Presentation re House Bills 4073 and 4115

Oregon House Committee on Human Services and Housing
Oregon State Capitol, Salem, Oregon
February 5, 2014
and

Proposed Update to R Street E-Cigarette Policy Study # 11

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Dr. Nitzkin's Verbal Presentation

Introduction

Thank you for the opportunity to speak before you.

I am here to speak in favor of extending the cigarette age restrictions to e-cigarettes and against prohibiting use of e-cigarettes in areas where smoking is prohibited.

I have provided the Committee with two handouts detailing the issues surrounding House Bills 4073 and 4115.

The first is a recent R Street policy statement addressing the relative safety of e-cigarette vapor, the lack of attractiveness of e-cigarettes to teens and the objections to e-cigarettes by public health authorities. The second is a copy of today's presentation, plus additional background material.

All this is provided to help you to better understand the proposed ban on e-cigarettes in the context of an absolute refusal by the tobacco control community to consider tobacco harm reduction as a possible public health initiative. They have a laser-like focus on preventing teen initiation of tobacco use while ignoring potential benefits to current adult smokers.

I am a public heath physician whose home base is New Orleans, Louisiana. I have been a local health director, a state health director and President of two national public health organizations. I have been actively involved with tobacco control since the 1980's, with major involvement since February 2007 on behalf of the American Association of Public Health Physicians, and, since late 2012, with assistance from the R Street Institute. I would be happy to answer any questions you might have about my current activities in this arena after this presentation.

Specific provisions of House Bills 4073 and 4115

Age restrictions

There are two reasons to implement and enforce prohibition of sales of nicotine delivery products to minors. The first has to do with adverse impacts of nicotine on the still-developing adolescent brain. The second is documented fact that, if a person does not initiate tobacco use until after about 24 years of age, he or she is unlikely to ever become addicted to nicotine. With this in mind, not only should you to extend the age restrictions currently in place to e-cigarettes, you should also consider moving the age cut-off from the 18th to the 21st birthday. Upping the age of purchase would remove cigarettes from the high school environment.[1]

It is important to note that the nicotine products most accessible to teens are the pharmaceutical nicotine replacement therapy patches, gum and lozenges available on open shelves at every drug store, discount store and most supermarkets. They are sold without enforcement of age restrictions and are exempted in current Oregon law. The gum and lozenge products are offered in a variety of fruit and candy flavors.[2,3] We do not know the extent to which these products are being used by children and teens to abuse nicotine because these products are not covered in any of the federally sponsored

surveillance activities. This may be an issue worth exploring on behalf of legislators concerned about teen use of nicotine products.

Banning e-cigarettes in no-smoking areas

There is no credible public health justification for banning e-cigarettes in no-smoking areas.

An estimated 70% to 80% of the indoor air pollution from cigarettes is due to sidestream smoke – the smoke that curls off the end of the cigarette when no one is sucking on it. The smoke exhaled by the smoker contributes relatively little to this pollution. E-cigarettes have no sidestream smoke. The vapor exhaled by the user of the e-cigarette contains traces of hazardous organic chemicals so small that they are not readily measurable above background levels in indoor environments. Propylene glycol – the propellant vehicle used in many e-cigarettes is generally recognized as safe. It is used for theatrical fog, and has even used in some asthma inhalers.

Those alleging a possible health hazard from exhaled vapor like to quote studies showing tiny traces of a variety of organic chemical substances in exhaled vapor. What they do not tell you is that persons not smoking or vaping exhale similar trace quantities of many of these same chemicals and that, when measured in an enclosed chamber, exhaled vapor shows no measurable increases of these chemicals above background levels. They also tend to blur the difference between the vapor inhaled by the user and the vapor exhaled, particularly with regard to trace metals.

Some object to allowing vaping in no-smoking areas believing that smokers would not be able to tell the difference between a vapor device and a cigarette. They then speculate that vaping in no-smoking areas would undo progress made since the 1980's in protecting bystanders from smoke in indoor air. I know of no published data on this topic, but this speculation seems very unlikely, at least to me. Given the fact that we now have had several years' experience with e-cigarettes, those proposing such a ban should be able to demonstrate whether or not such e-cigarette use to date has had an adverse effect on enforcement of clean indoor air regulations.

Banning e-cigarettes in no-smoking areas could do harm from a public health perspective by signaling to smokers that e-cigarettes pose the same risk as cigarettes, and, by that means, inhibiting smokers from switching to these far less hazardous products.

Objections to e-cigarettes by the tobacco control community

I think it important that you, as legislators, understand why tobacco control people so strongly object to e-cigarettes.

There are four major reasons, as I see them, as follows:

1. A **Commitment to a "tobacco free society"** in which the term "tobacco use" is used as synonymous with the term "smoking." This implies that all non-pharmaceutical tobacco products present the same risk of potentially fatal tobacco-attributable illness. This, in turn, rules out any consideration of using any non-pharmaceutical nicotine product as part of any public health initiative, no matter what the potential benefits.

2. **Replacement of "scientific evidence" with a newly minted "self- evident" standard.** In other words, if a guideline is sufficiently self-evident, no amount of contrary scientific evidence need be considered. Two examples of this new standard can be seen in the assertion that exhaled e-cigarette vapor is a hazard to bystanders and the assertion that flavoring of e-cigarettes is for the sole purpose of attracting non-smoking teens to tobacco use.[4] This precept, of course, does not apply to fruit and candy flavored nicotine gum[2] and lozenges[3] sold over the counter by drug stores, discount stores and supermarkets everywhere.
3. **The issue of FDA approval.** The fact that none of these products are FDA approved is the fault of the FDA, not the manufacturers of e-cigarettes. FDA has yet to generate the needed regulations.
4. **The hidden influence of the pharmaceutical industry.** Finally, it must be noted that the upper reaches of the American tobacco control community enjoy large and continuing grants, contracts and contributions from the major pharmaceutical firms. The drug companies pay for much of the research in this arena, generously contribute to the Heart, Lung and Cancer societies, Tobacco Free Kids, the Centers for Disease Control and even to NIH. Many, if not all of the federally sponsored national tobacco control meetings are co-sponsored by or otherwise generously supported by drug companies. If there was any doubt as to the attitude of the pharmaceutical companies relative to the threat posed by e-cigarettes, their actions behind the scenes, suggest that they are doing everything within their power to eliminate competition from e-cigarettes[5]

