SB 1

(FILE 2) - UNIQUE PUBLIC TESTIMONY & RESEARCH

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The AlaskaPoll

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Information for Solutions

- Market Research
- Public Opinion Analysis
- Political and Government Research
- Focus Groups

Opinions and Attitudes Regarding a Statewide Smoke-Free Workplace Law in Alaska

June 2012

Prepared for:

American Cancer Society
Cancer Action Network, Inc.

Cancer Action Network℠
American Cancer Society®

Methodology

Overview

During the period June 13-17, 2012, one thousand three hundred forty-five (n=1,345) Alaskan registered voters were personally contacted via telephone concerning their awareness, attitudes and opinions of smoking and smoke-free workplace laws in Alaska. Dittman Research and Communications (DRC) worked with the American Cancer Society Cancer Action Network (ACS CAN) to develop a survey instrument that addresses these topics. All views and data were obtained on a strictly confidential basis.

Sample Design

To meet the needs of ACS CAN, a sample design was featured which allows for valid and independent research and analysis of both statewide and regional opinions. An oversample of respondents was conducted in certain areas to achieve this.

Overall results were weighted to bring the sample into correct geographic distribution. Further weighting ensures an accurate representation of Alaskan registered voters in terms of age and political registration.

Respondents were contacted over both landline phones and cell phones – phone numbers were generated randomly, ensuring representation of both listed and unlisted numbers. Approximately 20% of the respondents in each region were contacted via cell phone, with the remaining 80% contacted via household landlines.

Region	Margin of error
Anchorage	±6.9%
Fairbanks	±5.7%
Mat-Su	±5.7%
Kenai Peninsula	±5.8%
Southeast Alaska	±8.5%
Rural Alaska	±9.4%
Statewide	±2.7%

Processing the Data

DRC employees completed coding, editing, data entry and verification, while data processing was completed through the Statistical Package for the Social Sciences (SPSS) program. The SPSS program is one of the most sophisticated research-oriented data processing and analytical systems available, and is designed specifically for the processing and analysis of survey research data.

Summary

Key Findings

- There is little disagreement among Alaskans that cigarettes are hazardous...
  - 91% Believe smoking is a "serious" or "moderate health hazard"
  - 83% Believe secondhand smoke is a "serious" or "moderate health hazard"
  - 91% "Strongly" or "somewhat agree" that *"Restaurants and bars would be healthier for customers and employees if they were smoke-free"*
  - 93% "Strongly" or "somewhat agree" that *"All Alaskans have the right to breathe clean air"*
  - 82% "Strongly" or "somewhat agree" that *"All Alaskan workers should be protected from secondhand smoke in the workplace"*

- Overall, a considerable percentage of Alaskans (54%) already think a statewide smoke-free law exists. This is not too surprising considering the majority of residents live in areas with strong smoke-free ordinances. However this holds true, to a large extent, even in areas without smoke-free ordinances: Mat-Su (51%), Kenai Peninsula (45%) and Fairbanks (43%).

- In total, two-out-of-three Alaskan voters (66%) favor a statewide smoke-free workplace law – 55% "strongly favor". A majority of residents in all regions of the state favor the law.

- Approximately two-out-of-five Alaskan voters (38%) indicate they would be more likely to vote for a candidate who supports a smoke-free workplace law. A similarly high percentage (43%) say that a candidate's position on this issue would not affect their vote either way. Only 14% would be less likely to vote for a candidate who supports the law.

- Nearly three-out-of-four Alaskans (73%) think a statewide smoke-free law would have a positive or neutral effect on Alaska's bar and restaurant industry.
  - Only 7% of Alaskans say they would go out less often because of the law – the remaining 92% would go out more often or about the same as they do now.
  - Over two-out-of-three Alaskans (68%) indicate they *"would avoid a restaurant or bar that allows smoking indoors".*

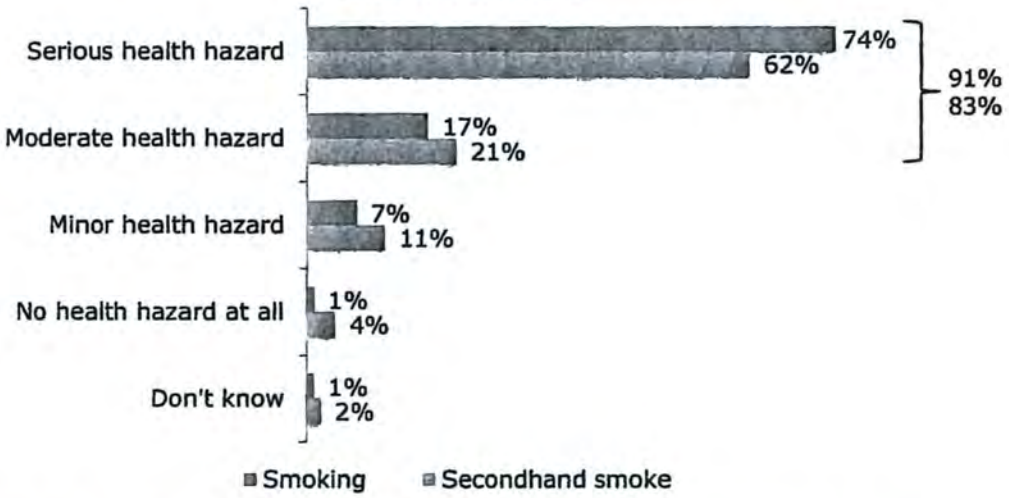
Findings

Approximately three-out-of-four Alaskans (74%) believe smoking is a serious health hazard, and nine-out-of-ten (91%) report it is at least a moderate health hazard. Similar percentages report exposure to secondhand smoke as hazardous. Interestingly, the belief that smoking is a "serious health hazard" increases with age, education level and household income.

Question: ***In general, do you feel that smoking is a serious, moderate, or minor health hazard, or no health hazard at all?***

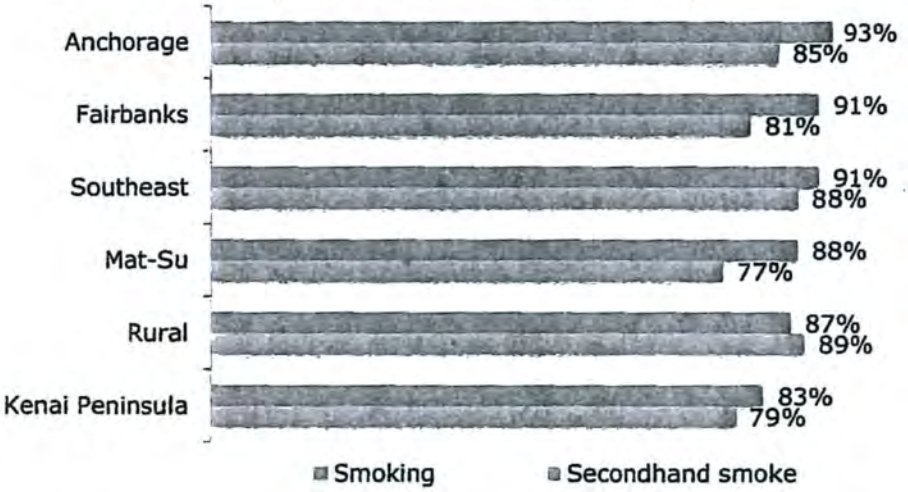
And do you feel that exposure to secondhand smoke is a serious, moderate, or minor health hazard, or no health hazard at all?

STATEWIDE RESULTS



Opinions on the effects of smoking and secondhand smoke are fairly consistent across the state...

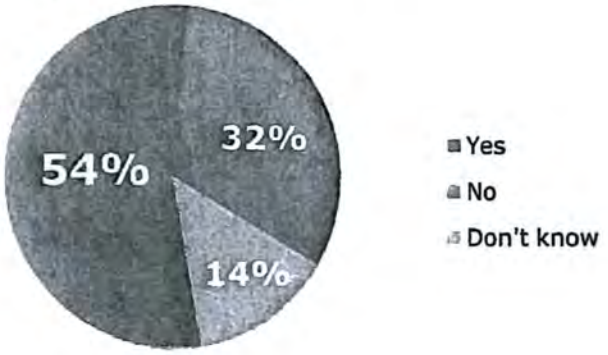
(% Serious/Moderate health hazard)



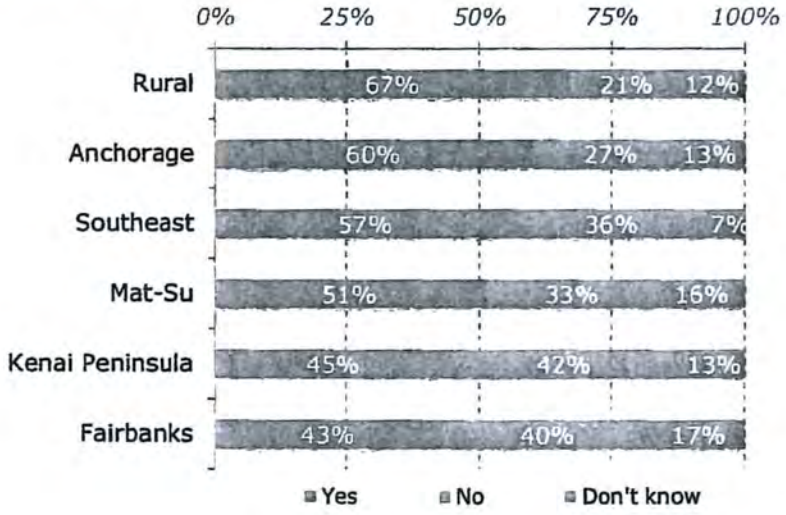
Overall, the majority of Alaskans (54%) already think a statewide smoke-free law exists. This is consistent across all demographic subgroups.

Question: ***As far as you know, is there a statewide law in Alaska that prohibits smoking indoors in public places?***

STATEWIDE RESULTS



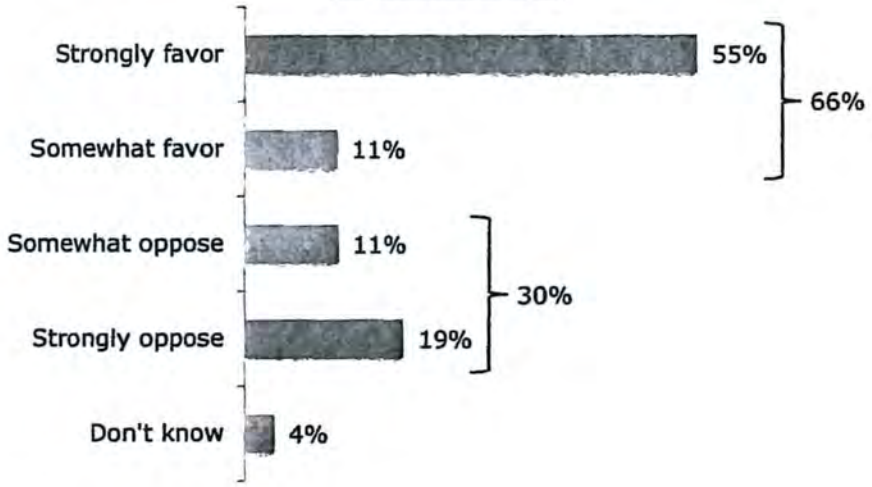
A significant number of Alaskans in all regions report they believe a statewide smoke-free law is already in effect.



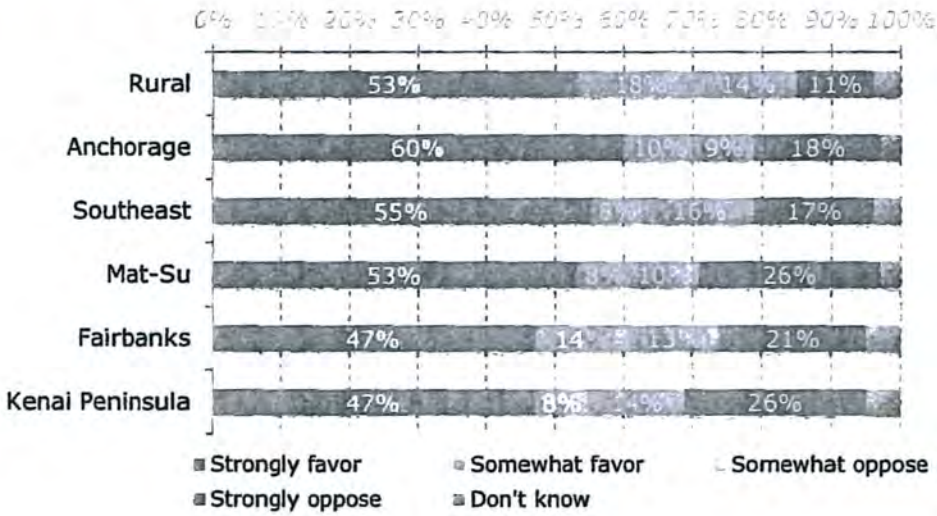
By a margin of over 2-to-1, Alaskan voters report they would favor a statewide smoke-free workplace law – the majority indicating they "strongly favor" (55%).

Question: ***Would you favor or oppose a statewide law in Alaska that would prohibit smoking indoors in public places, including workplaces, public buildings, offices, restaurants and bars?***

STATEWIDE RESULTS

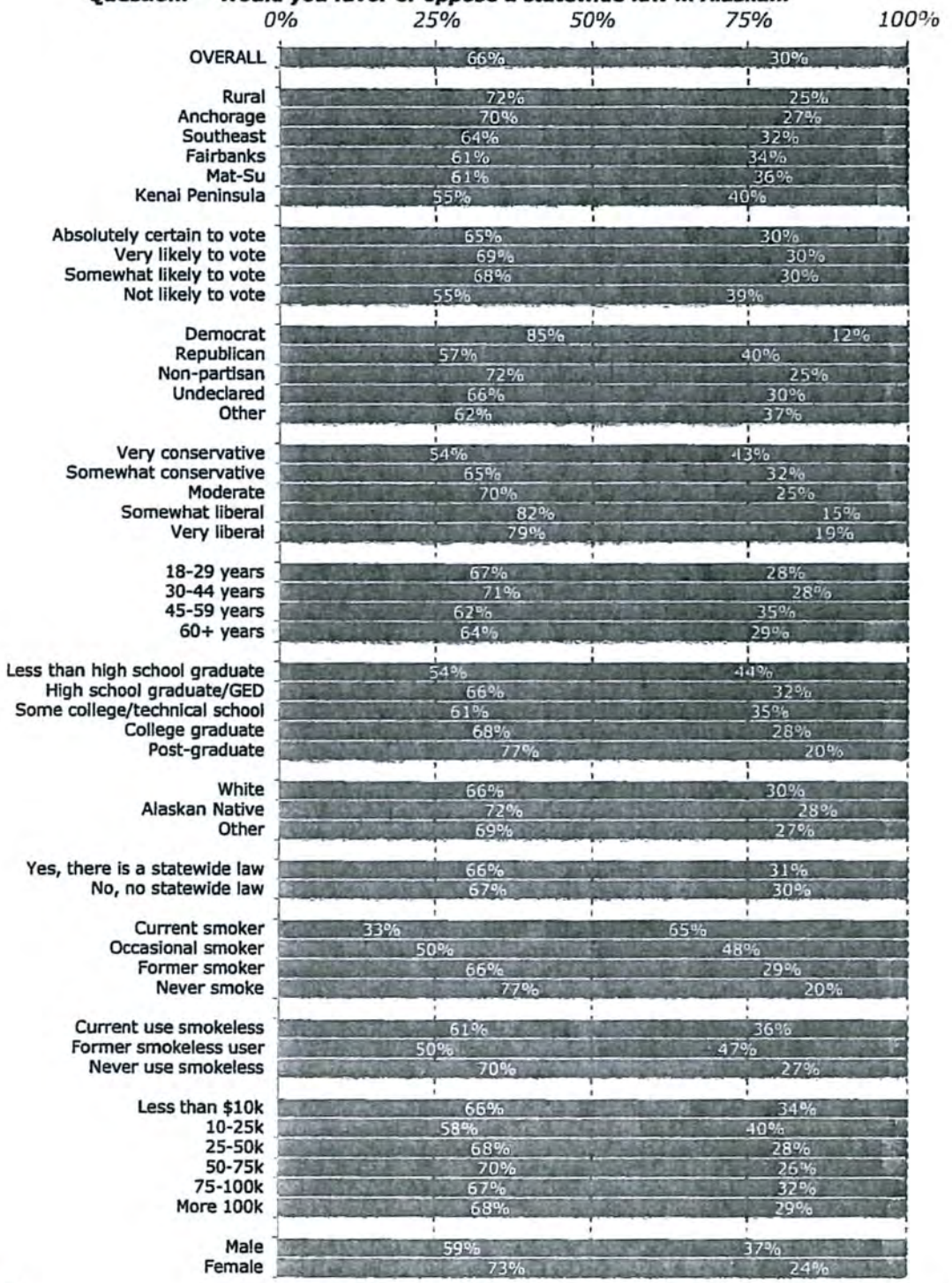


A sizable majority in all regions report they would favor a statewide smoke-free law. In fact, aside from Fairbanks and the Kenai Peninsula, the majority of residents in all regions "strongly favor" the law.



Taking a closer look at support and opposition for a statewide smoke-free law, we see strong support across nearly all subgroups. The only instance of less than majority support is among current smokers.

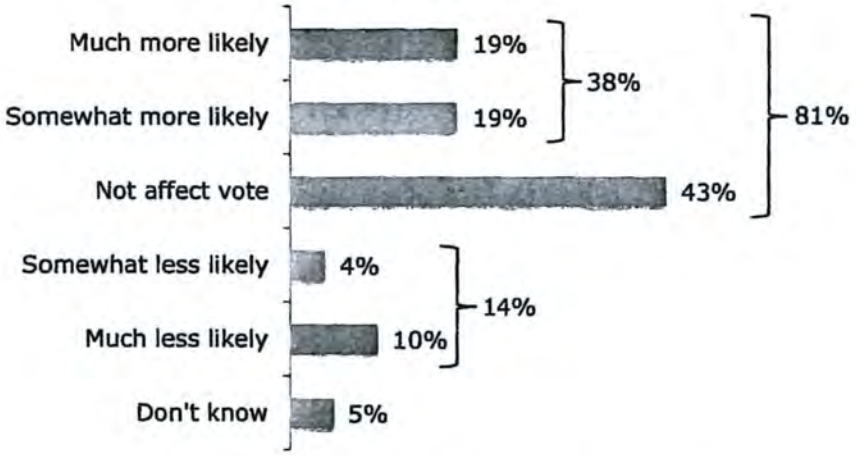
Question: Would you favor or oppose a statewide law in Alaska...



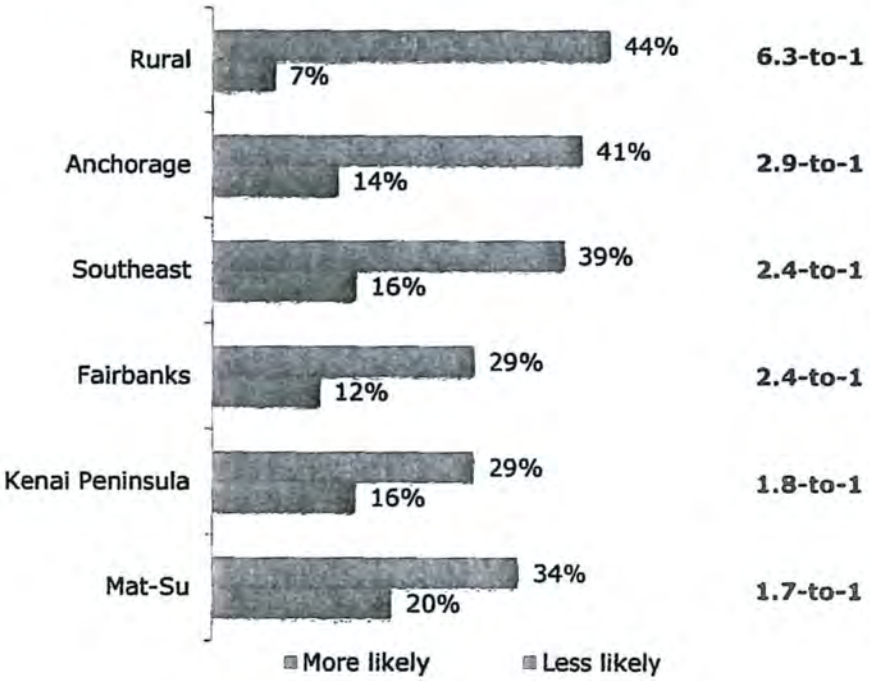
In total, a considerable percentage (38%) report that a candidate's support for a smoke-free workplace law would make them more likely to vote for that candidate. An additional 43% indicate that a candidate's position on a smoke-free workplace law would not affect their vote.

