

NEIL ABERCROMBIE
GOVERNOR

SHAN TSUTSUI
LT. GOVERNOR



FREDERICK D. PABLO
DIRECTOR OF TAXATION

JOSHUA WISCH
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF TAXATION
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To: The Honorable David Y. Ige, Chair
and Members of the Senate Committee on Ways and Means

Date: Friday, February 20, 2014
Time: 9:00 a.m.
Place: Conference Room 211, State Capitol

From: Frederick D. Pablo, Director
Department of Taxation

Re: S.B. No. 2495, S.D. 1, Relating to Electronic Smoking Devices

The Department of Taxation (Department) appreciates the intent of S.B. 2495, S.D. 1 and provides the following comments for the Committee's consideration.

S.B. 2495, S.D. 1 applies to the Cigarette and Tobacco Tax to electronic smoking devices at an unspecified rate of the wholesale price of each device sold after October 1, 2014, and also raises the fees for tobacco licenses and retail tobacco permits from \$2.50 and \$20 per year to \$250 and \$50 per year, respectively. This measure also makes other amendments not directly related to taxation.

The Department defers to the Department of Health with respect to the effect taxing such devices would have on the State's health and wellness. The Department also defers to the Department of Health with respect to what amounts constitute suitable fees for the privilege of operating in the state as a tobacco retailer or wholesaler.

The Department provides the following technical considerations for the Committee's consideration. First, the Department notes that the definition of "electronic smoking device" in this measure includes "cartridges" and "other components of the device." Based on Section 1 of this bill, the intent appears to be to tax each individual device, cartridge, refill, etc., whether sold separately or sold in conjunction with devices themselves. If it is the Legislature's intent such components be taxed when sold separately, as opposed to merely when sold in conjunction with devices themselves, the Department recommends changing the term "electronic smoking device" to "electronic smoking product" and amending the definition as follows:

"Electronic smoking [~~device~~] product" means any electronic product that can be used to vaporize and deliver nicotine or other substances to the person inhaling from the device, including but not limited to an electronic cigarette, electronic cigar, electronic cigarillo, or electronic pipe, and also includes any cartridge or other component of [the] such device or related product, whether sold separately or sold in conjunction with the device.

Along with the change to the definition, the Department further recommends the following change to the proposed new Section 245-3(a)(14), Hawaii Revised Statutes:

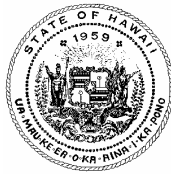
- (14) An excise tax equal to ____ per cent of the wholesale price of each [~~electronic smoking device kit, electronic smoking device nicotine cartridge, or electronic smoking device nicotine refill~~] electronic smoking product sold, used, or possessed by a wholesaler or dealer on or after [~~October 1, 2014~~] January 1, 2015, whether or not sold at wholesale, or if not sold then at the same rate upon the use by the wholesaler or dealer.

Second, the Department recommends the changes to Section 245-3(a)(12), HRS, be deleted as they would impose the tax retroactively on sellers of electronic smoking devices and products.

Lastly, as noted in the recommended change to Section 245-3(a)(14), HRS, above, the Department requests this bill be amended to apply the tax to sales occurring on and after January 1, 2015, to provide the Department sufficient time to make the necessary changes to the forms and instructions.

Thank you for the opportunity to provide comments.

NEIL ABERCROMBIE
GOVERNOR



BARBARA A. KRIEG
DIRECTOR

LEILA A. KAGAWA
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF HUMAN RESOURCES DEVELOPMENT
235 S. BERETANIA STREET
HONOLULU, HAWAII 96813-2437

February 19, 2014

**TESTIMONY TO THE
SENATE COMMITTEE ON WAYS AND MEANS**

For Hearing on Thursday, February 20, 2014
9:00 a.m., Conference Room 211

BY
BARBARA A. KRIEG
DIRECTOR

Senate Bill No. 2495, S.D. 1

RELATING TO ELECTRONIC SMOKING DEVICES

WRITTEN TESTIMONY ONLY

TO CHAIRPERSON IGE AND MEMBERS OF THE COMMITTEE:

The purpose of S.B. 2495, S.D. 1 is to amend the Hawaii Revised Statutes (HRS) to create a new chapter, "Electronic Smoking Devices", to regulate such devices. The measure's Section 6 further amends Chapter 328J, HRS, to prohibit the use of electronic smoking devices in places open to the public and places of employment, and clarifies that the sale, distribution, and display of electronic smoking devices is restricted in the same manner as cigarettes and other tobacco products.

The Department of Human Resources Development supports Section 6 of the bill, whereby electronic smoking devices would be subject to the same statutory requirements for cigarettes and the use of electronic smoking devices would be prohibited in all enclosed and partially enclosed places open to the public and places of employment. We believe the regulation of electronic smoking devices would enhance the health of employees, including our State employees.

Thank you for the opportunity to provide testimony on this measure.



American Cancer Society
Cancer Action Network
2370 Nu`uanu Avenue
Honolulu, Hawai`i 96817
808.432.9149
www.acscan.org

Senate Committee on Ways and Means
Senator David Ige, Chair
Senator Michelle Kidani, Vice Chair

Decision Making: February 20, 2014; 9:00 a.m.

SB 2495 SD1 – RELATING TO ELECTRONIC SMOKING DEVICES

Cory Chun, Government Relations Director – Hawaii Pacific
American Cancer Society Cancer Action Network

Thank you for the opportunity to provide supportive written comments on SB 2495 SD1, which requires persons engaged as wholesalers and dealers of electronic smoking devices and retailers of electronic smoking devices to obtain a tobacco sales license; increases fees for permits and licenses; implements an excise tax on electronic cigarettes; amends Hawaii's smoke-free laws to prohibit the use of electronic smoking devices in places open to the public and places of employment; and clarifies that the sale, distribution, or display of electronic smoking devices is restricted in the same manner as cigarettes and other tobacco products.

The American Cancer Society Cancer Action Network (ACS CAN) is the nation's leading cancer advocacy organization. ACS CAN works with federal, state, and local government bodies to support evidence-based policy and legislative solutions designed to eliminate cancer as a major health problem.

ACS CAN is supportive of licensing requirements for electronic smoking devices retailers, in order to create consistency with tobacco retailers. Licensing requirements provide a level of oversight over these unregulated devices.

ACS CAN is also supportive of prohibiting the use of electronic smoking devices in public places and workplaces. The use of e-cigarettes in public places normalizes the act of smoking and undermines Hawaii's successful efforts to create a smoke-free environment that models healthy behavior, especially for a new generation of young people. This simulation of smoking also makes enforcement of the current smoke-free workplace law difficult because of the similarities between the two.

Thank you for the opportunity to submit comments on this matter.



Executive Officers:
Stanley Brown, ConAgra Foods - Chairperson
John Schilf, RSM Hawaii - Vice Chair
Derek Kurisu, KTA Superstores - Treasurer
Lisa DeCoito, Aloha Petroleum - Secretary
Lauren Zirbel, Executive Director

1050 Bishop St. PMB 235
Honolulu, HI 96813
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TO:
SENATE COMMITTEES ON HEALTH and COMMERCE AND CONSUMER PROTECTION
Senator Josh Green and Senator Rosalyn Baker, Chairs
Senator Rosalyn Baker and Brian Taniguchi, Vice Chairs

FROM: HAWAII FOOD INDUSTRY ASSOCIATION
Lauren Zirbel, Executive Director

DATE: February 7, 2014
TIME: 9am
PLACE: Conference Room 229

RE: SB 2495

Position: Comments

The Hawaii Food Industry Association is comprised of two hundred member companies representing retailers, suppliers, producers and distributors of food and beverage related products in the State of Hawaii.

While we appreciate the amendments made in the Health and Consumer Protection Committees we do not support the increasing of licensing fees for and permit fees for persons engaged as a wholesaler or dealer of retailer of cigarettes or tobacco products, including electronic smoking devices. License fees are only to be used to run the licensing program and we don't see why those costs have increased.

Thank you for the opportunity to testify.

TAXBILLSERVICE

126 Queen Street, Suite 304

TAX FOUNDATION OF HAWAII

Honolulu, Hawaii 96813 Tel. 536-4587

SUBJECT: TOBACCO, Electronic smoking devices

BILL NUMBER: SB 2495, SD-1

INTRODUCED BY: Senate Committees on Health and Commerce and Consumer Protection

BRIEF SUMMARY: Amends HRS section 245-3 to provide that an electronic smoking device shall be subject to an excise tax of ___% of the wholesale price of each electronic smoking device kit, electronic smoking device nicotine cartridge, or electronic smoking device nicotine refill sold, used, or possessed by a wholesaler or dealer on or after October 1, 2014.

Amends HRS section 245-2 to increase the license fee for a wholesaler or dealer of cigarettes, tobacco or electronic smoking devices from \$2.50 to \$250 and increase the retail tobacco permit fee for retailers engaged in the retail sale of cigarettes, tobacco products and electronic smoking devices from \$20 to \$50.

Amends HRS section 245-1 to add a definition of “electronic smoking device” as any electronic product that can be used to vaporize and deliver nicotine or other substances to the person inhaling from the device, including but not limited to an electronic cigarette, electronic cigar, electronic cigarillo, or electronic pipe, and any cartridge or other component of the device or related product.

Makes other nontax amendments to provide that electronic smoking devices shall be subject to the anti-smoking laws and the laws regulating the sale, distribution, or display of such devices similarly to cigarettes and other tobacco products.

EFFECTIVE DATE: January 1, 2015

STAFF COMMENTS: While traditional cigarettes have been proven to be a health hazard, electronic smoking devices have appeared on the market in 2004. Even though such devices contain nicotine, they do not produce other hazardous substances associated with a traditional cigarette. Given the fact that there is no tobacco being consumed with these electronic smoking devices, it is questionable why this particular product should be placed under the tobacco tax. While it may be a substitute for a tobacco product, so are other products like nicotine gum. How should these latter products be taxed, if at all? As noted many times before, if the health department believes that products such as cigarettes, chewing tobacco, and other forms of tobacco consumption are bad for the community’s health, then those products should be banned altogether. Apparently, lawmakers do not want to give up the revenues they reap from the heavy taxes imposed on these products.

Digested 2/19/14

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: tgourley@tobaccofreehawaii.org
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Wednesday, February 19, 2014 8:36:25 AM
Attachments: [SB 2497 SD 1-- Tobacco Licensing & Permitting Fees WAM.pdf](#)

SB2495

Submitted on: 2/19/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Tiffany Gourley	Coalition for a Tobacco Free Hawaii	Support	Yes

Comments:

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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To: The Honorable David Y. Ige, Chair, Committee on Ways & Means
The Honorable Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

From: Tiffany L. Gourley, Policy & Advocacy Director

Date: February 11, 2014

Hrg: Senate Committee on Ways & Means; Thurs., February 13, 2014 at 9:30 a.m. in Rm 211

Re: **Support for SB 2497 SD 1, Relating to Tobacco Regulation**

Thank you for the opportunity to offer testimony in **support** of SB 2497, which increases the license fee for person engaged as a wholesaler or dealer of cigarettes or tobacco products, increases the retail tobacco permit fee for retailers engaged in the retail sale of cigarettes and other tobacco products, and specifies the revenue from the license and permit fees shall be used to support smoking cessation programs in the State.

The Coalition for a Tobacco Free Hawaii (Coalition) is a program of the Hawaii Public Health Institute working to reduce tobacco use through education, policy and advocacy. The Coalition consists of over 100 member organizations and 2,000 advocates that work to create a healthy Hawaii through comprehensive tobacco prevention and control efforts.

Of the states that charge a wholesale and dealer license fee, Hawaii has the lowest wholesaler and dealer license fee in the nation.

After state by state research on license fees for wholesalers, dealers, and distributors, the Coalition recommends the Legislature increase the wholesaler and dealer license fee to \$250.00. The current wholesaler and dealer license application fee is \$2.50.

Nationally, the amounts range from no fee to \$1,500.00 per year. Of the 38 states that have fees, Hawaii has the lowest fee. Most states (26 out of 38) charge \$100.00 per year or more. 14 states charge \$200.00 per year or more and nine states charge between \$500.00 per year and \$1,500.00 per year. Hawaii is the only state that charges a wholesaler less than a retailer. Comparatively, the City and County of Honolulu Liquor Commission charges \$2,640.00 annually for a Wholesale General Standard liquor license.

Of the states that charge a retailer permit fee, Hawaii currently has one of the lowest retailer permit fees in the nation.

After state by state research on permit fees for retailers, the Coalition recommends the Legislature increase the wholesaler and dealer license fee to \$50.00. The current permit application fee is \$20.00.

Nationally, the amounts range from no fee to \$1,000.00 per year. Of the 32 states that have fees, 15 states charge more than \$20.00 per year but less than \$100.00 per year, with about half of those states charging \$50.00 per year or more. The average amount charged is \$83.75 per year.



Comparatively, the City and County of Honolulu Liquor Commission charges \$1,200.00 annually for a Retail General Standard liquor license.

The Coalition supports using the revenues from the wholesaler and distributor license fees and retailer permit fees collected to support smoking cessation programs in the State.

Thank you for the opportunity to testify on this matter.



Tiffany L. Gourley, esq.
Policy and Advocacy Director



February 19, 2014

TO: The Honorable Josh Green, Chair
Members, Senate Committee on Health
The Honorable Rosalyn H. Baker, Chair
Members, Senate Committee on Commerce and Consumer Protection

RE: SB2495: Relating to Electronic Smoking Devices – **SUPPORT**

Date: Thursday, February 20, 2014

Place: Conference Room 211

FROM: Stormy Dodge and Blane Garcia, University of Hawaii Student Health Advisory Council

The University of Hawaii Student Health Advisory Council strongly supports the efforts of State of Hawai‘i Legislative session 2014, to pass SB2495 and include electronic smoking devices within the definition of “tobacco products” under chapter 245, Hawaii Revised Statutes.

The Student Health Advisory Council is a student advisory council that plays a pivotal role in the development and implementation of the health policies and programs that impact the UH System campuses. We remain deeply committed to the mission of improving the public health environment and reducing the use of tobacco products including electronic smoking devices among the adolescent and young adult population.

The adoption of SB2495 would prohibit the use of electronic smoking devices in a place of higher learning. Electronic smoking devices, just like other tobacco products, have no place in classrooms, libraries, study lounges, and lecture halls. These devices pose not only a public health concern, but are also a detrimental distraction to the learning environment. Therefore, the Student Health Advisory Council strongly urges the Legislature to pass SB2495.

Mahalo nui loa, for your efforts to create a healthier place for thousands of students, faculty and staff to learn and work.

Aloha on behalf of the Student Health Advisory Council,

Stormy Dodge and Blane Garcia, Chairs



From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: sean@blacklavavape.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Wednesday, February 19, 2014 10:16:06 AM

SB2495

Submitted on: 2/19/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Sean Anderson	Black Lava Vape	Oppose	No

Comments: Thanks for taking the time to hear my testimony. My name is Sean Anderson, I own Black Lava Vape, we sell only electronic vaporizers, in Kona on the Big Island. We dont sell tobacco product of any kind, nor do we sell pipes or rolling papers etc... I employ 7 employees, and will be opening up a second location in mid March in Honolulu. I plan on opening 3 more locations here on the big island by the end of the year. These taxes at, any rate, will discourage people using tobacco to try electronic vaporizers as an alternative to stop using tobacco. This will put us out of business if people that would have tried electronic vaporizers as an alternative decide its more cost effective or easier, to use tobacco. This will also affect my employees lively hood, as they will no longer have a job. I truly believe if you reached out to your constituents you would see overwhelmingly that they do not support these bills. These bills wont only affect people that use electronic vaporizers, but their family as well. Anything that helps someone to quit tobacco also affects those around them. I ask that you do not support any tax, and leave it up to the FDA to regulate these devises. Or at least wait until studies have proven one way or the other. Please dont jump the gun prematurely. Just to go on the record, electronic vaporizers, or "E-Cigs", contain absolutely no tobacco.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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Testimony in opposition to bill SB 2495

My name is Devin Wolery, Director at PC Gamerz, a local Internet Gaming center and Vape Lounge.

I will be going over many of the points in this bill, in my testimony.

This bill brings up that electronic smoking devices resemble tobacco products in appearance. This is true in some cases, BUT the majority of devices sold by local business do have the same look as regular cigarettes. They have their own appearance to them that is common among other Vapor users.

The similar appearance products like this one, yes resemble a tobacco product. Not many people use these in Hawaii. Or Have local company's that employee people to sell them.



These are probably the most common in Hawaii. They have the same shape, which is about it. They do not have a lighted up end. And do not come with a pack that looks like a pack of cigarettes.



These are the current hobbyist products that majority of the shops are carrying. These products also have the highest COST, and will be affected the most through heavy taxing. These products also, allow the consumer to get off of nicotine faster with more success rate, (based of personal opinion)



The hobbyist products can range in COST from \$40-\$1300 each. Just for 1 part. To then tax that by up to 85% would kill the hobby and Lifestyle of those users.

On the topic of public health, Instead of banning or creating laws without adequate proof. We all should wait for the FDA to come back with its findings on anything health related.

Majority of the products sold by local company's, already have warning labels on them. They STATE that the product should not be used by children. Here are some examples of E-liquid with warning labels.

- Dajuce Local E-liquid company



- VapeShack 808 Local company on Maui



On that note, Company's are already listing what is in the eliquid. And any warnings for them. They are not even required to do so, yet.

Requiring retailers and wholesalers to get a permit to sell them, Is not something that can currently be enforced. Without killing the industry completely.

Majority of the products are coming out of china, the Philippines, the USA, and other countries.

Where as standard tobacco products are more controller through FDA and Federal government regulations that control wholesalers and distribution means.

Because the hobbyist products can be made out of any machine shop, they are much more difficult to control and track.

Some of the paragraphs on the next page, will appear scattered. Because I am looking through what it is related to on the bill itself. Sorry if it is difficult to read.

Creating a tax for kits (average price \$70-150) nicotine cartridge (\$5-15) or nicotine refill (\$5-75) is not possible as a standard tax across everything.