Tobacco harm reduction and e-cigarettes

Tobacco harm reduction is an educational initiative by which smokers who are unable or unwilling to quit are advised that they can lower their risk of a potentially fatal tobacco-attributable illness by 98% or better by switching to any one of the smokeless products now on the American market. These data are based on long-term epidemiological studies of Snus use in Sweden and on use of "smokeless tobacco" in the USA since the mid 1980's. Since e-cigarettes are basically a nicotine-only product with only the smallest traces of the carcinogens and other toxins found in smokeless tobacco product, e-cigarettes likely carry even less risk.

"Harm reduction" does not mean "harmless." All of these products, including the pharmaceutical nicotine products pose more of a potential health risk than usually accepted in other consumer products. None are risk free. It is only in comparison to cigarettes that they can be considered very low risk.

Nicotine addicts, but it is the other toxins in cigarette smoke, when inhaled deep into the lung, that kill.

All of the 480,000 estimated tobacco-attributable deaths each year in the USA are due to a single tobacco product – the cigarette.[6] Deaths from all other tobacco products are so low in number and so hard to distinguish from background that they are not tracked by our federal agencies. Simply changing the mantra from a "tobacco free society" to a "smoke-free society" would align tobacco control policy with the science and evidence base.

The vast majority of the 9.6 million deaths due to cigarettes projected to occur over the next 20 years (480,000 per year x 20) will be in current adult smokers who are now over 35 years of age. This means that our efforts to reduce teen initiation of tobacco use will do almost nothing to reduce deaths due to smoking during the next 20 years.

Right now, the best we have to offer current smokers is a set of pharmaceutical-based smoking cessation protocols that we know will fail about 90% percent of smokers who use them under the best of study conditions, with results measured at six to twelve months. The flaws in the current "evidence-based" policies are fairly obvious. They do not satisfy the urge to smoke in the majority of smokers, the dose is too low, the duration of treatment too short and there is no built-in provision for self-reinforcement when the urge to smoke returns.

A modestly successful tobacco harm reduction initiative, if added to current tobacco control programming, would satisfy the urge to smoke in a majority of smokers, and would likely save the lives of 1.5 to 4.8 million current adult American smokers , with the numbers depended on the rate of switching to lower risk smoke-free products. In Year 20 of such an intervention, again, depending on switch rates, the annual numbers of smokers and deaths would likely be down 30% to 80% from current levels. ,[7]

In addition to being less hazardous, e-cigarettes promise to be less addictive[8] easier to quit than cigarettes,[9] and far less attractive to teens and other non-smokers.[10,11]

There is no other feasible tobacco control policy that has the potential to secure public health benefits of this magnitude

The THR initiative would be free to the taxpayer. It would consist of simply telling the truth to the American public about the differences in risk, comparing cigarettes to lower risk smoke-free options. There would be no drugs to buy and no expensive health education and counseling programming.

All this would be in addition to, not a replacement for current tobacco control programming. Prohibition of sales to minors, strict regulation of manufacture and marketing, clean indoor air regulations, tax policy and control of contraband would remain in place, and hopefully be strengthened.

It is these potential public health benefits that propel me and other public health professionals to advocate on behalf of THR, and on behalf of e-cigarettes as a promising THR modality.

With all this in mind, I again urge you to vote in favor of extending the age restrictions in current legislation to e-cigarettes and urge you to vote against banning e-cigarettes in no-smoking areas.

More complete information, replete with bibliographic references, is provided in my handout.

I would be happy to take any questions.

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Additional Background Material

In the three months since publication of the R Street Policy Study No. 11, a number of issues have come into sharper focus and important new research has been published or has otherwise come to my attention.

"Self-Evident" vs. Science and Data

The following anti-THR and anti-ENDS policies are considered "self-evident" by many in tobacco control, with the understanding that these policies and assertions are so self-evident that they can be accepted even in the face of contrary scientific evidence. This has been described by some pundits as the "if it walks like a duck . . ." standard. (i.e. if it walks like a duck and quacks like a duck, it must be a duck).

The "Self-Evident" Perception	What Science and Data Show
1. The terms "tobacco" and "smoking" can and should be used interchangeably, since all tobacco products present similar high risk of potentially fatal illness.	The smokeless tobacco products on the American market show substantially less risk of tobacco-attributable mortality than cigarettes.[12-14] **(also see discussion of smokeless tobacco warnings immediately following this table)**
2. Since ENDS are not currently regulated by FDA, we have no idea what is in them.	With known ingredients and studies done by independent labs hired by the manufacturers, we know more about what is in ENDS fluid and vapor than we know about what is in cigarette smoke.[15]
3. Since ENDS are not currently regulated by FDA, they must be considered more hazardous than cigarettes.	We can confidently estimate the risk posed by ENDS based on what we know of the risks posed by smokeless tobacco products and by the NRT products.
4. Since NRTs are regulated by FDA they must be both safe and highly effective.	They are safe, but with very limited efficacy.[16]
5. Since NRT products are regulated by FDA, they may be sold over the counter without age restriction and without concern that they might be used by teen non-smokers.	We have no idea whether NRT products are being abused by teens because no federal agency tracks teen use of these products in any of their tobacco-related surveillance systems
6. Exhaled ENDS vapor is sure to be hazardous to bystanders.	Exhaled ENDS vapor includes traces of nicotine, but no measurable amounts of organic chemical toxins above baseline and none above any industrial or other standard. (see discussion below this table)
7. Allowing use of ENDS in no-smoking areas is sure to encourage smokers to light up since they will not be able to tell e-cigarettes from the real thing.	Bystanders can easily tell the difference between an e-cigarette and the real thing
8. Marketing ENDS as less hazardous than cigarettes is sure to recruit large numbers of non-smoking teens and other non-smokers to nicotine use and addiction, and from there to cigarette use.	CDC data[17] and major studies done in the USA[10] and Great Britain[11] show this perception not to be true. In fact, the CDC study showed that both cigarette use and overall tobacco use among both middle schoolers and high schoolers decreased from 2011 to 2012 as e-cigarette use increased[17-19]