Question: ***Would you be more likely or less likely to vote for a candidate who supports a law that would prohibit smoking indoors in public places and workplaces in Alaska, or would their opinion on this issue not affect your vote?***

STATEWIDE RESULTS

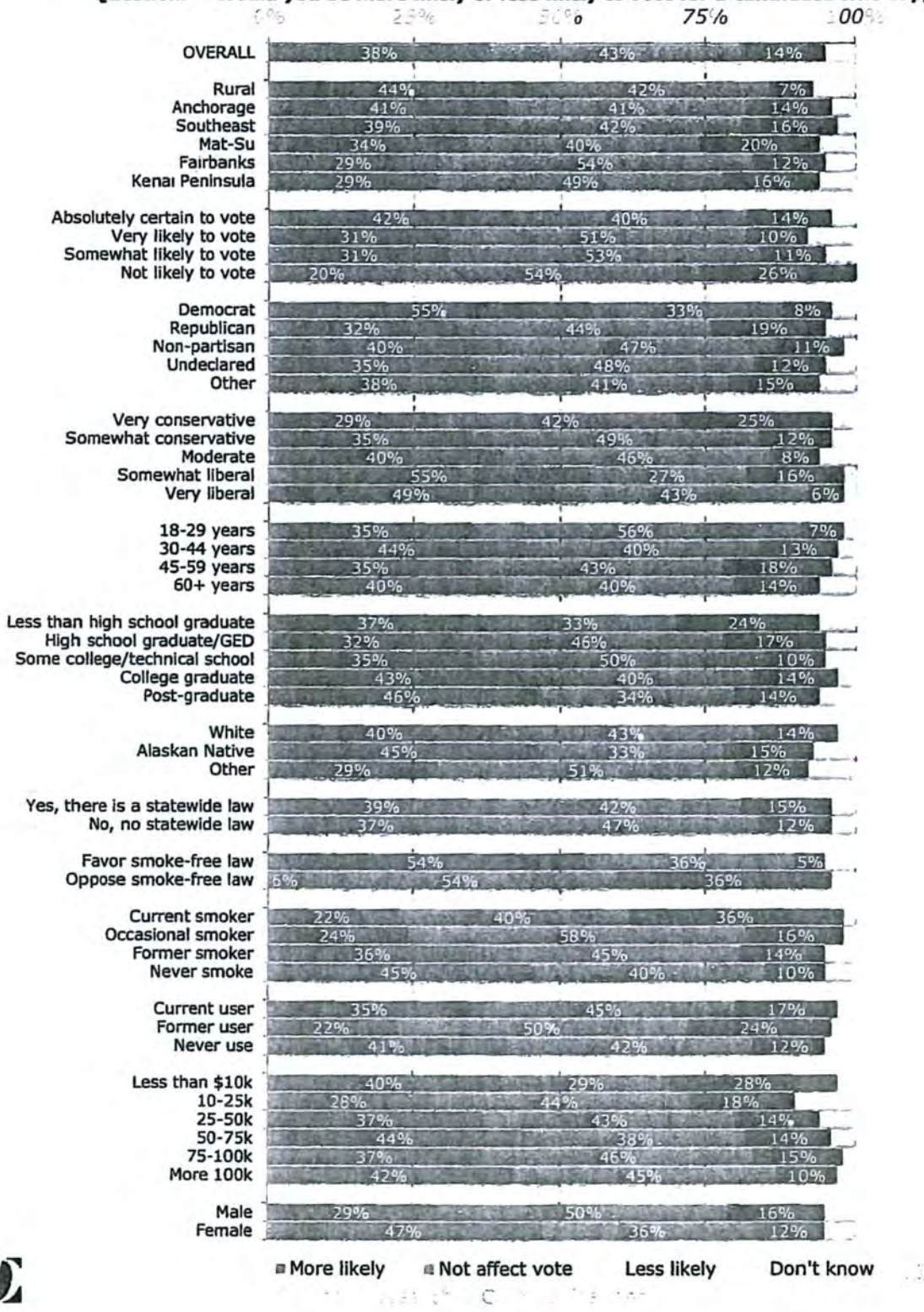


The net effect of a candidate supporting a smoke-free law would be very positive across the state.



A candidate's support for a statewide smoke-free law would have an overwhelmingly positive/neutral effect across all demographic subgroups.

Question: Would you be more likely or less likely to vote for a candidate who supports...



THE IMPACT OF ANCHORAGE'S 2000 AND 2007 SMOKE-FREE POLICIES ON SELECT RESTAURANTS AND BARS

Prepared by:
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Prepared for:
The American Lung Association in Alaska

January 2014

Institute of Social and Economic Research
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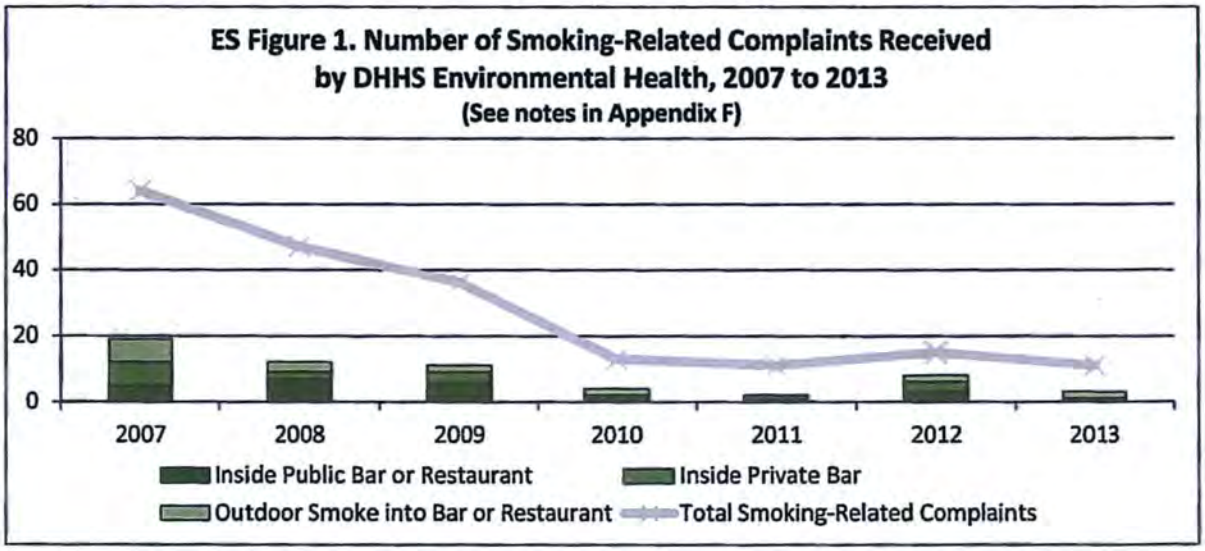
Executive Summary

The American Lung Association in Alaska (ALAA) asked the Institute of Social and Economic Research (ISER) to investigate the impact of the Anchorage 2000 and 2007 Clean Indoor Air (CIA) municipal ordinances on selected restaurants and bars. As previous U.S. studies have been conducted that speak to the economic and health impacts of CIA laws, ALAA also requested that ISER synthesize results of these existing studies and conduct a survey on restaurant and bar representatives' perceptions of the impact of the ordinances.

Policy Enforcement

The Municipality of Anchorage (MOA), Department of Health and Human Services (DHHS), Division of Environmental Health, Food Safety and Sanitation Program is responsible for enforcing the smoke-free ordinances. Key informants shared that less than 5% of annual complaints received are for smoking related issues, and less than 5% of the investigations conducted are for smoking related issues. The number of organizations investigated for violations varied from three to six per year, and the number of complaints reported is summarized below:

ES Figure 1. Number of Smoking-Related Complaints Received by DHHS Environmental Health, 2007 to 2013
(See notes in Appendix F)



Literature Review

In a preliminary estimate of the economic impact of the 2000 CIA ordinance in Anchorage, Larson (2001) found that there was no detectable negative effect on employment in the hospitality industry by August of 2001. Between 2000 and 2001, employment increased by 10% in restaurants that went from restricted smoking before the ordinance to non-smoking after the ordinance, while employment increased by only 6% in restaurants that continued to allow restricted smoking after the ordinance.

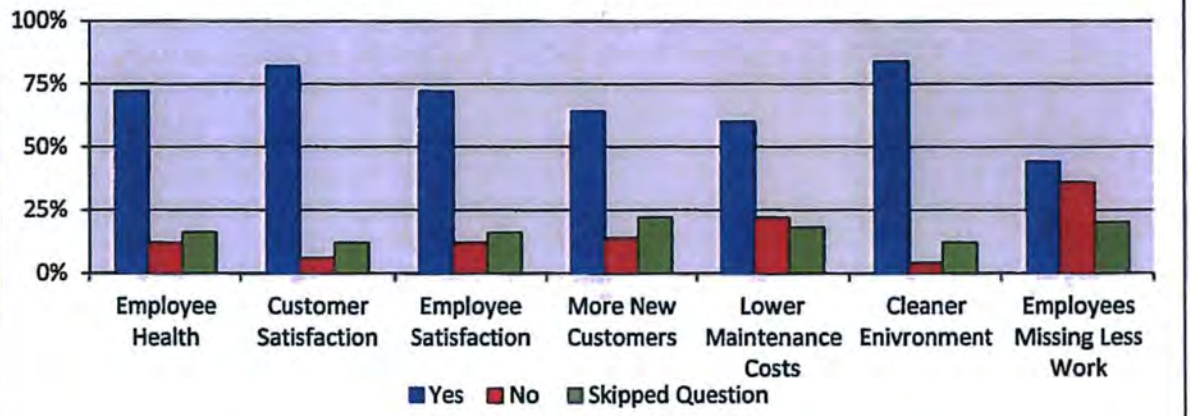
Using employment data on Anchorage bars from 2001 to 2010, a report commissioned by the Alaska Department of Health and Social Services Tobacco Prevention and Control Program (2011) found that bar employment within the Municipality was 10% higher than it would have been if the 2007 Clean Indoor Air law would not have been implemented. Travers & Dobson (2008) compared the air quality in 13 smoke-free Anchorage bars after the passage of the 2007 CIA to seven Juneau bars where smoking was permitted. Similar to the results of previous studies, they found that the levels of respirable suspended particles (RSP) were 33 times higher in the Juneau bars when compared to those in

Anchorage. These particles are emitted from tobacco smoke and are particularly harmful because of their small size, making them easily inhalable into the lungs.

Survey of Selected Restaurants and Bars

ISER interviewed representatives of 50 full-service restaurants and bars in the Anchorage municipality on their perceptions of the smoke free indoor ordinances. A total of 96% (48/50) identified at least one benefit from the passage of the ordinances, with responses summarized below:

ES Figure 2. Restaurant/Bar Identified Benefits of the Passage of the Smoke Free/Clean Indoor Air Ordinances n=50



The majority of survey respondents (78%) indicated that customer feedback about the clean indoor air ordinances (CIA) was either very positive or somewhat positive, while 2% reported that customer feedback was very negative. The majority of respondents (76%) indicated that employee feedback on the CIA was either very positive or somewhat positive, while 6% reported that employee feedback was either somewhat negative or very negative

The majority of survey respondents (92%) reported that customer compliance with the CIA was either excellent or good, while 2% reported customer compliance as fair. Similarly, 86% of respondents indicated employee compliance with the CIA was either excellent or good while 8% reported that employee compliance was fair.

Restaurant and bar representatives reported that they required smokers to stay an average of 30.5 feet away from the entrances to their establishments. At 58%, a little more than half of respondents (29/50) reported that the mandated minimum distance for their establishment was appropriate (5 ft. for bars or restaurants that serve alcohol, 20 feet for restaurants that do not serve alcohol); 38% (19/50) reported that the mandated distance for their establishment was inappropriate. A majority of respondents, 62% (31/50), felt that a different mandated distance would be more appropriate, suggesting an average of 30 ft.

Limitations

The survey results are not necessarily representative of Anchorage full service restaurants and bars. However, the consistency of the findings suggests agreement on the effects of the ordinance and the lack of any systemic issues arising from implementing smoke-free workplace policies.

Introduction

The American Lung Association in Alaska (ALAA) has asked the Institute of Social and Economic Research (ISER) to investigate the impact of the Anchorage 2000 and 2007 Clean Indoor Air municipal ordinances on selected restaurants and bars. As previous U.S. studies speak to the economic and health impacts of Smoke Free and Clean Indoor Air Laws., ALAA also requested that that ISER synthesize results of these existing studies, and conduct a survey on restaurant and bar representatives' perceptions of the impact of the ordinances. ALAA outlined three areas of focus for this project, including:

- Previous work and findings related to the impact of smoke free ordinances on businesses, including potential changes in employment
- Enforcement of the smoke free ordinances in Anchorage
- Restaurant and bar representatives' perspectives on the impact of the smoke free ordinances

To inform these areas of interest, ISER conducted a literature review of previous work related to smoke free policies, a survey of restaurant and bar representatives in Anchorage, and key informant interviews with individuals responsible for enforcement of the smoke free policies.

This report begins with an introduction, followed by the results of a review of the previously published literature related to smoke free policies in Alaska. The methodology for both the key informant interviews and the survey of restaurants and bars are described in the next section. The methodology includes information on the selection of respondents and details of how the data was collected and analyzed. Finally, we describe findings from the key informant interviews and survey. Appendices contain the questions posed to key informants, the survey used with restaurant and bar representatives, and verbatim comments on the impact of the Anchorage smoke free ordinances.

Anchorage Municipal Ordinances

Anchorage Municipal Ordinance 2000-91(S), Effective December 31, 2000

In 2000, the Anchorage Assembly amended title 16 of the municipal code, adding chapter 16.65 about smoking in work and enclosed public spaces. The law took effect December 31, 2000. The code prohibited smoking in the Anchorage municipality in:

- Enclosed public spaces
- Places of employment

Exempted from this regulation were:

- Private residences
- Places of employment with four or less employees
- 25% of hotel and motel rooms rented to guests
- Retail tobacco stores
- Private functions in restaurants, hotel and motel conference or meeting rooms and public or private assembly rooms
- Bars -defined as a "...premise licensed under AS 04.11.090 [beverage dispensary license that authorizes selling or serving of alcohol] which does not employ any person under the age of 21 and which does not serve any person under the age of 21 unless accompanied by a parent or legal guardian and where tobacco smoke cannot filter into any other area where smoking is prohibited through a passageway, ventilation system, or other means."

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Empire Editorial: Secondhand smoke is a threat statewide

Posted: February 26, 2015 - 1:00am

There's been a lot of talk lately about marijuana. We'd like to talk to you about tobacco instead.

We know: It's not as sexy a topic, but it's even more important. Each year, 40,000 Americans die from secondhand smoke-related illnesses. About 440,000 American smokers die each year from diseases attributed to their habit.

Next to those figures, marijuana isn't even a small potato. (Granted, we haven't studied marijuana as much as tobacco.)

Sen. Peter Micciche, a Republican from Soldotna, has an interesting proposal that would help reduce smoking's toll in Alaska. Senate Bill 1 proposes a statewide secondhand smoke law similar to the one enacted by the City and Borough of Juneau in 2008. It would ban smoking in bars, businesses, restaurants and other indoor locations. It would prohibit people from lighting up in select places outdoors, too. There would be no smoking in playgrounds, near the entrances to buildings or in outdoor stadiums.

E-cigarettes and vaporizers are covered, too. No one would be able to get their nicotine high in an airport or bus with those new electronic devices.

Almost half of Alaska's population lives in a place that already has such rules. Anchorage, Juneau, Klawock, Unalaska — there are plenty of Alaska communities that have already accepted the fact that secondhand smoke kills just as smoking does.

The fact is, even without considering the health benefits, it's simply nice to be able to go to a bar, a club or a restaurant and not come out smelling like smoke. Smoking is a habit that inflicts its harm directly and unavoidably upon others. It's time to banish it into the back alleys where it belongs. We've learned from other drugs — alcohol and marijuana — that outright prohibition doesn't work. That doesn't mean we have to tolerate the negative effects of smoking.

Fairbanks is the most populated place in Alaska without a secondhand smoke ordinance. Residents of that city have said they feel banning public smoking would be an unnecessary intrusion on their rights. We believe smokers shouldn't have the right to inflict their smoke upon others. As Zechariah Chaffee Jr. wrote in a 1919 issue of the Harvard Law Review, quoting another judge: "Your right to swing your arms ends just where the other man's nose begins."

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Work place smoking ban draws supporters, foes

Adam Pinsker, Multimedia Political Reporter, apinsker@ktuu.com

POSTED: 09:08 PM AKST Feb 17, 2015

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Work place smoking ban draws supporters, foes

JUNEAU - Like many addictions, smoking has claimed thousands of lives and many families have felt those losses, including State Sen. Peter Micciche.

"My father was a lifelong smoker.

He chose to smoke, and paid the price," said the Soldotna Republican.

That inspired Micciche to sponsor Senate Bill 1, which would ban smoking in workplaces statewide.

Currently, 12 cities throughout the state have similar anti-smoking ordinances in effect

"This will be the baseline, a municipality can choose a more stringent ordinance if they choose to do so," said Micciche.

Unincorporated areas such as Tok, Sutton and Glennallen would be covered by the ban, so would the Kenai-Peninsula Borough and MatSu Borough.

Both entities do not have the power to legislate their own anti-smoking ordinances.

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Toolbox

"I worked in the restaurant industry for about five years, surrounded by cigarette smoke, because I didn't have the skill set to move into a different position, with a different company that was not a smoking establishment," said Johna Beech of Kenai, who came down to Juneau to support the measure

The ban also includes e-cigarettes, a fledgling industry in Alaska.
Micciche says not enough is known about the harmful effects emitted by e-cigarettes

"While tobacco smoke is terrible, vaping is a completely different creature and a study that came out of Drexler University last year said that second hand vapor is really non-consequential," said Matt Waggoner, owner of Fatboy Vapors.

Waggoner says he's asking Sen Micciche's office to remove the e-cig ban from the bill.

SB1 has three committee referrals before it can be heard by the full Senate.

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Alaska Dispatch News

Published on *Alaska Dispatch* (http://www.adn.com)
Home > Alaska is dying for a statewide smoke-free workplace policy

Michelle Sparck
April 4, 2014

We take our smoke-free air for granted, until it is in our face, or more disturbingly, in our children's faces. We all have a right to the expectation of smoke-free air.

My father, Harold Murray Sparck, was a natural resources consultant. From 1969 on, he worked tirelessly to build up the first grassroots environmental movement to represent Native interests as stakeholders in resource exploration and exploitation, namely for the Yup'ik / Cup'ik of the Yukon Kuskokwim Delta, but also for other demographics of the coastal and interior areas of the state. With Nunam Kitlutsisti (Stewards of the Land), the Association of Village Council Presidents, the Bering Sea Fishermen's Association, the United Nations Convention on the Law of the Sea, the State of Alaska and the Alaska Board of Fisheries, Alaska Board of Game, the Mink Festival, the Community Development Quotas, and the Migratory Bird Treaty Act, my father and many of his contemporaries subjected themselves to thousands of hours in meetings as engaged citizens and advocates. In those days, my father had to endure rooms full of secondhand smoke for as much as 10 hours a day in marathon meetings. He'd come home from a trip, and his luggage and clothing would reek of smoke.

Unable to shake a cough, my father got an X-ray, revealing both lungs riddled with tumors. This was only a few weeks after his 51st birthday. The doctors gave him two weeks to live. He rallied enough to settle his affairs, but he died 10 weeks after diagnosis. My father was not a smoker.

The state of Alaska currently does not have a strong smoke-free law. However, many communities have passed strong local laws. The City of Bethel was one of the first communities to opt for a smoke-free law, three years after his death, in 1998. Anchorage, Klawock and Haines Borough have passed 100 percent smoke-free laws that cover all workplaces, including all restaurants and bars. It is still too much that only half of Alaska's population is covered by a current smoke-free workplace law. No one should have to choose between their health and a good working environment.

We need legislation to combat this workplace threat. Secondhand smoke is a major cause of needless, preventable suffering and death. And it isn't only cancer we need to worry about; non-smokers exposed to secondhand smoke increase their risk of heart disease and lung cancer by up to 30 percent. Ventilation and other "air-cleaning" methods cannot scrub the damage that secondhand smoke causes. Comprehensive smoke-free workplace policies are the only effective way to eliminate secondhand

smoke exposure in the workplace. We know enough now about the dangers of smoking, and secondhand smoke, to do something about our workplace health.

Michelle Sparck *lives in Bethel, Alaska, where she and her sisters manage ArXotica, an Arctic natural cosmetics company.*

The views expressed here are the writer's own and are not necessarily endorsed by Alaska Dispatch, which welcomes a broad range of viewpoints. To submit a piece for consideration, e-mail commentary(at)alaskadispatch.com [1].

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Suzanna Caldwell [1]
February 3, 2014
Main Image:
Cigarette butts [2]
Main Image Caption:
About half of Alaska residents are protected by workplace smoking bans, but a new movement hopes to get that up to 100 percent by increasing education efforts.

About half of Alaska's population lives in a community with a workplace smoking ban, but the other half doesn't. While that's a good sign for supporters of smoke-free workplaces in Alaska, there's been a push in recent years to make things even better for them.

That's why organizations like the American Lung Association and American Cancer Society are pushing for a statewide smoke-free workplace law in the 49th state.

Nationally, 30 states and the District of Columbia have statewide workplace smoking bans. In Alaska, roughly a dozen communities have bans of their own. The Municipality of Anchorage, home to about 300,000 people -- a little less than half of the state's population -- has a smoking ban. There's also one covering the 30,000 people who live in Juneau, the state capital. Even smaller communities like Bethel, Valdez, Unalakleet, Dillingham, Haines and Palmer have instituted bans [3] in recent years.

Those have been good first steps, but Emily Nenon, Alaska government relations director with the American Cancer Society's Cancer Action Network, said that's about all most Alaska communities can do when it comes to smoking bans. While some smaller cities could institute bans under their city's charters, some of the state's most populated boroughs -- including the Fairbanks North Star, Matanuska-Susitna and Kenai Peninsula -- do not have the power to manage public health. Without health powers, a borough cannot implement a ban.

"We've gotten about as far as we can get with the powers that they have," Nenon said.

That's creating a disparity. In the Mat-Su, for example, the city of Palmer has a ban, but the city only encompasses five square miles of the borough's 25,000 square miles. Businesses outside the city are welcome to allow to smoking under the current law, meaning customers don't have to travel far if they want to smoke.

But instituting health powers are a bit of a Catch-22 for borough assemblies. While they could decide to have health powers -- usually through voter referendum -- those can come with more responsibilities than simply a smoking ban, Nenon said.

"(Boroughs) are more interested in the state creating that level playing field," she said.

Plus, there's the entire unorganized borough, which consists of about 70,000 of the state's residents. While many communities in that borough have signed on as having smoke-free workplaces, most of the smaller ones have not.

So in an effort to get the law moving, the smoke-free Alaska campaign is looking to increase public awareness and drum up support.

At an Anchorage Chamber of Commerce Make It Monday luncheon in an effort to court support from Anchorage businesses, Nenon pointed out that American Cancer Society study found that Alaska would save $5.04 million in treatment for lung cancer and heart illnesses due to smoking in the first five years of a statewide ban. Of that, half a million would be Medicaid savings.

Marge Stoneking, Alaska director of the American Lung Association in Anchorage, said studies show that when smoking bans are put in place, business either remains flat or increases. An Alaska Department of Health and Social Services study in 2012 [4] found that one in five bar patrons in Anchorage and Juneau found themselves visiting bars more often once smoking bans were in place.

"It shows that businesses can be smoke-free without hurting the bottom line," she said.

So far, 350 businesses and community groups in Alaska have come out in support of the smoking ban.

While buzz is still building for the statewide effort -- and has been building for years -- no legislation has been introduced yet that would create a state ban.

Nenon thinks the reason may be that so many people live in communities with smoking bans is that they forget other places lack them. She encouraged people to contact their legislators or to sign a resolution of support for a smoke-free Alaska.

With all the studies noting the benefits of smoke-free workplaces, Nenon said the biggest issue moving forward will be making sure people understand the benefits of the law. Since Anchorage passed its smoking ban in 2007, she said, no tickets have been issued to violators. Incidents have been handled with simple phone calls or letters reminding people about how the law works.