This would cause people to get NON Nicotine eliquid that is not taxed under the current wording. And add their own nicotine that they can purchase online. (this is way more dangerous)
They would make their own eliquid (all 3 ingredients are easily accessible online, and locally)
Or if the tax was so high, they would go back to smoking regular cigarettes.

Amending Hawaii's anti smoking law, for something that has NOT been PROVEN to be harmful is jumping the gun on it.

Business's should be able to choose their own rules and regulations regarding the use of these products. As some current LOCAL business's use it for marketing purposes to find those customers, that have that lifestyle choice.

In my business over the last 6 years, I have had many customers that smoked regular cigarettes. And over the years have switched to an electronics alternative. They are allowed to VAPE in my store. And I have not seen any negative side affects similar to smoking normal tobacco.

- There is no second hand smoke
- There is no residue left on anything in the store or the walls
- There is no harmful odor from "Burning" or "Smoke"

The Majority of all other local shop owners, currently do not sell to minors. And most of them have signs up that state that. Along with checking ID.

Electronic smoking device should not be classified as a tobacco product, Because it is not always used with Nicotine.

It is also not creating smoke. It has no combustion. It is however heating up a coil to create a water vapor. Most users of electronic Vaping devices. Use it to lower the amount of nicotine they intake over time.

Sampling of eliquid would cause a big issue with majority of local shops. Most people do not want to buy something if they do not know the flavor. This sampling ban would cause issues with that. Most sample flavors are in 0mg nicotine as well.

In Conclusion, I feel that the electronic cigarette wording needs to be removed from the tobacco bills. And should be regulated on it's own. Their are just too many variables that would cause confusion, UN-manageable workload, and closure of local business's that employ hundreds if not thousands of local citizens.

The economy is already bad, and hard for local's to survive in Hawaii. And banning something that they chose to be a lifestyle choice would cause more issues than gain

Thank you for taking the time to read this.

I would like to ask, if it is possible to create a training day.

This would allow local vape shop owners, and eliquid manufacturers, to show you and the rest of the senate or house how the products are used, the current safety precautions that are in use, and the different terminology that is related to it.

From: [Barbara Nosaka](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 8:55:20 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

Thank you for the opportunity to submit testimony in support of SB 2495, SD1. I strongly support regulating electronic smoking devices (ESDs) by creating licensing and permitting processes and fees; prohibiting the use of ESDs in places open to the public and places of employment; and restricting the sale, distribution, or display of ESDs to be the same as cigarettes and other tobacco products.

I support including “electronic smoking devices” in the definition of “tobacco product” and “smoke or smoking” in the smoke-free workplace law, and to prohibit the use of electronic smoking devices in the places where smoking is prohibited. Including electronic smoking devices will reduce confusion within society, decrease distractions in the workplace, and protect the social norm.

I support treating ESDs similarly to other tobacco products through requiring a licensing process for wholesalers and a permitting process for retailers. ESDs should be taxed the same as other tobacco products and restricted to the same sale, distribution, and display requirements as cigarettes and other tobacco products.

Electronic smoking devices are currently unregulated and emit unregulated levels of chemicals into the air. Without regulations there is no evidence that the emissions are merely “harmless water vapor.” SB 2495, SD1 must be passed to provide protection for the public while science continues to emerge with more information about the emissions and chemicals released from the vapor. Failing to act may set us back decades.

Mahalo.

Barbara Nosaka
2216 Hoonanea Street
Honolulu, HI 96822

From: [Bryan Huynh](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 9:50:03 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

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Mahalo.

Bryan Huynh
1498 Komohana St. Hilo HI 96720
Hilo, HI 96720

From: [Chris Fukui](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 9:06:02 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

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Mahalo.

Chris Fukui
380 Halaki St.
Honolulu, HI 96821

From: [cody.stewart](#)
To: [Sen. David Ige](#); [Sen. Michelle Kidani](#); [Sen. Suzanne Chun Oakland](#); [Sen. Donovan Dela Cruz](#); [Sen. J. Kalani English](#); [Sen. Will Espero](#); [Sen. Gilbert Kahele](#); [Sen. Gilbert Keith-Agaran](#); [Sen. Ronald D. Kouchi](#); [Sen. Russell Ruderman](#); [Sen. Laura Thielen](#); [Sen. Jill Tokuda](#); [Sen. Sam Slom](#); [WAM Testimony](#)
Subject: SB 2495 and SB 2222
Date: Sunday, February 16, 2014 1:39:36 PM

I am not a citizen of hawaii, but every other summer I take a trip there as a summer getaway. This might change because of these bills. I am speaking with much respect, but I view this bill as completely asinine! I live in VA and I order all my electronic cigarette supplies online. If I wasn't able to do that, I would switch back to smoking due to the high prices of buying them locally. I switched to not only save money, but to also cut down the harm of smoking traditional cigarettes. I am pleading that you would oppose this bill and use logic, common sense, and see that there are scientific studies that confirm they are safe! I am reaching out to you all because I know you will listen to the community. I am an avid supporter for vaping and will fight for this right.

If you want to see for yourself, please go to [casaa.org](#). My life and others around have changed for the better because of the switch I made. I am now able to breathe, sleep, smell, etc. better. This is self evident!

Again, please go to [casaa.org](#) to read about these studies!

i. Taxing electronic cigarettes more than other general consumer products will work against the interests of public health by making e-cigarettes less accessible and affordable for adults seeking to reduce their health risks:

- o E-cigarettes are being used by adults as a low-risk alternative to smoking. This bill is really about increasing tax revenue from adult consumers, not protecting the children. Existing laws prohibiting sales to children should be enforced rather than erecting substantial roadblocks for adults seeking a healthier alternative to smoking.
- o While high cigarette taxes are justified by many as necessary to cover governmental healthcare expenditures caused by smoking and encourage smokers to quit smoking, trying to impose similar levels of tax on e-cigarettes, a reduced risk products, does not make sense.
- o E-cigarettes are estimated to pose approximately 1% of the risk of that from smoking. Given the low risk associated with e-cigarettes, there is no need to impose a punitive tax.
- o The low risks of e-cigarettes for adult consumers is supported by research done by Dr. Michael Siegel of Boston University, Dr. Thomas Eissenberg of Virginia Commonwealth, Dr Maciej L Goniewicz of the Roswell Park Cancer Institute, Dr. Murray Laugesen of Health New Zealand, Dr. Igor Burstyn of Drexel University, and by the fact that the 2009 FDA testing, in spite of its press statement, failed to find harmful levels of carcinogens or toxic levels of any chemical in e-cigarette vapor.
- o Smokers who switch to less hazardous e-cigarettes instead of continuing to smoke do so because e-cigarettes are less expensive than cigarettes. Increasing the cost of e-cigarettes with punitive taxes would discourage many smokers from switching to e-cigarettes. It could also encourage some e-cigarette consumers to go back to

cigarette smoking.

ii. Inclusion in Hawaii's anti-smoking statute is not necessary or appropriate:

- Smoking bans are enacted to protect the public from the harm of secondhand smoke, but e-cigarettes have not been shown to cause harm to bystanders. In fact, all evidence to date shows that the low health risks associated with e-cigarettes are comparable to other smokeless nicotine products.
- A comprehensive review conducted by Dr. Igor Burstyn of Drexel University School of Public Health based on over 9,000 observations of e-cigarette liquid and vapor found "no apparent concern" for bystanders exposed to e-cigarette vapor, even under "worst case" assumptions about exposure.
- Electronic cigarette use is easy to distinguish from actual smoking. Although some e-cigarettes resemble real cigarettes, many do not. It is easy to tell when someone lights a cigarette from the smell of smoke. E-cigarette vapor is practically odorless, and generally any detectable odor is not unpleasant and smells nothing like smoke. Additionally, e-cigarette users can decide whether to release any vapor ("discreet vaping"). With so little evidence of use, enforcing use bans on electronic cigarettes would be nearly impossible.
- The ability to use electronic cigarettes in public spaces will actually improve public health by inspiring other smokers to switch. Surveys of thousands of users indicate that the majority of those who switch completely replace tobacco cigarettes with the electronic cigarettes, reducing their health risks by an estimated 99%.
- By switching to a smokeless product, you have greatly reduced your health risks.

iii. Banning online sales within the state will: (a) act as a hardship for adult consumers in Hawaii; (b) favor products sold by the large tobacco companies, all of which have established points of distribution in physical locations throughout the state wherever combustible cigarettes are sold; and (c) favor online sellers from states other than Hawaii.

- Smokeless tobacco, like e-cigarettes, poses an estimated 1% of the risk of smoking.
- The way to reduce youth use of this low-risk product is to enforce existing laws rather than create unnecessary legislation which seeks to make a product less palatable to adults, especially those adults using smokeless tobacco as a low-risk alternative to smoking.

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: deannekhaugen@aol.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Wednesday, February 19, 2014 8:04:29 AM

SB2495

Submitted on: 2/19/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Deanne Haugen	Individual	Comments Only	No

Comments: I am not a person who smokes nor am a person who uses the ecigg however I do have very close friends and family memebbers who do smoke and use the ecigg. I have found not reason to not allow the use of eciggs in public places or in open areas. There have been no proven evidence that the eciggs is harmful to anyone. These eciggs uses vapors which evaporate in the air and if it causes medical problems with the ecigg user then that is their understanding that it may cause some harmful situations but that is their choice and their bodies they are harming and not everyone else's. I say they should be able to do what they please. This is a free country but with all these laws telling people what they can or can not do is making it feel less and less like it is a free country because are not able to choose for ourselves what we want to do. We are actually being told where we can use these eciggs, where we can smoke it, pretty soon you will tell us when to smoke it. If a person has to smoke the ecigg in the same places as regular tobacco smokers, this may cause them to relapes and go back to smoking regular tobacco cigarettes which to me are more harmful to their bodies and to others around them. Sometimes the cravings are so strong that if a person smells tobacco smoke, they want to light up a cigarette, which can cause the addiction to come right back. Another thing is that this ecigg product allows the economy to make money. There are jobs here in Hawaii because of the stores and kiosks and the cost of these little bottles are not cheap. I know first hand because I usually purchase these items for family and friends and I know how costly it can be. Since the ecigg does not contain any tobacco products, nor does it produce smoke for others to inhale, I feel that the ecigg is not harmful to others. It may not be a bad idea to consider allowing people the freedom to vap when and where they want, until such a time when proven and medical documentation can be provided to show that this indeed has medical risks and libilities to others.

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From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: dkgabrick@icloud.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Tuesday, February 18, 2014 4:51:47 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
diane gabrick	Individual	Oppose	No

Comments: Let the people decide to smoke or not, quit taxing everything you can, start fixing our roads so the last longer than the next rain. Bring a lottery to help pay for our roads and school systems, pay the teachers what the should be paid. Keep the people in Hawaii to work, with better wages

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There is no evidence that electronic cigarette usage has harmed anyone. In the new study, the researchers compared the heart function of 20 daily smokers before and after smoking one tobacco cigarette to that of 22 e-cigarette users before and after using the device for seven minutes. The people studied were healthy and varied in age from 25 to 45.

Heart function got worse in the tobacco smokers, and their blood pressure and heart rate rose. People using e-cigarettes experienced only a slight elevation in blood pressure.

American Heart Association spokesman Russell Luepker, MD, of the University of Minnesota in Minneapolis, says that because they "light up," electronic cigarettes may be preferred over other smoking cessation aids by some people trying to quit.

It's not surprising they are less harmful than the real thing, he says. "The e-cigarette has the advantage of not having the thousands of other chemicals, besides nicotine, that a real cigarette has," he says.

"I don't think it's conclusive but there's no doubt if you expose someone to fewer bioactive chemical compounds there is going to be less effect on the heart," Luepker says.

This bill falsely defines vapor products as "electronic smoking devices" and deceptively refines "smoking" to include ecigs in an attempt to restrict their usage in the same places as tobacco cigarettes.

Enacting unwarranted and unenforceable regulations carries the risk of unintended consequences like sending former smokers back to combustible tobacco products.

Requiring face to face sales for vapor product sales is a legislative overreach.

There would be an immediate loss of jobs in Hawaii as the online portion of our business would be relocated to the mainland US.

SB2495 puts ecigs in the framework of tobacco cigarettes for a product that contains no tobacco, produces no smoke, and has been found to have a modified risk profile in comparison to tobacco products.

In my opinion the only reason that this body is trying to regulate the e-cigarette industry is money, you all have lost a lot of tax revenue from people who have quit smoking cigarette's and are now vaping. I don't believe for a minute that you all are concerned with the health and welfare of your constituents, it's all about the money.....

Respectfully

Donald W Patton

From: [Erin Nielsen](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 9:10:12 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

Thank you for the opportunity to submit testimony in support of SB 2495, SD1. I strongly support regulating electronic smoking devices (ESDs) by creating licensing and permitting processes and fees; prohibiting the use of ESDs in places open to the public and places of employment; and restricting the sale, distribution, or display of ESDs to be the same as cigarettes and other tobacco products.

I support including “electronic smoking devices” in the definition of “tobacco product” and “smoke or smoking” in the smoke-free workplace law, and to prohibit the use of electronic smoking devices in the places where smoking is prohibited. Including electronic smoking devices will reduce confusion within society, decrease distractions in the workplace, and protect the social norm.

I support treating ESDs similarly to other tobacco products through requiring a licensing process for wholesalers and a permitting process for retailers. ESDs should be taxed the same as other tobacco products and restricted to the same sale, distribution, and display requirements as cigarettes and other tobacco products.

Electronic smoking devices are currently unregulated and emit unregulated levels of chemicals into the air. Without regulations there is no evidence that the emissions are merely “harmless water vapor.” SB 2495, SD1 must be passed to provide protection for the public while science continues to emerge with more information about the emissions and chemicals released from the vapor. Failing to act may set us back decades.

Mahalo.

Erin Nielsen
1649 Kanalui St.
Honolulu, HI 96816

From: [Forrest Batz](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:42:11 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

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Mahalo.

Forrest Batz
34 Rainbow Drive
Keaau, HI 96749

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: pigletinhell@outlook.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Tuesday, February 18, 2014 10:37:01 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Gary Holmes	Individual	Oppose	No

Comments: I am a former smoker who has used electronic cigarettes to help me quit. To make electronic cigarettes the same as tobacco is counter-productive to making people quit. Also, to concentrate efforts and resources on this bill is a waste of tax payer's money. You people should concentrate efforts on the economy, health care and infrastructure. No wonder we are in the condition that we are when you people are wasting time on things that do not matter. Thank you Gary Holmes

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From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: longtooth67@yahoo.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Wednesday, February 19, 2014 3:01:40 AM

SB2495

Submitted on: 2/19/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Jacquilynn Wright	Individual	Oppose	No

Comments: I strongly oppose this bill. I have 3 people in my family that quit smoking with these devices, including my Vietnam veteran father that I never thought would quit smoking. I am not a smoker, nor have I ever been, so the smoke in the house always irritated my eyes and throat. I only noticed after there was no more smoke, how much better my breathing was. The vapor that these devices emit is a far cry from cigarette smoke. Without being able to test them and try different flavors, my father never would have went for it. Now he doesn't even like going to a tobacco store at all. I am proud to say that because of these devices helping my father quit, i will get to enjoy a few more years with him than I could have if he kept smoking. I urge you, ladies and gentlemen, to withhold judgement until you have all the facts and at this time it seems as if you are rushing things along without regard to science or public health. I would love to be able to give my testimony in person so you can judge my passion and sincerity. Unfortunately living on the outer islands leaves us isolated from the goings on in Honolulu as we cannot afford to fly over and give you the in person testimony some of the large non profits that support such measures can. We have given you our votes to act as OUR representatives in these matters. I hope you give the little person as much weight as you do these national non profits that employ people to write letters and show up at hearings, but have no real interest in Hawaii or her people. Thank you for your time. J. Wright R.N.

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From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: jason.s.hamrick@gmail.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Tuesday, February 18, 2014 6:36:47 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
jason Hamrick	Individual	Oppose	No

Comments: I was a smoker for almost 20 years and I have tried multiple times to quit smoking. I was unsuccessful until I used the LAVA tube E cig. I have been smoke free for 3 months now. I feel healthier and do not miss smoking at all. I believe legislature for these will remove a cost effective means for people to quit smoking and improve their health. I believe this will produce increased health care costs as people who currently use E cigs shift back to smoking tobacco products. There is no tobacco in the e cig products and therefore should not be taxed and treated as such.

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From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: jmartin6274@gmail.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Wednesday, February 19, 2014 6:45:44 AM

SB2495

Submitted on: 2/19/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
jason martin	Individual	Comments Only	No

Comments: I'm against this bill. This is the kind of bills that puts a burden on the people in Hawaii. Why does the state has to always find a reason to put taxes on something. We already paying high taxes in Hawaii, our utilities such as electric is like making a car payment, sewage more than the water we use, now ecigs. People comments me on it's better than cigarettes and say it evens smell good. Now the state wants taxes. I'm sure there will be a reason about minors wanting to buy ecigs, but minors finding a way to buy alcohol is not an issue at the moment. It's about getting taxes on ecigs for now, it's about a product that the state of Hawaii can get some tax revenue. This kind of stuff has to stop already. I'm okay with making it over 18 yrs of age to purchase, but to tax it like its tobacco is insane. It's not tobacco, and if it's because it has nicotine content in it, nicotine can be found in tomatoes, eggplant etc. this kind of bill needs to stop.

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From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: mendezj@hawaii.edu
Subject: *Submitted testimony for SB2495 on Feb 20, 2014 09:00AM*
Date: Tuesday, February 18, 2014 10:54:50 AM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Javier Mendez-Alvarez	Individual	Support	No

Comments:

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From: [Jay Jurick](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:26:40 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

Thank you for the opportunity to submit testimony in support of SB 2495, SD1. I strongly support regulating electronic smoking devices (ESDs) by creating licensing and permitting processes and fees; prohibiting the use of ESDs in places open to the public and places of employment; and restricting the sale, distribution, or display of ESDs to be the same as cigarettes and other tobacco products.

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Electronic smoking devices are currently unregulated and emit unregulated levels of chemicals into the air. Without regulations there is no evidence that the emissions are merely “harmless water vapor.” SB 2495, SD1 must be passed to provide protection for the public while science continues to emerge with more information about the emissions and chemicals released from the vapor. Failing to act may set us back decades.