9. Since all tobacco companies are inherently evil, there is no possibility of a public health benefit from THR or use of ENDS. 10. Since all tobacco companies are inherently evil, any and all statements by researchers or advocates with any support from any tobacco-related enterprise can be summarily dismissed as commercially biased and antithetical to the health of the public.	Contrary to the common perception in the tobacco control community, the tobacco industry is far from monolithic, and there are many companies and individuals who would sincerely welcome the opportunity to partner with public health in pursuit of shared public health objectives.
11. All nicotine-containing products are equally addictive.	A recent literature review, published as a blog posting, clearly shows this not to be true (see discussion below this table)
12. Dual use of cigarettes and ENDS devices is declared to be increased harm.	Dual use would increase harm only if it resulted in more cigarettes being smoked. There is an ample literature showing that dual use is a very common intermediate stage when switching from cigarettes to a smokeless or ENDS product, and that, during this period the numbers of cigarettes smoked are substantially reduced.[20]
13. Since we have safe and effective smoking-cessation pharmaceuticals, there is no need for THR.	a: Smoking cessation pharmaceuticals have had no public health impact on a population level.(see discussion below this table) b: The prevalence of smoking in the USA, as measured by the numbers of smokers has not gone down since 2004,[21] despite ever more aggressive marketing and use of pharmaceutical smoking cessation products. c: The data noted above clearly indicates that, if we are to reduce the prevalence of smoking in the USA, we must add one or more new components to current tobacco control programming, with THR as a promising new component.
14. Policy making by tobacco control authorities is totally free of commercial influence. 15. Tobacco control policy is firmly grounded in scientific evidence.	a: Both federal agencies (CDC, NIH, etc) and the major voluntary organizations involved with tobacco control (Heart, Lung, Cancer societies and major medical societies) receive funding from pharmaceutical companies.*** b: Smoking cessation protocols reliant on pharmaceuticals are promoted as the "standard of practice" for physicians*** despite the fact that such protocols fail about 90% of smokers who use them as directed, even under the best of study conditions.*** c: Multiple tobacco control policies openly conflict with the best available scientific evidence.

The issue of smokeless tobacco warnings

The most damaging of the "self-evident" perceptions and the one standing directly in the way of any consideration of incorporating a THR element into tobacco control programming is the perception that all tobacco products present a similar risk of potentially fatal illness. This perception is reinforced by the warnings mandated on all packages of smokeless tobacco sold in the USA. There are four rotating warnings. One warns of mouth cancer, the second of tooth and gum disease, the third states that smokeless tobacco is not a safe alternative to cigarettes and the fourth warns of addiction. **Of these warnings, the first is technically incorrect, and the next two are grossly misleading.** Only the warning of addiction is correct and not misleading. These warnings have left over 80% of smokers with the impression that these smokeless products are as hazardous, if not more hazardous than cigarettes, and that switching from cigarettes to a smokeless alternative will simply result in swapping a risk for lung cancer for a risk for mouth cancer.[22] These warnings would be appropriate for a family of products available in India, sometimes referred to as gutkha, and sometimes referred to as pan masala with tobacco. This family of products does pose high risk of mouth cancer and tooth and gum disease, but it has not been and likely will never be available on the American market. As noted above, the chewing tobacco, snuff, snus and other smokeless products on the American market do not pose any risk of these diseases warranting any such warning, and this lack of risk has been firmly established at least since 2004. This lack of risk has been further reinforced by additional studies of this subject published since that time. .[13,14]

Newly published data relates to the following issues:

Contraband

In a recent survey of cigarette pack litter in five northeastern cities, Davis et al found that 58.7% of cigarette packs did not have a proper local tax stamp. 30.5-42.1% were attributed to trafficking. They concluded that reducing cigarette trafficking would increase the effectiveness of tobacco taxes in reducing smoking and generate additional tax revenue.[23]

Percentage of smokers who initiated tobacco use after their 18th birthday

In their latest statistical report, SAMHSA (federal Substance Abuse and Mental Health Administration) noted that, among persons above 12 years of age that have initiated smoking, 31.6% of those surveyed in 2002 initiated smoking after their 18th birthday. Of those surveyed in 2012, 47.8% did so after their 18th birthday. While not diminishing the need to prohibit tobacco sales to persons under 18 years of age,[24] this report provides strong support for upping the age cut-off for tobacco sales from 18 to 21. This should also eliminate any thought that, by prohibiting sale of tobacco to minors, we could eventually eliminate all tobacco use in the USA.

Relative addictiveness of different classes of tobacco/nicotine product

On December 14, 2013, Dr. Karl Fagerstrom posted a well referenced essay entitled "Dependence on Tobacco and Nicotine" on the Nicotine Science and Policy website.[8] In this essay he makes a very strong case for their being a "continuum of dependence" in which cigarettes foster the strongest dependence, NRT pharmaceuticals the least, with smokeless products, e-cigarettes and other products in-between. Elements relating to the strength of the dependence include other chemical substances in cigarette

smoke, habituation to the cigarette-handling ritual and social and psychological factors. The practical implication of this essay is to the effect that when a smoker switches to a lower risk smokeless product, not only does he or she dramatically reduce future risk of potentially fatal tobacco-attributable illness, he or she is switching to a product that will be easier to quit than cigarettes