"If the laws are well understood, enforcement is easy," she said.

Source URL: https://www.alaskadispatch.com/article/20140203/statewide-workplace-smoking-ban-looks-drum-support-alaska

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News and voices from the Last Frontier
Published on *Alaska Dispatch* (https://www.alaskadispatch.com)

Suzanna Caldwell [1]
March 25, 2014
Main Image:
No-smoking sign in bar [2]
Main Image Caption:
Workplace smoking bans are in effect in Alaska communities that comprise about half the state's population. Proponents of a statewide ban have a bill in the Legislature, but opponents have been vocal in their testimony against the proposed law.

For more than a decade, anti-smoking advocates have fought to make workplaces smoke-free. They started small, working at the local level, steadfastly bringing indoor smoking bans first to Bethel in 1998, and then slowly but surely to other communities in Alaska. In all those years, they've managed to cover about half of the state's population.

But advocates say they've done about all they can when it comes to regulating smoking at the local level, and now it's time to think bigger -- statewide big.

Tuesday the Alaska House Health and Social Services committee heard House Bill 360 -- sponsored by Anchorage Rep. Lindsey Holmes -- which would prohibit smoking in indoor workplaces. It's the furthest a statewide workplace smoking ban has made its way through the Legislature, something that in some ways has been intentional, according to Mike Gutierrez, Alaska grassroots relationship manager for the Alaska American Cancer Society Cancer Action Network.

"This is the first time we've felt like we had the ability to have a bill introduced, much less get one passed," he said.

It's been a slow build, focusing on education and getting smoking laws passed in individual Alaska communities. Since the first ban in Bethel, smaller communities like Valdez, Unalakleet, Dillingham, Haines and Palmer have passed them, as have larger ones -- including bans covering the 30,000 residents of the state's capital in Juneau, along with Anchorage, Alaska's largest city and home to about a third of the state's population.

But even with those bans, plenty of other Alaskans are not covered. Second-class boroughs, like the Matanuska-Susitna, Kenai Peninsula and Fairbanks North Star borough do not have health powers and cannot implement smoking bans borough-wide. The unorganized borough, which includes 70,000 Alaskans and communities like Dillingham, Unalaska and Cordova, also cannot enact a smoking ban. The Legislature is supposed to serve as the governing body for the borough, though such a meeting has never been held in more than 50 years of statehood. A statewide ban would cover those communities and "level the playing field," Gutierrez said.

Marge Stoneking, Alaska director of the American Lung Association, has been with the organization for the last 10 years and watched that slow and steady change towards greater acceptance of smoking bans.

She noted that the Anchorage ban, first passed in 2001 and again with a second, more comprehensive version in 2006, has really helped change attitudes in Alaska. That wasn't immediately clear, she said, until Anchorage residents turned down a voter initiative that would amend some of the more comprehensive elements of the law by an overwhelming majority (76 percent came out against the initiative). Stoneking said that turnout showed a marked change.

"That was huge in terms that people get it and (smoke-free workplaces) are important to them," she said.

She also noted that a University of Alaska Anchorage Institute of Social and Economic Research report found overwhelming support from local businesses in Anchorage that have gone smoke-free. It also noted that in the years since the ban, no citations have actually been written against the law. So far, more than 400 businesses across the state have signed pledges in support of smoke-free workplaces, from large corporations like Doyon Ltd. to smaller "mom and pop" stores.

"That's a good indication that this just is accepted," Stoneking said.

That's something that Holmes, the bill's sponsor, acknowledged. She called the bill the "take it outside" bill, and noted it only applies to workplaces and that as far as she can find, the law is mostly "self-policing."

"Which is the best kind, as far as I'm concerned," she said.

Opposition testimony strong

In the hearing, however, many citizens came out in opposition of the bill. Many were against the the inclusion of e-cigarettes in the bill, saying science has not shown whether the vapor devices are dangerous. Even before, owners of a smoke shop in Soldotna created a YouTube video opposing [3] the Senate version of the bill.

Angela Carroll, owner of Glacier Vapors, an e-cigarette store in Palmer, said a big part of her business comes down to "try before you buy." If the law passes, it will undoubtedly affect her business.

"It will kill the shops," she testified. "Why not give vaping a chance?"

Dale Fox, the president and CEO of Alaska CHARR, the cabaret, hotel, restaurant and retail association, testified against the bill. He said a ban on smoking is essentially a ban on bars. People choose to go into bars, he said, and bars should be able to make the choice to have or not have smoking. He said while anti-smoking proponents have invested in ad campaigns saying non-smoking policies are good for business, he's heard that some establishments have lost up to 30 percent of their businesses when smoking bans are enacted.

"If legislators think less government is better, they will not vote for this bill," he said.

Citing the lateness in the day, the committee kept testimony open on the bill but cut it off after only a few Alaskans spoke, to continue on a later date.

Source URL: https://www.alaskadispatch.com/article/20140325/10-years-making-smoke-free-workplace-bill-reaches-alaska-legislature

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Alaskan 'Ghostwalker' speaks against smoking

Patterson hopes to speak in Juneau schools

Posted: November 18, 2014 - 12:04am

By STEPHANIE SHOR

JUNEAU EMPIRE

Michael Patterson, the self-proclaimed "Ghostwalker" of Juneau, continues to wage a battle against tobacco in his home state. He was diagnosed with Chronic Obstructive Pulmonary Disorder, a form of emphysema, when he was only 44 years old.

Patterson works with the Alaska Native community as a relatable spokesperson for the Center for Disease Control's anti-smoking campaign. According to the American Lung Association, Alaska Native and American Indian youths have a 23 percent smoking rate, the highest in the country.

"When I made that commercial in New York, they said, 'You are going to save millions of lives,'" Patterson said. His 2012 commercial for the CDC's anti-smoking campaign gained national attention.

At the time of his diagnosis, doctors gave him five more years to live, he said. Patterson has survived two years past that mark. He calls himself a ghostwalker because he now lives on borrowed time.

Within the next year, he says he will need either a lung transplant, from which he might not recover, or a permanent oxygen tank.

In the last year, Patterson has lost 9 percent of his lung volume, and he says the downtown smoking situation is the culprit. He sees second-hand smoking as an unavoidable danger.

"I want to see smoking removed from the streets of Juneau," Patterson said.

He had planned to propose a ban on smoking in all public locations, both indoors and outdoors, at the next convention of the Alaska Tobacco Control Alliance, but they denied his request, in favor of a focus on smoke-free workplaces, he said. He still plans to breach the topic when he speaks at the summit.

Patterson said he worries for children picking cigarette butts off the street in a city which he calls a "smoke gauntlet." In response to the City and Borough of Juneau's proposed $2 increase in tobacco sales tax, he said "kids are resourceful," and if smoking is allowed in public locations, they will find a way, despite the cost.

Since his election as the official spokesperson for the CDC, Patterson has dedicated the time he has left to visiting schools and communities across Alaska to fight what he calls "the code of silence."

Many youth growing up on the streets of Juneau are victims of abuse and never tell anyone, Patterson said. They live in silence, and cope in damaging ways, he said.

Patterson said using "shock treatment" on these kids through graphic images and shocking statistics, like he had in grade school, has minimal effects. Patterson began smoking when he was only nine years old.

"I would shut them out. Say it's none of their business and I am not hurting anyone but myself," he said.

After a recent speech at an elementary school, parents contacted Patterson about their children pointing to their hearts when they got home from school and telling the parents that when Patterson spoke, "they could feel it here."

One mother said her 9-year-old son told her, "Please stop smoking and I love you."

The motivational speaker, who often delivers speeches with tears running down his cheeks, said speaking from the heart is what really sways young people.

"If you shock me, I'll get over it. If you touch my heart, it will really have an affect on me long-term," he said.

His campaign has already led him to speak at schools in Kodiak, Sitka, Angoon, Hoonah and Pelican. He plans to speak at Yaakoosgé Daakahídi Alternative High School on Nov. 21 and hopes to be invited to other schools in the district.

"I know there are budget crunches," he said. He would be willing to waive the typical speaker fee and visit the schools for free. "I just need to be out there, sharing my story."

Patterson was asked recently to speak via webcast to a group of graduating students at the University of Washington School of Medicine by the Director of the CDC's office on smoking and health, Timothy McAfee.

Patterson was surprised to see over 100 students listening to his talk that day.

"When I asked if there were any questions (after the speech) there was dead silence for like two minutes," Patterson said.

Feeling embarrassed, he quickly closed his speech. McAfee thought this to be strange and later asked the facilitator what the medical students' reactions had been. The response came back that they were left speechless, a rare event.

This hit close to home for Patterson who was told by his first doctor upon diagnosis that he "only had emphysema, not cancer." Patterson continued to smoke after his diagnosis because he did not understand the significance of COPD, and didn't quit until he suffered his first attack and was placed on a breathing machine.

Patterson's own daughter recently lost her mother to lung cancer, and a non-smoking colleague from the CDC, Nathan Moose, died from the effects of second-hand smoke.

Patterson described a recent vision, in which a black mountain was crested with a large white mansion. The mansion represented the wealth and power of the tobacco companies, supported by dozens of coffins.

"My coffin has $300,000 (spent on tobacco)," he said. "How much will yours have?"

The American Cancer Society will hold the 39th Annual Great American Smokeout on Thursday, in which smokers are encouraged to quit for one day.

•Reporter Stephanie Shor can be contacted at stephanie.shor@juneauempire.com or at (907) 523-2279.

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E-cig users face new but familiar rule

Electronic cigarette use is now regulated

Posted: July 7, 2014 - 11:04pm

By KATIE MORITZ

JUNEAU EMPIRE

Juneau resident Todd Mace picked up electronic cigarette use about a year ago as a healthier option while he tried to kick a decade-long cigarette habit. Being able to take a couple puffs of his e-cigarette inside the bars kept him out of the lineup of smokers outside downtown bars — and away from temptation, he said.

But now Mace, along with Juneau's other e-cigarette smokers, must follow the same rules imposed on tobacco smokers — no smoking in bars, restaurants, bus stop shelters, city buildings and other public places.

The ordinance amending the city's pre-existing secondhand smoke control code to include e-cigarettes was adopted at a June 30 Assembly meeting. It puts into writing what some city institutions — including the Juneau School District and the Zach Gordon Youth Center — had already decided to do: put restrictions on a relatively new product that hasn't been addressed through legislation.

Robert Barr, director of the downtown library, was integral in getting something on e-cigarettes in the Juneau books. He said that since e-cigarettes became popular, he has had about six instances in which library patrons either asked if they could use an e-cigarette inside or just took one out and started puffing.

With e-cigarettes left out of the city's second-hand smoke control code, library staff couldn't legally say no, Barr said, and they couldn't do anything when other patrons complained about the vapor.

"We couldn't really address those complaints people were having," he said. "I asked the city attorney if that was something that fell under the city secondhand smoking code. It didn't seem appropriate to be using e-cigarettes in the libraries considering that the health effects seemed to be pretty real. We went forward from there."

He worked with city attorney Amy Mead for about two months until the ordinance was adopted, he said.

There are many opinions on the health effects of e-cigarettes, which are filled with a liquid combination of propylene glycol, water, flavoring, nicotine, and other chemicals that is then heated, vaporized and inhaled.

The U.S. Food and Drug Administration is not yet regulating the contents of e-cigarettes. The administration is currently taking public comment on the issue, however.

Barr pointed out that in October of last year, 41 of 50 states' attorneys general — including Alaska's — signed a letter to the FDA entreating it to begin regulating e-cigarettes.

"They're marketed as being safe products that can be used in public unlike tobacco," he said. "That's unfortunately not true."

Bob Urata, a physician with Valley Medical Care, spoke in favor of the ordinance during the public comment period at the June 30 Assembly meeting, according to meeting minutes. He called e-cigarettes "the new battle" now that lung cancer prevalence in Alaska is dropping. Urata said that although the FDA is still researching it, the aerosol inhaled and exhaled from e-cigarettes is "not benign" even if it isn't smoke, and contains toxins and carcinogens. If a product includes nicotine and is exhaled, it doesn't belong in a public building, he said.

Mace said he knows that e-cigarettes aren't healthy, but he feels so much better than he did when he was smoking a pack a day. He started using an e-cigarette about a year ago, and, a few months ago, stopped smoking cigarettes entirely.

"The last four months I stopped buying them, I stopped bumming them from friends," he said. "An alternative to help me quit smoking is why I bought (an e-cigarette)."

He said he's read article after article about the effects of e-cigarette use. It's hard to say what's fact and what isn't, but, regardless, he doesn't plan to be a lifetime user.

"Ultimately, I do want to quite smoking electronic cigarettes as well," he said.

Mace said he's disappointed he'll no longer be able to smoke inside at bars. That's the only public, indoor place he'd ever used it because "there's a certain etiquette " to e-cigarette use, he said.

"I don't walk around at Fred Meyer using it," he said. "I saw a guy in Wells Fargo setting up a new account, ... puffing away. Don't be disrespectful — don't be in the movie theater, don't be in the store."

Mace's smoking habit started years ago while drinking with friends at bars, and the temptation is still very real, he said. Keeping his distance from other smokers has helped him stay cigarette-free.

The appeal of the e-cigarette is "I don't have to be outside, I don't have to be around it, the temptation's not there," he said. "But what I'm going to do is just go outside and have my electronic cigarette."

Barr said he's pleased the ordinance passed, and library patrons will be, too. There isn't enough e-cigarette use in the library to merit putting up signs, he said, but anyone who breaks the new rules will be notified.

The ordinance was adopted without much discussion by the Assembly, which voted unanimously in favor.

"This was a pretty easy one," Barr said. "The assembly was interested in adding this in, and did so."

• Contact reporter Katie Moritz at 523-2294 or at katherine.moritz@juneauempire.com. Follow her on Twitter @katecmoritz.

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E-cigarette sellers take a page from Big Tobacco: Our view

The Editorial Board, *9:02 p.m. EDT April 17, 2014*

(Photo: Resound Marketing via AP)

Just when smoking has finally lost its glamour, along come electronic cigarettes and an avalanche of sexy new ads that promote "vaping."

In one, actor Stephen Dorff (http://www.ispot.tv/ad/76A2/blu-cigs-freedom-featuring-stephen-dorff), shirtless, talks about taking "back your freedom" while inhaling vapor on Lorillard's blu eCig. (Can anyone say Marlboro Man?) In another ad for blu, former Playboy centerfold Jenny McCarthy leans forward seductively (http://www.youtube.com/watch?v=mUJ5W2pz1XI) into the camera before saying: "I feel free to have one almost anywhere."

OPPOSING VIEW: E-cigarettes can help end smoking (/story/opinion/2014/04/17/e-cigarette-njoy-smoking-editorials-debates/7847587/)

For a product whose main appeal is supposed to be that it's *not* a traditional cigarette, e-cigarette makers have sure taken a lot of pages from Big Tobacco's playbook. Which is not surprising. Many of the sellers are the same companies that made billions of dollars addicting people to a product that kills 480,000 a year (https://www.tobaccofreekids.org/research/factsheets/pdf/0072.pdf).

The marketing push is enough to trouble anyone who believed that, after a half-century battle, the nation finally had smoking on the run and that fewer teenagers would get hooked and die prematurely.

E-cigarettes — battery-operated nicotine inhalers that contain no tobacco — have the potential to help some smokers quit. But the jury is still out on whether and how well they may work. In the meantime, the potential for nicotine addiction is high, and there's no good reason to use e-cigarettes other than trying to quit smoking.

Federal law prohibits cigarette makers from sponsoring sports and entertainment events, handing out free samples and selling certain flavored cigarettes. TV ads were banned in 1970.

But for e-cigarettes, it's open season. Makers have sponsored music festivals, fashion shows and IndyCar racing. You can buy e-cigarettes or liquid refills in everything from Cherry Blast to Gummy Bear. Is the public really supposed to believe that e-cigarettes are not being marketed to minors?

The dangers of e-cigarettes may not be as obvious as those of traditional smokes, but new problems are emerging.

For example, the nicotine-laced liquid the devices use, which comes in small vials and large containers, can be toxic if touched or consumed. Calls to poison control centers (/story/news/nation/2014/03/25/e-cigarette-warning-from-poison-centers/6873759/) about misuse, mostly by children, have risen to 217 a month this year, almost 10 times the number in 2011.

Also troubling is that more teenagers are experimenting with e-cigarettes (/story/opinion/2013/09/22/e-cigarettes-smoking-addiction-editorials-debate/2850921/). In 2012, 1.8 million middle-school and high-school students tried them, double the number the year before. One in five of the middle-schoolers who experimented said they'd never smoked before. It doesn't help that about 20 states allow sales of e-cigarettes to minors.

So what's the right response? At least until more studies are done, all states should treat the new devices as they treat cigarettes, with bans on youth sales and indoor use. And the Food and Drug Administration, which has been slow to assert its authority to regulate e-cigarettes, ought to get on with it.

Independent research would determine if e-cigarettes really can help smokers quit. Or if they carry other health risks. For now, the nation ought to ensure that a new generation doesn't get hooked on a different and potentially dangerous product.

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PENINSULA CLARION

All Access

Hospital CEO supports 'take it outside' legislation

Posted: March 6, 2014 - 9:40am

By Rick Davis

CEO, Central Peninsula Hospital

I have watched the smoke-free campaign make significant ground over the last several years. As a healthcare professional, I would be remiss if I didn't support a proposed law that would prohibit smoking in all indoor workplaces, businesses and public places. Of course the reason this legislation is being proposed is to prevent non-smokers from being exposed to second hand smoke. We now have plenty of science to support the fact that second hand smoke is dangerous. Just look up The Health Consequences of Smoking report. It's all there; I don't need to recite facts and figures as we all now know that smoking is a major threat to our public health.

I know we do things differently up here in Alaska and don't want or need anyone telling us what to do. Asking people to "take it outside" is a reasonable compromise to protect other people's health from the effects of second hand smoke. Much of Alaska has already adopted similar smoke-free laws but many areas remain in Alaska where they do not have health powers to enact such a law. The legislation introduced doesn't prohibit smokers from being hired or anything like that. They will just have to "take it outside" and away from an entrance or air intake.

We have enacted a smoke-free campus policy at our hospital and it was received well upon implementation. I suspect businesses that will be required to go smoke-free under the proposed legislation will enjoy the same results. People will thank you, just as they did at our hospital. This is not a Republican or Democrat issue, it's a health issue. Please support House Bill 360 and Senate Bill 209.

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We have the best fresh air in the nation

Posted: Sunday, March 23, 2014 12:00 am

To the editor:

I can't express enough how nice it is to be able to breathe clean, smoke-free air in my town, thanks to our local smoke-free ordinance.

For the first time in 40 years we are now dining out in a couple of the local bars that have good food and clean air. I know they appreciate the extra business and I am spreading the word to my friends and customers about their new opportunities here in their own town. If you don't have to drive to the next town or all the way to the city for dinner, you just cut your carbon emissions — good for your health and the planet — and you just beefed up your local economy and saved time. Smoke-free is exponentially good for a healthy body and a healthy economy!

But what about e-cigarettes? They might seem innocuous as they are odorless and don't fill up ashtrays, but they do pollute the air for nonsmokers. If you sprayed fragrance-free hair spray in a public space you would be polluting the air around you with a barrage of chemicals that could cause an allergic reaction in some folks. E-cigarettes are much the same with the exception that studies have shown some to contain carcinogens and nicotine in their emissions. Without some form of regulation we have no way of knowing if the brand used by a patron is polluting our breathing space with these emissions. That kind of regulation is a federal issue.

We can help prevent this problem by establishing smoke-free regulations at the state level and set a standard for local legislation to follow.

No one wants to breathe in carcinogens. Nicotine? It's an addictive substance that people have a choice to burden themselves with. But the public air space belongs to people who have a choice not to breathe their pollution. Please consider regulations to treat e-cigarettes as we do tobacco-based cigarettes. If the state buildings are smoke-free, why shouldn't the state provide comprehensive regulations for a smoke-free Alaska? We have the best fresh air in the nation.

Brooke G. Heppinstall

Palmer

Lung health groups hoping to breathe fresh air into Alaska

By Weston Morrow wmorrow@newsminer.com | Posted: Monday, March 24, 2014 12:00 am

An earlier version of this article stated the American Nonsmokers' Rights Foundation was lobbying for the legislation when it is actually the organization's lobbying arm, Americans for Nonsmoker's Rights.

FAIRBANKS — The American Lung Association and Americans for Nonsmokers' Rights are teaming up in an effort to bring an end to second-hand smoke deaths.

The two organizations are cooperating to help push legislation through the state legislature that would ban smoking in commercial establishments throughout the state. Such prohibitions exist in certain municipalities already, such as Anchorage, but for the vast majority of the state, including Fairbanks, there is no sweeping ban.

Smoking is prohibited statewide in certain areas already, such as school grounds and in many workplaces, but not in restaurants and bars. The Lung Association and American's for Nonsmoker's Rights feel restaurants and bars should not be treated as exceptions to the workplace bans.

"We want to protect the health of everyone and think that everyone has the right to breathe smoke-free air, especially if you're working indoors," said Octavia Harris, health education manager for the Lung Association's Fairbanks office.

The state legislation, HB 360 and SB 209, were both filed in their respective houses Feb. 26. The bills have support from both sides of the aisle, with cosponsors from each party, a positive sign for the legislation's supporters.

The bill's supporters claim to have the backing of more than 400 Alaska businesses and more than 75 Alaska Native groups.

Time is running short for the bill, however. The 28th legislature ends midway through April, and any bills not passed by then will have to be reintroduced and run through the legislative process in the 29th legislature. In the Senate, the bill sits in the state affairs committee awaiting a hearing. In the House, it was referred to the health and social services committee, where it is scheduled for a hearing at 3 p.m. Tuesday.

The Lung Association just recently opened a branch in Fairbanks in the fall. The organization has had a presence in Alaska for several years but previously only had its office in Anchorage.

Harris said that, for an area like Fairbanks North Star Borough, which doesn't have the authority to enact health requirements such as a smoking ban, the statewide law is especially important.

"A lot of people thought that we were already smoke-free in a lot of places and were surprised to find that there were a number of places that were not," Harris said.

Char Day, program manager for the American Nonsmokers' Rights Foundation, said that she has to limit the places she can go in places like Fairbanks so as not to trigger her asthma.

"Normally, I don't have to worry about where I go, but here I have to be aware so much of where I go," Day said, "and it would just be wonderful to be able to go anywhere indoors in the state of Alaska and not worry about having an asthma attack."

Harris and Day said they don't believe the ban would be an intrusion on people's rights. They don't want to force anyone to stop smoking, they said, but to do so outside if they must smoke.