Mahalo.

Jay Jurick
5085 Likini Street
B307
Honolulu, HI 96818

From: [Jayson O'Donnell](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:20:42 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

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Mahalo.

Jayson O'Donnell
3311 Campbell Ave
Honolulu, HI 96815

From: [Jermy Domingo](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:42:05 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

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Mahalo.

Jermy Domingo
894 Queen St.
Honolulu, HI 96706

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: jchangworld@gmail.com
Subject: *Submitted testimony for SB2495 on Feb 20, 2014 09:00AM*
Date: Tuesday, February 18, 2014 2:20:53 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Jessica Chang	Individual	Oppose	No

Comments:

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From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: jbickel15@yahoo.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Tuesday, February 18, 2014 7:44:41 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
John Bickel	Individual	Support	No

Comments: As a teacher, I think that a good message would be sent to our young people by putting restrictions on these devices. Inhaling particles into your lungs is not healthy in any form. So I support this bill.

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From: [Joseph Keawe'aimoku Kaholokula](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:21:48 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

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Mahalo.

Joseph Keawe'aimoku Kaholokula
2316 Kanealii Ave.
Honolulu, HI 96813

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: joycemfahey@gmail.com
Subject: *Submitted testimony for SB2495 on Feb 20, 2014 09:00AM*
Date: Tuesday, February 18, 2014 6:11:22 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Joyce Fahey	Individual	Oppose	No

Comments:

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Dear Senators,

The bill coming up for decision on Feb 20, 2014 known as SB2495 should not be passed. I find this bill to be a huge overreach of this legislative body's power. To redefine tobacco products to include products that have absolutely no tobacco in them merely highlights the real reasons behind this bill. This bill is not intended to keep people safe, it is intended to over regulate and control the actions of adult citizens of this state.

As stated in section 1 of the proposed bill:

"The legislature further finds that, due to the relative lack of research data on electronic smoking devices, many public health organizations and policymakers are concerned about the safety and impact of these products on public health."

Since when should something be regulated based on a lack of evidence for adverse effects?

Since when should prohibitive regulations that would push the price of products so much so quickly be enacted based on a lack of research?

To pass this law is to tell the people of Hawaii that you are more interested in feel good legislation that unfairly targets those citizens who engage in the use of products that you do not like, rather than what is fair and equitable for all people in this state. I implore you to see reason, and to oppose the enactment of this ridiculous registration that seeks to regulate a product merely because of pressure from special interest groups that seek to impose their choices to not use e-cigarettes on all of us.

Sincerely, a proud user of e-cigarettes

Kalen Fukui

From: [Karli Smallwood](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:31:46 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

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Mahalo.

Karli Smallwood
227 Mahalani Street, Suite 99
Wailuku, HI 96793

From: [Katherine Freer Moyer](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 9:28:48 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

Thank you for the opportunity to submit testimony in support of SB 2495, SD1. I strongly support regulating electronic smoking devices (ESDs) by creating licensing and permitting processes and fees; prohibiting the use of ESDs in places open to the public and places of employment; and restricting the sale, distribution, or display of ESDs to be the same as cigarettes and other tobacco products.

I support including “electronic smoking devices” in the definition of “tobacco product” and “smoke or smoking” in the smoke-free workplace law, and to prohibit the use of electronic smoking devices in the places where smoking is prohibited. Including electronic smoking devices will reduce confusion within society, decrease distractions in the workplace, and protect the social norm.

I support treating ESDs similarly to other tobacco products through requiring a licensing process for wholesalers and a permitting process for retailers. ESDs should be taxed the same as other tobacco products and restricted to the same sale, distribution, and display requirements as cigarettes and other tobacco products.

Electronic smoking devices are currently unregulated and emit unregulated levels of chemicals into the air. Without regulations there is no evidence that the emissions are merely “harmless water vapor.” SB 2495, SD1 must be passed to provide protection for the public while science continues to emerge with more information about the emissions and chemicals released from the vapor. Failing to act may set us back decades.

Mahalo.

Katherine Freer Moyer

Honolulu, HI 96822

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: lance.watanabe@gmail.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Tuesday, February 18, 2014 1:41:34 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Lance Watanabe	Individual	Oppose	No

Comments: To whom it may concern, I am submitting this document in direct opposition of Senate Bills 2212, 2222, 2495, 2572, and 2871. Additionally, I would like to note that I also am in opposition of House Bills 1788, 1791, 2079, and 2321. I believe in the spirit of the law. I also truly believe that our government works to preserve the freedoms of each individual while addressing the needs of the community as a whole. I am hoping that my individual testimony is significant enough to be heard and considered. I am a former smoker. I am currently a "vaper". To be exact, I had been smoking for over twenty years before discovering vaping and I believe, amongst other factors, that its value is too great for its distribution, and use, to be so restricted by our lawmakers in an uneducated, knee-jerk reaction as those presented in the proposed House and Senate bills. I, like many others, stopped smoking cigarettes with the help of an e-cigarette. I very much enjoyed smoking but I wanted to quit because of the negative effects it had on my health (respiratory ailments, continuously high blood pressure, and risk posed by proven carcinogens). I have tried all manner of smoking cessation products, and plans, with little success including nicotine replacement, pharmaceuticals (Zyban and Chantix), alternative/homeopathic (acupuncture), and personal coaching. None have had anywhere near the success as the e-cigarette. In fact, I had to stop using both my Zyban and my Chantix prescriptions as the side-effects were not only inconvenient, they were downright dangerous and directly endangered my health. I do not think it is wise to ban, or highly restrict, the availability of such effective tool to smoking cessation. In fact, vaping is so different from smoking in its chemical composition, and observed effects, that it should not be grouped, nor regulated, in the same category as traditional tobacco products. Do not restrict its distribution to those similar to current tobacco products. Doing so will eliminate one of the biggest advantages vaping has in transitioning off of a smoking habit. A wide variety of pleasant-tasting flavors is one of the greatest benefits a vaper has to substitute for the satisfaction of smoking a cigarette and that ability to get satisfaction, as well as the light, sweet vapor, is far less unpleasant than the dense, lingering smell that a cigarette will leave behind. I, personally, do not advocate the use of e-cigarette as a "healthy alternative" to smoking. However, I have done enough research to know that e-cigarette use is far less unhealthy than smoking. The benefits of e-cigarette use as a "harm reduction" method are significant. Generally, all of the components of e-

liquid have been deemed “safe for use” by the FDA. Propylene glycol, vegetable glycerin, and food flavorings have been in use for decades and are contained in many of the products consumed by Americans on a daily basis – propylene glycol, in particular, is toxic only in very large, and very concentrated, quantities of which levels are not commonly found while vaping. In fact, one would be very hard-pressed to intentionally abuse vaping to generate an environment where this level of toxicity could be reached. Nicotine, like caffeine, has demonstrable health benefits when used moderately as well as health detriments when used in large quantities yet there are no caffeine regulations in place in any city, or state, in the United States today. Additionally, any additional compounds produced while vaping generally do not exceed, nor compromise, current air quality standards (such as EPA regulations). The exhaust of an average low-emission automobile contains far more harmful compounds than those contained in the vapor of an e-cigarette in heavy use. While the long-term use of the components in e-liquid are not known it is impossible to overlook the quantifiable benefits that vaping can provide – especially when there is no documented proof of its harm in the trace amounts that they appear in e-cigarette vapor. In fact, there is much in the way of recent scientific studies that prove just the opposite.. Speaking of regulation, I completely agree that e-cigarette manufacturing, distribution, and use requires some degree of regulation. **HOWEVER, I DO NOT BELIEVE THAT IT IS A GOVERNMENT'S RIGHT, NOR RESPONSIBILITY, TO DICTATE MY FREEDOMS, CHOICES, AND ACTIVITIES, UNLESS THOSE ACTIVITIES INFRINGE ON THE FREEDOM OF OTHERS.** I believe that e-cigarette use needs to be regulated, and even prohibited, in most public indoor environments - but there should be exceptions to this rule and not be all encompassing. Passing a blanket rule (that will more than likely never be retracted) with little information is irresponsible. An electronic cigarette is not a cigarette and should not be classified, nor treated, as one. I believe that there should be some sort of regulation and controls placed on the e-liquid that is being used. However, the State of Hawaii does not have the resources, or even the inclination, to pursue this. Leave it up to the FDA. You can require manufacturers to post calories, ingredients, and warnings and you will realize that there are more chemicals in a can of soda or your favorite cereal than in e-liquid. There should be regulation of the distribution e-liquid that contains nicotine. Make sure that they can only be sold to adults over the age of 18 - because humans obviously don't gain their freedoms or attain their potential for distinct cognitive function until we reach the chronological age of 18 years. An electronic cigarette is not a cigarette and should not be classified, nor treated, as one. I believe e-cigarette devices and related paraphernalia should not be prohibited to anyone nor taxed at a ridiculously high rate. An e-cigarette consists of a battery, a heating device (coil of wire), a way of getting the e-liquid to the heat (wick, tank, drip, etc), and an e-liquid. Every component mentioned, with the exception of the e-liquid, is readily available anywhere - we just like to buy them in pretty packaging. An electronic cigarette is not a cigarette and should not be classed, nor treated, as one. I believe that a tax on e-cigarettes may be warranted but the amount of tax that should be levied should be going into programs related to this class of recreational use and its administration. Putting an undetermined tax or even a tax that doubles the price of the product itself is irresponsible without doing for more research and measurement. Additionally, if a tax is to be levied to pay for its regulation and administration, all financial activity should be transparent, and of public record. An electronic cigarette

is not a cigarette and should not be classified, nor treated, as one. I believe that the aforementioned bills need to be withdrawn for rethought, reworking, and reintroduction. These bills infringe on MY freedom and does not seem to accomplish the good intent of what the spirit of the law really should be.

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From: [Lisa Maddock](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:20:37 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

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Mahalo.

Lisa Maddock
120 Kaeleloi Pl.
120 Kaeleloi Pl.
Honolulu, HI 96821

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: litajenkins@me.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Tuesday, February 18, 2014 9:50:29 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Lita Liu-Jenkins	Individual	Comments Only	No

Comments: - To date there is no evidence that electronic cigarette usage has harmed anyone. - This bill falsely defines vapor products as "electronic smoking devices" and deceptively refines "smoking" to include ecigs in an attempt to restrict their usage in the same places as tobacco cigarettes. - Enacting unwarranted and unenforceable regulations carries the risk of unintended consequences like sending former smokers back to combustible tobacco products. - Requiring face to face sales for vapor product sales is a legislative overreach. - There would be an immediate loss of jobs in Hawaii as the online portion of our business would be relocated to the mainland US. - SB2495 puts ecigs in the framework of tobacco cigarettes for a product that contains no tobacco, produces no smoke, and has been found to have a modified risk profile in comparison to tobacco products.

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From: [Maile Goo](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 9:54:46 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

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Mahalo.

Maile Goo
3683 Woodlawn Terrace Place
Honolulu, HI 96822

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: margoslice@hotmail.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Tuesday, February 18, 2014 4:42:27 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
margo hartford	Individual	Oppose	No

Comments: Please do not treat electronic cigarettes the same as tobacco cigarettes. They have changed my life in so many positive ways, if you impliment this bill, you will be treating users the same as tobacco users, which takes away from the very principle of electronic cigarette usage.

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Testimony of Professor Mark A. Levin *in strong support* for SB 2495 SD1

**RELATING TO ELECTRONIC SMOKING DEVICES
Senate Committee on Ways and Means
February 20, 2014**

Chair Ige, Vice-Chair Kidani, and members of the Committee on Ways and Means:

Aloha. In the 1950's, the tobacco industry fooled the world by marketing filtered cigarettes. These weren't safer, though millions of people died having been led to believe they were. Meanwhile tobacco smoke pollution brought down those around them as well.

In the 1970's, the industry scammed the public by marketing light and mild cigarettes. Once again, not safer but this too was a great boost to keep people addicted, and paying for it with wallets and lives. Secondhand death and disease continued too.

Finally, in the 1990's, lawmakers around the globe began stepping forward to right these wrongs. The work is incomplete, but in our state, our legislators, many of you among them, took important steps forward including our 2006 Smokefree Workplaces Law and with several significant tax increases.

Here we go again. New addictive vapor devices are pitched to be a route to safer use. Again these are simply a boost for the industry to keep people addicted *and even to hook new users among our youth*. But with Big Tobacco's deadly track record, in what right minds should we trust public health to the unregulated vapes of latest devices?

Though you are getting much local testimony, addictive vapors are surely Big Tobacco's 21st century hope. If these devices have therapeutic merit, let the sellers prove that to expert regulators in accordance with federal food and drug laws. But they haven't, won't, and can't. In the meanwhile then, let's be smart and safe -- setting all legal structures to be the same as for incendiary tobacco products. No sales or user incentives belong here; please pass SB 2495 SD1.

Mahalo.

Professor Mark A. Levin
The William S. Richardson School of Law
The University of Hawai'i at Mānoa
2515 Dole St., Honolulu, HI 96822
Tel: 1-808-956-3302

Affiliations are given for identification purposes only. Opinions presented here are personal views and not the official views of the University of Hawai'i or any other organization or entity.

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: matt@plumbmastersllc.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Wednesday, February 19, 2014 3:49:22 AM

SB2495

Submitted on: 2/19/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
matthew wood	Individual	Oppose	No

Comments: In your rush to tax and regulate ecigs, you are clearly over reaching in lumping this new product in the same pile as any tobacco product. They share only one thing and that is nicotine. It's like saying everything that has tires must be an automobile.. Or anything that lights up must be a light bulb. clearly anyone with half a brain and a little curiosity can understand ecigs have nothing to do with tobacco products. I am an ecig user, volcano brand to be exact, and instead of trying to destroy a booming business, you should embrace it as not only the way of the future, but as a wonderful product which has helped many folks drop the horrible smoking habit. I personally know at least 10 former smokers that have totally quit smoking for more than a year by using volcano brand ecig products. I would urge you all to learn a little bit about this product before making a really stupid decision that only shows how uninformed you are. While I realize this testimony may sound harsh, I believe very strongly in volcano brand Ecig products, truly they have saved my life and my wife's life.. We were both extremely heavy tobacco users until we found volcano brand.. Neither of us have touched a cigarette in well over a year now, and both of our Heath situations have improved tremendously.. No anti smoking product (and we had tried them all) ever helped us, but we had instant success with quality volcano ecigs. We are both almost nicotine free now, and will soon put the ecigs down as well. My point is, don't knee jerk and do something stupid... Learn a little about this product and ask some folks who actually know.. Emotional reaction based on nonsense is no way to legislate.

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From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: grumpyamaa@yahoo.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Wednesday, February 19, 2014 6:35:39 AM

SB2495

Submitted on: 2/19/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Michele kaeo	Individual	Oppose	No

Comments: I oppose the ban on electronic cigarettes. They can't be put in the same category as regular cigarettes because these contained none of the chemicals that an analog cigarette has. These produce water vapor and not an offensive odor like cigarettes. My daughter and I are allergic to analog cigarette smoke, they aggravate our allergies where the "Electronic Cigarette" has none of that smell or aggravation. Taxing these would make it hard for the customers that want off the cigarette to get these because it would require the companies to raise their prices. Electronic Cigarettes have helped a lot of people. My fiance is one of them. Was a 2 pack a day smoker and is now on this. It has helped him drastically.

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From: [Michelle Gray](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:41:24 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

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Mahalo.

Michelle Gray
430 Lanipua Street
Honolulu, HI 96825

From: [Michelle Kwock](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:25:32 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

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Mahalo.

Michelle Kwock
814 Kinau St.
Honolulu, HI 96813

From: [Nancy Parker](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:43:06 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

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Mahalo.

Nancy Parker
P.O. Box 881114
Pukalani, HI 96788

Chair Ige, Vice Chair Kidani, and Members of the Committee,

Please do not advance SB2495, relating to vaping (aka electronic cigarettes).

This bill could effectively destroy the vaping industry, which would be a public health disaster with short- and long-term negative economic consequences.

Vaping is not smoking. There is essentially no evidence of harm from vaping, both to the user and bystanders. This is a totally different thing from tobacco smoke and represents one of the greatest public health breakthroughs of our time. Classifying it as tobacco and trying to reduce its adoption is harmful to public health. The improvement in public health from smoking cessation would be a large benefit in the future; this benefit will be lost if the industry is devastated by this bill.

Businesses will be negatively affected. There is a large and increasing number of Hawaii businesses engaged in this industry. This includes retail shops, vapor lounges and manufacturers. Many of these businesses do not engage in any sale of tobacco products, so requiring them to become tobacco businesses is antithetical to the stated goals of this legislation.

Allowing vaping encourages business. This is a growing market with large demand. Nicotine is a legal substance and people are free to choose to use it. Vaping eliminates significant health consequences, so there is no moral or practical reason to regulate it, and allowing the industry to grow will have benefits to Hawaii's economy.

Visitors are watching. The current spate of anti-vaping legislation is considered outrageous by the vaping community, many public health advocates and medical professionals, and members of the general public who have seen friends or family quit smoking using vaping. Already, with the increasing public awareness of Hawaii's efforts to unjustly restrict vaping, people who would otherwise visit the state are looking to take their money elsewhere.

There are a lot of voters at stake. This can be a wedge issue. Passing legislation which restricts behavior with no apparent harm to justify it -- and with the appearance of influence by funding from drug companies, whose profitable smoking cessation drugs are threatened by the success of vaping -- will engender a great distrust of the motives of politicians in a large number of people. For many this is a life-or-death issue, for themselves or for loved ones, and this will not be forgotten at the ballot box.

Please consider the conclusions of the attached independent, peer-reviewed study:

(A)ny regulatory decisions should not compromise the variability of choices for consumers and should make sure that ECs are more easily accessible compared with their main competitor, the tobacco cigarette. Consumers deserve, and should make, informed decisions and research will definitely promote this. In particular, current data on safety evaluation and risk assessment of ECs is sufficient enough to avert restrictive regulatory measures as a consequence of an irrational application of the precautionary principle [Saitta et al. 2014].