Toxins in exhaled e-cigarette vapor

A number of studies have been very recently published dealing with the concentration of organic chemicals in exhaled e-cigarette vapor. Basically, these studies show that when the e-cigarette user exhales into a glass tube or similar container, trace quantities of a variety of organic chemicals can be detected, but, when in an 8 cubic meter test chamber or similar room, for a half hour or more, e-cigarette use does not measurably increase the trace quantities of these chemical substances above background levels, while cigarettes cause dramatic rapid increases.[25-27] Perhaps the most interesting finding in these studies is that persons not using any form of tobacco routinely exhale trace amounts of acetone, ethane, pentane and isoprene and other endogenous volatile organic compounds[28-31]

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Dear Representative Gallegos,

I am a long time Hillsboro resident. I was the RN & vaper who demo'd my ecig testifying at the capitol opposing HB4115, I would like the chance to talk to you before the vote on 2/10. I am one of the leading grass roots tobacco harm reduction believers in Oregon, and nation wide. I host the nonprofit gathering Westside Vapemeet in Hillsboro each month where 75+ people gather to support each other, another not smoke. I earn no money & no products are sold. We are not run by vendors, but supported by them. Ecigs which really are personal nicotine vaporizers have done what in 50yrs the surgeon general, ACA, & ALA have not been able to do with as much success. We have quit smoking. Nicotine is not the enemy. Tobacco is. Nicotine is a class 2 stimulant the same as caffeine and is present in any shade grown vegetable/plant such as tomatoes, peppers, etc. If you enjoy salads...you have ingested nicotine. There according to leading research by Konstantinos Farsalinos, cardiologist and researcher at the Onassis Center in Greece no apparent risk on cardiovascular tissue as opposed to smoking. Igor Burstyn's research from the Drexel University School of Public Health states that based on over 9,000 observations of eliquid and vapor, found NO apparent concern for bystanders exposed to ecig vapor, even under WORST CASE assumptions about exposure. When I demonstrated my vanilla vaporiser in the hearing 2/5 on HB4115, it was mentioned it could be smelled barely. Odors are not illegal. A coffee pot in the break room, & bathroom air freshener was more apparent. If regulated by odor the fragrance counter at Macy's would far outweigh my vaporizer. HB4115 is too restrictive. If you do not regulate odor or caffeine, neither should my vaporizer be regulated. If all that is similar between a cigarette and a vaporizer is an inhaled mist, I beg of you not to be criminalized for vaping in the car if my minor 17yo son is present. Where else can we gather to support one another and not be shamed and stigmatized for a tobacco habit we no longer have. Vaping started with the people, we through gathering have evolved technology, and as a social media think tank and have found a tobacco harm alternative. We are not big tobacco and we desperately deserve a right to more successfully quit smoking over the long term. Big Tobacco has started to copy early vaping materials in the last 2 years by producing ineffective 'cig-alikes'. As you saw my vaporizer looked nothing like a cigarette. The Vaping culture and community wants NOTHING to do with Big Tobacco. If more than half of the cost of a pack of cigarettes is tax revenue, is the government as much a perpetuator of smoking addiction? Because they and big Pharm through all the tobacco money payouts have still not been as successful, with less to no side effects, no second hand smoke, and no smoke!! We support HB4073 restricting selling vaping products to minors. We oppose the restrictive and damning HB4115. I would like to work in partnership with you or the committee with others on effective tobacco harm reduction. Many in the Public Health field have praised ecigs to be to tobacco harm reduction what penicillin was to medicine. I smoked and harmed myself and the environment around me for over 20 years. I have been vaping for 5 years, and have not smoked in over 4 years. Not a single medicine, therapy, counseling, class, or holistic practice kept me from going back to smoking each time I quit. I enjoy vaping, and I am harming no one in any way. I am respectful and would not vape where I was asked not too, but that should be an individual businesses choice the same as it is to serve alcohol or coffee. The absurd notion that anyone is targeting children with FLAVORS is like the government trying to regulate the flavor of my mocha, cupcake, vodka, or what I serve on my dinner table. Anyone with a palate like to consume something pleasing to their personal taste. Why is nicorette, tropical or mint? I don't want to vape anything that is restricted to tobacco or menthol, I don't want the taste of a cigarette. I having had a spinal cord/nerve injury over the last

3.5 years used flavors holistically like aromatherapy to get through the extremes of 24/7 chronic pain as I am allergic to most pain medications. The flavor and the vapor helps me slow, and control my breathing, mind, and sense of pain when sometimes it's minute to minute of getting through severe spasms. Please join me in a discussion of true tobacco harm reduction in Hillsboro, the state, and the nation. We could set the precedence to follow.

Thank you, Tomi Deveraux-Earl, BSN, RN
5033-307-3966

Dear committe members,

Please accept these documents in opposition off HB4129 and share with all committee members.

Addict Sci Clin Pract. 2013 Mar 5;8(1):5. doi: 10.1186/1940-0640-8-5.
Perceived efficacy of e-cigarettes versus nicotine replacement therapy among successful e-cigarette users: a qualitative approach.
Barbeau AM, Burda J, Siegel M.

http://www.ncbi.nlm.nih.gov/pubmed/23497603

New research just presented days ago in Seattle: shows electronic cigarettes better for quitting, than no aid; over the counter NRT worse than no aid.
Published: Friday, 07 February 2014 02:21

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Grzegorz Krol | 7 February 2013
New research presented by Jamie Brown and colleagues at the Society for Research on Nicotine and Tobacco conference, 20th Annual Meeting, held in Seattle on Saturday, February 8, 2014 shows that smokers wishing to quit who used electronic-cigarettes had best outcomes.

The study was conducted on a large representative sample of the English population, and was based on people who had smoked during the last 12 months. It looked at those who had made at least one quit attempt using only an electronic cigarette, used only over-the-counter NRT, or used no aid in their most recent quit attempt. The outcome assessed was abstinence from cigarettes up to the time of the survey.

Users of electronic cigarettes performed best – 19.9% had stopped smoking, better than the 15.1% success for those who used no aid. Surprisingly (perhaps for some public health experts) OTC NRT users came off worst, with only 10.0% abstinent.