"It's about making a choice that is going to be best for everyone, not just one or two individuals," Harris said when asked if they felt it was reasonable to expect smokers to go outside in places like the Interior during winter.

"It's not about the smoker. It's about the smoke, and it's about simply asking them to take it outside."

Contact staff writer Weston Morrow at 459-7520. Follow him on Twitter: @FDNMschools.

Supports statewide smoke-free workplace

Posted: Monday, March 24, 2014 11:59 pm

To the editor:

As a health practitioner in the Valley, I am in support of passage of a statewide smoke-free workplace law to protect all Alaskans from the dangers of secondhand smoke. This proposed bill is part of the current legislative session. According to the 2014 Surgeon General's report "The Health Consequences of Smoking," the science is clear. There is no safe level of exposure to secondhand smoke.

Those who choose to smoke do so freely and willingly. Most smokers understand the risks associated with that choice. But those who are exposed to secondhand smoke in the workplace, many of whom have limited employment options, can suffer from the same consequences as the smoker.

The inclusion of e-cigarettes in this law is an important element. There is no scientific evidence showing that they are safe or that they can help smokers quit. A 2009 study done by the FDA found cancer-causing substances in several of the e-cigarette samples tested. Additionally, Food and Drug Administration tests found nicotine in some e-cigarettes that claimed to contain no nicotine. Extensive study is needed on these relatively new products before they should be considered safe. At this point, much of the research suggests that they are not safe at all.

Unfortunately, I see the long-term effects of smoking and secondhand smoke in people of all ages. These are preventable conditions that increase health care costs to non-smokers and smokers. In fact, many of the chronic diseases in my practice that I see today are the result of lifestyle choices we make each and every day. The elimination of smoke in our workplaces and public spaces is one way we can make a very large positive impact on health and healthcare for our future.

Please join me in urging our Valley legislative delegation to pass a statewide smoke-free workplace law this year.

Jill K. Valerius, MD

Palmer

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Advocacy groups voice support for Alaska Smoke-Free Indoor Workplaces bill

ANCHORAGE, Alaska– Local advocacy groups – AARP, American Cancer Society Cancer Action Network, American Heart Association, American Lung Association, and the Alaska Native Health Board – are backing a bill that would make all indoor workplaces in Alaska smoke-free, saying it would protect the health and safety of all workers and business patrons.

"Only half of residents already live in communities with smoke-free workplace laws. A smoke-free Alaska would create healthier environments and benefit business employees and customers. Everyone has the right to breathe smoke-free air," said Marge Stoneking, Alaska Director, American Lung Association.

The Alaska Smoke-Free Indoor Workplaces bill was introduced Wednesday by Representative Lindsey Holmes (HB 360) and Senator Peter Micciche (SB 209), and would prohibit smoking in all indoor workplaces, businesses and public spaces. Individuals who choose to smoke will have to "take it outside" in order to protect others from the effects of secondhand smoke.

"The U.S. Surgeon General has concluded that there is no risk-free exposure to secondhand smoke. Scientific studies have proven that smoke-free laws save lives – the incidence of heart attacks decrease after they are implemented," said Dr. Bob Urata, a physician and volunteer for the American Heart Association. A 2006 report by the Surgeon General, *"The Health Consequences of Smoking,"* reports that non-smokers exposed to secondhand smoke increased their risk of heart disease and lung cancer, and called it a major cause of preventable deaths.

"Four out of 5 adults in Alaska support smoke-free workplaces, and businesses throughout the state have pledged their support for a statewide law," said Emily Nenon, Alaska State Director, American Cancer Society Cancer Action Network. The coalition reports that more than 400 businesses and community organizations have expressed their support, which are listed on the website, www.SmokeFreeAlaska.com.

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Advocacy groups voice support for Alaska Smoke-Free Indoor Workplaces bill

ANCHORAGE, Alaska– Local advocacy groups – AARP, American Cancer Society Cancer Action Network, American Heart Association, American Lung Association, and the Alaska Native Health Board – are backing a bill that would make all indoor workplaces in Alaska smoke-free, saying it would protect the health and safety of all workers and business patrons.

"Only half of residents already live in communities with smoke-free workplace laws. A smoke-free Alaska would create healthier environments and benefit business employees and customers. Everyone has the right to breathe smoke-free air," said Marge Stoneking, Alaska Director, American Lung Association.

The Alaska Smoke-Free Indoor Workplaces bill was introduced Wednesday by Representative Lindsey Holmes (HB 360) and Senator Peter Micciche (SB 209), and would prohibit smoking in all indoor workplaces, businesses and public spaces. Individuals who choose to smoke will have to "take it outside" in order to protect others from the effects of secondhand smoke.

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Posted: March 5, 2014

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Supporters call for Alaska lawmakers to expand smoke-free workplace laws

April 07, 2014
Monday PM

(SitNews) Anchorage, Alaska - Supporters of the Alaska Smoke-Free Indoor Workplace bill (SB209) sent the message to lawmakers last Thursday that it's time for Alaska to have statewide smoke-free laws. The proposed law got a hearing yesterday with the Senate State Affairs Committee at the Capitol in Juneau.

If enacted SB209 will prohibit smoking in all indoor workplaces, businesses and public spaces. Individuals who choose to smoke will have to "take it outside" in order to protect others from the effects of secondhand smoke. The bill was introduced by Senator Peter Micciche in the Senate and Representative Lindsey Holmes in the House (HB360).

A coalition of Alaskan advocacy groups – American Cancer Society Cancer Action Network, American Heart Association, American Lung Association, the Alaska Native Health Board, and AARP – are urging lawmakers to vote yes for the bill, to protect the health and safety of all workers and business patrons from secondhand smoke.

Though a self-described "man of small government," Sen. Micciche testified that, "... like vehicle safety and car seats, [secondhand smoke prevention] is a public health and safety issue that government has a role in."

"More than 400 businesses and organizations have stated their support of this bill, signing resolutions that they do want smoke-free workplaces as the statewide standard," stated Sen. Micciche in his testimony.

Dr. Bob Urata, a Juneau physician and American Heart Association volunteer, testified during the hearing that the dangers of secondhand smoke are well established. "Secondhand smoke kills nearly 50,000 people in the United States every year. The 2006 U.S. Surgeon General's report found that brief secondhand smoke exposure can have an immediate adverse effect on the cardiovascular system."

Breathing secondhand smoke interferes with the normal functioning of the heart, blood, and vascular systems in ways that increase the risk of having a heart attack. According to the Centers for Disease Control and Prevention, even brief exposure to secondhand smoke can damage the lining of blood vessels and cause your blood

platelets to become stickier. These changes can cause a deadly heart attack or stroke.

SB209 would also restrict the use of controversial electronic cigarettes in indoor spaces, asking users to take it outside for the health of others. Opponents of the bill, notably the Tobacco Industry, argue that e-cigarettes do not produce smoke like traditional cigarettes and emit "harmless water vapors" instead. However, Marge Stoneking, Alaska Director of the American Lung Association, testified that, "E-cigarette secondhand aerosol has been found to contain ultrafine particulates, heavy metals, and volatile organic compounds, which are risks for lung cancer, in addition to nicotine."

Currently only half of Alaska's population is covered by a local smoke-free workplace law. The bill passed out of committee and will be heard again on Monday in the Senate Health and Social Services Committee.

On the Web:

Learn more about the Alaska Smoke-Free Indoor Workplaces effort
www.SmokeFreeAlaska.com

Source of News:

American Lung Association

Cancer Action Network

American Heart Association

AARP

American Stroke Association

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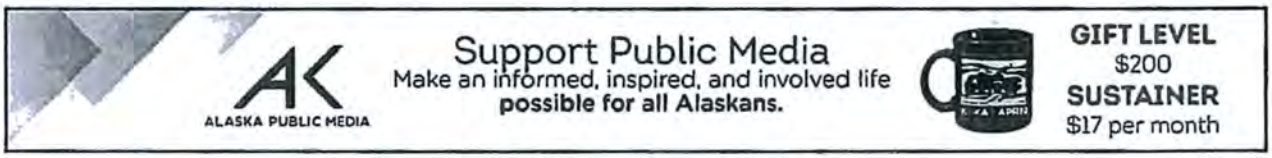

Statewide Smoking Ban Gains Traction In Senate

By Aaron Selbig, KBBI - Homer | April 9, 2014 - 5:28 pm

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A proposal that would ban smoking in most public places in Alaska is making headway in the state Senate. Senate Bill 209 passed out of the Senate State Affairs Committee last week.

VmP

The bill would ban smoking in office buildings, sports arenas, taxicabs, bars and restaurants, among other public places.

Many places in Alaska, including Anchorage, Juneau and Bethel, already have similar bans. As a result of those bans, nearly half of Alaska's population is already affected by a workplace smoking ban.

Soldotna Senator Peter Micciche is the bill's sponsor. He told the Senate State Affairs Committee Thursday that normally, he a "small government kind of guy." In this case, however, he feels it's appropriate for the government to get involved to protect the health of workers.

"Just as it's appropriate for government to set safety standards in automobiles, electrical codes for wiring (and) requirements for infant and child carrier seats," he said.

Micciche says the state takes on much of the economic costs associated with second-hand smoke, which he said kills more Alaskans each year than automobile accidents. He also made the point that second-class cities and unorganized boroughs in Alaska do not have the legal authority to enact their own smoking bans.

But most importantly, Micciche said the issue is for him, a very personal one. He spoke about his father, who passed away from a smoking-related illness.

"My father made his personal choices," said Micciche. "But my siblings and I didn't. I'm the lucky one of the three. They all had respiratory issues from living through second-hand smoke effects."

Micciche said more than 400 businesses and organizations have signed on in support of his bill. Committee Chairman Fred Dyson said most of the comments his office has received about the bill have also been supportive of the state doing something.

Larry Hackenmiller testified from Fairbanks on behalf of the Interior Cabaret, Hotel, Restaurant and Retailer's Association. He said Fairbanks rejected a similar law. He also took issue with some of the numbers put forward about hazards related to second-hand smoke.

"There is no hazard to second-hand smoke in a workplace ... period," said Hackenmiller.

Gary Superman owns the Hunger Hut bar in Nikiski. He called the smoking ban an infringement on his rights as a business owner. Superman described his bar as a "blue-collar tavern" that would be "irreparably harmed economically" by the ban.

Kenai businessman John Parker spoke in favor of the proposed ban, saying it would "level the playing field" for business owners on the Kenai Peninsula who may be afraid that banning smoking would give a leg up to their competition. More importantly, Parker said that customers and employees have a fundamental right to smoke-free air.

A couple of amendments have been proposed to the bill. One would include the use of e-cigarettes in the ban. The other would set up an appeal process for businesses who would like to "opt out."

The bill also provides an "opt out" clause for local municipalities, which would be granted only if a local election is held and a majority of voters choose to exempt themselves from the smoking ban.

After nearly an hour of testimony, SB 209 passed out of the Senate State Affairs Committee. It heads now to the Health and Social Services Committee. A companion bill is also working its way through the Alaska House.

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Secondhand marijuana smoke may harm blood vessel function as much as cigarette smoke

By Melinda Carstensen

Published November 17, 2014 | FoxNews.com

Secondhand marijuana smoke may pose a similar health risk to that of tobacco, suggests new research presented at the American Heart Association's Scientific Sessions 2014 in Chicago.

In the study, lab rats' blood vessel function declined by 70 percent after 30 minutes of exposure to secondhand marijuana smoke. When researchers removed tetrahydrocannabinol (THC)— the compound in marijuana that causes intoxication— from the smoke, the animals' blood vessel function was still impaired.

"I think that a lot of people in the general public look at it this way: I don't want to breathe in cigarette smoke, but marijuana doesn't have nicotine— it's natural. It's medicinal," senior author Matthew L. Springer, associate professor of medicine at the University of California, San Francisco's cardiology division, told FoxNews.com.

Springer said he thought to explore the potential effects of secondhand marijuana smoke a few years ago while attending a Paul McCartney concert. People in the stands at AT&T Park, where the San Francisco Giants play, began lighting up, and Springer said he was surprised by the smell.

"A cloud of smoke was hovering over the field, and Paul McCartney was on stage and sniffed the air, and joked, 'There's something in the air, and it must be San Francisco,'" Springer said.

Despite new legislation expanding the legality of recreational marijuana in Colorado, Washington State, and most recently in Oregon and Washington D.C., no study has previously explored how secondhand marijuana impacts blood vessel function— much of the research has been focused on how marijuana affects the lungs.

One side effect of marijuana smoking is poor blood vessel function, which can lead to an increased risk of atherosclerosis, which causes plaque build-up in the arteries, restricts blood flow and could lead to a heart attack, according to the American Heart Association. Smoking cigarettes can also increase the risk of atherosclerosis.

To analyze marijuana smoke's impact on blood vessel function, the study authors reproduced marijuana smoke with a machine and placed rats in an insulated room. Prior to the exposure, as well as 10 and 40 minutes afterward, researchers measured the ability of the rats' blood vessels to grow in diameter. Using a high-resolution micro-ultrasound, they measured blood vessels prior to blocking blood flow in the rats' legs for a baseline reading, and then again after releasing the restriction and letting the blood rush.

"In humans, you can measure that and take it as an indication of vascular health," Springer said, pointing out that humans' blood vessel function is usually measured by restricting blood flow in the arm. "If a vessel grew by 10 percent during the flow-mediated dilation (FMD) of the artery, that person was considered to have a well-functioning blood vessel."

As exposure time increased, the rats' FMD levels decreased, indicating reduced function. Normal vessel function had not returned 40 minutes after exposure to the marijuana smoke. In previous research of secondhand tobacco smoke, blood vessel function had returned in that amount of time.

That blood vessels were still impaired after exposure to THC-free smoke suggests that the compound isn't the cause for reduced function, the researchers noted.

"Everything that we're showing in this study isn't an effect of THC," Springer said, "so if someone eats marijuana, [blood vessel impairment] isn't necessarily going to happen."

Springer said their findings aren't surprising when one considers the physical and chemical similarities between tobacco and

marijuana smoke— when tobacco and marijuana plants burn, an estimated 4,000 to 7,000 chemicals are released.

Next, researchers plan to expose rats to cigarette smoke repeatedly to see if there's a long-term effect on their blood vessel function. Based on previous findings, Springer said the results of cigarette smoke would likely be consistent with that of marijuana smoke.

As laws permitting recreational use of marijuana are passed across the U.S., Springer said his team's preliminary findings have the potential to help legislators set rules on where people are and aren't allowed to smoke, just like tobacco.

"From my standpoint, I've always been concerned about bystanders who don't want to inhale smoke," Springer said. "I think that the smokers should know what they're doing to the bystanders, and the bystanders should be aware of what they're exposing themselves to. If they are inhaling marijuana smoke, they are probably being affected in a similar way to tobacco smoke."

Springer pointed out that the researchers modeled two different levels of marijuana smoke from previous studies on tobacco smoke exposure. The effect on blood vessel function was the same at both levels.

"Very little is known about ambient levels of marijuana. All we could do was [provide] identical levels of tobacco smoke." Based on their findings, Springer advised, "Whatever level you would not want to expose yourself to tobacco smoke, don't expose yourself to marijuana smoke. But we can't give you a magic number saying, 'This is bad and this is good.'"

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Dangers of e-cigarettes overstated

By Matt Waggoner | Posted: Saturday, February 7, 2015 12:00 am

Fairbanks Daily News-Miner community perspective:

In response to Kristin Cox's Community Perspective titled "E-Cigarettes come with their own risks," published on Jan. 15, I have a few concerns and observations that I feel should be pointed out, as the general public needs to hear both sides of the story.

Before I elaborate, I would like to commend Ms. Cox on her work in tobacco prevention. Tobacco has arguably been one of the greatest health threats to general society and she and others like her work tirelessly to combat that threat.

On the issue of electronic cigarettes and vaping products though, it seems our views diverge. Before I continue, I should state that I am an Alaskan owner of a small chain of vapor shops.

Electronic cigarettes are not risk free. Nicotine can be dangerous. Those are facts and they are impossible to argue.

E-cigarettes are simply alternatives to smoking — an alternative that doesn't include smoke, tar, ash and the host of ancillary byproducts that comes from combustion. And no, its certainly not "harmless water vapor," but in an academic study from Drexler University, titled "Peering Through The Mist: What does the chemistry of contaminants in electronic cigarettes tell us about health risks?" Dr. Igor Burstyn finds "... current data do not indicate that exposures to vapers from contaminants in (e-cigarettes) warrant a concern."

Electronic cigarettes should be kept out of the hands of kids — period. Ms. Cox referenced a Centers for Disease Control statistic that states in the last three years, usage by adolescents has increased by a factor of three.

While this is obviously alarming, it should be taken in context. E-cigarettes were almost completely unknown three years ago — and since the industry has grown exponentially in the interim, it must be expected that usage amongst all groups will increase.

But while opponents argue that selling certain types of vapor equipment or flavors of e-liquids illustrates a direct attempt at marketing to kids, the effort to curb this trend really needs to lie in effective parenting, education and legislation that bans sales of and vaping product to children.

Being in this industry and owning stores across geographical territories gives us the ability to really put our ears to the ground and get feedback from the general public.

With more than 10,000 customers, I'd like to believe our sample set is robust enough to spot trends in the market. And that feedback — e-cigs are effective. Though our customers understand there are still possible risks — they feel empowered to leave the lifestyle of conventional tobacco use behind.

They don't stink, they feel healthier and they are empowered to control their habit. They can choose a flavor that doesn't remind them of cigarettes and they can choose their own nicotine levels. And the vast majority of our customers? They no longer smoke and are repulsed by the scent of a lit cigarette.

Let's not forget that this industry is often misclassified as "Big Tobacco." Sure, the traditional players are certainly selling their own brands of e-cigs, but by and large this is small business.

This is Main Street America. This is entrepreneurs and local mom and pop's opening up shop — not necessarily with profit motives (though it always helps) but with the ambitious goal of sharing what has been effective in their life to others — vaping.

In fact, Time Magazine recently described the vaping industry as "Smoking Anonymous" analogous to "Alcoholics Anonymous" in that if you spend any time in a vape shop — you'll likely find enthusiastic people extolling the virtues of vaping and the significant differences that they have experienced in their own life from the switch.

In sum, we urge consumers and legislators to tackle this issue with responsibility and an open mind to the issues.

After all, the vaping industry is attempting to eliminate the vernacular of smoking altogether. Charles Connor, president and CEO of the American Lung Association from 2008-2012, stated "e -cigarettes may be the breakthrough product that stomps out carcinogen-packed conventional cigarettes."

If regulation is too aggressive and not based on scientific facts, we risk losing, as Ms. Cox so eloquently quoted, "The single most cost-

effective life-saving innovation in the world."

Matt Waggoner is the owner of Fatboy Vapors Alaska, LLC. He lives in Anchorage.

Smoke free workplaces protect working Alaskans

Posted: Monday, March 16, 2015 7:06 pm

To the editor:

If passed, SB 1, promoting smoke free workplaces, will protect working Alaskans and their families against the well established, well documented, costly and seriously adverse health effects of secondhand smoke. Close quarters tobacco smoke has a chokehold on a health care system that is already suffocating. Non-smokers are carrying a disproportionately large and unfair share of the health care burden created by smokers. The cost of protecting the unlimited right of smokers to expose themselves and unwilling others to the risk of disease and even death, has become too high.

There is of course, the legitimate question of smokers' rights. But the bill does not make smoking unlawful. Under SB 1, people will retain the right to smoke. However, they will not have the right to do so if, in exercising their rights, smokers expose others to an unreasonable risk of harm, or where the rights of a smoker, when exercised, eviscerate mine. The rights of smokers do not outweigh the rights of non-smokers to be protected against involuntary exposure to the health risks created by close quarters smoking.

Proponents of SB 1 already have made clear the enormous annual economic cost to Alaskans attributable to secondhand smoke. This should not be a partisan issue. Secondhand smoke kills adult non-smokers of all political persuasions. I do not want to be one of them. My sister was a lifelong chain smoker who lived with my parents for 25+ smoking years. My father, who never smoked a day in his life, died from esophageal cancer. We all grieved, my sister especially.

I support SB 1 not because I seek increased governmental regulation of private rights. To the contrary. But, I do expect my government to protect me against known, manageable risks to my health and safety. I empathize; I can see how smokers might feel stigmatized. I regret that. But, smoking in enclosed public places is not a private right that should be exempt from regulation. It does not only affect the individual exercising it. When I am in an enclosed space with someone who drinks alcohol, my chances of getting liver disease are not aggravated. There are personal choices people can make without exposing those merely in the same room with them to a potentially lethal disease. Smoking is not one. Choose, if you must, your own poison. But please, do not make it mine.

Helene M. Antel

Palmer

Yes to smoke-free workplaes

Frank Yaska Fairbanks | Posted: Wednesday, March 18, 2015 12:00 am

News-Miner letter to the editor:

March 13, 2015

To the editor: I've lived in Fairbanks for the past 17 years. My family's presence in Interior Alaska goes back generations. I work with a couple of coalitions, advocating protecting the health of local communities.

One of my largest concerns is secondhand smoke exposure. It's important to me because there is a higher prevalence rate of smokers in Interior villages, a whopping 40 percent, compared to the statewide smoking rate of 22 percent for adults. The No. 1 cause of death for Alaska Natives is cancer, and the No. 1 preventable cause of cancer is smoking.

My work involves Health Services and Tribal Communities. I work with clinic staff in prevention. I encourage tribal leaders to set their own measures to protect the health of their community members. I speak with youths about protecting their health and listen to what kind of future they want for their community.

As an educator, it's disheartening to see so many of my family and my Alaska Native people so dramatically affected by disease and premature death when it's preventable. I've seen a lot of people, a lot of Alaska Natives and non-natives, addicted to tobacco use. It sets a norm for the younger generation that it's OK to smoke, and to do it around people who don't smoke. Knowing the people I work to help are addicted and they're passing down their addictions to the next generation is difficult to deal with. I want to protect the overall health of everybody.

Our Alaska Native population is decreasing in number and in overall health. I see a statewide smoke-free workplace law as a good way to make that change.

A bill making its way through the Alaska Legislature would create a smoke-free workplace law. This is an easy way that our policy makers can help protect a large amount of the population from secondhand smoke exposure and the damage it causes. I hope our legislators, especially our Interior delegation, will support Senate Bill 1 and take this opportunity to stand up for the health of our current and future generations.

