as a result of policies on the Federal level targeting a large demographic of those working in this sector, especially our newer immigrant communities fleeing war.

This is a highly regulated sector given the licenses we hold, and DPH, FDA and CDC data (as shown in the Small Business Commission Legislative Review - 190312) shows we are highly compliant. We experience non-stop sting operations from Federal, State and local entities, and SFPD is tasked to enforce things 3-4 times over. The data shows youth access to vapor products is not a point-of-sale retail issue, and we believe taking it out of the regulated market is a dangerous precedent that undoes our work as a City with over 25 laws regulating tobacco.

The Youth Risk Behavior Survey referenced in the legislation concludes 7.1% of high school students reported to currently use e-cigarettes, and 13.6% of those high school students reported that they usually bought from a store (although it was not specified whether 'store' was located in San Francisco", that would indicate that approximately less than 1% of all high school students have made an electronic cigarette purchase in a store. The remainder, access products through social networks and social media. Objectively, the mechanisms proposed in this legislation will not address the source, and instead only increase the prevalence of tobacco products on the black market – which we have seen qualitatively as merchants, has increased heavily since the Ban on Flavored Tobacco was passed last year.

We ask that you work with us on amendments and parallel legislation that would support mitigation and an adjustment assistance plan for affected business. Compromises proposed include keeping e-cigarette products in a lock-box, improved technology with age-checking technology, and a limit in the amount of product that can be purchased at a time. We have also asked that the City collect more data and devise a material plan to address our struggling corner store retail sector and our commercial corridors.

Thank you.

AAGA Board

Arab American Grocers Association (AAGA) - 200 Valencia St, San Francisco, CA 94103 -

ArabGrocersAssn@gmail.com
6656

Introduction Form

By a Member of the Board of Supervisors or Mayor

Time stamp
or meeting date
BOARD OF SUPERVISORS
SAN FRANCISCO

2019 MAR 19 PM 4:24

I hereby submit the following item for introduction (select only one):

- 1. For reference to Committee. (An Ordinance, Resolution, Motion or Charter Amendment).
- 2. Request for next printed agenda Without Reference to Committee.
- 3. Request for hearing on a subject matter at Committee.
- 4. Request for letter beginning : "Supervisor [] inquiries"
- 5. City Attorney Request.
- 6. Call File No. [] from Committee.
- 7. Budget Analyst request (attached written motion).
- 8. Substitute Legislation File No. []
- 9. Reactivate File No. []
- 10. Topic submitted for Mayoral Appearance before the BOS on []

ase check the appropriate boxes. The proposed legislation should be forwarded to the following:

- Small Business Commission
- Youth Commission
- Ethics Commission
- Planning Commission
- Building Inspection Commission

Note: For the Imperative Agenda (a resolution not on the printed agenda), use the Imperative Form.

Sponsor(s):

Walton

Subject:

Health Code-Restricting the Sale, Manufacture, and Distribution of Tobacco Products, Including Electronic Cigarettes

The text is listed:

Ordinance amending the Health Code to prohibit the sale by tobacco retain establishments of electronic cigarettes that require, but have not received, an order from the Food and Drug Administration (FDA) approving their marketing; and prohibiting the sale and distribution to any person in San Francisco of flavored tobacco products and electronic cigarettes that require, but have not received, an FDA order approving their marketing.

Signature of Sponsoring Supervisor: []

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