Caution is needed: this is an abstract, and publication of the full paper will give further details. More details are needed about the length of abstinence from smoking. Those using NRT may be a different segment of the smoking population than those using electronic cigarettes: however the research team found that the difference persisted after adjusting for factors that might influence outcome such as smokers' levels of nicotine dependence.

The recent randomised controlled trial by Chris Bullen and colleagues showed that electronic cigarettes were equally as effective as NRT patches. It is difficult to extrapolate from RCTs to real world conditions. Hence the significance of the Jamie Brown study.

This study is complemented by growing evidence of the increasing popularity of e-cigarettes for switching from smoking. Robert West's Smoking Toolkit data shows that since 2013 electronic cigarette use has surpassed NRT; that almost 1 in 3 quit attempts involve the use of electronic

cigarettes, that they are now the most commonly used resource for the last quit attempt (exceeding OTC NRT, varenicline, prescribed NRT, and behavioural support) and that there has been a decrease in use of other aids to smoking cessation.

The findings raise further questions about the effectiveness of OTC NRT. As recently reported, OTC NRT use in self-initiated quit attempts confers no advantage over stopping without any aid (Kotz, Brown, & West, 2013). At a population level, there is no measurable effect of OTC NRT on the overall prevalence of smoking.

Implications for public health experts and advisors

Gerry Stimson says: 'This study adds to the growing scientific evidence about the effectiveness of electronic cigarettes and the seemingly lesser effectiveness of over the counter NRT. It could be said that it is no longer ethical to give advice to smokers that discourages use of electronic cigarettes and that advises smokers who wish to quit to use only medically licensed products such as gums, tablets and patches.'

This is the full abstract of the study:

Abstract from Society for Research on Nicotine and Tobacco conference, 20th Annual Meeting

PA18-4

REAL-WORLD EFFECTIVENESS OF E-CIGARETTES: A POPULATION STUDY

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Background: Electronic cigarettes (e-cigarettes) are rapidly increasing in popularity. Two randomised controlled trials have suggested that e-cigarettes can aid smoking cessation but there are many factors that could influence their real-world effectiveness. This study aimed to assess, using an established methodology, the effectiveness of e-cigarettes compared with nicotine replacement therapy (NRT) bought over-the-counter and with unaided quitting in the general population.

Methods: A large survey of a representative sample of the English population. The study included 5726 adults who had smoked within the previous 12 months and made at least one quit attempt during that period with either an e-cigarette only (n=391), NRT bought over-the-counter only (n=2031) or no aid in their most recent quit attempt (n=3304). The primary outcome measure was self-reported abstinence up to the time of the survey, adjusted for key potential confounders including nicotine dependence.

Results: E-cigarette users were more likely still to be abstinent than either those who used NRT bought over-the-counter (OR=2•23, 95%CI=1•67- 2•97, 19•9% vs. 10•0%) or no aid (OR=1•40, 95%CI=1•07-1•82, 19•9% vs. 15•1%). The adjusted odds of non-smoking in users of e-cigarettes were 1•66 (95%CI=1•17-2•36) times higher compared with users of NRT bought over-the-counter and 1•60 (95%CI=1•15-2•23) times higher compared with those using no aid.

Conclusion: Among smokers stopping without professional support, those who use e-cigarettes appear more likely to be able to remain abstinent than those who use a licensed NRT product bought over-the-counter or no aid to cessation. This difference persists after adjusting for a wide range of smoker characteristics such as nicotine dependence.

FUNDING: JB's post is funded by a fellowship from the UK Society for the Study of Addiction. RW is funded by Cancer Research UK. We are grateful to Cancer Research UK, the Department of Health and Pfizer for funding this study. This study is partly funded by Pfizer under an investigator initiated award.

SRNT abstracts can be found here – 2014 Rapid Response Abstract Book

Bullen, C., Howe, C., Laugesen, M., McRobbie, H., Parag, V., Williman, J., & Walker, N. (2013). Electronic cigarettes for smoking cessation: a randomised controlled trial. Lancet, 382(9905), 1629–37. doi:10.1016/S0140-6736(13)61842-5

Kotz, D., Brown, J., & West, R. (2013). "Real-world" effectiveness of smoking cessation treatments: a population study. Addiction doi:10.1111/add.12429

Considering that e-cigs are not tobacco products, but nicotine productions and have much greater success rates than anyt NRT on the market it would be a grave disservice to include them with tobacco products and taxation. If you do not equally then tax the less effective nicotine nasal mists and oral sprays, flavored nicotine lozenges and gum available over the counter. The government should not tax or hinder in any way ecigs/vaping as it is the holy grail of smoking cessation. Also many users vape 0mg eliuid (the proper term for nicotine solutions intended for vaping, or ejuice) would their devices be required to taxation.

Science has proven through many studies the safety of ecigs/vaping.
Please also see:

http://nicotinepolicy.net/commentary/86-g-krol/861-new-research-shows-electronic-cigarettes-better-for-quitting-than-no-aid-over-the-counter-nrt-worse-than-no-aid

Personally I use specific flavors of the eliquid I make and vaping as a holistic pain control method using principles of aromatherapy, controlled breathing, intention and meditation. The last 3.5 years vaping has been a saving grace for me since my spinal nerve/cord/brachial plexus injury and Ehlers Danlos Syndrome because I am allergic to most pain medicines and the ones I do have are not very effective. I have 24/7 chronic pain, that sometimes min to min, hour to hour I am just praying to get through it. I don't know what it is like anymore to not be in pain, but I can say daily my version of vaping therapy has gotten me through the spasms and pain...I can

turn everything down, and focus on the inhale, exhale and visualize the vapor's soothing mist, and my body like a crystal vessel the mist fills with healing energy and the exhaled mist as if it has grasped the pain or negative energy leaving my body, blowing it away.