Alaska Dispatch News

Published on *Alaska Dispatch News* (http://www.adn.com)
Home > Readers write: Letters to the editor, March 14, 2015

Alaska Dispatch News
March 13, 2015

Supporting smoke-free workplace bill

Currently, only half of the state of Alaska is protected by a smoke-free workplace law. With a huge number of Alaskans working in the hospitality industry, it is important to protect our family members, friends, and colleagues from the harmful effects of secondhand smoke.

Everyone has the right to breathe smoke-free air. No one should have to risk their health at work to be able to make a living, especially when people can take it outside. We all know the health effects from exposure to secondhand smoke, and no one should have to choose between their health and their job.

Implementing a statewide smoke-free workplace law will result in workers having a decreased number of days absent from work due to illness associated with exposure to secondhand smoke, decreased medical bills, and decreased visits to the emergency room.

For these reasons and as a hospitality employee, I support Senate Bill 1, Statewide Smokefree Workplaces, to protect all Alaskans from secondhand smoke.

— Amanda Lenhard
Anchorage

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Supports 'Take it Outside'

Posted: Thursday, March 5, 2015 8:33 pm

To the editor:

On behalf of the American Lung Association in Alaska, I'd like to thank Valley Residential Services for officially making Century Plaza, home to our Wasilla office, a smoke-free zone and establishing designated smoking areas well away from windows and doors. We believe everyone has the right to breathe smoke-free air. Thanks to this new policy, Valley Residential Services is ensuring that right for all those who work, do business in, or visit, the Century Plaza.

Sadly, only about half of Alaska's population enjoys that same protection from secondhand smoke in the workplace. Secondhand smoke contains more than 7,000 chemicals, at least 69 of which are known to cause cancer. Secondhand-smoke exposure kills an estimated 50,000 Americans each year, and nonsmokers exposed to secondhand smoke at work face a 30-percent increased risk of developing heart disease or lung cancer.

Senate Bill 1, the "Take it Outside" bill, would prohibit smoking in all indoor workplaces, thereby protecting all Alaskans from secondhand smoke at work. I urge our Valley delegation to fully support SB 1. It's time for a smoke-free Alaska, because everyone has the right to breathe smoke-free air!

Becky Stoppa

American Lung Association in Alaska

health education manager Wasilla office

JuneauEmpire.com

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Empire Editorial: Secondhand smoke is a threat statewide

Posted: February 26, 2015 - 1:00am

There's been a lot of talk lately about marijuana. We'd like to talk to you about tobacco instead.

We know: It's not as sexy a topic, but it's even more important. Each year, 40,000 Americans die from secondhand smoke-related illnesses. About 440,000 American smokers die each year from diseases attributed to their habit.

Next to those figures, marijuana isn't even a small potato. (Granted, we haven't studied marijuana as much as tobacco.)

Sen. Peter Micciche, a Republican from Soldotna, has an interesting proposal that would help reduce smoking's toll in Alaska. Senate Bill 1 proposes a statewide secondhand smoke law similar to the one enacted by the City and Borough of Juneau in 2008. It would ban smoking in bars, businesses, restaurants and other indoor locations. It would prohibit people from lighting up in select places outdoors, too. There would be no smoking in playgrounds, near the entrances to buildings or in outdoor stadiums.

E-cigarettes and vaporizers are covered, too. No one would be able to get their nicotine high in an airport or bus with those new electronic devices.

Almost half of Alaska's population lives in a place that already has such rules. Anchorage, Juneau, Klawock, Unalaska — there are plenty of Alaska communities that have already accepted the fact that secondhand smoke kills just as smoking does.

The fact is, even without considering the health benefits, it's simply nice to be able to go to a bar, a club or a restaurant and not come out smelling like smoke. Smoking is a habit that inflicts its harm directly and unavoidably upon others. It's time to banish it into the back alleys where it belongs. We've learned from other drugs — alcohol and marijuana — that outright prohibition doesn't work. That doesn't mean we have to tolerate the negative effects of smoking.

Fairbanks is the most populated place in Alaska without a secondhand smoke ordinance. Residents of that city have said they feel banning public smoking would be an unnecessary intrusion on their rights. We believe smokers shouldn't have the right to inflict their smoke upon others. As Zechariah Chaffee Jr. wrote in a 1919 issue of the Harvard Law Review, quoting another judge: "Your right to swing your arms ends just where the other man's nose begins."

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Tobacco is target of new antismoking push in Legislature

E-cigarettes, smoking in public on the table

Posted: February 26, 2015 - 1:02am

By JAMES BROOKS

JUNEAU EMPIRE

Marijuana is old news. A pair of bills gathering support in the Alaska Legislature promise significant changes to limits on tobacco smoke in the 49th state.

HB40, sponsored by Rep. Bob Herron, D-Bethel, would add e-cigarettes to the state's antismoking laws. SB1, proposed by Sen. Peter Micciche, R-Soldotna, would prohibit smoking in public places, restaurants and bars across the state. SB1 would effectively spread the antismoking ordinances of Anchorage, Juneau and other Alaska municipalities to the rest of the state.

Herron and Micciche each said their bills should not be considered related.

"It's nothing against smokers, it's nothing against the users of e-cigarettes or people who like to vape," Micciche said of SB1. "It just says you should do that in a place that doesn't cause me to smoke, use an e-cigarette or vape. ... It's essentially the take-it-outside act."

If passed into law, the draft being considered by the Senate's Health and Social Services committee would prohibit smoking indoors at most public spaces. Smokers wouldn't be able to light up in a store, in a bus station, in a stadium, in a club, in an airport, in a school (public or private) and a long list of other places.

Smoking would also be prohibited in outdoor stadiums or amphitheaters, at playgrounds and near the entrances of places where smoking is prohibited.

"The bill is about protecting Alaska's workers," Micciche said, explaining that while a customer might be able to leave a business that allows smoking, that business's employees may not be able to.

And yes, marijuana is covered under SB1, whose definition of smoking includes "tobacco or plant product(s)."

There are exceptions to SB1: Smoke shops and clubs designed specifically for smoking can allow it. Smoking is also allowed on fishing boats working offshore. Fines may be levied on businesses that violate the law.

Herron said his bill is more limited; it simply adds e-cigarettes to the state's existing antismoking laws. It's inspired by an experience he had in Ted Stevens Anchorage International Airport: and saw a young man using an e-cigarette while standing in front of an antismoking billboard. Standing with him were two young girls, presumably members of his family.

E-cigarettes and vaporizers — both of which function by using high heat to ignite controlled amounts of fluid or solid substances — are promoted as healthier alternatives to traditional tobacco smoking. Few studies have been conducted on the long-term health effects of e-cigarettes — studying them is complicated by the fact that there are hundreds of e-cigarette and vaporizer varieties — but preliminary scientific results show they emit chemicals similar to those in tobacco smoke, if not in the same quantity.

The negative health effects of smoking and secondhand smoke are well-known, and it is estimated that up to 40,000 Americans die each year as a result of secondhand smoke-related illnesses.

While SB1 has yet to emerge from committee and HB40 has not had a hearing, both are expected to face opposition from Alaskans concerned that the new legislation would infringe on their rights.

Fairbanks is the largest Alaska city that does not ban smoking in bars and restaurants. In a Feb. 11 hearing about SB1, Sen. Pete Kelly, a Republican from Fairbanks, said he's skeptical about secondhand smoke claims. "The junk science, that's what I'm particularly afraid of," he said. "Because we see it all the time in environmental issues. I mean, global warming is nonsense and yet people throw those statistics around like they're absolute hardcore facts. So that's what I just want to make sure — we're not dealing with junk science about 41,000 deaths."

One of the Alaskans who testified in support of SB1 at the hearing was Gerald Timmons of Fairbanks. Timmons is a 74-year-old nonsmoker and former smokejumper who now owns three car washes. He lives in Kelly's district and on Wednesday returned from the Mayo Clinic in Minnesota where he has been undergoing intensive chemotherapy for lung cancer he attributes to growing up in and working in smoke-filled environments.

"Constantly, in offices, small conference rooms where I would be the only nonsmoker, and there would be smoke thick enough to cut with a knife," he said.

Timmons' type of cancer is particularly aggressive, and his odds are not good. Still, he's trying to stay optimistic and talked about the new drugs that may extend his life. "I've had a good life, but I want to continue it for a few more years," he said.

Timmons heard Kelly's comments at the Feb. 11 hearing. "I thought, Pete, please! If Anchorage and other (cities) can have a no-smoking in the workplace environment, (I can) at least push for that statewide. ... I'm going to work on Pete, believe me."

Timmons said he's concerned about the workers who might end up in the same position he's in. "I suspect it's probably the poorest among us, the dishwashers in some mom-and-pop restaurant somewhere, the waitresses, and they're in a smoky environment," he said. "It's not fair to any other employee."

• Contact news editor James Brooks at 523.2258 or at james.k.brooks@morris.com.

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Support smoke-free workplaces

Shalonda Riley Fairbanks | Posted: Thursday, February 26, 2015 12:00 am

Fairbanks Daily News-Miner Letter to the Editor:

Feb. 21, 2015

To the editor: I am so thrilled to learn that organizations such as American Lung Association, Alaska Tobacco Control Alliance Youth and many other beautiful organizations and individuals are encouraging our Legislature to consider a more healthy environment for employees. I myself suffer from so many respiratory issues and I desire to breathe much better.

There are so many people in the beautiful city of Fairbanks who are affected by the thousands and thousands of chemicals that come from cigarettes and e-cigarettes. This is unjust to those that desire a cleaner and more efficient life. Unfortunately, some employees (against their will) are having to force down demonic cancer-causing heart disease fumes while working to provide for themselves and their families. This is costing the workplace so much more money for employers to insure their employees than the handful of potential employees or customers that may be lost for a small moment of time.

I so enjoy an employer and business that put my health first. Thank you so much and please let us support the many lives that make up the beautiful city if Fairbanks. Please support smoke-free workplaces.

Smoking, or vaping, bad news both ways

By Dan Grota | Posted: Thursday, February 19, 2015 8:42 pm

I'm on the road a lot for my day job and so are the tunes on the radio — mostly classic rock from various stations. I enjoy listening while I drive all over the Valley. The songs keep me awake and alert on Alaska's roads.

Lately, I have heard ads pop up about discount tobacco stores and E cigarettes around the Valley. Some even offer discounts for e-cigarette products for those trying to quit smoking traditional cigarettes. These attempts to cross over to e-cigarettes that go by the slang vapes or vaping are disturbing to me.

It irked me more and more as each ad replayed on the air. Let me tell you something: if you are going to quit smoking, quit completely. Don't get suckered into e-cigarettes. That isn't quitting, that is just changing to another nicotine delivery system. What good is that?

Look, I was a smoker for more than 30 years. Now I can tack on proudly the term "former" in front of smoker. I quit the really hard way and paid a heavy price. Heck I'll still be paying for all those years smoking for the rest of my life. Take it from me, this vaping thing is just more bad news in a pretty package.

Liquid nicotine isn't the only thing being vaporized in an e-cig. Solvents like propylene glycol, formaldehyde, glycerin and even the liquid flavorings make up the vapor mix. At least two of those chemicals are found in antifreeze and embalming fluid. The huge chemical mix in tobacco smoke and its affects on human body also is well known from decades of medical studies. Less is known about the long-term effects of the e-cigarette. They haven't been around that long. While they may be cheaper, as makers of the devices allege, and maybe safer than the traditional cigarette, they are still just another unwanted health risk to the unsuspecting. Take that "maybe" with a 50-pound grain of salt.

Maybe e-cigarettes are the lesser of the two evils — there's that word again — but the research shows they are far from benign. There is talk about including e-cigs in the smoking bans being proposed and debated in the Valley and the state. I believe this is the right action to take. I feel they should banned from advertising on the airwaves like cigarettes were from TV and radio back in the late '60s and early '70s.

Now I can't tell you the adult reader what to do in life with choices of this nature. As a former smoker who loves living life each day as a blessing, I can only ask you with all my heart — if you

don't smoke, don't start. If you do for God's sake quit. You may fail many times. Don't give up. Keep quitting.

As for these e-cigs, these are not a solution to quitting smoking. They are a con. Don't fall for them. Save your money, save your life and try to live smoke and vapor free. That choice I leave to you.

Wasilla resident Daniel D. Grota retired from the U.S. Army after more than 21 years of service.

Supports smoke-free bill

Posted: Thursday, January 15, 2015 7:58 pm

To the editor:

I am writing to express my support for Senate Bill 1, Statewide Smokefree Workplaces. In the past two years, I have lost two aunts who were very dear to me. Both were young, and both were chain smokers. Over the past 20 years, I have watched numerous aunts, uncles and cousins die from smoking-related illnesses. My Mom worked as a waitress in a restaurant with a smoking section while I was growing up, but never smoked herself. She now suffers from asthma. I have never smoked either, but I often spent time at the restaurant with her, was babysat by a smoker, and traveled frequently on planes with smoking sections. As a result, I was diagnosed with COPD at the age of 17.

While visiting the WWII and Vietnam Memorials in Washington D.C. this past April, I was brought to tears to learn that over 405,000 Americans died fighting in WWII, and over 58,000 Americans died in Vietnam. It was then that I realized the catastrophic loss that tobacco use and secondhand smoke causes. 440,000 Americans die each year from tobacco-related illnesses. That's 1,200 preventable deaths each and every day. Tobacco use is the number one cause of preventable death in the U.S., and it is a worldwide epidemic.

I encourage our local legislators to take SB1 very seriously to protect our residents here in the Mat-Su Valley and around the state from the dangers of nicotine addiction, tobacco use and secondhand smoke. Thank you.

Misty Jensen

Mat-Su Valley resident

Celebrating smoke free

Posted: Monday, January 12, 2015 7:42 pm

Do you remember what the debate about anti-smoking ordinances sounded like in 2012?

That was when the issue came to Palmer.

Bar owners worried that money would flow out of their establishments and into nearby watering holes like Four Corners Lounge on the Palmer-Wasilla Highway and Del Rois in Butte, both of which reside outside city limits in unincorporated areas of the Mat-Su Borough.

Bar owners said it would be a double-whammy as they would be forced to spend money to set up a place for people to smoke and then they would lose money as smokers departed.

That smoking ban in Palmer went into effect right after the start of the new year in 2013.

January 2015 is probably a good time, then, to take a look at how those predictions panned out and, from this vantage point, it's not looking so good for the prognosticators.

We don't, obviously, have access to their books, but all outward signs seem to indicate that the bar scene in Palmer is doing just fine.

There are bars expanding and renovating there. Klondike Mike's morphed into Klondike Mike's Saloon and Roadhouse BBQ, a change that reflected expanded food offerings and a remodeled interior. The Moosehead Saloon also was the site of much construction activity this summer.

The Eagle Hotel, Restaurant and Lounge reopened in September 2012, just before the smoking ban took effect.

We mention these businesses because they are all in downtown Palmer, all forced to go smoke free by the public smoking ban, and all still in business.

Meanwhile, Del Rois may or may not have benefited from an exodus of smokers but, it has since gone out of business.

We're happy to say the sky didn't fall. And no businesses closed their doors in the wake of the Valley's first public smoking ban.

We hoped this would be the outcome. But there is more than hope at work here. We also were among those Valley residents who showed our support for these establishments by joining our friends and neighbors in sharing a meal and enjoying a few drinks at the businesses specifically impacted by the ban. And we made new friends and found new favorite watering holes in the process.

Palmer was not the first community in Alaska to ban smoking in bars. Bars there weren't even the first in the Valley to go smoke-free. Tailgaters and the Windbreak in Wasilla and the Caboose in Palmer made the jump well before voters banned smoking in Palmer. Though outside city limits, the Palmer Elks Lodge on Finger Lake went smoke-free voluntarily through a vote of its members after the ban went into effect.

Palmer, it seems, is part of a greater trend. Other communities are likely to go smoke free. In fact, the very first bill for the 2015 session of the Alaska Legislature has to do with smoking. Senate Bill 1 would be, in effect, a statewide ban on smoking in workplaces.

As we consider this statewide rule change, we think Palmer's experience should help inform the conversation. Smoke free ordinances do not squelch business. They do quite the opposite.

Senate Bill 1 will protect all workers

Posted: Monday, January 12, 2015 7:47 pm

To the editor:

Secondhand smoke kills. The Surgeon General said it best in his 2006 update to the Health Consequences of Involuntary Exposure to Tobacco Smoke:

"The debate is over, the science is clear. There is no safe level of secondhand smoke."

Tobacco smoke contains more than 7,000 chemicals and compounds, including hundreds that are toxic and at least 69 that cause cancer. Non-smokers who are exposed to secondhand smoke at home or work increase their heart disease and lung cancer risk by up to 30 percent. Everyone deserves the right to breathe smoke-free air.

Unfortunately, only about 50 percent of Alaska is covered by smoke-free ordinances. Senate Bill 1, if passed will protect all workers in Alaska from exposure to deadly secondhand smoke. Nobody should have to choose between their health and a paycheck.

Senate Bill 1: It's about health and it's about time.

Ashley Peltier

Wasilla

Time for smoke-free workplaces

Dean Gustafson Fairbanks | Posted: Sunday, December 21, 2014 11:19 pm

To the editor: I've been a resident of Alaska since 1999. I've seen Alaska, and specifically Fairbanks, grow as a community. I've enjoyed many of the changes that have occurred during my residence in Alaska. I believe one of the changes we need to make in this state is to have smoke-free indoor workplaces.

There are still bars and restaurants that allow smoking in Fairbanks. I find this to be quite unacceptable and disturbing. Smoking is a public health issue, and we still allow smoking inside buildings and workplaces. The correlation between smoking and lung cancer is undeniable. Going to the store to buy groceries has become a hazard to my family as we have to walk by smokers inhaling carcinogens in front of store entrances. Perhaps if the smoker was smoking a certain distance from the entrance, it would not be so harmful to my family and me.

I often feel sorry for individuals who are employed in bars and restaurants that allow smoking and cannot leave their job because of financial constraints. It seems like in many instances, employees are stuck working in environments where smoking is permitted indoors simply because they aren't afforded the same opportunities as others. I frequently worry for individuals with asthma or chronic obstructive pulmonary disease who cannot take the effects of cigarette smoke. Recently, the Fairbanks North Star Borough School District passed a comprehensive tobacco policy within their district, and the University of Alaska is going to have smoke-free campuses. It appears as though Alaskans want smoke-free environments. When will we have smoke-free indoor workplaces? This is a public health concern within our community.

The Health Consequences of Smoking—50 Years of Progress

A Report of the Surgeon General

Executive Summary

U.S. Department of Health and Human Services

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2014

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For more information

For more information about the Surgeon General's report, visit www.surgeongeneral.gov.

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Message from Kathleen Sebelius

Secretary of Health and Human Services

Fifty years after the release of the first Surgeon General's report warning of the health hazards of smoking, we have learned how to end the tobacco epidemic. Over the past five decades, scientists, researchers and policy makers have determined what works, and what steps must be taken if we truly want to bring to a close one of our nation's most tragic battles—one that has killed ten times the number of Americans who died in all of our nation's wars combined.

In the United States, successes in tobacco control have more than halved smoking rates since the 1964 landmark Surgeon General's report came out. Americans' collective view of smoking has been transformed from an accepted national pastime to a discouraged threat to individual and public health. Strong policies have largely driven cigarette smoking out of public view and public air space. Thanks to smokefree laws, no longer is smoking allowed on airplanes or in a growing number of restaurants, bars, college campuses and government buildings.

Evidence in this new report shows tobacco's continued, immense burden to our nation—and how essential ending the tobacco epidemic is to our work to increase the life expectancy and quality of life of all Americans. This year alone, nearly one-half million adults will still die prematurely because of smoking. Annually, the total economic costs due to tobacco are now over $289 billion. And if we continue on our current trajectory, 5.6 million children alive today who are younger than 18 years of age will die prematurely as a result of smoking.

I believe that we can make the next generation tobacco-free. And I am extremely proud of the Obama Administration's tobacco-control record. For example, the 2009 *Children's Health Insurance Program Reauthorization Act* included an unprecedented $0.62 tax increase that raised the federal excise tax to $1.01 per pack of cigarettes; we know that increasing the cost of cigarettes is one of the most powerful interventions we can make to prevent smoking and reduce prevalence. Building on this knowledge, the President's Fiscal Year 2014 Budget includes a $0.94 per pack Federal tobacco tax increase. For the first time in history, the 2009 *Family Smoking Prevention and Tobacco Control Act (Tobacco Control Act)* gave the U.S. Food and Drug Administration comprehensive authority to regulate tobacco products, which will play a critical role in reducing the harm caused by these products. The *Tobacco Control Act* also provided for user fees to be paid by tobacco manufacturers that can support sustained public education media campaigns targeting youth prevention and cessation. The 2010 *Affordable Care Act (ACA)* expands access to smoking cessation services and now requires most insurance companies to cover cessation treatments. The *Affordable Care Act's* Public Health and Prevention Fund is supporting innovative and effective community-based programs as well as public education campaigns promoting prevention and helping people to quit.

All of these tobacco control interventions are known to reduce tobacco use and, as a result, tobacco's extraordinary toll of death and disease. But in order to free the next generation from these burdens, we must redouble our tobacco control efforts and enlist nongovernmental partners—and society as a whole—to share in this responsibility. Ending the devastation of tobacco-related illness and death is not in the jurisdiction of any one entity. We must all share in this most worthwhile effort to end the tobacco epidemic.

Message from Howard Koh

Assistant Secretary for Health

The nation stands poised at the crossroads of tobacco control. On one hand, we can celebrate tremendous progress 50 years after the landmark 1964 Surgeon General's report: *Smoking and Health*. Adult smoking rates have fallen from about 43% (1965) to about 18% today. Mortality rates from lung cancer, the leading cause of cancer death in this country, are declining. Most smokers visiting health care settings are now routinely asked and advised about tobacco use. On the other hand, cigarette smoking remains the chief preventable killer in America, with more than 40 million Americans caught in a web of tobacco dependence. Each day, more than 3,200 youth (younger than 18 years of age) smoke their first cigarette and another 2,100 youth and young adults who are occasional smokers progress to become daily smokers. Furthermore, the range of emerging tobacco products complicates the current public health landscape.

In this context, the 50th Anniversary of the Surgeon General's report prompts us to pause and ask why this addiction persists when proven interventions can eliminate it. Of great concern, too many in our nation assume that past success in tobacco control guarantees future progress; nothing can be further from the truth. To rejuvenate and reinvigorate national efforts, in 2010, the U.S. Department of Health and Human Services unveiled its first ever strategic plan for tobacco control. *Ending the Tobacco Epidemic: A Tobacco Control Strategic Action Plan* provides a critical framework to guide efforts to rapidly drop prevalence rates of smoking among youth and adults. A major foundation and pillar of the plan is to encourage and promote leadership throughout all sectors of society. Now, this current 2014 Surgeon General's report can accelerate that leadership to fully implement the life-saving prevention that can make the next generation free of tobacco-related death and disease.