ECs are a revolutionary product in tobacco harm reduction. Although they emit vapor, which resembles smoke, there is literally no fire (combustion) and no 'fire' (suspicion or evidence that they may be the cause for disease in a similar way to tobacco cigarettes). Due to their unique characteristics, **ECs represent a historical opportunity to save millions of lives and significantly reduce the burden of smoking-related diseases worldwide.**

The choice is literally between hurting people and helping them. The answer should be obvious. Thank you for your time.

P. Kuromoto, Honolulu, HI

Therapeutic Advances in Drug Safety

<http://taw.sagepub.com/>

Safety evaluation and risk assessment of electronic cigarettes as tobacco cigarette substitutes: a systematic review

Konstantinos E. Farsalinos and Riccardo Polosa

Therapeutic Advances in Drug Safety published online 13 February 2014

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The online version of this article can be found at:

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Safety evaluation and risk assessment of electronic cigarettes as tobacco cigarette substitutes: a systematic review

Konstantinos E. Farsalinos and Riccardo Polosa

Abstract: Electronic cigarettes are a recent development in tobacco harm reduction. They are marketed as less harmful alternatives to smoking. Awareness and use of these devices has grown exponentially in recent years, with millions of people currently using them. This systematic review appraises existing laboratory and clinical research on the potential risks from electronic cigarette use, compared with the well-established devastating effects of smoking tobacco cigarettes. Currently available evidence indicates that electronic cigarettes are by far a less harmful alternative to smoking and significant health benefits are expected in smokers who switch from tobacco to electronic cigarettes. Research will help make electronic cigarettes more effective as smoking substitutes and will better define and further reduce residual risks from use to as low as possible, by establishing appropriate quality control and standards.

Keywords: electronic cigarettes, e-liquid, e-vapor, harm reduction, nicotine, safety, tobacco

Introduction

Complete tobacco cessation is the best outcome for smokers. However, the powerful addictive properties of nicotine and the ritualistic behavior of smoking create a huge hurdle, even for those with a strong desire to quit. Until recently, smokers were left with just two alternatives: either quit or suffer the harmful consequences of continued smoking. This gloomy scenario has allowed the smoking pandemic to escalate, with nearly 6 million deaths annually and a predicted death toll of 1 billion within the 21st century [World Health Organization, 2013]. But a third choice, involving the use of alternative and much safer sources of nicotine with the goal to reduce smoking-related diseases is now available: tobacco harm reduction (THR) [Rodu and Godshall, 2006].

Electronic cigarettes (ECs) are the newest and most promising products for THR [Polosa *et al.* 2013b]. They are electrically-driven devices consisting of the battery part (usually a lithium battery), and an atomizer where liquid is stored and is aerosolized by applying energy and generating heat to a resistance encircling a wick. The liquid used mainly consists of propylene glycol, glycerol,

distilled water, flavorings (that may or may not be approved for food use) and nicotine. Consumers (commonly called ‘vapers’) may choose from several nicotine strengths, including non-nicotine liquids, and a countless list of flavors; this assortment is a characteristic feature that distinguishes ECs from any other THR products. Since their invention in 2003, there has been constant innovation and development of more efficient and appealing products. Currently, there are mainly three types of devices available [Dawkins, 2013], depicted in Figure 1. (1) First-generation devices, generally mimicking the size and look of regular cigarettes and consisting of small lithium batteries and cartomizers (i.e. cartridges, which are usually prefilled with a liquid that bathes the atomizer). Batteries may be disposable (to be used once only) or rechargeable. (2) Second-generation devices, consisting mainly of higher-capacity lithium batteries and atomizers with the ability to refill them with liquid (sold in separate bottles). In the most recent atomizers you can simply change the atomizer head (resistance and wick) while keeping the body of the atomizer, thus reducing the operating costs. (3) Third-generation devices (also called ‘Mods’, from modifications),

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Figure 1. Examples of electronic cigarette devices currently available on the market.

consisting of very large-capacity lithium batteries with integrated circuits that allow vapors to change the voltage or power (wattage) delivered to the atomizer. These devices can be combined with either second-generation atomizers or with rebuildable atomizers, where the consumers have the ability to prepare their own setup of resistance and wick.

Awareness and use (vaping) of ECs has increased exponentially in recent years. Data obtained from the HealthStyles survey showed that, in the US, awareness of ECs rose from 40.9–57.9% from 2010 to 2011, with EC use rising from 3.3–6.2% over the same time period [King *et al.* 2013]. In the United Kingdom, EC use in regular smokers increased from 2.7% in 2010 to 6.7% in 2012 [Dockrell *et al.* 2013]. Similar findings were obtained from the International Tobacco Control Four-Country Survey [Adkison *et al.* 2013]. A recent prospective study in Swiss army recruits showed that 12% of smokers who tried ECs progressed to daily use [Dauptcheva *et al.* 2013]. It must be noted that this increase in EC use has occurred despite the concerns raised by public health authorities about the safety and appropriateness of using these products as alternatives to smoking [National Association of Attorneys General, 2013; Food and Drug Administration, 2009; Mayers, 2009].

The popularity of ECs may be due to their ability to deal both with the physical (i.e. nicotine) and the behavioral component of smoking addiction. In particular, sensory stimulation [Rose and Levin, 1991] and simulation of smoking behavior and cigarette manipulation [Hajek *et al.* 1989] are important determinants of a product's effectiveness in reducing or completely substituting smoking. These features are generally absent in nicotine replacement therapies (NRTs) and oral

medications for nicotine dependence, whereas ECs are unique in that they provide rituals associated with smoking behavior (e.g. hand-to-mouth movement, visible 'smoke' exhaled) and sensory stimulation associated with it [Farsalinos *et al.* 2013b]. This explains why these products can be effective in reducing consumption of tobacco smoking [Bullen *et al.* 2013; Caponnetto *et al.* 2013b; Polosa *et al.* 2011] and are efficient as long-term substitutes of conventional cigarettes [Farsalinos *et al.* 2013b].

Methods

For this systematic review (Figure 2), we searched the PubMed electronic database by using keywords related to ECs and/or their combination (e-cigarette, electronic cigarette, electronic nicotine delivery systems). We obtained a total of 354 results, and selected 41 studies we judged relevant to research on EC safety/risk profile. Reference lists from these studies were also examined to identify relevant articles. We searched additional information in abstracts presented at scientific congresses (respiratory, cardiovascular, tobacco control, toxicology), and in reports of chemical analyses on EC samples that were available online. We also looked for selected studies on chemicals related to EC ingredients (e.g. nicotine, propylene glycol, glycerol, cinnamaldehyde, microparticles emission, etc.), but not specifically evaluated in EC research. In total, 97 publications were found, from which 15 chemical analyses of single or a limited number of EC samples were excluded because they were discussed in a review paper [Cahn and Siegel, 2011]. In total, 114 studies are cited in this paper.

Risk differences compared with conventional cigarettes and the issue of nicotine

Conventional cigarettes are the most common form of nicotine intake. Smoking-related diseases are pathophysiologically attributed to oxidative stress, activation of inflammatory pathways and the toxic effect of more than 4000 chemicals and carcinogens present in tobacco smoke [Environmental Protection Agency, 1992]. In addition, each puff contains $>1 \times 10^{15}$ free radicals [Pryor and Stone, 1993]. All of these chemicals are emitted mostly during the combustion process, which is absent in ECs. Although the addictive potential of nicotine and related compounds is largely documented [Guillem *et al.*

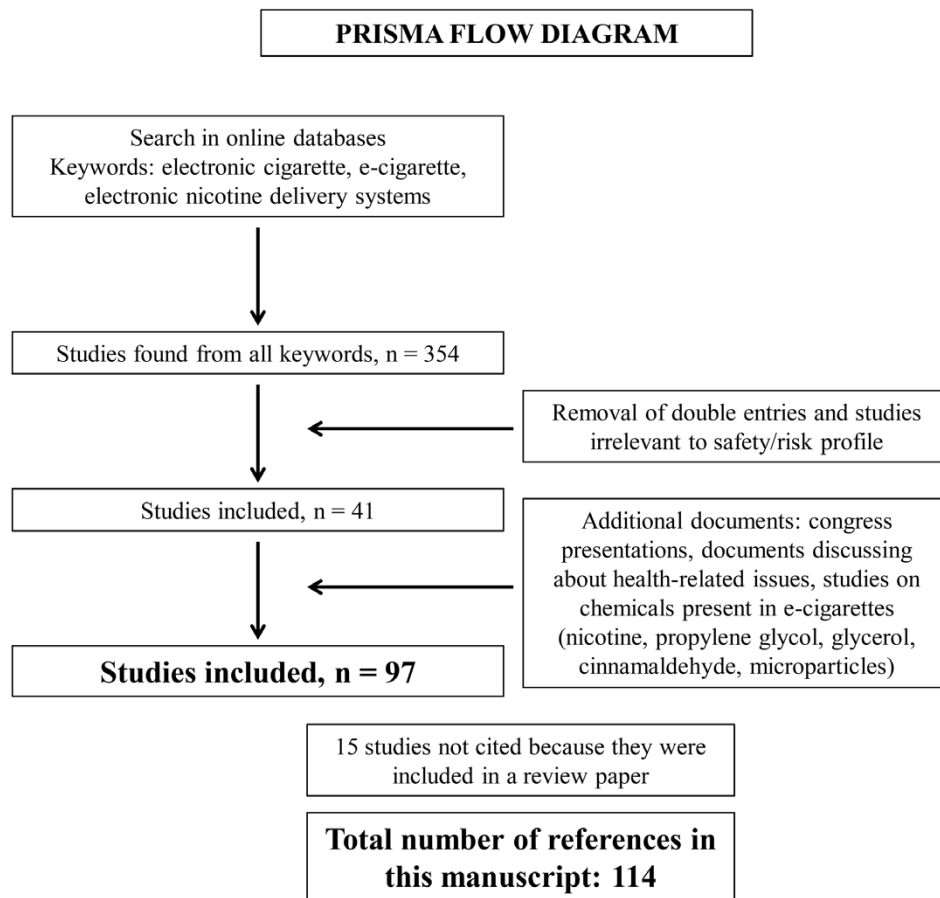


Figure 2. Methodology for literature research and selection of studies.

2005], much less dissemination has been given to the notion that nicotine does not contribute to smoking-related diseases. It is not classified as a carcinogen by the International Agency for Research on Cancer [WHO-IARC, 2004] and does not promote obstructive lung disease. A major misconception, commonly supported even by physicians, is that nicotine promotes cardiovascular disease. However, it has been established that nicotine itself has minimal effect in initiating and promoting atherosclerotic heart disease [Ambrose and Barua, 2004]. It does not promote platelet aggregation [Zevin *et al.* 1998], does not affect coronary circulation [Nitenberg and Antony, 1999] and does not adversely alter the lipid profile [Ludviksdottir *et al.* 1999]. An observational study of more than 33,000 smokers found no evidence of increased risk for myocardial infarction or acute stroke after NRT subscription, although follow up was only 56 days [Hubbard *et al.* 2005]. Up to 5 years of nicotine gum use in the Lung Health Study was unrelated

to cardiovascular diseases or other serious side effects [Murray *et al.* 1996]. A meta-analysis of 35 clinical trials found no evidence of cardiovascular or other life-threatening adverse effects caused by nicotine intake [Greenland *et al.* 1998]. Even in patients with established cardiovascular disease, nicotine use in the form of NRTs does not increase cardiovascular risk [Woolf *et al.* 2012; Benowitz and Gourlay, 1997]. It is anticipated that any product delivering nicotine without involving combustion, such as the EC, would confer a significantly lower risk compared with conventional cigarettes and to other nicotine containing combustible products.

The importance of using nicotine in the long-term was recognized several years ago by Russell, indicating that the potential of nicotine delivery systems as long-term alternatives to tobacco should be explored in order to make the elimination of tobacco a realistic future target [Russell, 1991]. However, current regulations restrict the

long-term use of pharmaceutical or recreational nicotine products (such as snus) [Le Houezec *et al.* 2011]. In other words, nicotine intake has been demonized, although evidence suggests that, besides being useful in smoking cessation, it may even have beneficial effects in a variety of disorders such as Parkinson's disease [Nielsen *et al.* 2013], depression [McClernon *et al.* 2006], dementia [Sahakian *et al.* 1989] and ulcerative colitis [Guslandi, 1999]. Obviously, the addictive potential is an important factor in any decision to endorse nicotine administration; however, it should be considered as slight 'collateral damage' with minimal impact to vapers' health compared with the tremendous benefit of eliminating all disease-related substances coming from tobacco smoking. In fact, smokers are already addicted to nicotine; therefore the use of a 'cleaner' form of nicotine delivery would not represent any additional risk of addiction. Surveys have shown that ECs are used as long-term substitutes to smoking [Dawkins *et al.* 2013; Etter and Bullen, 2012]. Although consumers try to reduce nicotine use with ECs, many are unable to completely stop its intake, indicating an important role for nicotine in the ECs' effectiveness as a smoking substitute [Farsalinos *et al.* 2013b].

Nicotine overdose or intoxication is unlikely to occur with vaping, since the amount consumed [Farsalinos *et al.* 2013c] and absorbed [Nides *et al.* 2014; Dawkins and Corcoran, 2013] is quite low. Moreover, although not yet proven, it is expected that vapers will self-titrate their nicotine intake in a similar way to tobacco cigarettes [Benowitz *et al.* 1998]. Last, but not least, there is evidence suggesting that nicotine cannot be delivered as fast and effectively from ECs compared to tobacco cigarettes [Farsalinos *et al.* 2014]. Therefore, it seems that ECs have a huge theoretical advantage in terms of health risks compared with conventional cigarettes due to the absence of toxic chemicals that are generated in vast quantities by combustion. Furthermore, nicotine delivery by ECs is unlikely to represent a significant safety issue, particularly when considering they are intended to replace tobacco cigarettes, the most efficient nicotine delivery product.

Studies on the safety/risk profile of ECs

Findings on the safety/risk profile of ECs have just started to accumulate. However, this research must be considered work in progress given that the safety/risk of any product reflects an evolving

body of knowledge and also because the product itself is undergoing constant development.

Existing studies about the safety/risk profile of ECs can be divided into chemical, toxicological and clinical studies (Table 1). Obviously, clinical studies are the most informative, but also the most demanding because of several methodological, logistical, ethical and financial challenges. In particular, exploring safety/risk profile in cohorts of well-characterized users in the long-term is required to address the potential of future disease development, but it would take hundreds of users to be followed for a substantial number of years before any conclusions are made. Therefore, most research is currently focused on *in vitro* effects, with clinical studies confined into evaluation of short-term use or pathophysiological mechanisms of smoking-related diseases.

Chemical studies

Chemical studies are relatively simple and cheap to perform and provide quick results. However, there are several disadvantages with this approach. Research is usually focused on the known specific chemicals (generally those known to be toxic from studies of cigarette smoke) and fails to address unknown, potentially toxic contaminants that could be detected in the liquid or the emitted aerosol. Problems may also arise from the detection of the chemicals in flavors. Such substances, although approved for use in the food industry, have largely unknown effects when heated and inhaled; thus, information on the presence of such substances is difficult to interpret in terms of *in vivo* effects. In fact, chemical studies do not provide any objective information about the effects of use; they can only be used to calculate the risk based on theoretical models and on already established safety levels determined by health authorities. An overview of the chemical studies performed on ECs is displayed in Table 2.

Laugesen performed the first studies evaluating the chemical composition of EC aerosols [Laugesen, 2008, 2009]. The temperature of the resistance of the tested EC was 54°C during activation, which is approximately 5–10% of the temperature of a burning tobacco cigarette. Toxic chemicals such as heavy metals, carcinogenic polycyclic aromatic hydrocarbons and phenols were not detected, with the exception of trivial amounts of mercury (0.17 ng per EC) and traces of formaldehyde and acetaldehyde. Laugesen

Table 1. Types of studies performed to determine safety and to estimate risk from EC use.

Type of studies	Research subject	Advantages	Disadvantages
Chemical studies	Evaluate the chemical composition of liquids and/or aerosol. Examine environmental exposure (passive 'vaping').	Easier and faster to perform. Less expensive. Could realistically be implemented for regulatory purposes.	Usually targeted on specific chemicals. Unknown effects of flavorings when inhaled. No validated protocols for vapor production. Provide no objective evidence about the end results (effects) of use (besides by applying theoretical models).
Toxicological studies	Evaluate the effects on cell cultures or experimental animals.	Provide some information about the effects from use.	Difficult to interpret the results in terms of human <i>in vivo</i> effects. More expensive than chemical studies. Need to test aerosol and not liquid. Standards for exposure protocols have not been clearly defined.
Clinical studies	Studies on human <i>in vivo</i> effects.	Provide definite and objective evidence about the effects of use.	Difficult and expensive to perform. Long-term follow up is needed due to the expected lag from initiation of use to possible development of any clinically evident disease. For now, limited to acute effects from use.

evaluated emissions based on a toxicant emissions score and reported a score of 0 in ECs compared with a score of 100–134 for tobacco cigarettes (Figure 3). The US Food and Drug Administration (FDA) also performed chemical analyses on 18 commercially available products in 2009 [Westenberger, 2009]. They detected the presence of tobacco-specific nitrosamines (TSNAs) but did not declare the levels found. Small amounts of diethylene glycol were also found in one sample, which was unlikely to cause any harm from normal use. Another study identified small amounts of amino-tandafil and rimonabant in EC liquids [Hadwiger *et al.* 2010]. Subsequently, several laboratories performed similar tests, mostly on liquids, with Cahn and Siegel publishing a review on the chemical analyses of ECs and comparing the findings with tobacco cigarettes and other tobacco products [Cahn and Siegel, 2011]. They reported that TSNA levels were similar to those measured in pharmaceutical NRTs. The authors concluded that, based on chemical analysis, ECs are far less harmful compared with tobacco cigarettes. The most comprehensive study on TSNAs has been performed recently by a South Korean group, evaluating 105 liquids obtained from local retailers [Kim and Shin, 2013]. On average, they found 12.99 ng TSNAs per ml of liquid, with the amount of daily exposure to the users estimated to be similar to users of NRTs [Farsalinos *et al.* 2013d]. The estimated daily exposure to nitrosamines from tobacco cigarettes (average consumption of 15 cigarettes per day) is estimated to be up to 1800 times higher

compared with EC use (Table 3). Etter and colleagues evaluated the accuracy of nicotine labeling and the presence of nicotine impurities and degradation products in 20 EC liquid samples [Etter *et al.* 2013]. They found that nicotine levels were 85–121% of what was labeled, while nicotine degradation products were present at levels of 0–4.4%. Although in some samples the levels were higher than those specified in European Pharmacopoeia, they are not expected to cause any measurable harm to users.