Please see this research about breathing meditation: http://www.emmaseppala.com/benefits-breathing-scientific-benefits-breathing-infographic/#.Uvofzn3TnbX

Please see this: http://onvaping.com/the-ultimate-list-of-studies-on-e-cigarettes-and-their-safety/

In summary:
1. Ecigs can't be lumped in with tobacco products and define it in one house bill HB4115 &HB 4073 as a vapor product and then in another 4129 list it as tobacco .
2. Define what is an electrical device and what is a mechanical device and all of these would require displayed tax stamps? And there are NRT nasal sprays, and mists that contain nicotine as the bill is written they will be taxed??
3. Will they tax a vaping device even if a user uses 0 nicotine solution??
4. The vape shops are occupying previously empty retail locations during a recession and providing jobs, taxing everything they store now and future taxation would put many out of business.
5. Look in casaa.org and their list of calls to action, I believe Tennessee and a few other states have proposed bills so that vapor products are NOT included in clean air ban & are NOT applicable to their tobacco taxes, which would be in line with the new research presented in Seattle last week, that these are more effective at cessation than the NRT's over the counter, patches, gum, lozenges, & more effective than cold turkey and therefore govt agencies should NOT discourage but encourage their use not include them in bans or with any antitobacco legislation unless it supports vaping.

Thankyou,
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Oregon Vaper's Advocacy Leage founder
Organizer WESTSIDE VAPMEETS, Portland Vapers
Cell: 503-307-3966

Electronic cigarettes are becoming more and more popular, both with smokers who are wishing to quit and smokers who dislike analog cigarettes but wish to continue exhaling something that closely resembles smoke. While some are quick to jump headlong into new products and devices, there are others who wait for research on the the safety of these new devices before jumping on the bandwagon. Due to these concerns, many leading scientists and health experts around the world have researched the safety of ejuice, second-hand vapor, and the effectiveness of e-cigarettes as a smoking cessation device.

Whether you are a smoker looking for a way to quit, a smoker who detests the taste and smell of analogs, someone who is worried about breathing in e-cigarette vapor, or someone who is

wanting flavor and taste without the calories or allergens, the studies compiled below should help to alleviate any of your fears regarding the use of e-cigarettes and e-juice.

Any updates to this article will be presented at the end of this article. Last updated on 2/9/14.

E-Cig and E-Juice Safety: Are They Safe?

Scientific Errors in the Tobacco Products Directive: A letter sent by the very scientists whose research was cited by the EU Commission to draft legislation geared towards ecigarettes and their usage. The letter details the many ways in which their research was wrongly used and misinterpreted.
Ecigs Do Not Stiffen Arteries (PDF): Researchers from Onassis Cardiac Surgery Center in Greece have found that while smoking just 2 tobacco cigarettes caused significant stiffening of the aorta, no difference was observed after the use of an e-cigarette by smokers AND vapers. Published December 2013.
Smoking Kills, and So Might E-Cigarette Regulation: Gilbert Ross MD, is a medical and executive director of the American Council on Science and Health. In this special report on The American, he states "simple common sense would dictate that inhaling the fewer, less harmful ingredients of e-cigarettes as compared to inhaling the thousands of chemicals in the smoke from burnt tobacco, many of which have been shown to be carcinogenic, is highly likely to be healthier." Published November, 2013.
Research on Safety of Electronic Cigarettes (PDF): Dr. Konstantinos Farsalinos' comprehensive presentation on existing data relating to the safety of ecigarettes. Presented at The E-Cigarette Summit, Royal Society, London in November 2013.
Nicotine Safety in the Context of E-Cigarette Use (PDF): Contrary to popular belief, the fatal overdose level for nicotine may be far higher than the generally accepted 50 to 60 mg (adult) says Dr. Jacques Le Houezec. This research was presented at the The E-Cigarette Summit, Royal Society, London in November 2013.
E-Liquids Shown To Have Low Cytotoxicity (PDF): The results of testing of 20 e-liquids, has revealed the majority of the vapor samples were found to have no adverse effects on cardiac cells. Even on the several that did have some effect (two of which were tobacco derived), the worst was 3 times less toxic compared to cigarette smoke. Published October 2013 in the International Journal of Environmental Research And Public Health.
Nicotine Levels Selection and Patterns of Electronic Cigarette Use: Study from Dr. Konstantinos E. Farsalinos that concludes nicotine levels seem to play a crucial role in achieving and maintaining smoking cessation in a group of motivated subjects. The study involved 111 participants who completely substituted smoking with electronic cigarette use for at least 1 month. Published September 2013.
Vaping: coronary circulation and oxygen supply (PDF): Recent research indicates that electronic cigarette use does not affect the oxygenation of the heart. Lead by principle investigator Dr Konstantinos Farsalinos; results of the research were presented at the European Society of Cardiology annual congress in Amsterdam in August, 2013.
Eliquids: No Health Concerns: A study by Professor Igor Burstyn of Drexel University School of Public Health based on a review available data has confirmed chemicals generally found in ecig eliquids pose no health concerns. Published August 2013 (PDF).
MHRA Ecigarette Research: The UK's Medicines and Healthcare Products Regulatory Agency

(MHRA) carried out extensive research on ecigarettes, arriving at the conclusion there was little concern that e-cigarettes can harm users by delivering toxic nicotine levels and little evidence of non-smokers taking up electronic cigarettes. Published in June 2013.
Evaluation of Electronic Cigarette Use And Liquid Consumption: This 2013 study challenges an EU proposal that would result in eliquids containing more than 4 milligrams of nicotine per milliliter being banned unless approved as medicinal products.
Electronic Cigarettes Do Not Damage The Heart: Electronic cigarettes appear to have no acute adverse effects on cardiac function according to research by cardiologist Dr Konstantinos Farsalinos. He says based on currently available data, ecigs are safer and that substituting tobacco with electronic cigarettes could be beneficial to health.
Principles to Guide AAPHP Tobacco Policy: The American Association of Public Health Physicians recommends electronic cigarettes as a safer smoke-free tobacco/nicotine product.
Athens University Ecig Study Challenged: Dr. Michael Siegel questions a University of Athens study claiming e-cigarettes can cause lung damage.
Regulation: When Less Is More (PDF): Presentation slides from Clive Bates (of the Counter-factual) concerning the dangers of over-regulating ecigarettes. Mr Bates urges positively about the vast potential about e cigs, to put the (minor) risks in perspective and regulate as though the 1 billion who are predicted to die from tobacco related illnesses in the 21st century matter most. Presented at The E-Cigarette Summit, Royal Society, London in November 2013.
Vaping profiles and preferences: 1,347 vapers were surveyed in an effort to characterize e-cigarette use, users and effects. Results generally showed respondents found ecigarettes to be satisfying to use; cause few side effects; considered healthier than smoking, resulted in improve cough/breathing and lowered levels of craving. The survey was hosted at the University of East London. Published March 2013.