We have many tools that we know work. A comprehensive public policy approach emphasizing mass media campaigns to encourage prevention and quit attempts, smokefree policies, restrictions on youth access to tobacco products, and price increases can collectively drive further meaningful reductions in tobacco use. Furthermore, we can accelerate progress through full commitment to clinical and public health advances; including the widespread use of telephone quit lines and science-based counseling and medications for tobacco users. Promoting progress today also requires recognizing that tobacco use has evolved from being an equal-opportunity killer to one threatening the most vulnerable members of our society. We must confront, and reverse, the tragically higher tobacco use rates that threaten persons of low socioeconomic status, sexual minorities, high school dropouts, some racial/ethnic minority groups, and those living with mental illness and substance use disorders.

Of all the accomplishments of the 20th century, historians rank the 1964 Surgeon General's report as one of the seminal public health achievements of our time. Armed with both science and resolve, we can continue to honor the legacy of the report by completing the work it began in the last century. The current 2014 Surgeon General's report represents a national vision for getting the job done. With strategy, commitment, and action, our nation can leave the crossroads and move forward to end the tobacco epidemic once and for all.

Foreword

Fifty years have passed since publication of the landmark report of the Surgeon General's Advisory Committee on smoking and health. This report highlights both the dramatic progress our nation has made reducing tobacco use and the continuing burden of disease and death caused by smoking.

As a physician, when I think about smoking, I recall the patients I have cared for. The man who had a leg amputated. The woman who had to gasp for every single breath that she took. The man with heart disease who hoped to see his son graduate, but didn't live long enough to do so. That's the reality of smoking that health care providers see every day.

The prevalence of current cigarette smoking among adults has declined from 42% in 1965 to 18% in 2012. However, more than 42 million Americans still smoke. Tobacco has killed more than 20 million people prematurely since the first Surgeon General's report in 1964. The findings in this report show that the decline in the prevalence of smoking has slowed in recent years and that burden of smoking-attributable mortality is expected to remain at high and unacceptable levels for decades to come unless urgent action is taken.

Recent surveys monitoring trends in tobacco use indicate that more people are using multiple tobacco products, particularly youth and young adults. The percentage of U.S. middle and high school students who use electronic, or e-cigarettes, more than doubled between 2011 and 2012. We need to monitor patterns of use of an increasingly wide array of tobacco products across all of the diverse segments of our society, particularly because the tobacco industry continues to introduce and market new products that establish and maintain nicotine addiction.

Tobacco control efforts need to not only address the general population, but also to focus on populations with a higher prevalence of tobacco use and lower rates of quitting. These populations include people from some racial/ethnic minority groups, people with mental illness, lower educational levels and socioeconomic status, and certain regions of the country. We now have proven interventions and policies to reduce tobacco initiation and use among youth and adults.

With intense use of proven interventions, we can save lives and reduce health care costs. In 2012, the Centers for Disease Control and Prevention (CDC) launched the first-ever paid national tobacco education campaign — *Tips From Former Smokers* (*Tips*) — to raise awareness of the harms to health caused by smoking, encourage smokers to quit, and encourage nonsmokers to protect themselves and their families from exposure to secondhand smoke. It pulled back the curtain in a way that numbers alone cannot, and showed the tobacco-caused tragedies that we as health care professionals see and are saddened by every day. As a result of this campaign, an estimated 1.6 million smokers made an attempt to quit and, based on a conservative estimate, at least 100,000 smokers quit for good. Additionally, millions of nonsmokers talked with friends and family about the dangers of smoking and referred smokers to quit services. In 2013, CDC launched a new round of advertisements that helped even more people quit smoking by highlighting the toll that smoking-related illnesses take on smokers and their loved ones.

CDC has also established reducing tobacco use as one of its "Winnable Battles." These are public health priorities with large-scale impact on health that have proven effective strategies to address them. CDC believes that with additional effort and support for evidence-based, cost-effective policy and program strategies to reduce tobacco use, we can reduce smoking substantially, prevent millions of people from being killed by tobacco, and protect future generations from smoking.

While we have made tremendous progress over the past 50 years, sustained and comprehensive efforts are needed to prevent more people from having to suffer the pain, disability, disfigurement, and death that smoking causes. Most Americans who have ever smoked have already quit, and most smokers who still smoke want to quit. If we continue to implement tobacco prevention and cessation strategies that have proven effective in reducing tobacco use, people throughout our country will live longer, healthier, more productive lives.

Thomas R. Frieden, M.D., M.P.H.
Director
Centers for Disease Control and Prevention

Preface

from the Acting Surgeon General,
U.S. Department of Health and Human Services

On January 11, 1964, Luther L. Terry, M.D., the 9th Surgeon General of the United States, released the first report on the health consequences of smoking: *Smoking and Health: Report of the Advisory Committee of the Surgeon General of the Public Health Service.* That report marked a major step to reduce the adverse impact of tobacco use on health worldwide.

Over the past 50 years, 31 Surgeon General's reports have utilized the best available evidence to expand our understanding of the health consequences of smoking and involuntary exposure to tobacco smoke. The conclusions from these reports have evolved from a few causal associations in 1964 to a robust body of evidence documenting the health consequences from both active smoking and exposure to secondhand smoke across a range of diseases and organ systems.

The 2004 report concluded that smoking affects nearly every organ of the body, and the evidence in this report provides even more support for that finding. A half century after the release of the first report, we continue to add to the long list of diseases caused by tobacco use and exposure to tobacco smoke. This report finds that active smoking is now causally associated with age-related macular degeneration, diabetes, colorectal cancer, liver cancer, adverse health outcomes in cancer patients and survivors, tuberculosis, erectile dysfunction, orofacial clefts in infants, ectopic pregnancy, rheumatoid arthritis, inflammation, and impaired immune function. In addition, exposure to secondhand smoke has now been causally associated with an increased risk for stroke.

Smoking remains the leading preventable cause of premature disease and death in the United States. The science contained in this and prior Surgeon General's reports provide all the information we need to save future generations from the burden of premature disease caused by tobacco use However, evidence-based interventions that encourage quitting and prevent youth smoking continue to be underutilized. This report strengthens our resolve to work together to accelerate and sustain what works—such as hard-hitting media campaigns, smokefree air policies, optimal tobacco excise taxes, barrier-free cessation treatment, and comprehensive statewide tobacco control programs funded at CDC-recommended levels. At the same time, we will explore "end game" strategies that support the goal of eliminating tobacco smoking, including greater restrictions on sales. It is my sincere hope that 50 years from now we won't need another Surgeon General's report on smoking and health, because tobacco-related disease and death will be a thing of the past. Working together, we can make that vision a reality.

Boris D. Lushniak, M.D., M.P.H.
Rear Admiral, U.S. Public Health Service
Acting Surgeon General
U.S. Department of Health and Human Services

Overview

For the United States, the epidemic of smoking-caused disease in the twentieth century ranks among the greatest public health catastrophes of the century, while the decline of smoking consequent to tobacco control is surely one of public health's greatest successes. However, the current rate of progress in tobacco control is not fast enough, and much more needs to be done to end the tobacco epidemic. Unacceptably high levels of smoking-attributable disease and death, and the associated costs, will persist for decades without changes in our approach to slowing and even ending the epidemic. If smoking persists at the current rate among young adults in this country, 5.6 million of today's Americans younger than 18 years of age are projected to die prematurely from a smoking-related illness (Chapter 12).

More than 20 million Americans have died as a result of smoking since the first Surgeon General's report on smoking and health was released in 1964 (Table 1) (Chapter 12). Most were adults with a history of smoking, but nearly 2.5 million were nonsmokers who died from heart disease or lung cancer caused by exposure to secondhand smoke. Another 100,000 were babies who died of sudden infant death syndrome (often referred to as SIDS) or complications from prematurity, low birth weight, or other conditions caused by parental smoking, particularly smoking by the mother.

Table 1 Premature deaths caused by smoking and exposure to secondhand smoke, 1965–2014

Cause of death	Total
Smoking-related cancers	6,587,000
Cardiovascular and metabolic diseases	7,787,000
Pulmonary diseases	3,804,000
Conditions related to pregnancy and birth	108,000
Residential fires	86,000
Lung cancers caused by exposure to secondhand smoke	263,000
Coronary heart disease caused by exposure to secondhand smoke	2,194,000
Total	20,830,000

Source: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, unpublished data.

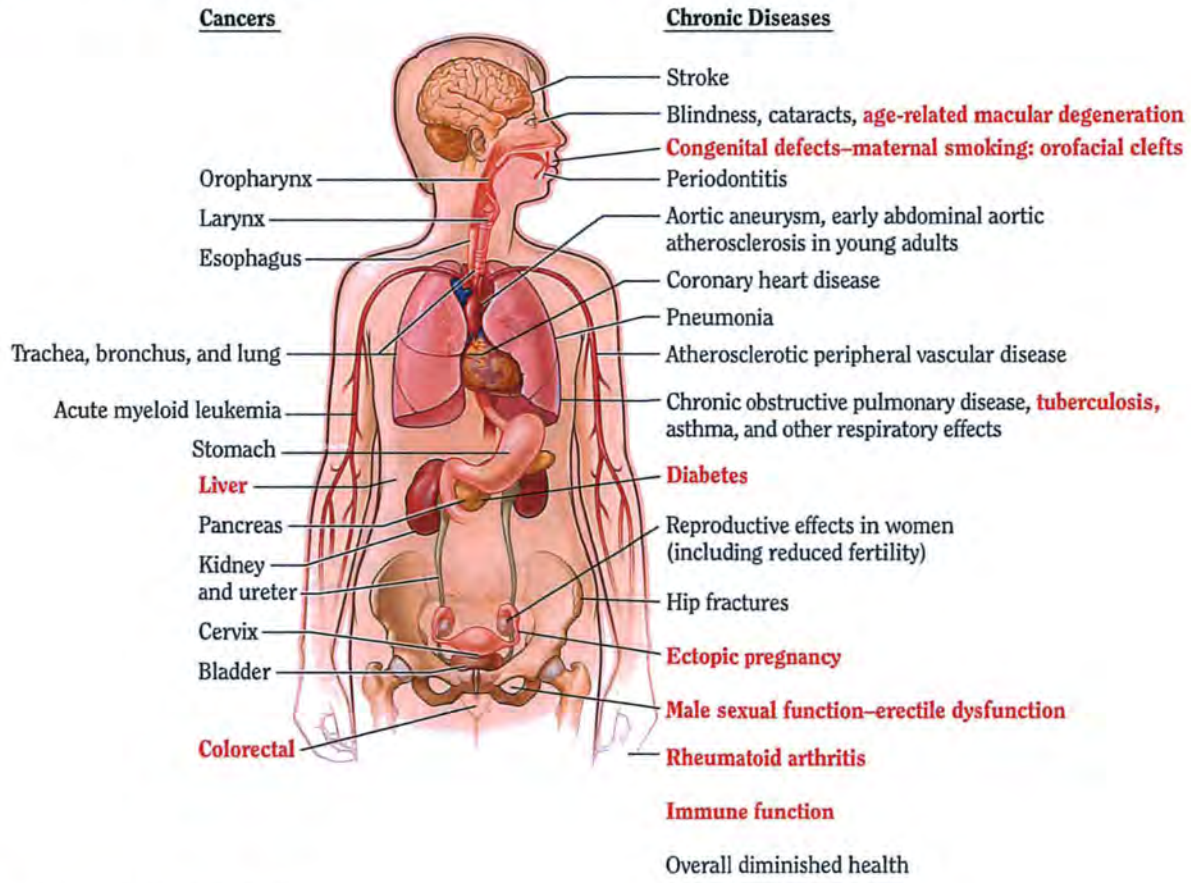
As these figures illustrate, the harms caused by the historic patterns of tobacco use in the United States, and especially by cigarette smoking, are staggering. More than 10 times as many U.S. citizens have died prematurely from cigarette smoking than have died in all the wars fought by the United States during its history. Study after study has confirmed the magnitude of the harm caused to the human body by exposure to toxicants and carcinogens found in tobacco smoke. Since 1964, the 31 previous Surgeon General's reports have chronicled a still growing but already conclusive body of evidence about the adverse impact of tobacco use on human cells and organs and on overall health. Health statistics show that all populations are affected.

Previous Surgeon General's reports have tracked the evolution of cigarettes into the current highly engineered, addictive, and deadly products containing thousands of chemicals that are harmful in themselves, but the burning of tobacco produces the complex chemical mixture of more than 7,000 compounds that cause a wide range of diseases and premature deaths as a result (U.S. Department of Health and Human Services [USDHHS] 2010). Although the prevalence of smoking has declined significantly over the past one-half century, the risks for smoking-related disease and mortality have not. In fact, today's cigarette smokers—both men and women—have a much higher risk for lung cancer and chronic obstructive pulmonary disease (COPD) than smokers in 1964, despite smoking fewer cigarettes (see Chapters 6, 7, and 11, and Figure 12.2 and Figure 13.16).

The 2004 Surgeon General's report showed that smoking impacts nearly every organ of the body (USDHHS 2004). The 2006 report concluded that the scientific evidence indicates that there is no risk-free level of exposure to secondhand smoke (USDHHS 2006). The new evidence in this report provides still more support for these conclusions. Fifty years after the first report in 1964, it is striking that the scientific evidence in this report expands the list of diseases and other adverse health effects caused by smoking and exposure of nonsmokers to tobacco smoke. Figures 1.1A and 1.1B highlight these new findings and show that the disease risks are even greater than presented in previous reports. These new findings include:

- Liver cancer and colorectal cancer are added to the long list of cancers caused by smoking;

Figure 1A The health consequences causally linked to smoking



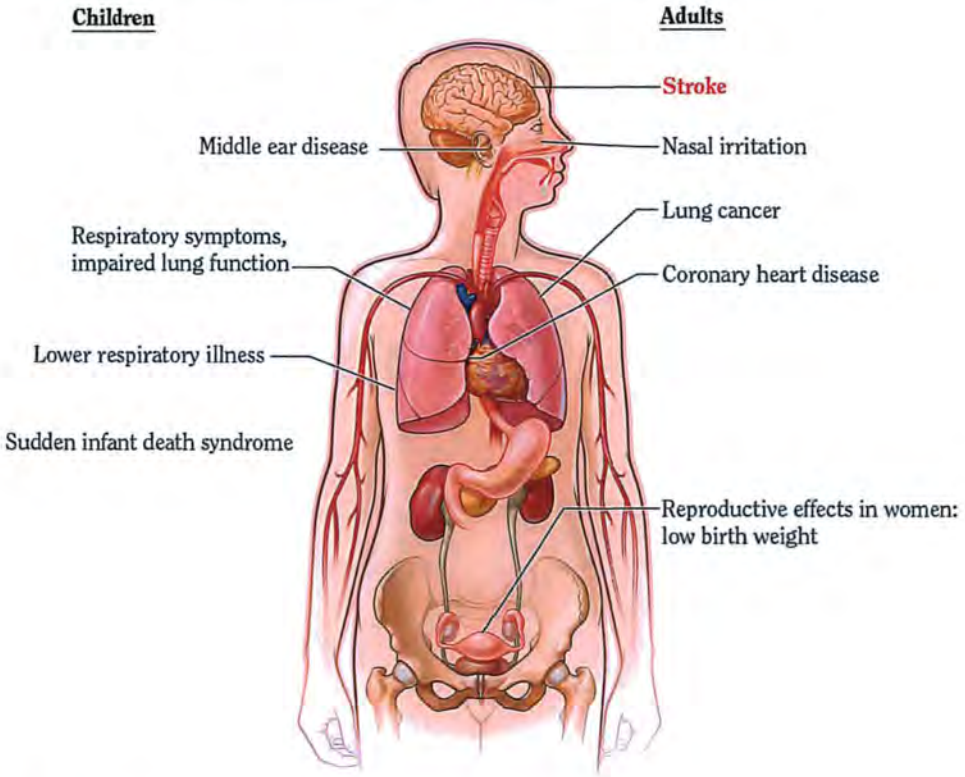
Source: USDHHS 2004, 2006, 2012.
Note: The condition in **red** is a new disease that has been causally linked to smoking in this report.

- Exposure to secondhand smoke is a cause of stroke;
- Smoking increases the risk of dying from cancer and other diseases in cancer patients and survivors;
- Smoking is a cause of diabetes mellitus; and
- Smoking causes general adverse effects on the body including inflammation and it impairs immune function. Smoking is a cause of rheumatoid arthritis.

Progress has been made in tobacco control. During the 50 years since the 1964 report, approaches have moved from single measures, such as small text-only pack warnings, to implementing comprehensive control programs, including indoor smoking bans, support for cessation, restrictions on advertising and promotion, media campaigns, and tax hikes to raise prices (Chapters 2 and 14). Smoking rates have declined, as have mortality rates for some diseases caused by smoking, such as heart disease and lung cancer for which smoking is the major cause.

Nonetheless, between 2005–2009, smoking was responsible for more than 480,000 premature deaths annually among Americans 35 years of age and older (Chapter 12). More than 87% of lung cancer deaths, 61% of all pulmonary disease deaths, and 32% of all deaths from coronary heart disease were attributable to smoking and exposure to secondhand smoke. Additionally, if current trends continue 5.6 million U.S. youth who are currently younger than 18 years of age will die prematurely during adulthood from their smoking (Chapter 12).

Figure 1B The health consequences causally linked to exposure to secondhand smoke



Source: USDHHS 2004, 2006.
Note: The condition in **red** is a new disease that has been causally linked to smoking in this report.

Many of the findings in this report have particular relevance to women who are current smokers. For the first time ever, they are as likely as men to die from many diseases caused by smoking (Chapter 12). The relative risk for dying from coronary heart disease among women 35 years of age and older is now higher than for men. Because the risks for women have increased so much in the last decades, women who smoke now have about the same high risk of death from lung cancer as men.

In addition to the impact that smoking has on health and well-being, the nation pays enormous financial costs because of smoking. Productivity losses from premature death alone now exceed $150 billion per year (Chapter 12). Additionally, the value of lost productivity due to premature deaths caused by exposure to secondhand smoke is now estimated to be $5.6 billion per year. The annual costs of direct medical care of adults attributable to smoking are now estimated to be over $130 billion (Chapter 12).

This comprehensive report chronicles the devastating consequences of 50 years of tobacco use in the United States. It updates data on the numerous health effects resulting from smoking and exposure to secondhand smoke, and details public health trends, both favorable and unfavorable, in tobacco use. This report marks the steady progress achieved in reducing the prevalence of smoking and validates tobacco control strategies that have consistently proven to be effective. It also examines strategies with the potential to eradicate the death and disease caused by the tobacco epidemic at long last, and identifies specific measures that should be taken immediately to move smoking off its decades-old number one spot as the largest single cause of preventable death and disease for the citizens of the United States. Finally, the report documents that effective interventions are available and calls for their full implementation.

Major Conclusions from the Report

1. The century-long epidemic of cigarette smoking has caused an enormous avoidable public health tragedy. Since the first Surgeon General's report in 1964 more than 20 million premature deaths can be attributed to cigarette smoking.

2. The tobacco epidemic was initiated and has been sustained by the aggressive strategies of the tobacco industry, which has deliberately misled the public on the risks of smoking cigarettes.

3. Since the 1964 Surgeon General's report, cigarette smoking has been causally linked to diseases of nearly all organs of the body, to diminished health status, and to harm to the fetus. Even 50 years after the first Surgeon General's report, research continues to newly identify diseases caused by smoking, including such common diseases as diabetes mellitus, rheumatoid arthritis, and colorectal cancer.

4. Exposure to secondhand tobacco smoke has been causally linked to cancer, respiratory, and cardiovascular diseases, and to adverse effects on the health of infants and children.

5. The disease risks from smoking by women have risen sharply over the last 50 years and are now equal to those for men for lung cancer, chronic obstructive pulmonary disease, and cardiovascular diseases.

6. In addition to causing multiple diseases, cigarette smoking has many adverse effects on the body, such as causing inflammation and impairing immune function.

7. Although cigarette smoking has declined significantly since 1964, very large disparities in tobacco use remain across groups defined by race, ethnicity, educational level, and socioeconomic status and across regions of the country.

8. Since the 1964 Surgeon General's report, comprehensive tobacco control programs and policies have been proven effective for controlling tobacco use. Further gains can be made with the full, forceful, and sustained use of these measures.

9. The burden of death and disease from tobacco use in the United States is overwhelmingly caused by cigarettes and other combusted tobacco products; rapid elimination of their use will dramatically reduce this burden.

10. For 50 years the Surgeon General's reports on smoking and health have provided a critical scientific foundation for public health action directed at reducing tobacco use and preventing tobacco-related disease and premature death.

The 2014 Surgeon General's report is presented in three sections:

Section 1: Historical Perspective, Overview, and Conclusions;

Section 2: The Health Consequences of Active and Passive Smoking: The Evidence in 2014; and

Section 3: Tracking and Ending the Epidemic.

The following is a summary of the contents of each section.

Section 1: Historical Perspective, Overview, and Conclusions

When Dr. Luther L. Terry released the first Surgeon General's report on smoking and health in January 1964, few could have anticipated the long-term impact it would have on this nation's health. The report reviewed more than 7,000 research articles related to smoking and disease—the evidence considered dated to the early twentieth century but most came from the wave of research that started at mid-century. The initial report concluded that smoking was associated with higher all-cause mortality rates among men, was a cause of lung cancer and laryngeal cancer in men, was a probable cause of lung cancer in women, and was the most important cause of bronchitis (U.S. Department of Health, Education, and Welfare 1964). News coverage of the report was extensive, and the release of the report was ranked among the top news stories of the twentieth century (*USA Today* 1999).

Nonetheless, public attitudes about smoking and its adverse health effects were slow to change, and smoking declined slowly after the report. In 1964, more than one-half of men and nearly one-third of women were regular smokers; it took approximately 15 years for rates of smoking among men to drop by one-quarter or more (Chapter 2). The scientific evidence helped to launch public health campaigns about the dangers of smoking. The tobacco industry attempted to counter these campaigns through aggressive advertising. It used a variety of tactics to create doubt about the findings on smoking and health and launched marketing strategies that obscured the dangers of smoking by implying that certain cigarettes were safer than others. In fact, rates of smoking among women actually increased in the years following the first Surgeon General's report.