Besides the evaluation for the presence of TSNAs, analyses have been performed for the detection of carbonyl compounds. It is known that the thermal degradation of propylene glycol and glycerol can lead to the emission of toxic compounds such as aldehydes [Antal *et al.* 1985; Stein *et al.* 1983]. Goniewicz and colleagues evaluated the emission of 15 carbonyls from 12 brands of ECs (mostly first-generation) [Goniewicz *et al.* 2013]. In order to produce vapor, researchers used a smoking machine and followed a regime of 1.8-second puffs with a very short 10-second interpuff interval, which does not represent realistic use [Farsalinos *et al.* 2013c]; although the puff duration was low, interpuff interval was remarkably short, which could potentially lead to overheating. In addition, the same puff number was used in all devices tested, although there was a significant difference in the design and liquid content between devices. Despite these limitations, out of 15 carbonyls, only 3 were detected (formaldehyde, acetaldehyde and acrolein); levels were

Table 2. Summary of chemical toxicity findings.

Study	What was investigated?	What were the key findings?	
		Liquid	Vapor
Laugesen [2009]	Evaluation of 62 toxicants in the EC vapour from Ruyan 16 mg and mainstream tobacco smoke using a standard smoking machine protocol.	N/A	No acrolein, but small quantities of acetaldehyde and formaldehyde found. Traces of TSNAs (NNN, NNK, and NAT) detected. CO, metals, carcinogenic PAHs and phenols not found in EC vapour. Acetaldehyde and formaldehyde from tobacco smoke were 55 and 5 times higher, respectively.
Westenberger [2009]	Evaluation of toxicants in EC cartridges from two popular US brands.	TSNAs and certain tobacco specific impurities were detected in both products at very low levels. Diethylene glycol was identified in one cartridge.	N/A
Hadwiger <i>et al.</i> [2010]	Evaluation of four refill solutions and six replacement cartridges advertised as containing Cialis or rimonabant.	Small amounts of amino-tadalafil and rimonabant present in all products tested.	N/A
Cahn and Siegel [2011]	Overview of 16 chemical toxicity studies of EC liquids/vapours.	TSNAs levels in ECs 500- to 1400-fold lower than those in conventional cigarettes and similar to those in NRTs. Other chemicals found very low levels, which are not expected to result in significant harm.	
Pellegrino <i>et al.</i> [2012]	Evaluation of PM fractions and PAHs in the vapour generated from cartomizers of an Italian EC brand.	N/A	PM fractions were found, but levels were 6–18 times lower compared with conventional cigarettes. Traces of PAHs detected.
Kim and Shin [2013]	TSNAs (NNN, NNK, NAT, and NAB) content in 105 refill liquids from 11 EC brands purchased in Korean shops.	Total TSNAs averaged 12.99 ng/ml EC liquid; daily total TSNA exposure from conventional cigarettes estimated to be up to 1800 times higher.	N/A
Etter <i>et al.</i> [2013]	Nicotine degradation products, ethylene glycol and diethylene glycol evaluation of 20 EC refill liquids from 10 popular brands	The levels of nicotine degradation products represented 0–4.4% of those for nicotine, but for most samples the level was 1–2%. Neither ethylene glycol nor diethylene glycol were detected.	N/A
Goniewicz <i>et al.</i> [2013]	Vapours generated from 12 brands of ECs and a medicinal nicotine inhaler using a modified smoking machine protocol	N/A	Carbonyl compounds (formaldehyde, acetaldehyde and acrolein), VOCs (toluene and trace levels of xylene), trace levels of TSNAs (NNN and NNK) and very low levels of metals (cadmium, nickel and lead) were found in almost all examined EC vapours. Trace amounts of formaldehyde, acetaldehyde, cadmium, nickel and lead were also detected from the Nicorette inhalator. Compared with conventional cigarette, formaldehyde, acetaldehyde and acrolein were 9–450 times lower; toluene levels 120 times lower; and NNN and NNK levels 380 and 40 times lower respectively.

(Continued)

Table 2. (Continued)

Study	What was investigated?	What were the key findings?	
		Liquid	Vapor
Williams <i>et al.</i> [2013]	Vapour generated from cartomizers of a popular EC brand using a standard smoking machine protocol	N/A	Trace levels of several metals (including tin, copper, silver, iron, nickel, aluminium, chromium, lead) were found, some of them at higher level compared with conventional cigarettes. Silica particles were also detected. Number of microparticles from 10 EC puffs were 880 times lower compared with one tobacco cigarette.
Burstyn [2014]	Systematic review of 35 chemical toxicity studies/technical reports of EC liquids/vapours.	No evidence of levels of contaminants that may be associated with risk to health. These include acrolein, formaldehyde, TSNAs, and metals. Concern about contamination of the liquid by a nontrivial quantity of ethylene glycol or diethylene glycol remains confined to a single sample of an early technology product and has not been replicated.	

Abbreviations. CO, carbon monoxide; EC, electronic cigarette; NAT, N-Nitrosoanatabine; NNK, 4-(methylnitrosamino)-1-[3-pyridyl]-1-butanone; NNN, N-Nitrosornicotine; PAHs, polycyclic aromatic hydrocarbons; PM, particulate matter; TSNAs, tobacco-specific nitrosamines; VOCs, volatile organic carbons.

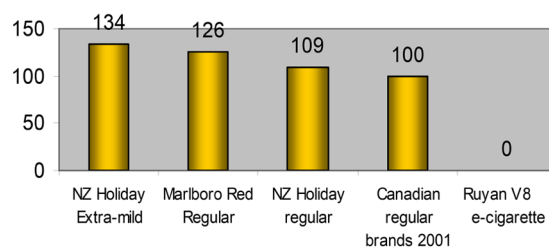


Figure 3. Toxic emissions score, adjusted for nicotine, for electronic cigarette and popular cigarette brands. [Reproduced with permission from Laugesen [2009]].

9–450 times lower compared with emissions from tobacco cigarettes (derived from existing literature but not tested in the same experiment). Formaldehyde and acetaldehyde were also emitted from the nicotine inhalator, although at lower levels. In addition, they examined for the presence of 11 volatile organic carbons and found only trace levels of toluene (at levels from 0.2–6.3 μg per 150 puffs) and xylene (from 0.1–0.2 μg per 150 puffs) in 10 of the samples; toluene levels were 120 times lower compared with tobacco cigarettes (again derived from existing literature but not tested in the same experiment).

Given that ECs have several metal parts in direct contact with the e-liquid, it is quite obvious to expect some contamination with metals in the vapor. Goniewicz and colleagues examined samples for the presence of 12 metals and found

nickel, cadmium and lead emitted [Goniewicz *et al.* 2013]; the levels of nickel were similar to those present in a pharmaceutical nicotine inhalator, while lead and cadmium were present at 2–3 times higher levels compared with the inhalator. Still, the absolute levels were very low (few nanograms per 150 puffs). Williams *et al.* [2013] focused their research on the presence of heavy metals and silicate particles emitted from ECs. They tested poor quality first-generation cartomisers and found several metals emitted in the aerosol of the EC, specifying that in some cases the levels were higher compared with conventional cigarettes. As mentioned earlier, it is not unusual to find trace levels of metals in the vapor generated by these products under experimental conditions that bear little relevance to their normal use; however, it is unlikely that such small amounts pose a serious threat to users' health. Even if all the aerosol was absorbed by the consumer (which is not the case since most of the aerosol is visibly exhaled), an average user would be exposed to 4–40 times lower amounts for most metals than the maximum daily dose allowance from impurities in medicinal products [US Pharmacopeia, 2013]. Silicate particles were also found in the EC aerosol. Such particles come from the wick material, however the authors did not clarify whether crystalline silica oxide particles were found, which are responsible for respiratory disease. In total, the number of microparticles (< 1000 nm) estimated to be inhaled by EC users from 10 puffs were 880 times lower compared

Table 3. Levels of nitrosamines found in electronic and tobacco cigarettes. Prepared based on information from Laugesen [2009], Cahn and Siegel [2011] and Kim and Shin [2013].

Product	Total nitrosamines levels (ng)	Daily exposure (ng)	Ratio ⁴
Electronic cigarette (per ml)	13	52 ¹	1
Nicotine gum (per piece)	2	48 ²	0.92
Winston (per cigarette)	3365	50 475 ³	971
Newport (per cigarette)	3885	50 775 ³	976
Marlboro (per cigarette)	6260	93 900 ³	1806
Camel (per cigarette)	5191	77 865 ³	1497

¹Based on average daily use of 4ml liquid
²Based on maximum recommended consumption of 24 pieces per day
³Based on consumption of 15 cigarettes per day
⁴ Difference (number-fold) between electronic cigarette and all other products in daily exposure to nitrosamines

with one tobacco cigarette. Similar findings concerning microparticles were reported by Pellegrino and colleagues who found that, for each particulate matter fraction, conventional cigarettes released 6–18 times higher amounts compared with the EC tested [Pellegrino *et al.* 2012].

Burstyn has recently reviewed current data on the chemistry of aerosols and the liquids of ECs (including reports which were not peer-reviewed) and estimated the risk to consumers based on workplace exposure standards (i.e. Threshold Limit Values [TLVs]) [Burstyn, 2014]. After reviewing all available evidence, the author concluded that there was no evidence that vaping produced inhalable exposure to contaminants of aerosol that would warrant health concerns. He added that surveillance of use is recommended due to the high levels of propylene glycol and glycerol inhaled (which are not considered contaminants but ingredients of the EC liquid). There are limited data on the chronic inhalation of these chemicals by humans, although there is some evidence from toxicological studies (which are discussed later in this paper).

In conclusion, chemical studies have found that exposure to toxic chemicals from ECs is far lower compared with tobacco cigarettes. Besides comparing the levels of specific chemicals released from tobacco and ECs, it should be taken into consideration that the vast majority of the >4000 chemicals present in tobacco smoke are completely absent from ECs. Obviously, surveillance of use is warranted in order to objectively evaluate the *in vivo* effects and because the effects of inhaling flavoring substances approved for food use are largely unknown.

Toxicological studies

To date, only a handful of toxicological studies have been performed on ECs, mostly cytotoxicity studies on established cell lines. The cytotoxicity approach also has its flaws. Findings cannot be directly applied to the *in vivo* situation and there is always the risk of over- (as well as under-)estimating the interpretation of the toxic effects in these investigational models. An ample degree of results variability is to be expected from different cell lines and, sometimes, also within the same cell line. Comparing the potential cytotoxicity effects of EC vapor with those resulting from the exposure of cigarette smoke should be mandatory, but standards for vapor production and exposure protocols have not been clearly defined.

Bahl and colleagues [Bahl *et al.* 2012] performed cytotoxicity tests on 36 EC liquids, in human embryonic stem cells, mouse neural stem cells and human pulmonary fibroblasts and found that stem cells were more sensitive to the effects of the liquids, with 15 samples being moderately cytotoxic and 12 samples being highly cytotoxic. Propylene glycol and glycerol were not cytotoxic, but a correlation between cytotoxicity and the number and height of the flavoring peaks in high-performance liquid chromatography was noted. Investigations were just restricted to the effect of EC liquids and not to their vapors, thus limiting the importance of the study findings; this is not a trivial issue considering that the intended use of these products is by inhalation only and that it is unlikely that flavoring substances in the EC liquids will still be present in the aerosol in the same amount due to differences in evaporation temperature [Romagna *et al.* 2013]. Regrettably, a set of experiments with cigarette smoke extracts as

comparator was not included. Of note, the authors emphasized that the study could have underestimated the cytotoxicity by 100 times because when they added the EC liquids to the cell, medium final concentration was 1%. However, cells were cultured for 48 hours with continuous exposure to the liquid, while in real use the lungs come in contact with aerosol instead of liquid, the contact lasts for 1–2 seconds per puff and most of the aerosol is visibly exhaled. Finally, Cinnamon Ceylon, the liquid found to be mostly cytotoxic in this study, was not a refill liquid but a concentrated flavor which is not used in ECs unless it is diluted to 3–5%.

Romagna and colleagues [Romagna *et al.* 2013] performed the first cytotoxicity study of EC vapor on fibroblast cells. They used a standardized ISO 10993-5 protocol, which is used for regulatory purposes of medical devices and products. They tested the vapor of 21 liquid samples containing the same amount of nicotine (9 mg/ml), generated by a commercially available EC device. Cells were incubated for 24 hours with each of these vapors and with smoke from a conventional cigarette. Only one sample was found to be marginally cytotoxic, whereas cigarette smoke was highly cytotoxic (approximately 795% more cytotoxic), even when the extract was diluted up to 25% of the original concentration.

The same group also investigated the cytotoxic potential of 20 EC liquid samples in cardiomyoblasts [Farsalinos *et al.* 2013a]. Vapor was produced by using a commercially available EC device. Samples contained a wide range of nicotine concentrations. A base liquid mixture of propylene glycol and glycerol (no nicotine and no flavorings) was also included as an additional experimental control. Four of the samples examined were made by using cured tobacco leaves in a steeping process, allowing them to impregnate a mixture of propylene glycol and glycerol for several days before being filtered and bottled for use. Of note, this was the first study which evaluated a limited number of samples with an EC device delivering higher voltage and energy to the atomizer (third-generation device). In total, four samples were found to be cytotoxic; three of them were liquids made by using cured tobacco leaves, with cytotoxicity observed at both 100% and 50% extract concentration, while one sample (cinnamon flavor) was marginally cytotoxic at 100% extract concentration only. In comparison, smoke from three tobacco cigarettes was highly cytotoxic, with toxicity observed even when the

extract was diluted to 12.5%. The samples made with tobacco leaves were three times less cytotoxic compared with cigarette smoke; this was probably due to the absence of combustion and the significantly lower temperature of evaporation in EC use. Concerning high-voltage EC use, the authors found slightly reduced cell viability without any of the samples being cytotoxic according to the ISO 10993-5 definition. Finally, no association between cell survival and the amount of nicotine present in the liquids was noted.

A recent study evaluated in more detail the cytotoxic potential of eight cinnamon-flavored EC liquids in human embryonic stem cells and human pulmonary fibroblasts [Behar *et al.* 2014]. The authors found that the flavoring substance predominantly present was cinnamaldehyde, which is approved for food use. They observed significant cytotoxic effects, mostly on stem cells but also on fibroblasts, with cytotoxicity associated with the amount of cinnamaldehyde present in the liquid. However, major methodological issues arose from this study. Once again, cytotoxicity was just restricted to EC liquids and not to their vapors. Moreover, the authors mentioned that the amount of cinnamaldehyde differed between liquids by up to 100 times, and this raises the suspicion of testing concentrated flavor rather than refills. By searching the internet and contacting manufacturers, based on the names of samples and suppliers mentioned in the manuscript, it was found that at least four of their samples were not refills but concentrated flavors. Surprisingly, the levels of cinnamaldehyde found to be cytotoxic were about 400 times lower than those currently approved for use [Environmental Protection Agency, 2000].

Few animal studies have been performed to evaluate the potential harm of humectants in EC liquids (i.e. propylene glycol and glycerol) when given by inhalation. Robertson and colleagues tested the effects on primates of inhaling propylene glycol vapor for several months and found no evidence of toxicity on any organ (including the lungs) after post-mortem examination of the animals [Robertson *et al.* 1947]. Similar observations were made in a recent study in rats and dogs [Werley *et al.* 2011]. Concerns have been raised in human use, based on studies of people exposed to theatrical fog [Varughese *et al.* 2005; American Chemistry Council, 2003] or propylene glycol used in the aviation industry [Wieslander *et al.* 2001]. Irritation of the respiratory tract was found, but no permanent lung injury or other

long-term health implications were detected. It should be reminded that, in these circumstances, nonpharmaceutical purity propylene glycol is used and in some cases oils are added, making it difficult to interpret the results in the context of EC use. Evidence for the potential harm of inhaled glycerol is sparse. A study using Sprague–Dawley rats found minimal to mild squamous metaplasia of the epiglottis epithelium in the high-dose group only, without any changes observed in lungs or other organs [Renne *et al.* 1992]. No comparative set of experiments with cigarette smoke was included, but it is well known that exposure to tobacco smoke in similar animal models leads to dramatic changes in the lungs, liver and kidneys [Czekaj *et al.* 2002].

In conclusion, toxicological studies have shown significantly lower adverse effects of EC vapor compared with cigarette smoke. Characteristically, the studies performed by using the liquids in their original liquid form have found less favorable results; however, no comparison with tobacco smoke was performed in any of these studies, and they cannot be considered relevant to EC use since the samples were not tested in the form consumed by vapers. More research is needed, including studies on different cell lines such as lung epithelial cells. In addition, it is probably necessary to evaluate a huge number of liquids with different flavors since a minority of them, in an unpredictable manner, appear to raise some concerns when tested in the aerosol form produced by using an EC device.

Clinical studies and research surveys

Clinical trials can be very informative, but they require monitoring of hundreds of users for many years to adequately explore the safety/risk profile of the products under investigation. Research surveys of EC users, on the other hand, can quickly provide information about the potential harm of these products and are much cheaper to run. However, self-reported data, highly self-selected study populations, and the cross-sectional design are some of the most common limitations of research surveys. Taken together, findings from surveys and follow-up studies of vapers have shown that EC use is relatively safe.