Second-Hand Vapor Safety: Is Vapor Safe for Others?

Peering Through the Mist: Systematic Review of what the Chemistry of Contaminants in Electronic Cigarettes Tells Us about Health Risks: A comprehensive review, by a Drexel University professor, based on over 9,000 observations of e-cigarette liquid and vapor. He found "no apparent concern" for bystanders exposed to e-cigarette vapor – even under "worst case" assumptions about exposure.
Contaminants In Ecig Eliquids And Workplace Health Risks (PDF): A study that reviewed available data on chemistry of e cig aerosols and e liquids. This study found no evidence supporting the claims of e cigarette vapor exposure negatively effecting the health, and safety, of the workplace. Published January 2014.
Cytotoxicity evaluation of ecig vapor extract: A 2013 study designed to evaluate the cytotoxic potential of 21 eliquids compared to the effects of cigarette smoke found ecig vapor is significantly less cytotoxic compared to tobacco.
Ecigarette toxicants study: Levels of selected carcinogens and toxicants in vapour from electronic cigarettes have been found to be 9 to 450 times less than tobacco cigarettes in 12 brands studied; leading the researchers to conclude "substituting tobacco cigarettes with e-cigarettes may substantially reduce exposure to selected tobacco-specific toxicants". The study was first published online on March 6, 2013.
Is Passive Vaping A Reality?: This study sought to identify and quantify the chemicals released on a closed environment from the use of e-cigarettes – the findings? There's little to be

concerned about with regard safety. This research again confirms the type and quantity of chemicals released are by far less harmful to human health compared to regular tobacco cigarettes. In fact, it "could be more unhealthy to breath air in big cities compared to staying in the same room with someone who is vaping."
Indoor Vapor Air Quality Study: Data at Clarkson University's Center for Air Resources and reviewed by an independent toxicologist indicates electronic cigarettes produce very small exposures to byproducts relative to tobacco cigarettes. The study has been peer reviewed and will appear the Journal of Inhalation Toxicology.
E-cigarettes: harmless inhaled or exhaled: Report from Health New Zealand stating e-cigarette vapors do not contain substances known to cause death in the quantities found.
Society for Research on Nicotine and Tobacco (PDF): This research acknowledges that no drug is safe, but the emissions associated with the e-cigarette brand tested appear to be "several magnitudes safer" than tobacco smoke emissions.
E-cigarette Vapor And Cigarette Smoke Comparison: High nicotine e-liquids were vaporized in a series of experiments and the emissions compared to tobacco smoke. The study results indicate "no apparent risk to human health from e-cigarette emissions based on the compounds analyzed".
Propylene Glycol Safe: Monkeys and rats were exposed continuously to high concentrations of propylene glycol, a common component of e liquids for periods of 12 to 18 months. Results of the research state "air containing these vapors in amounts up to the saturation point is completely harmless".

E Cigs as Smoking Cessation Devices: Does the Research Show That They Work?

A Longitudinal Study Of Ecig Users: This study concludes that electronic cigarettes may hep with preventing the relapses of former smokers and may even help current smokers to quit cigarettes. It also found that dual users, who were still smoking at the point of follow-up, had decreased their tobacco cigarette consumption by 5.3 cigarettes a day. Published January 2014.
The Importance Of Flavours In Eliquids: A study, headed by Dr. Konstantinos Farsalinos, finds that flavors play a major role in the overall experience of dedicated vapers which supports the hypothesis that flavored e liquids are important contributors in reducing or eliminating the smoking of tobacco cigarettes. Published December 2013.
Second Hand Vapor Study (PDF): A new study shows that even-though e-cigarettes are a source of second-hand exposure to nicotine; it's far, far less than that associated with second hand cigarette smoke. Additionally, when tested, e-cigarette second-hand vapor did not contain combustion related toxicants. Lead author was Maciej Goniewic from the Roswell Park Cancer Institute in Buffalo, N.Y. Published in Oxford Journal, December 2013.
A Longitudinal Study Of Electronic Cigarette Users: A study of 477 e cigarette users by researchers from the University of Auckland and University of Geneva has arrived at the conclusion that "E-cigarettes may contribute to relapse prevention in former smokers and smoking cessation in current smokers" Published October 2013.
Ecigs Not A Gateway To Smoking: The study is yet to be published, but according to research presented at the annual meeting of the American Association for Cancer Research (October 2013), the use of e cigarettes by teens does not lead to smoking tobacco in the vast majority of cases.
Efficiency and Safety of an Electronic Cigarette as Tobacco Cigarettes Substitute: In a 12-month

trial of ecigarettes to evaluate smoking reduction/abstinence in 300 smokers not intending to quit; complete abstinence from tobacco smoking was documented in 10.7% and 8.7% at week-12 and after a year respectively. For the group receiving the higher dose nicotine cartridges, the tobacco cigarette cessation rate was 13% after a year. The study was published on PLOS One on June 24, 2013.
Impact of ecigarettes on schizophrenic smokers: Researchers from the CTA-Villa Chiara Psychiatric Rehabilitation Clinic and Research center in Italy determined the use of ecigs decreased tobacco cigarette consumption in schizophrenia sufferers who were smokers – and without significant side effects. Published January 2013.
Effect of ecigs on smoking reduction and cessation: A study showing the use of e cigarettes substantially decreased cigarette consumption without causing significant side effects in smokers who had no intention to quit. Published in 2011.
Electronic Cigarettes As a Smoking-Cessation Tool: The findings of this study indicate "e-cigarettes may hold promise as a smoking-cessation method" and that further research should be carried out.
Electronic cigarettes: achieving a balanced perspective: This 2012 paper argues that while more research is needed on the cost–benefit of ecigs and appropriate regulation, the harms so far have been overstated relative to the potential benefits. The paper mentions a study that found of more than 2000 former smokers in this survey, 96% reported that the e-cigarette helped them to stop smoking.
So what do all these studies mean?