During the decades that followed, however, a number of local, state, and federal laws and policies addressed tobacco product marketing and advertising, labeling and packaging, youth access, and exposure to secondhand smoke. Social norms that had made smoking acceptable everywhere began to change as a grassroots movement aimed at protecting nonsmokers emerged. Surgeon General's reports on the impact of tobacco use on specific populations, the changing cigarette, nicotine addiction, specific smoking-related diseases, and secondhand smoke gave impetus to a steady movement away from smoking as an acceptable social norm. The prevalence of smoking among adults is now less than one-half of what it was in 1964, and the prevalence among youth is less than one-half. A 2011 Gallup poll reported that for the first time, a majority of Americans supported a ban on smoking in all public places (Newport 2011).

The ongoing story of tobacco use covered in this Surgeon General's report illustrates the complexity and dynamic nature of the issue. This report examines smoking from a public health standpoint; as a cultural and social phenomenon; as an extension of the tobacco industry's aggressive and fraudulent campaigns to mislead the public on health hazards; and from legal, policy, and public education perspectives.

Section 2: The Health Consequences of Active and Passive Smoking: The Evidence in 2014

Since 1964, the evidence on smoking and health has expanded greatly; the list of adverse consequences of tobacco smoking has lengthened progressively; and since the 1970s, scientific research has linked the inhalation of secondhand smoke by nonsmokers to specific diseases and other adverse effects. Even in this report, a half-century following the first report, the evidence has been found sufficient to infer further causal associations of active and passive smoking with disease.

Nicotine and Addiction: Nicotine was found to be addicting in the 1988 Surgeon General's report (USDHHS 1988). That conclusion has been repeatedly reaffirmed in subsequent reports, and nicotine addiction figures centrally in initiation and in the difficulty of cessation (USDHHS 2010, 2012). Additionally, nicotine is a pharmacologically active agent that has acute toxicity and that readily enters the body and is distributed throughout. Beyond causing addiction, it activates multiple biologic pathways that are relevant to fetal growth and development, immune function, the cardiovascular system, the central nervous system, and carcinogenesis. Nicotine exposure during fetal development, a critical window

for the brain, has lasting adverse consequences for brain development. Nicotine exposure during pregnancy also contributes to adverse reproductive outcomes, such as preterm birth and stillbirth.

Cancer: Lung cancer, the first of many deadly diseases to be identified in a Surgeon General's report as being caused by smoking (Chapter 6), is now the nation's most common cancer killer among men and women. Two studies carried out by the American Cancer Society have been key sources of information on the risks of lung cancer in smokers. These two studies each followed more than 1 million U.S. men and women, starting in 1959 for the first study and then again in 1982 for the second. Results from these studies have now been compared with data combined from several large populations followed from 2000–2010 (Thun et al. 1997a,b, 2013). Although the risk of lung cancer for never smokers in all three studies stayed about the same, the risk to smokers increased steadily. Among women, risk of lung cancer went up dramatically. In the 1959 study, women smokers were 2.7 times more likely than women never smokers to develop lung cancer; by 2000–2010 that additional risk for women smokers had jumped nearly tenfold, to 25.7. For men who smoked, the risk more than doubled, from 12.2 to 25.0 between the first and last studies. These relative risks increased over the same period as the prevalence of smoking and the average number of cigarettes consumed per smoker decreased. Although the incidence of squamous cell carcinoma of the lung—the type of lung cancer most often diagnosed among smokers at the start of the lung cancer epidemic—declined as smoking rates dropped, the incidence of adenocarcinoma of the lung increased dramatically. Evidence suggests that changes in the composition and design of the cigarette itself may have had some impact on the relative risk of lung cancer, as well as on the shift in the types of lung cancer occurring in the contemporary cohorts of smokers (Thun et al. 2013).

This latest Surgeon General's report also evaluated the evidence on other cancers, and concluded that smoking is a cause of liver cancer and of colorectal cancer, the fourth most diagnosed cancer in the United States and the cancer responsible for the second largest number of cancer deaths annually (Chapter 6). The report found that the evidence is suggestive but insufficient to conclude that smoking and exposure to secondhand smoke cause breast cancer, and that smoking is not a cause for prostate cancer. The report also found that smoking increases the risk of dying from cancer and other diseases in cancer patients and survivors, including breast and prostate cancer patients.

Respiratory diseases: In the 1964 Surgeon General's report, smoking was found to be a cause of "chronic bronchitis," a term used then for the disease now generally referred to as chronic obstructive pulmonary disease (COPD) (Fletcher et al. 1959). Because smoke is inhaled into the lung and its components are deposited and absorbed in the lungs, it has long been linked to adverse effects on the respiratory system, causing malignant and nonmalignant diseases, exacerbating chronic lung diseases, and increasing the risk for respiratory infections. The scientific literature showing associations with multiple diseases of the respiratory tract is extensive as is the evidence supporting the biologic plausibility of smoking as a cause of these associations (Chapter 7). This report has reviewed the updated evidence on COPD. Mortality from COPD continues to rise, and smoking remains responsible for the vast majority of cases (Chapter 7). As for lung cancer, comparison of the findings of the two American Cancer Society studies with the more recent studies spanning 2000–2010 showed rising risks for COPD, particularly in women. Recent studies show that the relative risk for COPD in women has risen greatly, reaching 22.4 compared to never smokers, and similar to the risk in men (Thun et al. 2013).

For asthma, another obstructive lung disease, the evidence was found to be sufficient to infer that smoking worsens asthma in adults who smoke (Chapter 7). The benefits of implementing smokefree policies have been shown for workers with asthma (Eisner et al. 1998; Menzies et al. 2006; Ayres et al. 2009; Wilson et al. 2012). Evidence considered in this report points to a reduction in admissions for respiratory diseases following the implementation of a smokefree policy (Tan and Glantz 2012). Tuberculosis was once a leading cause of death in the United States. Now far less frequent in the United States, it remains prominent worldwide. Evidence reported over the last decade is sufficient to lead to a conclusion that smoking increases the risk for tuberculosis and for dying from tuberculosis (Chapter 7).

Cardiovascular diseases: Although lung cancer is often assumed to be the largest smoking-attributable cause of death in the United States, cardiovascular disease actually claims more lives of smokers 35 years of age and older every year compared with lung cancer (Chapter 8). Exposure to secondhand smoke causes significantly more deaths due to cardiovascular disease than due to lung cancer, and this new report finds that exposure to secondhand smoke is also a cause of stroke. Exposure to secondhand smoke increases the risk for stroke by an estimated 20–30%. Even so, the evidence is clear that reductions in smoking and exposure to secondhand smoke have contributed to the decline in death rates from cardiovascular diseases since the late 1960s. Smokefree laws and policies have been proven to reduce the incidence of heart attacks

and other coronary events among people younger than 65 years of age, and evidence suggests that there could be a relationship between such laws and policies and a reduction in cerebrovascular events.

Diabetes: Previous Surgeon General's reports have found that smoking complicates the treatment of diabetes and that smokers who have been diagnosed with diabetes are at a higher risk for kidney disease, blindness, and circulatory complications leading to amputations. This report concludes that smoking is a cause of type 2 diabetes mellitus, and that the risk of developing diabetes is 30–40% higher for active smokers than nonsmokers (Chapter 10). Furthermore, the risk of developing diabetes increases as the number of cigarettes smoked grows.

Immune and autoimmune disorders: This report finds that smoking is a cause of general adverse effects on the body, including systemic inflammation and impaired immune function (Chapter 10). One result of this altered immunity is increased risk for pulmonary infections among smokers. For example, risks for *Mycobacterium tuberculosis* and for death from tuberculosis disease are higher for smokers than nonsmokers (Chapter 7). Additionally, smoking is known to compromise the equilibrium of the immune system, increasing the risk for several immune and autoimmune disorders. This report finds that smoking is a cause of rheumatoid arthritis, and that smoking interferes with the effectiveness of certain treatments for rheumatoid arthritis (Chapter 10).

Reproductive effects: Several additional adverse reproductive effects are now found to be attributable to smoking (Chapter 9). One is ectopic pregnancy, in which the embryo implants in the Fallopian tube or elsewhere outside the uterus. Ectopic pregnancy is very rarely a survivable condition for the fetus and is a potentially fatal condition for the mother. This report finds that maternal smoking during early pregnancy is causal for orofacial clefts in infants, and evidence suggests that smoking could be associated with certain other birth defects. This report also finds that the evidence is now sufficient to conclude that there is a causal relationship between smoking and erectile dysfunction in men.

Eye disease: The retina is a delicate, light-sensitive tissue that lines the inside of the eye. The macula is the most sensitive part of the retina and is the part of the eye that supplies sharp vision. Age-related macular degeneration (AMD) gradually destroys the macula and can ultimately lead to loss of vision in the center of the eye. This report finds that smoking is a cause of AMD (Chapter 10). Evidence in the report also suggests that quitting smoking may reduce the risk for AMD, but the reduced risk may not appear for 20 or more years after smoking cessation.

General health: Smokers have long been known to suffer from poorer general health than nonsmokers, beginning at an early age and extending throughout adult life (Chapter 11). Although emphasis has been given to smoking as a cause of specific and avoidable diseases, it is a powerful cause of ill-health generally. These health deficits not only reduce the quality of life of smokers but also affect their participation in the workplace and increase their costs to the health care system.

All-cause mortality: The evidence in this report reaffirms that smoking is a major cause of premature death (Chapter 11). During the past 50 years, as generations of men and women who began smoking in adolescence and continued to smoke into middle and older ages have been stricken with the health consequences of lifetime smoking, the relative risk for all-cause mortality associated with current cigarette smoking has increased. The age-standardized relative risk, comparing the all-cause death rate in current smokers to that of never smokers, has more than doubled in men and more than tripled in women during the years since the release of the first Surgeon General's report on smoking and health. The lives of smokers are cut short by the development of the many diseases caused by smoking and by their greater risk of dying from common health events, such as complications of routine surgeries and pneumonia. Smoking shortens life far more than most other risk factors for early mortality; smokers are estimated to lose more than a decade of life. Smoking cessation by 40 years of age reduces that loss approximately 90%. Even stopping by about 60 years of age reduces that loss approximately 40%. However, reducing the number of cigarettes smoked per day is much less effective than quitting entirely for avoiding the risks of premature death from all smoking-related causes of death.

Much of this 50th anniversary Surgeon General's report is devoted to examining evidence on the myriad health effects, avoidable diseases, and all-cause mortality from smoking. Chapters highlight findings on specific health topics from previous Surgeon General's reports in addition to presenting current information. The following are chapter-specific conclusions related to the health effects of smoking from Section 2 of the report.

Chapter 5: Nicotine

1. The evidence is sufficient to infer that at high-enough doses nicotine has acute toxicity.

2. The evidence is sufficient to infer that nicotine activates multiple biological pathways through which smoking increases risk for disease.

3. The evidence is sufficient to infer that nicotine exposure during fetal development, a critical window for brain development, has lasting adverse consequences for brain development.

4. The evidence is sufficient to infer that nicotine adversely affects maternal and fetal health during pregnancy, contributing to multiple adverse outcomes such as preterm delivery and stillbirth.

5. The evidence is suggestive that nicotine exposure during adolescence, a critical window for brain development, may have lasting adverse consequences for brain development.

6. The evidence is inadequate to infer the presence or absence of a causal relationship between exposure to nicotine and risk for cancer.

Chapter 6: Cancer

Lung Cancer

1. The evidence is sufficient to conclude that the risk of developing adenocarcinoma of the lung from cigarette smoking has increased since the 1960s.

2. The evidence is sufficient to conclude that the increased risk of adenocarcinoma of the lung in smokers results from changes in the design and composition of cigarettes since the 1950s.

3. The evidence is not sufficient to specify which design changes are responsible for the increased risk of adenocarcinoma, but there is suggestive evidence that ventilated filters and increased levels of tobacco-specific nitrosamines have played a role.

4. The evidence shows that the decline of squamous cell carcinoma follows the trend of declining smoking prevalence.

Liver Cancer

1. The evidence is sufficient to infer a causal relationship between smoking and hepatocellular carcinoma.

Colorectal Cancer

1. The evidence is sufficient to infer a causal relationship between smoking and colorectal adenomatous polyps and colorectal cancer.

Prostate Cancer

1. The evidence is suggestive of no causal relationship between smoking and the risk of incident prostate cancer.

2. The evidence is suggestive of a higher risk of death from prostate cancer in smokers than in nonsmokers.

3. In men who have prostate cancer, the evidence is suggestive of a higher risk of advanced-stage disease and less-well-differentiated cancer in smokers than in nonsmokers, and—independent of stage and histologic grade—a higher risk of disease progression.

Breast Cancer

1. The evidence is sufficient to identify mechanisms by which cigarette smoking may cause breast cancer.

2. The evidence is suggestive but not sufficient to infer a causal relationship between tobacco smoke and breast cancer.

3. The evidence is suggestive but not sufficient to infer a causal relationship between active smoking and breast cancer.

4. The evidence is suggestive but not sufficient to infer a causal relationship between exposure to secondhand tobacco smoke and breast cancer.

Adverse Health Outcomes in Cancer Patients and Survivors

1. In cancer patients and survivors, the evidence is sufficient to infer a causal relationship between cigarette smoking and adverse health outcomes. Quitting smoking improves the prognosis of cancer patients.

2. In cancer patients and survivors, the evidence is sufficient to infer a causal relationship between cigarette smoking and increased all-cause mortality and cancer-specific mortality.

3. In cancer patients and survivors, the evidence is sufficient to infer a causal relationship between cigarette smoking and increased risk for second primary cancers known to be caused by cigarette smoking, such as lung cancer.

4. In cancer patients and survivors, the evidence is suggestive but not sufficient to infer a causal relationship between cigarette smoking and (1) the risk of recurrence, (2) poorer response to treatment, and (3) increased treatment-related toxicity.

Chapter 7: Respiratory Diseases

Chronic Obstructive Pulmonary Disease

1. The evidence is sufficient to infer that smoking is the dominant cause of chronic obstructive pulmonary disease (COPD) in men and women in the United States. Smoking causes all elements of the COPD phenotype, including emphysema and damage to the airways of the lung.

2. Chronic obstructive pulmonary disease (COPD) mortality has increased dramatically in men and women since the 1964 Surgeon General's report. The number of women dying from COPD now surpasses the number of men.

3. The evidence is suggestive but not sufficient to infer that women are more susceptible to develop severe chronic obstructive pulmonary disease at younger ages.

4. The evidence is sufficient to infer that severe α1-antitrypsin deficiency and cutis laxa are genetic causes of chronic obstructive pulmonary disease.

Asthma

1. The evidence is suggestive but not sufficient to infer a causal relationship between active smoking and the incidence of asthma in adolescents.

2. The evidence is suggestive but not sufficient to infer a causal relationship between active smoking and exacerbation of asthma among children and adolescents.

3. The evidence is suggestive but not sufficient to infer a causal relationship between active smoking and the incidence of asthma in adults.

4. The evidence is sufficient to infer a causal relationship between active smoking and exacerbation of asthma in adults.

Tuberculosis

1. The evidence is sufficient to infer a causal relationship between smoking and an increased risk of *Mycobacterium tuberculosis* disease.

2. The evidence is sufficient to infer a causal relationship between smoking and mortality due to tuberculosis.

3. The evidence is suggestive of a causal relationship between smoking and the risk of recurrent tuberculosis disease.

4. The evidence is inadequate to infer the presence or absence of a causal relationship between active smoking and the risk of tuberculosis infection.

5. The evidence is inadequate to infer the presence or absence of a causal relationship between exposure to secondhand smoke and the risk of tuberculosis infection.

6. The evidence is inadequate to infer the presence or absence of a causal relationship between exposure to secondhand smoke and the risk of tuberculosis disease.

Idiopathic Pulmonary Fibrosis

1. The evidence is suggestive but not sufficient to infer a causal relationship between cigarette smoking and idiopathic pulmonary fibrosis.

Chapter 8: Cardiovascular Disease

1. The evidence is sufficient to infer a causal relationship between exposure to secondhand smoke and increased risk of stroke.

2. The estimated increase in risk for stroke from exposure to secondhand smoke is about 20–30%.

3. The evidence is sufficient to infer a causal relationship between the implementation of a smokefree law or policy and a reduction in coronary events among people younger than 65 years of age.

4. The evidence is suggestive but not sufficient to infer a causal relationship between the implementation of a smokefree law or policy and a reduction in cerebrovascular events.

5. The evidence is suggestive but not sufficient to infer a causal relationship between the implementation of a smokefree law or policy and a reduction in other heart disease outcomes, including angina and out-of-hospital sudden coronary death.

Chapter 9: Reproductive Outcomes

Congenital Malformations

1. The evidence is sufficient to infer a causal relationship between maternal smoking in early pregnancy and orofacial clefts.

2. The evidence is suggestive but not sufficient to infer a causal relationship between maternal smoking in early pregnancy and clubfoot, gastroschisis, and atrial septal heart defects.

Neurobehavioral Disorders of Childhood

1. The evidence is suggestive but not sufficient to infer a causal relationship between maternal prenatal smoking and disruptive behavioral disorders, and attention deficit hyperactivity disorder in particular, among children.

2. The evidence is insufficient to infer the presence or absence of a causal relationship between maternal prenatal smoking and anxiety and depression in children.

3. The evidence is insufficient to infer the presence or absence of a causal relationship between maternal prenatal smoking and Tourette syndrome.

4. The evidence is insufficient to infer the presence or absence of a causal relationship between maternal prenatal smoking and schizophrenia in her offspring.

5. The evidence is insufficient to infer the presence or absence of a causal relationship between maternal prenatal smoking and intellectual disability.

Ectopic Pregnancy

1. The evidence is sufficient to infer a causal relationship between maternal active smoking and ectopic pregnancy.

Spontaneous Abortion

1. The evidence is suggestive but not sufficient to infer a causal relationship between maternal active smoking and spontaneous abortion.

Male Sexual Function

1. The evidence is sufficient to infer a causal relationship between smoking and erectile dysfunction.

Chapter 10: Other Specific Outcomes

Eye Disease: Age-Related Macular Degeneration

1. The evidence is sufficient to infer a causal relationship between cigarette smoking and neovascular and atrophic forms of age-related macular degeneration.

2. The evidence is suggestive but not sufficient to infer that smoking cessation reduces the risk of advanced age-related macular degeneration.

Dental Disease

1. The evidence is suggestive but not sufficient to infer a causal relationship between active cigarette smoking and dental caries.

2. The evidence is suggestive but not sufficient to infer a causal relationship between exposure to tobacco smoke and dental caries in children.

3. The evidence is suggestive but not sufficient to infer a causal relationship between cigarette smoking and failure of dental implants.

Diabetes

1. The evidence is sufficient to infer that cigarette smoking is a cause of diabetes.

2. The risk of developing diabetes is 30–40% higher for active smokers than nonsmokers.

3. There is a positive dose-response relationship between the number of cigarettes smoked and the risk of developing diabetes.

Immune Function and Autoimmune Disease

1. The evidence is sufficient to infer that components of cigarette smoke impact components of the immune system. Some of these effects are immune activating and others are immune-suppressive.

2. The evidence is sufficient to infer that cigarette smoking compromises the immune system and that altered immunity is associated with increased risk for pulmonary infections.

3. The evidence is sufficient to infer that cigarette smoke compromises immune homeostasis and that altered immunity is associated with an increased risk for several disorders with an underlying immune diathesis.

Rheumatoid Arthritis

1. The evidence is sufficient to infer a causal relationship between cigarette smoking and rheumatoid arthritis.

2. The evidence is sufficient to infer that cigarette smoking reduces the effectiveness of the tumor necrosis factor-alpha (TNF-α) inhibitors.

Systemic Lupus Erythematosus

1. The evidence is inadequate to infer the presence or absence of a causal relationship between cigarette smoking and systemic lupus erythematosus (SLE), the severity of SLE, or the response to therapy for SLE.

Inflammatory Bowel Disease

1. The evidence is suggestive but not sufficient to infer a causal relationship between cigarette smoking and Crohn's disease.

2. The evidence is suggestive but not sufficient to infer a causal relationship between cigarette smoking and a protective effect for ulcerative colitis.

Chapter 11: General Morbidity and All-Cause Mortality

1. The evidence is sufficient to infer a causal relationship between smoking and diminished overall health. Manifestations of diminished overall health among smokers include self-reported poor health, increased absenteeism from work, and increased health care utilization and cost.

2. The evidence is sufficient to infer that cigarette smoking increases risk for all-cause mortality in men and women.

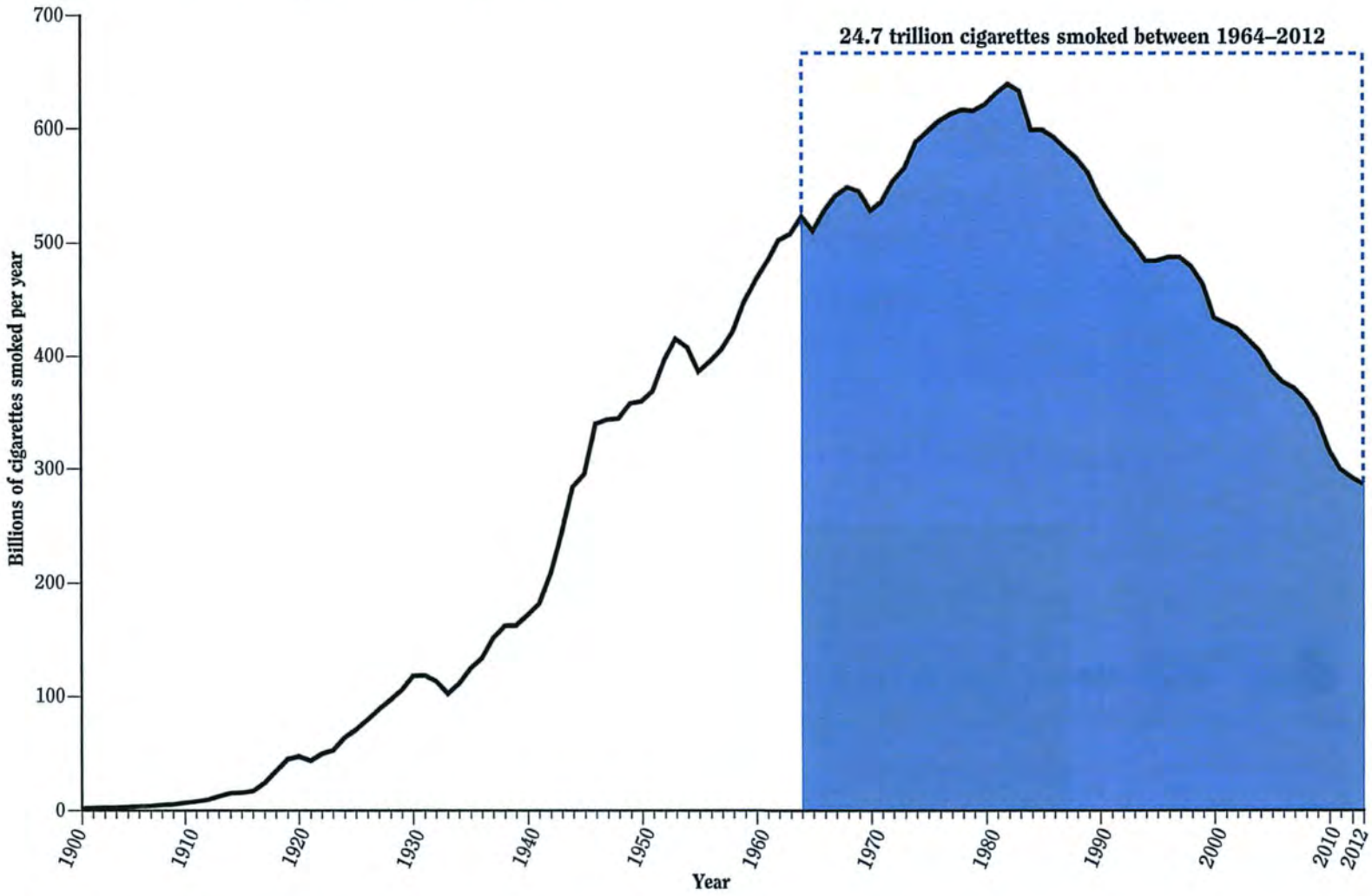
3. The evidence is sufficient to infer that the relative risk of dying from cigarette smoking has increased over the last 50 years in men and women in the United States.