Polosa and colleagues followed up smokers for 24 months, after a 6-month period of intervention during which ECs were given [Polosa *et al.* 2013a]. Only mild symptoms such as mouth and throat

irritation and dry cough were observed. Farsalinos and colleagues retrospectively evaluated a group of 111 EC users who had completely quit smoking and were daily EC users for a median period of 8 months [Farsalinos *et al.* 2013b]. Throat irritation and cough were the most commonly reported side effects. Similar findings have been observed in surveys [Dawkins *et al.* 2013; Etter *et al.* 2011]. However, it is expected that dedicated users who have more positive experiences and fewer side effects compared with the general population participate in such studies, therefore interpretation should be done with caution. The only two existing randomized controlled trials have also included detailed EC safety analysis. The ECLAT study [Caponnetto *et al.* 2013b], a three-arm, controlled, randomized, clinical trial designed to compare efficacy and safety of a first-generation device with 7.2, 5.4, or 0 mg nicotine cartridges, reported clinically significant progressive health improvements already by week two of continuous use of the device, and no serious adverse events (i.e. major depression, abnormal behavior or any event requiring an unscheduled visit to the family practitioner or hospitalization) occurred during the study. The ASCEND study [Bullen *et al.* 2013], a three-arm, controlled, randomized, clinical trial designed to compare the efficacy and safety of a first-generation device (with or without nicotine) with nicotine patches, reported no serious adverse events in any of the three study groups.

Few clinical studies have been performed to evaluate the short-term *in vivo* effects of EC use in current or former smokers. Vardavas and colleagues evaluated the acute effects of using an EC for 5 minutes on respiratory function [Vardavas *et al.* 2012]. Although they did not report the results of commonly-used spirometry parameters, they found that a sensitive measure of airways resistance and nitric oxide levels in exhaled breath were adversely affected. Similar elevations in respiratory resistance were reported by other research groups [Palamidas *et al.* 2013; Gennimata *et al.* 2012], who also documented some bizarre elevation in exhaled carbon monoxide levels after EC use; this finding has been challenged by several other studies [Farsalinos *et al.* 2013f; Nides *et al.* 2014; Van Staden *et al.* 2013]. Schober and colleagues found that EC use led to elevated exhaled nitric oxide [Schober *et al.* 2013], contradicting the findings from Vardavas and colleagues [Vardavas *et al.* 2012]. Characteristically, none of the above studies performed any comparative tests after smoking tobacco cigarettes. Flouris and colleagues found

that only smoking had an acute adverse effect on respiratory function [Flouris *et al.* 2013]; no difference was observed after the group of smokers was exposed to active or passive EC use.

Two studies have evaluated the short-term effects of ECs on the cardiovascular system. Farsalinos and colleagues evaluated the acute effects of using ECs with an 11 mg/ml nicotine-containing liquid on hemodynamics and left ventricular function, in comparison with the effects of cigarette smoking [Farsalinos *et al.* 2012]. They found that EC use resulted in a slight elevation in diastolic blood pressure while, after smoking, both systolic and diastolic blood pressure and heart rate were significantly elevated. Obviously, this was due to the relatively low nicotine content of the EC (which is considered medium strength). Diastolic dysfunction was observed in smokers after smoking, which was in line with findings from previous studies. However, no adverse effects were observed in EC users after using the device *ad lib* for 7 minutes. Another study by the same group [Farsalinos *et al.* 2013f], evaluated the acute effects of EC use on coronary flow. In particular, they measured the flow velocity reserve of the left anterior descending coronary artery by echocardiography after intravenous infusion of adenosine, representing the maximal ability of the artery to deliver blood to the myocardium. Smoking was associated with a decline in flow velocity reserve by 16% and an elevation in resistance to flow by 19%. On the contrary, no difference was observed in any of these parameters after using the EC. Blood carboxyhemoglobin levels were also measured in participants; baseline values were significantly higher in smokers compared with vapers and were further elevated after smoking but were not altered after EC use. Similar observations for carboxyhemoglobin levels were observed by Van Staden and colleagues [Van Staden *et al.* 2013].

A clinical case report of a smoker suffering from chronic idiopathic neutrophilia was published. According to that report [Farsalinos and Romagna, 2013], switching from smoking to EC use led to a reversal of the condition after 6 months. In addition, C-reactive protein levels, which were consistently elevated for more than 6 years, decreased to normal levels. Another case report of a patient with lipoid pneumonia was published, with the condition attributed to glycerin-based EC liquids used by the patient [McCauley *et al.* 2012]. However, glycerin is an alcohol (polyol) and thus it is impossible to cause

lipoid pneumonia. Only oil-based liquids could be the cause for this condition; such liquids should not be used with ECs.

One study evaluated the acute effects of tobacco and EC use on white blood cell count [Flouris *et al.* 2012]. Smoking one tobacco cigarette caused an immediate elevation in white blood cells, neutrophils and lymphocytes, indicating acute inflammatory distress. On the contrary, no differences were observed after using ECs.

In conclusion, clinical studies evaluating the effects of short-term EC use on selected cardiovascular and respiratory functional outcomes have shown that even if some harmful effects of vaping are reported, these are considerably milder compared with smoking conventional cigarettes. However, it is difficult to assess the prognostic implications of these studies; longer-term data are needed before any definite conclusions are made.

Passive vaping

Passive smoking is an established risk factor for a variety of diseases [Barnoya and Navas-Acien, 2013]. Therefore, it is important from a public health perspective to examine the impact of EC use on bystanders. Indirect data can be derived from chemical studies in vapor mentioned above, which show that the potential of any significant adverse effects on bystanders is minimal. In fact, since side-stream exposure is nonexistent in EC (aerosol is produced only during activation of the device, while tobacco cigarettes emit smoke even when no puffs are taken), such studies are undoubtedly overestimating the risk of environmental exposure.

Few studies have focused on second-hand vaping. McAuley and colleagues [McAuley *et al.* 2012], although mentioning indoor air quality in the title of their study and finding minimal health-related impact, did not in fact evaluate second-hand vaping because aerosol was produced from an EC device and was evaluated without previously being inhaled by any user. Moreover, there were some problems with cross-contamination with tobacco cigarette smoke, which made the results somewhat questionable, at least for some of the parameters tested. Schripp and colleagues [Schripp *et al.* 2013] evaluated the emissions from an EC by asking a volunteer to use three different EC devices in a closed 8 m³ chamber. From a selection of 20 chemicals analyzed, only formaldehyde, acrolein, isoprene, acetaldehyde and acetic acid were

detected. The levels were 5–40 times lower compared with emissions from a conventional cigarette. For formaldehyde, the authors specifically mentioned that the levels were continuously rising from the time the volunteer entered the room, even before he started using the EC. Moreover, no acute elevation was observed when the smoker used the three EC devices, contrary to the acute elevation and spiking of levels when a tobacco cigarette was lit. The authors concluded that formaldehyde was not emitted from the ECs but was due to human contamination, since low amounts of formaldehyde of endogenous origin can be found in exhaled breath [Riess *et al.* 2010]. Romagna and colleagues [Romagna *et al.* 2012] evaluated chemicals released in a realistic setting of a 60 m³ room, by asking five smokers to smoke *ad lib* for 5 hours and five vapers to use ECs *ad lib* for a similar period of time on two separate days. Nicotine, acrolein, toluene, xylene and polycyclic aromatic hydrocarbons were detected in room air after the smoking session, with the amount of total organic carbon (TOC) reaching to 6.66 mg/m³. In contrast, after the EC session, only glycerol was detected in minimal levels (72 µg/m³), while TOC reached a maximum level of 0.73 mg/m³. Characteristically, the amount of TOC accumulated after 5 hours of EC use was similar to the amount found after just 11 minutes of smoking. The study on heavy metals mentioned previously [Williams *et al.* 2013] could also be used to examine any potential risk of bystanders' exposure to toxic metals. The levels of heavy metals found in vapor were minimal, and considering the dispersion of these molecules in the whole room air, it is unlikely that any of these metals could be present in measurable quantities in the environment. Therefore, the risk for bystanders would be literally nonexistent. Contrary to that, Schober and colleagues [Schober *et al.* 2013] found that levels of aluminum were raised by 2.4 times in a 45 m³ room where volunteers were asked to use ECs for 2 hours. This is a highly unexpected finding which cannot be supported by the findings of the study by Williams and colleagues [Williams *et al.* 2013]; because the levels found in the latter could not result in such elevation of the environmental levels of aluminum, unless nothing is retained in or absorbed from the lungs. Moreover, Schober and colleagues [Schober *et al.* 2013] found that levels of polycyclic aromatic hydrocarbons (PAHs) were raised by 20% after EC use. However, a major methodological problem of this study is that control environmental measurements were performed on a separate day and not on the same day of EC

use. This is a major limitation, because the levels of environmental PAHs have significant diurnal and day-to-day variations [Ravindra *et al.* 2008]; therefore, it is highly likely that the differences in levels of PAHs (which are mainly products of combustion and are not expected to be emitted from EC use) represented changes due to environmental conditions and not due to EC use. Bertholon and colleagues [Bertholon *et al.* 2013] examined the EC aerosol exhaled from a user, in comparison with exhaled smoke from a smoker. The authors found that particle size diameters were 0.29–0.033 µm. They observed that the half life of EC aerosol was 11 seconds compared with 20 minutes for cigarette smoke, indicating that risk of passive vaping exposure is significantly lower compared with passive smoking.

The recent findings by Czogala and colleagues [Czogala *et al.* 2013] led to similar conclusions. The authors compared the emissions of electronic and conventional cigarettes generated by experienced dual users in a ventilated full-sized room and found that ECs may emit detectable amounts of nicotine (depending on the specific EC brand tested), but no carbon monoxide and volatile organic carbons. However, the average ambient levels of nicotine of ECs were 10 times lower than those of conventional cigarettes (3.32 ± 2.49 versus 31.60 ± 6.91 µg/m³).

In his review and comparison with TLVs, Burstyn found that emissions from ECs to the environment are not expected to pose any measurable risk for bystanders [Burstyn, 2014].

An issue that needs further clarification relates to the findings of microparticles emitted from ECs. In most studies, these findings are presented in a way implying that the risk is similar to environmental or smoking microparticles. In reality, it is not just the size but the composition of the microparticles that matters. Environmental microparticles are mainly carbon, metal, acid and organic microparticles, many of which result from combustion and are commonly called particulate matter. Particulate matter exposure is definitely associated with lung and cardiovascular disease [Peters, 2005; Seaton *et al.* 1995]. In the case of ECs, microparticles are expected to consist mostly of propylene glycol, glycerol, water and nicotine droplets. Metal and silica nanoparticles may also be present [Williams *et al.* 2013], but, in general, emissions from ECs are incomparable to environmental particulate matter or cigarette smoke microparticles.

Flouris and colleagues [Flouris *et al.* 2013] performed the only clinical study evaluating the respiratory effects of passive vaping compared with passive smoking. Researchers found significant adverse effects in spirometry parameters after being exposed to passive smoking for 1 hour, while no adverse effects were observed after exposure to passive vaping.

Although evaluating the effects of passive vaping requires further work, based on the existing evidence from environmental exposure and chemical analyses of vapor, it is safe to conclude that the effects of EC use on bystanders are minimal compared with conventional cigarettes.

Miscellaneous safety issues

Specific subpopulations: psychiatric and chronic obstructive pulmonary disorder patients

A challenging population subgroup with unique smoking patterns is that of psychiatric patients and in particular schizophrenic patients. This subpopulation is characterized by a very high smoking prevalence [De Leon and Diaz, 2005] with an excess of smoking-related mortality [Brown *et al.* 2000]. Currently, only NRTs are recommended to treat nicotine dependence in this specific subpopulation, but in general they are not particularly effective [Aubin *et al.* 2012]. ECs could be used as an alternative to smoking products in this group. Caponnetto and colleagues performed a prospective 12-month pilot study to evaluate the efficacy of EC use in smoking reduction and cessation in a group of 14 patients with schizophrenia [Caponnetto *et al.* 2013a]. In 50% of participants, smoking consumption went from 30 to 15 cigarettes per day at 52 weeks of follow up, while 14.3% managed to quit smoking. Importantly, no deterioration in their psychiatric condition was observed, and side effects were mild and temporary. The results were promising although an outdated EC device was used in this study.

There is also anecdotal evidence that successful smoking cessation could be attained by using an EC in smokers with other psychiatric conditions such as depression [Caponnetto *et al.* 2011a]. Both patients described in this case series stated that EC use was well tolerated and no adverse events were reported.

Considering that first-line oral medications for nicotine addiction are contraindicated in such patients (prescribing information for bupropion and varenicline carry a 'black-box' warning for certain psychiatric conditions), ECs may be a promising tool in these challenging patient groups.

Another subpopulation that may benefit from regular EC use is that of respiratory patients with chronic obstructive pulmonary disease (COPD), a progressive disease characterized by a persistent inflammatory response to tobacco smoke that generally leads to decline in lung function, respiratory failure, cor pulmonale and death. Consequently, smoking cessation plays a crucial part in the management of COPD patients. However, the available evidence in the medical literature indicates that COPD patients who smoke respond poorly to smoking cessation efforts [Schiller and Ni, 2006]. To date, no formal efficacy and safety assessment of EC use in COPD patients has been conducted. There is only evidence from a case report of inveterate smokers with COPD and a documented history of recurring relapses, who eventually quit tobacco smoking on their own by using an EC [Caponnetto *et al.* 2011b]. Significant improvement in quality of life and reduction in the number of disease exacerbations were noted. EC use was well tolerated with no reported adverse events.

Accidental nicotine exposure

Accidental ingestion of nicotine, especially by children, or skin contact with large amounts of liquid or highly concentrated nicotine solution can be an issue. However, the historically referenced lethal dose of 60 mg has recently been challenged in a review by Mayer [Mayer, 2013]; he found that the lethal levels currently reproduced in every document originated from dubious experiments performed in the 19th century. Based on post-mortem studies, he suggested that the acute dose associated with a lethal outcome would be 500–1000 mg. Taking into account that voluminous vomiting is the first and characteristic symptom of nicotine ingestion, it seems that far higher levels of nicotine need to be ingested in order to have lethal consequences.

A surveillance system of adverse events has been developed by the FDA, which identifies safety concerns in relation to tobacco products. Since 2008, 47 adverse events were reported for ECs

[Chen, 2013]. Eight of them were serious events such as hospitalizations for pneumonia, heart failure, seizures and hypotension and burns. A case of second-degree burns was caused by a battery explosion, which is generally a problem observed in lithium batteries and has occurred in other products (such as mobile phones). The author emphasized that the reported events were not necessarily associated with EC use but may have been related to pre-existing conditions or other causes. No condition was characteristically associated with EC use.

A recent review of the California Poison Control System database from 2010 to 2012 identified 35 cases (14 children) associated with EC exposure (accidental exposure in 25 cases) [Cantrell, 2013]. A total of five patients were evaluated in an emergency department and all were discharged within 4 hours. Nausea, vomiting, dizziness and oral irritation were most commonly reported. Taken together, data from surveillance systems of adverse events suggest that short-term adverse effects and accidental exposures to EC cartridges are unlikely to result in serious toxicity.

Notwithstanding, avoiding preventable contact with highly concentrated nicotine solution remains important; this can be achieved by specific labeling of the products, child-proof caps and proper education of consumers. There is no evidence that nicotine-containing EC liquids should be treated in any different way compared with other consumer products used every day in households (such as bleach, washing machine powder, etc.).

Electrical accidents and fires

The electronic equipment of ECs may be the cause for accidents. ECs are mainly composed of lithium batteries. There have been reports of explosions of batteries, caused either by prolonged charging and use of improper chargers or by design defects. Similar accidents have occurred with batteries of other popular devices, such as mobile phones. Therefore, this does not occur specifically with ECs, however, quality standards of production should be used in order to avoid such accidents.

Smoking is a major cause of residential fires. Between 2008 and 2010, an estimated annual average of 7600 smoking-related fires occurred in residential buildings in the US [US Fire

Administration, 2012]. They account for only 2% of all residential building fires but for 14% of fire deaths. Since ECs are activated only when used by the person and there is no combustion involved, there is the potential to avoid the risk of smoking-related fires.

Use by youngsters and nonsmokers

Although beyond the scope of this review, it is important to briefly discuss the potential for addiction from EC use. It should be acknowledged that nicotine is addictive, although recent studies have shown that several other chemicals present in tobacco are associated with a significant enhancement of the addictiveness of nicotine [Lotfipour *et al.* 2011; Rose, 2006; Guillem *et al.* 2005]. Still, nicotine intake should not be recommended to nonsmokers. Smokers are already addicted to nicotine, thus ECs will be a cleaner form of nicotine intake, while at the same time they will maintain their sensory stimulation and motor stimulation of smoking; these are important aspects of the addiction to smoking. Regulatory authorities have expressed concern about EC use by youngsters or by never-smokers, with ECs becoming a gateway to smoking or becoming a new form of addiction. However, such concerns are unsubstantiated; research has shown that EC use by youngsters is virtually nonexistent unless they are smokers. Camenga and colleagues [Camenga *et al.* 2013] examined the use of ECs and tobacco in a group of adolescents, in a survey conducted in three waves. In the first wave of the survey (February 2010), 1719 adolescents were surveyed from which only one nonsmoker was found to be using ECs. In the second and third wave of the surveys, only five nonsmoking adolescents were using ECs. In fact, these are adolescents who reported first ever use of ECs in the past 30 days; therefore they were not necessarily regular or daily EC consumers. The increased prevalence of EC use from 0.9% in 2010 to 2.3% in 2011 concerned smoking adolescents, therefore it should be considered a positive finding that smokers are experimenting with the significantly less harmful ECs. Similarly, the Medicines and Healthcare Products Regulatory Agency (MHRA) found that less than 1% of EC users are never-smokers [MHRA, 2013]. Data from the Centers for Disease Control [2013] National Youth Tobacco Survey reported doubling in EC experimentation by 13–18 year old students from 1.1% in 2011 to 2.1% in 2012; however, 90.6% of them were smokers. From the whole population, only 0.5% were nonsmokers experimenting with ECs.