The papers compiled above indicates that while nothing is better than breathing clean air, the vapor derived of e-juice in e-cigarette devices is magnitudes safer than analog cigarette smoke (as well as safer than air pollution in large cities). Regarding the research on second-hand vapor, some scientists and health experts conclude that there is no real need for concern. And as far as the question about the actual effectiveness of e cigs as smoking cessation devices, the studies indicate that e-cigarettes are at least as effective as nicotine patches.

Updates

Nicotine and Health: a publication by the American Council on Science and Health: Listed below are some quotes from the publication that pertain to e-cigarettes.
Cancerous effects:

Electronic cigarette vapor appears chemically incapable of causing cancer as cigarette smoke has done. E-cigarette vapor contains toxicants concentrations averaging less than one percent of the concentrations in tobacco cigarette smoke.

Taxation efforts:

Governments looking to recoup future excise losses on declining tobacco sales could be tempted to tax e-cigarettes. This would make electronic cigarettes less price-competitive and would have the unwanted side effect of protecting tobacco sales.

Respiratory effects:

These randomized controlled trials followed participants for six and 12 months, and found no serious adverse events attributable to electronic cigarettes.

Lung function:

Lung function was not signifcantly decreased in 15 smokers using e-cigarettes, or in 15 never-smokers inhaling the vapor of e-cigarettes or inhaling smoke; lung function was, however, significantly decreased seven percent by active tobacco smoking.

Cardiovascular:

Arterial stiffness is not increased from vaping

Red and white blood cells are not increased in the peripheral blood in the first hour after an e-cigarette either actively or passively inhaled.

Nicotine administered by electronic cigarette can relieve chronic idiopathic neutrophilia

Brain effects:

Nicotine in e-cigarettes reduces the urge to smoke and improves mood, working memory, and prospective memory

QUESTION 1. DO E-CIGARETTES LEAD CHILDREN INTO SMOKING?

On the evidence to date, the answer is no. The percentage risk of never smokers using e-cigarettes (whether adolescents or adults) is near zero

Written 1/28/14; Last updated 2/9/14

January 28, 2014
Dale Amann
Vaping News

Electronic cigarettes are not a smoking cessation product and have not been evaluated by the Food and Drug Administration, nor are they intended to treat, prevent or cure any disease or condition.

Former Surgeon General on e-cigarettes
There's a short interview with former Surgeon General Richard Carmona in the current issue of Science. Carmona caused consternation amongst the intensive care wing of the anti-smoking lobby when he joined the board of NJOY.In this interview, he addresses some of the standard objections.

Q: As a doctor and former surgeon general, why did you join the board of an electronic cigarette manufacturer?

R.C.: At first, I immediately rejected their offer. But with some due diligence I came to see that they were willing to do the necessary science and that we could be allies in the antitobacco movement. That said, I offered to join only under certain conditions: that they request FDA regulation— which is in the public's best interests—that they conduct and publish their own research in peer-reviewed journals, even if the findings hurt the bottom line; that they don't use my name or refer to the surgeon general in their advertising campaigns; and that they don't market to kids. So far, they've delivered on all those promises.

Q: E-cigarettes are touted as a way to stop tobacco smoking. But would you advocate that people who do that successfully then also try to wean themselves off e-cigarettes?

R.C.: Yes, but the urgency isn't as great because people who use them aren't inhaling large amounts of carcinogens and cardiovascular disease–causing agents.

Q: How can you be sure they're safe?

R.C.: As research priorities, we're asking about cons from long-term nicotine use, and we're examining the different components in side-stream vapor to make sure they're not unsafe. So far we don't see any problems. And we're also looking into long-term efficacy: How many people who use e- cigarettes quit and for how long? We just have to craft the right questions and then report back to the public.

Q: Won't e-cigarettes just lead to more people getting hooked on nicotine?

R.C.: That same question came up decades ago when nicotine gum, patches, and sprays came on the market. People said they would create new nicotine addicts and that never happened. But e-cigarettes are a different kind of nicotine delivery device, so they raise unanswered questions that we're looking into.

Q: On what basis do you think e-cigarettes can help people quit smoking?

R.C.: There is evidence that gums, patches, and sprays work, but they don't work well enough. And early evidence suggests that because e-cigarettes reinforce the physical movement of smoking, they can enhance tobacco cessation, but we don't have all the information yet. We have to continue doing the research and publishing data to demonstrate that they're helpful.

Q: What about children? Some of these e-cigarettes are candy flavored.

R.C.: As a company, we've made a commitment that these products should not be sold to kids under any circumstances. Children don't factor into NJOY's marketing, but if a customer says they like a particular flavor, then I have no problem with that—adults enjoy these flavors, too.

Q: How would you respond to critics who say you shouldn't be doing this?

R.C.: Making tobacco obsolete is part of NJOY's value ... and it's consistent with my efforts to move people away from cigarettes with combustible toxins that lead to cancer and cardiovascular diseases. I accept that my colleagues have concerns and that the antitobacco world is divided on this. You've got two camps here: an abstinence-only camp that thinks anything related to tobacco should be outlawed, and those of us who say abstinence has failed, and that we have to take advantage of every opportunity with a reasonable prospect for harm reduction.