Once again, participants were asked about ever experimenting with an EC in the past 30 days, not regular or daily EC use. Recently, a survey of more than 75,000 students in South Korea was published [Lee *et al.* 2013]. Although they found that 12.6% of them were daily smokers (8.6% were using only tobacco cigarettes and 3.6% were using both tobacco and ECs), only 0.6% of nonsmokers had used ECs in the past 30 days. Although the above mentioned data have been used as arguments to support the fact that a new epidemic of nicotine addiction through the use of ECs is appearing, in reality they are showing that any experimentation with ECs is done by smokers. This is in fact a positive finding, and could lead to reduced smoking prevalence through adoption of EC use. Therefore, ECs could serve as gateway from smoking; on the contrary, there is no evidence indicating that they could be a gateway to smoking. It is promising to see that penetration of EC use in youngsters is virtually nonexistent, especially when you take into consideration that there is currently no official regulation in most countries to prohibit the access to ECs by youngsters.

Conclusion

Existing evidence indicates that EC use is by far a less harmful alternative to smoking. There is no tobacco and no combustion involved in EC use; therefore, regular vapers may avoid several harmful toxic chemicals that are typically present in the smoke of tobacco cigarettes. Indeed, some toxic chemicals are released in the EC vapor as well, but their levels are substantially lower compared with tobacco smoke, and in some cases (such as nitrosamines) are comparable with the amounts found in pharmaceutical nicotine products. Surveys, clinical, chemistry and toxicology data have often been misrepresented or misinterpreted by health authorities and tobacco regulators, in such a way that the potential for harmful consequences of EC use has been largely exaggerated [Polosa and Caponnetto, 2013]. It is obvious that some residual risk associated with EC use may be present, but this is probably trivial compared with the devastating consequences of smoking. Moreover, ECs are recommended to smokers or former smokers only, as a substitute for conventional cigarettes or to prevent smoking relapse; thus, any risk should be estimated relative to the risk of continuing or relapsing back to smoking and the low efficacy of currently approved medications for smoking cessation should be taken into consideration [Moore *et al.* 2009; Rigotti

et al. 2010; Yudkin *et al.* 2003]. Nonetheless, more research is needed in several areas, such as atomizer design and materials to further reduce toxic emissions and improve nicotine delivery, and liquid ingredients to determine the relative risk of the variety of compounds (mostly flavorings) inhaled. Regulations need to be implemented in order to maintain the current situation of minimal penetration of EC use in nonsmokers and youngsters, while manufacturers should be forced to provide proof for the quality of the ingredients used and to perform tests on the efficiency and safety of their products. However, any regulatory decisions should not compromise the variability of choices for consumers and should make sure that ECs are more easily accessible compared with their main competitor, the tobacco cigarette. Consumers deserve, and should make, informed decisions and research will definitely promote this. In particular, current data on safety evaluation and risk assessment of ECs is sufficient enough to avert restrictive regulatory measures as a consequence of an irrational application of the precautionary principle [Saitta *et al.* 2014].

ECs are a revolutionary product in tobacco harm reduction. Although they emit vapor, which resembles smoke, there is literally no fire (combustion) and no 'fire' (suspicion or evidence that they may be the cause for disease in a similar way to tobacco cigarettes). Due to their unique characteristics, ECs represent a historical opportunity to save millions of lives and significantly reduce the burden of smoking-related diseases worldwide.

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References

- Adkison, S., O'Connor, R., Bansal-Travers, M., Hyland, A., Borland, R., Yong, H.H. *et al.* (2013) Electronic nicotine delivery systems: international tobacco control four-country survey. *Am J Prev Med* 44: 207–215.
- Ambrose, J. and Barua, R. (2004) The pathophysiology of cigarette smoking and cardiovascular disease: an update. *J Am Coll Cardiol* 43: 1731–1737.
- American Chemistry Council (2003) Ethylene Glycols: Considerations Against Use in Theatrical Fogs/Mist and Artificial Smoke. Available at: <http://www.americanchemistry.com/ProductsTechnology/Ethylene-Glycols-2/PDF-Ethylene-Glycols-Fog-Information-Sheet.pdf> (Accessed: 20 November 2013).
- Antal, M., Mok, W., Roy, J. and T-Raissi, A. (1985) Pyrolytic sources of hydrocarbons from biomass. *J Anal Appl Pyrol* 8: 291–303.
- Aubin, H., Rollema, H., Svensson, T. and Winterer, G. (2012) Smoking, quitting, and psychiatric disease: A review. *Neurosci Biobehav Rev* 36: 271–284.
- Bahl, V., Lin, S., Xu, N., Davis, B., Wang, Y. and Talbot, P. (2012) Comparison of electronic cigarette refill fluid cytotoxicity using embryonic and adult models. *Reprod Toxicol* 34: 529–537.
- Barnoya, J. and Navas-Acien, A. (2013) Protecting the world from secondhand tobacco smoke exposure: where do we stand and where do we go from here? *Nicotine Tob Res* 15: 789–804.
- Behar, R., Davis, B., Wang, Y., Bahl, V., Lin, S. and Talbot, P. (2014) Identification of toxicants in cinnamon-flavored electronic cigarette refill fluids. *Toxicol In Vitro* 28: 198–208.
- Benowitz, N. and Gourlay, S. (1997) Cardiovascular toxicity of nicotine: implications for nicotine replacement therapy. *J Am Coll Cardiol* 29: 1422–1431.
- Benowitz, N., Zevin, S. and Jacob, P. III (1998) Suppression of nicotine intake during ad libitum cigarette smoking by high-dose transdermal nicotine. *J Pharmacol Exp Ther* 287: 958–962.
- Bertholon, J., Becquemin, M., Roy, M., Roy, F., Ledur, D., Annesi Maesano, I. *et al.* (2013) Comparison of the aerosol produced by electronic cigarettes with conventional cigarettes and the shisha. *Rev Mal Respir* 30: 752–757.
- Brown, S., Inskip, H. and Barraclough, B. (2000) Causes of the excess mortality of schizophrenia. *Br J Psychiatry* 177: 212–217.
- Bullen, C., Howe, C., Laugesen, M., McRobbie, H., Parag, V., Williman, J. *et al.* (2013) Electronic cigarettes for smoking cessation: a randomised controlled trial. *Lancet* 382: 1629–1637.
- Burstyn, I. (2014) Peering through the mist: Systematic review of what the chemistry of contaminants in electronic cigarettes tells us about health risks. *BMC Public Health* 14: 18.
- Cahn, Z. and Siegel, M. (2011) Electronic cigarettes as a harm reduction strategy for tobacco control: a step forward or a repeat of past mistakes? *J Public Health Policy* 32: 16–31.
- Camenga, D., Delmerico, J., Kong, G., Cavallo, D., Hyland, A., Cummings, K. *et al.* (2013) Trends in use of electronic nicotine delivery systems by adolescents. *Addict Behav* 39(1): 338–340.
- Cantrell, F. (2013) Adverse effects of e-cigarette exposures. *J Community Health* 15 December 2013 (Epub ahead of print). DOI: 10.1007/s10900-013-9807-5
- Caponnetto, P., Auditore, R., Russo, C., Cappello, G. and Polosa, R. (2013a) Impact of an electronic cigarette on smoking reduction and cessation in schizophrenic smokers: a prospective 12-month pilot study. *Int J Environ Res Public Health* 10: 446–461.
- Caponnetto, P., Campagna, D., Cibella, F., Morjaria, J., Caruso, M., Russo, C. *et al.* (2013b) Efficiency and Safety of an eLectronic cigAReTte (ECLAT) as tobacco cigarettes substitute: a prospective 12-month randomized control design study. *PLoS One* 8: e66317.
- Caponnetto, P., Polosa, R., Auditore, R., Russo, C. and Campagna, D. (2011a) Smoking cessation with e-cigarettes in smokers with a documented history of depression and recurring relapses. *Int J Clin Med* 2: 281–284.
- Caponnetto, P., Polosa, R., Russo, C., Leotta, C. and Campagna, D. (2011b) Successful smoking cessation with electronic cigarettes in smokers with a documented history of recurring relapses: a case series. *J Med Case Rep* 5: 585.
- Centers for Disease Control and Prevention (CDC) (2013) Notes from the field: electronic cigarette use among middle and high school students - United States, 2011–2012. *MMWR Morb Mortal Wkly Rep* 62: 729–730.

- Chen, I. (2013) FDA summary of adverse events on electronic cigarettes. *Nicotine Tob Res* 15: 615–616.
- Czekaj, P., Pałasz, A., Lebda-Wyborny, T., Nowaczyk-Dura, G., Karczewska, W., Florek, E. *et al.* (2002) Morphological changes in lungs, placenta, liver and kidneys of pregnant rats exposed to cigarette smoke. *Int Arch Occup Environ Health* 75 (Suppl): S27–S35.
- Czogala, J., Goniewicz, M., Fidelus, B., Zielinska-Danch, W., Travers, M. and Sobczak, A. (2013) Secondhand exposure to vapors from electronic cigarettes. *Nicotine Tob Res* (11 December 2011) (Epub ahead of print). DOI: 10.1093/ntr/ntt203
- Dawkins, L. (2013) Electronic cigarettes: what are they and are they effective? E-Cigarette Summit, London, UK (oral presentation). Available at: <http://e-cigarette-summit.com/wp-content/uploads/2013/12/Summit-Presentations.pdf> [accessed 22 December 2013].
- Dawkins, L. and Corcoran, O. (2013) Acute electronic cigarette use: nicotine delivery and subjective effects in regular users. *Psychopharmacology (Berl)* 231: 401–407.
- Dawkins, L., Turnern, J., Roberts, A. and Soar, K. (2013) 'Vaping' profiles and preferences: an online survey of electronic cigarette users. *Addiction* 108: 1115–1125.
- De Leon, J. and Diaz, F. (2005). A meta-analysis of worldwide studies demonstrates an association between schizophrenia and tobacco smoking behaviors. *Schizophr Res* 76: 1351–1357.
- Dockrell, M., Morison, R., Bauld, L. and McNeill, A. (2013) E-Cigarettes: prevalence and attitudes in Great Britain. *Nicotine Tob Res* 15: 1737–1744.
- Douptcheva, N., Gmel, G., Studer, J., Deline, S. and Etter, J.F. (2013) Use of electronic cigarettes among young Swiss men. *J Epidemiol Community Health* 67: 1075–1076.
- Environmental Protection Agency (1992) EPA Report/600/6-90/006F. Respiratory health effects of passive smoking: lung cancer and other disorders. Washington, DC. Available at: http://oaspub.epa.gov/eims/eimscomm.getfile?p_download_id=36793 (Accessed: 20 November 2013).
- Environmental Protection Agency (2000) Cinnamaldehyde (040506) fact sheet. Available at: http://www.epa.gov/pesticides/chem_search/reg_actions/registration/fs_PC-040506_1-Oct-98.pdf (Accessed: 20 November 2013).
- Etter, J. and Bullen, C. (2011) Electronic cigarette: users profile, utilization, satisfaction and perceived efficacy. *Addiction* 106: 2017–2028.
- Etter, J., Zäther, E. and Svensson, S. (2013) Analysis of refill liquids for electronic cigarettes. *Addiction* 108: 1671–1679.
- Farsalinos, K. and Romagna, G. (2013) Chronic idiopathic neutrophilia in a smoker, relieved after smoking cessation with the use of electronic cigarette: a case report. *Clin Med Insights Case Rep* 6: 15–21.
- Farsalinos, K., Romagna, G., Alliffranchini, E., Ripamonti, E., Bocchietto, E., Todeschi, S. *et al.* (2013a) Comparison of the cytotoxic potential of cigarette smoke and electronic cigarette vapour extract on cultured myocardial cells. *Int J Environ Res Public Health* 10: 5146–5162.
- Farsalinos, K., Romagna, G., Tsiapras, D., Kyrzopoulos, S. and Voudris, V. (2013b) Evaluating nicotine levels selection and patterns of electronic cigarette use in a group of "vapers" who had achieved complete substitution of smoking. *Subst Abuse* 7: 139–146.
- Farsalinos, K., Romagna, G., Tsiapras, D., Kyrzopoulos, S. and Voudris, V. (2013c) Evaluation of electronic cigarette use (vaping) topography and estimation of liquid consumption: implications for research protocol standards definition and for public health authorities' regulation. *Int J Environ Res Public Health* 10: 2500–2514.
- Farsalinos, K., Romagna, G. and Voudris, V. (2013d) Authors miss the opportunity to discuss important public health implications. *J Chromatogr A* 1312: 155–156.
- Farsalinos, K., Spyrou, A., Tsimopoulou, K., Stefopoulos, C., Romagna, G. and Voudris, V. (2014). Nicotine absorption from electronic cigarette use: comparison between first and new-generation devices. *Sci Rep* (in press).
- Farsalinos, K., Tsiapras, D., Kyrzopoulos, S., Savvopoulou, M., Avramidou, E., Vasilopoulou, D. *et al.* (2012) Acute effects of using an electronic nicotine-delivery device (e-cigarette) on myocardial function: comparison with the effects of regular cigarettes. *Eur Heart J* 33(Abtract Supplement): 203.
- Farsalinos, K., Tsiapras, D., Kyrzopoulos, S., Stefopoulos, C., Spyrou, A., Tsakalou, M. *et al.* (2013f) Immediate effects of electronic cigarette use on coronary circulation and blood carboxyhemoglobin levels: comparison with cigarette smoking. *Eur Heart J* 34(Abtract Supplement): 13.
- Flouris, A., Chorti, M., Poulianiti, K., Jamurtas, A., Kostikas, K., Tzatzarakis, M. *et al.* (2013) Acute impact of active and passive electronic cigarette smoking on serum cotinine and lung function. *Inhal Toxicol* 25: 91–101.
- Flouris, A., Poulianiti, K., Chorti, M., Jamurtas, A., Kouretas, D., Owolabi, E. *et al.* (2012) Acute effects of electronic and tobacco cigarette smoking on complete blood count. *Food Chem Toxicol* 50: 3600–3603.
- Food and Drug Administration (2009) FDA and Public health experts warn about electronic cigarettes.

Available at: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm173222.htm> (Accessed: 20 November 2013).

Gennimata, S., Palamidis, A., Kaltsakas, G., Tsirikika, S., Vakali, S., Gratiou, C. *et al.* (2012) Acute effect of e-cigarette on pulmonary function in healthy subjects and smokers. Presented at the European Respiratory Society's Annual Congress, Poster P1053. Available at: https://www.ersnetsecure.org/public/prg_congress.abstract?ww_i_presentation=59718 (Accessed: 20 November 2013).

Goniewicz, M., Knysak, J., Gawron, M., Kosmider, L., Sobczak, A., Kurek, J. *et al.* (2013) Levels of selected carcinogens and toxicants in vapour from electronic cigarettes. *Tob Control*. DOI: 10.1136/tobaccocontrol-2012-050859. (Published online: 6 March 2013).

Greenland, S., Satterfield, M. and Lanes, S. (1998) A meta-analysis to assess the incidence of adverse effects associated with the transdermal nicotine patch. *Drug Safety* 18: 297–308.

Guillem, K., Vouillac, C., Azar, M., Parsons, L., Koob, G., Cador, M. *et al.* (2005) Monoamine oxidase inhibition dramatically increases the motivation to self-administer nicotine in rats. *J Neurosci* 25: 8593–8600.

Guslandi, M. (1999) Nicotine treatment for ulcerative colitis. *Br J Clin Pharmacol* 48: 481–484.

Hadwiger, M., Trehy, M., Ye, W., Moore, T., Allgire, J. and Westenberger, B. (2010) Identification of amino-tadalafil and rimonabant in electronic cigarette products using high pressure liquid chromatography with diode array and tandem mass spectrometric detection. *J Chromatogr A* 1217: 7547–7555.

Hajek, P., Jarvis, M., Belcher, M., Sutherland, G. and Feyerabend, C. (1989) Effect of smoke-free cigarettes on 24 h cigarette withdrawal: a double-blind placebo-controlled study. *Psychopharmacology (Berl)* 97: 99–102.

Hubbard, R., Lewis, S., Smith, C., Godfrey, C., Smeeth, L., Farrington, P. *et al.* (2005) Use of nicotine replacement therapy and the risk of acute myocardial infarction, stroke, and death. *Tob Control* 14: 416–421.

Kim, H. and Shin, H. (2013) Determination of tobacco-specific nitrosamines in replacement liquids of electronic cigarettes by liquid chromatography-tandem mass spectrometry. *J Chromatogr A* 1291: 48–55.

King, B., Alam, S., Promoff, G., Arrazola, R. and Dube, S. (2013) Awareness and ever use of electronic cigarettes among US adults, 2010–2011. *Nicotine Tob Res* 15(9): 1623–1627.

Laugesen, M. (2008) Safety Report on the Ruyan® e-cigarette Cartridge and Inhaled Aerosol. Available at: <http://www.healthnz.co.nz/RuyanCartridgeReport30-Oct-08.pdf> (Accessed: 18 November 2013).

Laugesen, M. (2009). Ruyan®E-cigarette Bench-top tests. Society for Research on Nicotine and Tobacco (SRNT) Dublin, Poster 5-11. Available at: <http://www.healthnz.co.nz/DublinEcigBenchtopHandout.pdf> [accessed 20 November 2013].

Le Houezec, J., McNeill, A. and Britton, J. (2011) Tobacco, nicotine and harm reduction. *Drug Alcohol Rev* 30: 119–123.

Lee, S., Grana, R. and Glantz, S. (2013) Electronic cigarette use among Korean adolescents: a cross-sectional study of market penetration, dual use, and relationship to quit attempts and former smoking. *J Adolesc Health*. DOI: 10.1016/j.jadohealth.2013.11.003. (Published online: 22 November 2013).

Lotfipour, S., Arnold, M., Hogenkamp, D., Gee, K., Belluzzi, J. and Leslie, F. (2011) The monoamine oxidase (MAO) inhibitor tranilcyproline enhances nicotine self-administration in rats through a mechanism independent of MAO inhibition. *Neuropharmacology* 61: 95–104.

Lúdvíksdóttir, D., Blöndal, T., Franzon, M., Gudmundsson, T. and Säwe, U. (1999) Effects of nicotine nasal spray on atherogenic and thrombogenic factors during smoking cessation. *J Intern Med* 246: 61–66.

Mayer, B. (2013). How much nicotine kills a human? Tracing back the generally accepted lethal dose to dubious self-experiments in the nineteenth century. *Arch Toxicol* 88: 5–7.

Mayers, M. (2009) FDA acts to protect public health from electronic cigarettes. Campaign for Tobacco-Free Kids statement. Available at: http://www.tobaccofreekids.org/press_releases/post/id_1166 (Accessed: 20 November 2013).

McAuley, T., Hopke, P., Zhao, J. and Babaian, S. (2012) Comparison of the effects of e-cigarette vapor and cigarette smoke on indoor air quality. *Inhal Toxicol* 24: 850–857.

McCauley, L., Markin, C. and Hosmer, D. (2012) An unexpected consequence of electronic cigarette use. *Chest* 141(4): 1110–1113.

McClernon, F., Hiott, F., Westman, E., Rose, J. and Levin, E. (2006) Transdermal nicotine attenuates depression symptoms in nonsmokers: a double-blind, placebo-controlled trial. *Psychopharmacology (Berl)* 189: 125–133.

MHRA Commission on human medicines, Working Group on nicotine containing products (NCPS) (2013). Current use of electronic cigarettes. Available

at: <http://www.mhra.gov.uk/home/groups/comms-ic/documents/websitesresources/con286845.pdf> (Accessed: 20 November 2013).

Moore, D., Aveyard, P., Connock, M., Wang, D., Fry-Smith, A. and Barton, P. (2009) Effectiveness and safety of nicotine replacement therapy assisted reduction to stop smoking: systematic review and meta-analysis. *BMJ* 338: b1024.

Murray, R., Bailey, W., Daniels, K., Bjornson, W., Kurnow, K., Connett, J. *et al.* (1996) Safety of nicotine polacrilex gum used by 3,094 participants in the Lung Health Study. Lung Health Study Research Group. *Chest* 109: 438–445.

National Association of Attorneys General (2013) FDA regulation on E-cigarettes. Available at: [http://www.naag.org/assets/files/pdf/E%20Cigarette%20Final%20Letter%20\(5\)\(1\).pdf](http://www.naag.org/assets/files/pdf/E%20Cigarette%20Final%20Letter%20(5)(1).pdf) (Accessed: 20 November 2013).

Nides, M., Leischow, S., Bhattar, M. and Simmons, M. (2014) Nicotine blood levels and short-term smoking reduction with an electronic nicotine delivery system. *Am J Health Behav* 38: 265–274.

Nielsen, S., Franklin, G., Longstreth, W., Swanson, P. and Checkoway, H. (2013) Nicotine from edible Solanaceae and risk of Parkinson disease. *Ann Neurol* 74: 472–477.

Nitenberg, A. and Antony, I. (1999) Effects of nicotine gum on coronary vasomotor responses during sympathetic stimulation in patients with coronary artery stenosis. *J Cardiovasc Pharmacol* 34: 694–699.

Palamidas, A., Gennimata, S., Kaltsakas, G., Tsikrika, S., Vakali, S., Gratziou, C. *et al.* (2013) Acute effect of an e-cigarette with and without nicotine on lung function. Presented at the European Respiratory Society's Annual Congress, Poster P1054. Available at: http://www.ersnet.org/learning_resources_player/abstract_print_13/files/100.pdf (Accessed: 20 November 2013).

Pellegrino, R., Tinghino, B., Mangiaracina, G., Marani, A., Vitali, M., Protano, C. *et al.* (2012) Electronic cigarettes: an evaluation of exposure to chemicals and fine particulate matter (PM). *Ann Ig* 24: 279–288.

Peters, A. (2005) Particulate matter and heart disease: evidence from epidemiological studies. *Toxicol Appl Pharmacol* 207: 477–482.

Polosa, R. and Caponnetto, P. (2013) Time for evidence-based e-cigarette regulation. *Lancet Oncol* 14: 582–583.

Polosa, R., Caponnetto, P., Morjaria, J., Papale, G., Campagna, D. and Russo, C. (2011) Effect of an electronic nicotine delivery device (e-Cigarette)

on smoking reduction and cessation: a prospective 6-month pilot study. *BMC Public Health* 11: 786.

Polosa, R., Morjaria, J., Caponnetto, P., Campagna, D., Russo, C., Alamo, A. *et al.* (2013a) Effectiveness and tolerability of electronic cigarette in real-life: a 24-month prospective observational study. *Intern Emerg Med*. DOI: 10.1007/s11739-013-0977-z (Published online: July 2013).

Polosa, R., Rodu, B., Caponnetto, P., Maglia, M. and Raciti, C. (2013b) A fresh look at tobacco harm reduction: the case for the electronic cigarette. *Harm Reduct J* 10: 19.

Pryor, W. and Stone, K. (1993) Oxidants in cigarette smoke: radicals, hydrogen peroxide, peroxyxynitrate, and peroxyxynitrite. *Ann NY Acad Sci* 686: 12–28.

Ravindra, K., Wauters, E. and Van Grieken, R. (2008) Variation in particulate PAHs levels and their relation with the transboundary movement of the air masses. *Sci Total Environ* 396: 100–110.

Renne, R., Wehner, A., Greenspan, B., Deford, H., Ragan, H., Westenberg, R. *et al.* (1992) 2-Week and 13-Week Inhalation Studies of Aerosolized Glycerol in Rats. *Inhal Toxicol* 4: 95–111.

Riess, U., Tegtbur, U., Fauck, C., Fuhrmann, F., Markewitz, D. and Salthammer, T. (2010) Experimental setup and analytical methods for the non-invasive determination of volatile organic compounds, formaldehyde and NOx in exhaled human breath. *Anal Chim Acta* 669: 53–62.

Rigotti, N., Pipe, A., Benowitz, N., Arteaga, C., Garza, D. and Tonstad, S. (2010) Efficacy and safety of varenicline for smoking cessation in patients with cardiovascular disease: A randomized trial. *Circulation* 121: 221–229.

Robertson, O., Loosli, C., Puck, T., Wise, H., Lemon, H. and Lester, W. Jr (1947) Tests for the chronic toxicity of propylene glycol and triethylene glycol on monkeys and rats by vapor inhalation and oral administration. *J Pharmacol Exp Ther* 91: 52–76.

Rodu, B. and Godshall, W. (2006) Tobacco harm reduction: An alternative cessation strategy for inveterate smokers. *Harm Reduct J* 3: 37.

Romagna, G., Alliffranchini, E., Bocchietto, E., Todeschi, S., Esposito, M. and Farsalinos, K. (2013) Cytotoxicity evaluation of electronic cigarette vapor extract on cultured mammalian fibroblasts (ClearStream-LIFE): comparison with tobacco cigarette smoke extract. *Inhal Toxicol* 25: 354–361.

Romagna, G., Zabarini, L., Barbiero, L., Bocchietto, E., Todeschi, S., Caravati, E. *et al.* (2012) Characterization of chemicals released to the environment by electronic cigarettes use (ClearStream-Air project): is passive vaping a reality?

- SRNT Europe Annual Congress, Helsinki, Finland. Poster RRP18. Available at: <http://www.srnteurope.org/assets/srnt-e2012abstractbook.pdf> [accessed 20 November 2013].
- Rose, J. (2006) Nicotine and nonnicotine factors in cigarette addiction. *Psychopharmacology (Berl)* 184: 274–285.
- Rose, J. and Levin, E. (1991) Inter-relationships between conditioned and primary reinforcement in the maintenance of cigarette smoking. *Br J Addict* 86: 605–609.
- Russell, M. (1991) The future of nicotine replacement. *Br J Addict* 86: 653–658.
- Sahakian, B., Jones, G., Levy, R., Gray, J. and Warburton, D. (1989) The effects of nicotine on attention, information processing, and short-term memory in patients with dementia of the Alzheimer type. *Br J Psychiatry* 154: 797–800.
- Saitta, D., Ferro, G. and Polosa, R. (2014) Achieving appropriate regulations for electronic cigarettes. *Ther Adv Chronic Dis* 3 February 2014 (Epub ahead of print). DOI: 10.1177/2040622314521271
- Schiller, J. and Ni, H. (2006) Cigarette smoking and smoking cessation among persons with chronic obstructive pulmonary disease. *Am J Health Promot* 20: 319–323.
- Schober, W., Szendrei, K., Matzen, W., Osiander-Fuchs, H., Heitmann, D., Schettgen, T. *et al.* (2013) Use of electronic cigarettes (e-cigarettes) impairs indoor air quality and increases FeNO levels of e-cigarette consumers. *Int J Hyg Environ Health*. DOI: 10.1016/j.ijheh.2013.11.003. (Published online: 6 December 2013).
- Schripp, T., Markewitz, D., Uhde, E. and Salthammer, T. (2013) Does e-cigarette consumption cause passive vaping? *Indoor Air* 23: 25–31.
- Seaton, A., MacNee, W., Donaldson, K. and Godden, D. (1995) Particulate air pollution and acute health effects. *Lancet* 345: 176–178.
- Stein, Y., Antal, M. and Jones, M. (1983) A study of the gas-phase pyrolysis of glycerol. *J Anal Appl Pyrol* 4: 283–296.
- US Fire Administration (2012) Smoking-related Fires in residential buildings (2008–2010). Topical Fire Report Series 13. Available at: <http://www.usfa.fema.gov/downloads/pdf/statistics/v13i6.pdf> (Accessed: 20 November 2013).
- US Pharmacopeia (2013) Elemental impurities limits. Available at: http://www.usp.org/sites/default/files/usp_pdf/EN/USPNF/key-issues/c232_final.pdf (Accessed: 20 November 2013).
- Van Staden, S., Groenewald, M., Engelbrecht, R., Becker, P. and Hazelhurst, L. (2013) Carboxyhaemoglobin levels, health and lifestyle perceptions in smokers converting from tobacco cigarettes to electronic cigarettes. *S Afr Med J* 103: 865–868.
- Vardavas, C., Anagnostopoulos, N., Kougias, M., Evangelopoulou, V., Connolly, G. and Behrakis, P. (2012) Short-term pulmonary effects of using an electronic cigarette: impact on respiratory flow resistance, impedance, and exhaled nitric oxide. *Chest* 141: 1400–1406.
- Varughese, S., Teschke, K., Brauer, M., Chow, Y., van Netten, C. and Kennedy, S. (2005) Effects of theatrical smokes and fogs on respiratory health in the entertainment industry. *Am J Ind Med* 47: 411–418.
- Werley, M., McDonald, P., Lilly, P., Kirkpatrick, D., Wallery, J., Byron, P. *et al.* (2011) Non-clinical safety and pharmacokinetic evaluations of propylene glycol aerosol in Sprague-Dawley rats and Beagle dogs. *Toxicology* 287: 76–90.
- Westenberger, B. (2009) Evaluation of e-Cigarettes. St. Louis, MO: Department of Health and Human Services, Food and Drug Administration, Center for Drug Evaluation and Research, Division of Pharmaceutical Analysis. Available at: <http://www.fda.gov/downloads/drugs/Scienceresearch/UCM173250.pdf> (Accessed: November 10, 2013).
- WHO-IARC (2004) IARC monographs on the evaluation of carcinogenic risks to humans. Volume 83, tobacco smoke and involuntary smoking. Available at: <http://monographs.iarc.fr/ENG/Monographs/vol83/mono83.pdf>. (Accessed: 20 November 2013).
- Wieslander, G., Norbäck, D. and Lindgren, T. (2001) Experimental exposure to propylene glycol mist in aviation emergency training: acute ocular and respiratory effects. *Occup Environ Med* 58: 649–655.
- Williams, M., Villarreal, A., Bozhilov, K., Lin, S. and Talbot, P. (2013) Metal and silicate particles including nanoparticles are present in electronic cigarette cartomizer fluid and aerosol. *PLoS One* 8: e57987.
- World Health Organization (2013) Tobacco fact sheet No 339. Updated July 2013. Available at: <http://www.who.int/mediacentre/factsheets/fs339/en/> (Accessed: 18 November 2013).
- Wolf, K., Zabad, M., Post, J., McNitt, S., Williams, G. and Bisognano, J. (2012) Effect of nicotine replacement therapy on cardiovascular outcomes after acute coronary syndromes. *Am J Cardiol* 110: 968–970.
- Yudkin, P., Hey, K., Roberts, S., Welch, S., Murphy, M. and Walton, R. (2003) Abstinence from smoking eight years after participation in randomised controlled trial of nicotine patch. *BMJ* 327: 28–29.
- Zevin, S., Benowitz, N. and Jacob, P. (1998) Dose-related cardiovascular and endocrine effects of transdermal nicotine. *Clin Pharmacol Ther* 64: 87–95.

From: [Patricia Fleck](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 9:34:00 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

Thank you for the opportunity to submit testimony in support of SB 2495, SD1. I strongly support regulating electronic smoking devices (ESDs) by creating licensing and permitting processes and fees; prohibiting the use of ESDs in places open to the public and places of employment; and restricting the sale, distribution, or display of ESDs to be the same as cigarettes and other tobacco products.

I support including “electronic smoking devices” in the definition of “tobacco product” and “smoke or smoking” in the smoke-free workplace law, and to prohibit the use of electronic smoking devices in the places where smoking is prohibited. Including electronic smoking devices will reduce confusion within society, decrease distractions in the workplace, and protect the social norm.

I support treating ESDs similarly to other tobacco products through requiring a licensing process for wholesalers and a permitting process for retailers. ESDs should be taxed the same as other tobacco products and restricted to the same sale, distribution, and display requirements as cigarettes and other tobacco products.

Electronic smoking devices are currently unregulated and emit unregulated levels of chemicals into the air. Without regulations there is no evidence that the emissions are merely “harmless water vapor.” SB 2495, SD1 must be passed to provide protection for the public while science continues to emerge with more information about the emissions and chemicals released from the vapor. Failing to act may set us back decades.

Mahalo.

Patricia Fleck
75-5660 Kopico Street, Ste. C7-330
Kailua Kona, HI 96740

From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: boomher2000@yahoo.com
Subject: Submitted testimony for SB2495 on Feb 20, 2014 09:00AM
Date: Tuesday, February 18, 2014 7:56:28 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
raymond wiley	Individual	Comments Only	No

Comments: Ecigs are good thing don't tax the consumer again we pay sales tax as it is.

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From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: regiedelacruz@gmail.com
Subject: *Submitted testimony for SB2495 on Feb 20, 2014 09:00AM*
Date: Tuesday, February 18, 2014 5:42:19 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
regie dela cruz	Individual	Oppose	No

Comments:

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From: [Shelly Ogata](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 8:54:11 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

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Electronic smoking devices are currently unregulated and emit unregulated levels of chemicals into the air. Without regulations there is no evidence that the emissions are merely “harmless water vapor.” SB 2495, SD1 must be passed to provide protection for the public while science continues to emerge with more information about the emissions and chemicals released from the vapor. Failing to act may set us back decades.

Mahalo.

Shelly Ogata
N. Ala Road
Kurtistown, HI 96749

From: [Stefan Keller](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:42:08 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

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Mahalo.

Stefan Keller
3731 Pukalani Pl.
Honolulu, HI 96816

From: [Steven Vannatta](#)
To: [WAM Testimony](#)
Subject: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices
Date: Wednesday, February 19, 2014 7:39:23 AM

To: Sen. David Y. Ige, Chair, Committee on Ways & Means
Sen. Michelle N. Kidani, Vice Chair, Committee on Ways & Means
Members, Senate Committee on Ways & Means

Re: Strong Support for SB 2495 SD 1, Relating to Electronic Smoking Devices

Hrg: February 20, 2014 at 9:00 a.m. in Room 211

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Mahalo.

Steven Vannatta
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From: mailinglist@capitol.hawaii.gov
To: [WAM Testimony](#)
Cc: susanlarson78@gmx.com
Subject: *Submitted testimony for SB2495 on Feb 20, 2014 09:00AM*
Date: Tuesday, February 18, 2014 9:13:42 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Susan Larson	Individual	Oppose	No

Comments:

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Subject: *Submitted testimony for SB2495 on Feb 20, 2014 09:00AM*
Date: Tuesday, February 18, 2014 1:47:11 PM

SB2495

Submitted on: 2/18/2014

Testimony for WAM on Feb 20, 2014 09:00AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Vin Kim	Individual	Oppose	No

Comments:

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From: [Wayne Salat](#)
To: [Sen. David Ige](#); [Sen. Michelle Kidani](#); [Sen. Suzanne Chun Oakland](#); [Sen. Donovan Dela Cruz](#); [Sen. J. Kalani English](#); [Sen. Will Espero](#); [Sen. Gilbert Kahele](#); [Sen. Gilbert Keith-Agaran](#); [Sen. Ronald D. Kouchi](#); [Sen. Russell Ruderman](#); [Sen. Laura Thielen](#); [Sen. Jill Tokuda](#); [Sen. Sam Slom](#); [WAM Testimony](#)
Subject: Oppose SB 2495 and SB 2222
Date: Sunday, February 16, 2014 1:43:12 PM

Vaping is something that has saved my life. It has helped me quit the traditional smoking of "analog" cigarettes. I had the help of a really close friend who got me started for that I guess you could say I owe her my life. I used to smoke easily 2 packs a day. When I was photographing a wedding this could be an issue, plus, Ramy didn't really like the smell of the cigarette smoke. I guess i never really knew how bad it really smelled or that no matter what cologne or spray you used to "try" and cover up the smell... it was still there. Those who don't smoke CAN smell it and most will let you know. My kids were no exception, they would tell me all the time "Dad, you stink like cigarettes", I took this all into consideration along with my health concerns and I began my journey down the road to not smoking cigarettes.

This was a road I had traveled several times before, and it always ended up the same way, back to smoking again... One day while I was at work on the Medic Unit and we were going to get some lunch at a new local diner, I happened to stumble upon Liberty Vapor which was right next to the diner. I chose to go in and see what it was all about. 2 months later... I find myself at Liberty Vapor several times a week , meeting new people and learning new things about the Vaping community. Both of the owners Brian and Ron are very knowledgeable honest and are truly out to help you start your way to a better life without smoking . I have now been Smoke Free for the last 5 Months. This is a LIFE SAVING device. I know that I appreciate it just as my 8 year old and 9 year old do. Please dont make the mistake of banning the E-Cigs. I have decreased the amount of medications needed for my asthma. I am truly SMOKE and TOBACCO FREE!

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