Section 3: Tracking and Ending the Epidemic

The final section of the 50th anniversary Surgeon General's report on smoking and health covers the human and economic costs of the smoking epidemic in the United States, current trends in tobacco use and tobacco control, the status of interventions and programs that address the smoking epidemic, and a vision for a future that is free of death and disease caused by tobacco use.

Throughout this report, the overwhelming harm done to this nation's health by cigarette smoking is made clear repeatedly. Accumulated data from the past 50 years graphically illustrate the devastating loss of life and the economic waste that have flowed from the manufacture, marketing, sale, and consumption of combustible tobacco products. In this half-century, nearly 25 trillion cigarettes have been consumed, despite a significant drop in consumption per smoker (Figure 2). The annual costs attributed to smoking in the United States are between $289 billion and $333 billion, including at least $130 billion for direct medical care of adults over $150 billion for lost productivity due to premature death, and more than $5 billion for lost productivity from premature death due to exposure to secondhand smoke (Chapter 12).

Figure 2 Total cigarette consumption, United States, 1900–2012



Source: Miller 1981; U.S. Department of Agriculture 1987, 1996, 2005, 2007a,b; Centers for Disease Control and Prevention 2012.
Note: Data shown are annual total consumption of cigarettes. This differs from Figure 2.1, which reports the annual adult (18 years of age and older) per capita consumption.

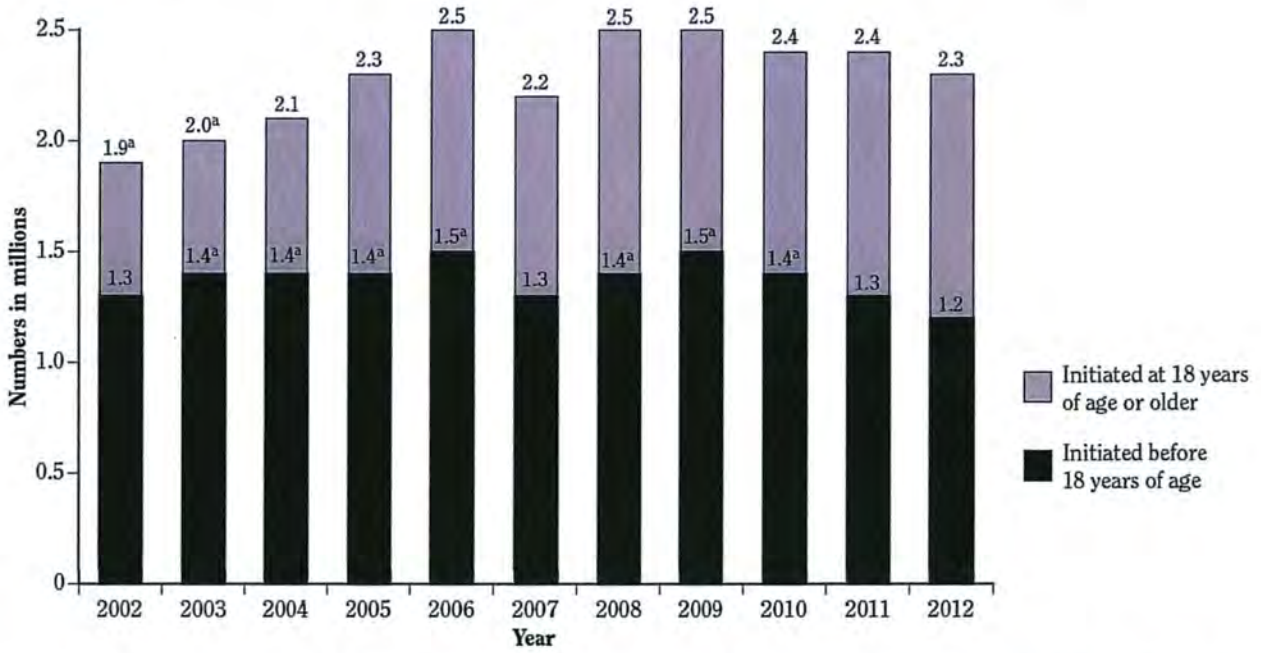
Despite decades of warnings on the dangers of smoking, nearly 42 million adults (Chapter 13) and more than 3.5 million middle and high school students continue to smoke cigarettes (USDHHS 2012). Significant disparities in tobacco use persist among certain racial/ethnic populations, and among groups defined by educational level, socioeconomic status, geographic region, sexual minorities (including individuals who are gay, lesbian, bisexual, and transgender, and individuals with same-sex relationships or attraction), and severe mental illness. The majority (88%) started smoking before 18 years of age, and nearly all first use of cigarettes occurs before 26 years of age (USDHHS 2012). The fraction of smoking initiation occurring after 18 years of age has been increasing over the past decade (Figure 3).

Tobacco industry advertising and promotional activities cause youth and young adults to start smoking, and nicotine addiction keeps people smoking past those ages (Chapter 14) (USDHHS 2012). Each year, for every adult who dies prematurely from a smoking-related cause, more than two youth or young adults become replacement smokers (Chapter 13) (USDHHS 2012). Although the prevalence of current smoking among high school-aged youth has declined, the total number of youth and young adults who started smoking increased from 1.9 million in 2002 to 2.3 million in 2012 (Figure 3). However, progress has been made in reducing initiation among youth younger than 18 years of age, with the total number of youth who initiated smoking before age 18 declining from 1.5 million in 2009 down to 1.2 million in 2012.

While attention has focused primarily on cigarette smoking, this and recent Surgeon General's reports review health risks and emphasize the need to monitor patterns of use of all combusted tobacco products, particularly the use of cigarette-like cigars and roll-your-own cigarettes using pipe tobacco. Most commonly, these products are used along with cigarettes. According to recent trends, the percentage of adults, 18 years of age and older—who smoke either cigarettes, cigars, or roll-your-own cigarettes made with pipe tobacco—has remained relatively steady (25–26%) since 2009 and has declined only a small amount since 2002 (Table 2).

Although recent trends emphasize the need for continued and vigorous tobacco control efforts, significant

Figure 3 Cigarette initiation during the past year among persons 12 years of age and older, by age at first use, 2002–2012



Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2012.
[a]Difference between this estimate and the 2012 estimate is statistically significant at the 0.05 level.

Table 2 Percentage of tobacco product use in the past month among persons 18 years of age and older, 2002–2012

Substance	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total tobacco products[a]	30.8[b]	30.2[b]	29.6[b]	29.9[b]	30.1[b]	29.2[b]	28.8[b]	28.1	27.8	26.9	27.3
Cigarettes[c]	25.8[b]	25.2[b]	24.7[b]	24.7[b]	24.8[b]	24.1[b]	23.7[b]	23.0[d]	22.6	21.7	22.0
Smokeless tobacco	3.5	3.4	3.1[b]	3.3	3.5	3.3	3.6	3.5	3.6	3.3	3.6
Cigars	5.5	5.5	5.8	5.8	5.7	5.5	5.5	5.4	5.4	5.2	5.4
Pipe tobacco	0.8	0.7[b]	0.8[d]	0.9	1.0	0.8	0.8[d]	0.8	0.9	0.8	1.0
Cigarettes[c] or cigars	28.5[b]	27.9[b]	27.6[b]	27.7[b]	27.7[b]	27.0[b]	26.4[b]	25.8[d]	25.5	24.6	24.8
Cigarettes,[c] cigars, or pipe tobacco	28.8[b]	28.2[b]	27.9[b]	28.0[b]	28.0[b]	27.3[b]	26.7[b]	26.1	25.8	24.9	25.2

Source: Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2002–2012.

[a]Tobacco products include cigarettes, smokeless tobacco (i.e., chewing tobacco or snuff), cigars, or pipe tobacco.

[b]Difference between estimate and 2012 estimate is statistically significant at the 0.01 level.

[c]Past month cigarette use is defined as smoking during the 30 days preceding the survey and smoking 100 cigarettes or more in a lifetime. Respondents with an unknown lifetime number of cigarettes smoked were excluded from the analysis.

[d]Difference between estimate and 2012 estimate is statistically significant at the 0.05 level.

achievements have been made during the past five decades. In fact, historic success in tobacco control is considered one of the top public health achievements of the twentieth century (Centers for Disease Control and Prevention [CDC] 1999; Ward and Warren 2007). Today, in the United States there are more former smokers than current smokers, and success rates for quitting have been increasing among recent birth cohorts (Chapter 13). Interest in quitting is high across all segments of society. Patterns of tobacco use are also changing, with more people smoking intermittently and smoking fewer cigarettes; however, there is an increase in the use of tobacco products other than cigarettes, often concurrent with cigarettes.

The burden of smoking-attributable disease and premature death and its high costs to the nation will continue for decades unless smoking prevalence is reduced more rapidly than the current trajectory. The evidence in this report shows that the nation may fail to achieve the *Healthy People 2020* objective of reducing the prevalence of smoking among adults to 12%. Model estimates suggest that if the status quo in tobacco control in 2008 were maintained, the projected prevalence of smoking among adults in 2050 could still be as high as 15% (Chapter 15). Trends in smoking rates among youth and adults show progress, but the prevalence of current smoking among youth and adults is only slowly declining and the actual number of youth and young adults starting to smoke has increased since 2002 (Figure 3). Additionally, the use of multiple tobacco products is increasingly common, especially among young smokers. Concerns remain that use of these new products may increase initiation rates among youth and young adults, delay quitting, and prolong the smoking epidemic.

The tobacco industry continues to position itself to sustain its sales by recruiting youth and young adults and by maintaining current smokers as consumers of all their nicotine-containing products including cigarettes (see Chapters 13, 14, and 15). As reviewed in Chapter 14, U.S. District Judge Gladys Kessler entered her final opinion and order on August 17, 2006, and found that the tobacco industry defendants violated the *Racketeer Influenced and Corrupt Organizations* (*RICO*) *Act* by lying, misrepresenting, and deceiving the public "including smokers and the young people they avidly sought as 'replacement smokers,' about the devastating health effects of smoking and environmental tobacco smoke" (*U.S. v. Philip Morris* 2006:852). The *Tobacco Control Act* incorporates as congressional findings of fact Judge Kessler's determinations that "the major United States cigarette companies continue to target and market to youth," that the companies sought to "encourage youth to start smoking subsequent to the signing of the Master Settlement Agreement

in 1998," and that they "have designed their cigarettes to precisely control nicotine delivery levels and provide doses of nicotine sufficient to create and sustain addiction while also concealing much of their nicotine-related research" (*Tobacco Control Act* 2009, §2(47) – (49)).

Therefore, this report addresses the question: what steps are needed to end the tobacco epidemic? There are different ways to achieve this vision. Should the emphasis be on ending cigarette use?; ending the use of the most harmful tobacco products while reducing the harm of remaining products?; or ending the use of all tobacco products?

The scientific findings of the 2012 Surgeon General's report (USDHHS 2012) show that there are evidence-based strategies that can rapidly drop initiation and prevalence rates of smoking among youth to single digits. To reach this target, these strategies need to be fully implemented and sustained with sufficient intensity and duration. Without such increased and sustained action, 5.6 million youth younger than 18 years of age in this country today are projected to die prematurely from a smoking-related illness. But millions of these projected deaths could be averted, making tobacco control a highest priority in our overall public health commitment and strategy.

The scientific evidence is incontrovertible: inhaling the combustion compounds from tobacco smoke, particularly from cigarettes, is deadly. It has been stated that "The cigarette is also a defective product, meaning not just dangerous but *unreasonably* dangerous, killing half its long-term users. And addictive by design" (Proctor 2013, p. i27). As the list of diseases caused by smoking has continued to increase, the updated estimate of the annual number of deaths attributable to smoking and exposure to secondhand smoke is now approaching 500,000 (Chapter 12). This increase has occurred despite decreases in per capita cigarette consumption and prevalence of smoking, emphasizing our enhanced understanding of the increased lethality of cigarettes. The high risks of cigarette smoking and the historic and current patterns of tobacco use in the United States lead to a primary conclusion of this report:

- The burden of death and disease from tobacco use in the United States is overwhelmingly caused by cigarettes and other combusted tobacco products; rapid elimination of their use will dramatically reduce this burden.

Could the use of cigarettes and other combusted tobacco products be rapidly reduced in this country? As noted above, evidence-based strategies that can rapidly drop youth initiation and prevalence rates down to single digits have already been identified and used (USDHHS 2012). Chapter 14 reviews a broad range of well-defined and effective interventions proven to reduce smoking rates if implemented and sustained at funding levels consistent with CDC's recommended levels (Figure 4).

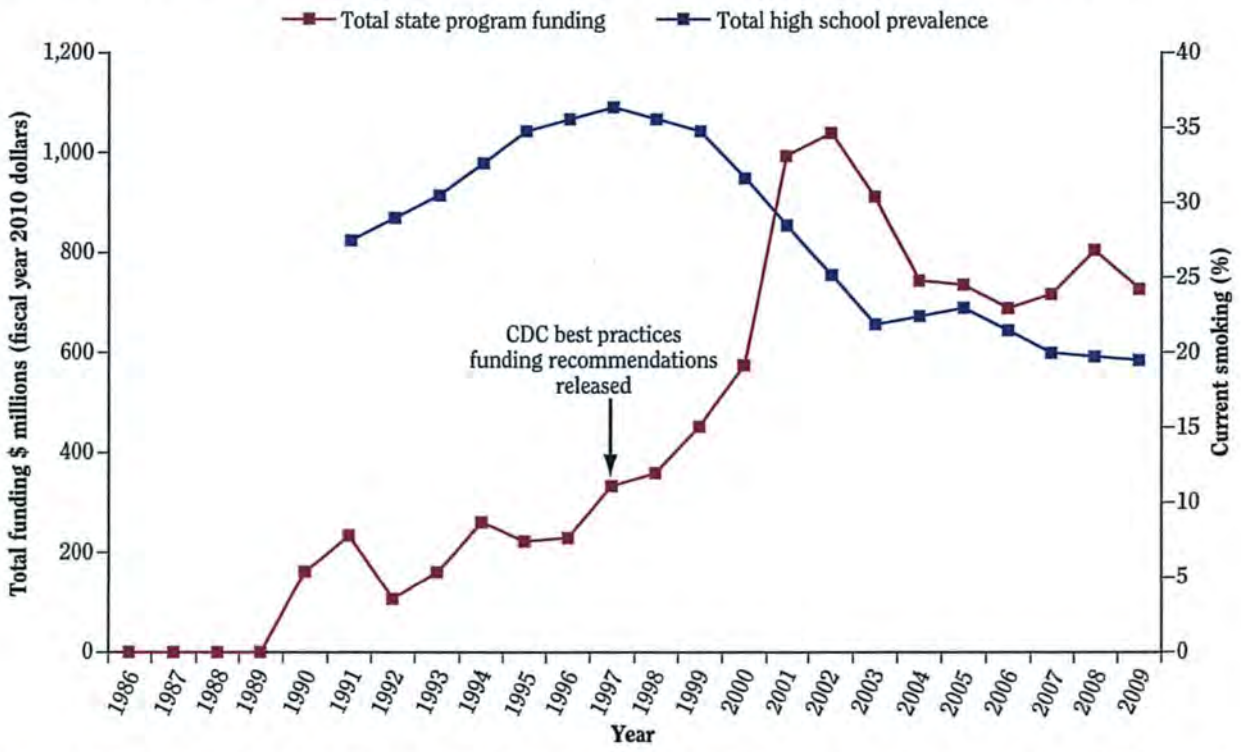
This and previous reports outline effective programs and policies: raising the retail price of cigarettes and other tobacco products, smokefree indoor air policies, high-impact media campaigns, full access to cessation treatments, and funding of comprehensive statewide tobacco control programs at the CDC recommended levels.

However, these five actions are not all that needs to be done. In considering options for reducing the health burden caused by smoking, many additional recommended actions have been defined in evidence reviews and guidance documents discussed in this report. For example, selected state experience suggests that all levels of government can enhance revenue collection and minimize tax avoidance and evasion through several promising policy approaches, such as implementing a high-tech cigarette tax stamp, improving tobacco licensure management, and making the stamps harder to counterfeit. These state practices could also be expanded to the national level with a track and trace system. A track and trace system, in the tobacco control context, is a system that can track goods from manufacture to distribution to sale, identifying points in the supply chain where taxes should be paid and confirm payment. Implementing such systems would also simultaneously retain the positive public health effects of taxation and protect product regulation in the market.

There is no question that these proven interventions need to be fully implemented and sustained at recommended levels. In addition to initiatives of the federal government, other factors in society can significantly affect social norms. Portrayals of tobacco use in U.S. films appear to have rebounded upward in the past 2 years (Chapter 14). In 2012, youth were exposed to an estimated 14.9 billion in-theater tobacco-use impressions[1] in youth-rated films (Polansky et al. 2013). Youth who are exposed to images of smoking in movies are more likely to smoke; those who get the most exposure to onscreen smoking are about twice as likely to begin smoking as those who get the least exposure (USDHHS 2012). Actions that would eliminate the depiction of tobacco use in movies, which are produced and rated as appropriate for children and adolescents, could have a significant effect on preventing youth from becoming tobacco users.

[1]One impression equals one tobacco use incident on screen viewed by one audience member.

Figure 4 Total funding for state tobacco control programs, 1986–2010 (adjusted to fiscal year 2010 dollars)



Source: Project ImpacTEEN; University of Illinois at Chicago; CDC, Youth Risk Behavior Survey, 1991–2009. Current smoking defined as high school students who smoked on ≥1 of the past 30 days—United States.
Note: **CDC** = Centers for Disease Control and Prevention.

Faced with the challenge of achieving a vision of a society free of tobacco-related death and disease, a discussion has begun within the field of tobacco control about what has come to be called the tobacco "end game" in the published literature. This literature considers strategies that could be used in addition to the expanded implementation of the proven tobacco control interventions, to accelerate declines in the use of cigarettes and other combusted tobacco products and end the epidemic of disease and premature death caused by tobacco.

Chapter 15 discusses various end game strategies; the feasibility and applicability are reviewed. It has been suggested that an integrated national tobacco control strategy should be considered—based on a foundation of enhanced implementation of the proven strategies (taxation, smokefree areas, increased barrier-free cessation support, warning labels, public health campaigns, and restrictions on advertising, promotions, and sponsorship) into which the most feasible end game strategies are included (van der Eijk 2013). Examples of end game options which could complement the proven interventions in accomplishing our overall goal of a society free of tobacco-related death and disease include but are not limited to:

1. Reducing the nicotine content to make cigarettes less addictive (Benowitz and Henningfield 2013); and

2. Greater restrictions on sales, particularly at the local level, including bans on entire categoies of tobacco products (Berrick 2013; Malone 2013).

End game strategies might be aided by future approaches and devices for nicotine delivery that better substitute for the cigarette. As discussed in Chapter 14, various new products are increasingly being introduced into the market. In 2012 Lorillard acquired Blu Electronic Cigarettes, in 2013 R.J. Reynolds Tobacco Com-

pany introduced VUSE electronic cigarettes in limited markets, and Altria announced that it will introduce an electronic cigarette in 2014 (Esterl 2013; Lorillard 2013; Reynolds American 2013; Wells Fargo Securities Research 2013). Additionally, other electronic nicotine delivery systems have been developed and marketed by companies with little or no experience in developing and marketing traditional tobacco products (WHO 2009; Henningfield and Zaatari 2010; Cobb and Abrams 2011). As these new products are entering the marketplace rapidly, significant questions remain about (1) how to assess the potential toxicity and health effects of the more than 250 electronic cigarette brands; (2) the magnitude of reduced risk from electronic cigarettes versus continuing use of conventional cigarettes for individual smokers; (3) the need to weigh the potential individual benefits versus population risks; (4) how the advertising and marketing of these new products should be regulated; and (5) even assuming that electronic cigarettes could be sufficiently safe to the users and offer net public health benefits, there are significant questions about the manner in which they should be regulated (Benowitz 2013). Further research and attention to the consequences as well as regulatory measures will be necessary to fully address these questions. However, the promotion of electronic cigarettes and other innovative tobacco products is much more likely to be beneficial in an environment where the appeal, accessibility, promotion, and use of cigarettes are being rapidly reduced.

The following are chapter-specific conclusions from Section 3 of the report.

Chapter 12: Smoking-Attributable Morbidity, Mortality, and Economic Costs

1. Since the first Surgeon General's report on smoking and health in 1964, there have been more than 20 million premature deaths attributable to smoking and exposure to secondhand smoke. Smoking remains the leading preventable cause of premature death in the United States.

2. Despite declines in the prevalence of current smoking, the annual burden of smoking-attributable mortality in the United States has remained above 400,000 for more than a decade and currently is estimated to be about 480,000, with millions more living with smoking-related diseases.

3. Due to the slow decline in the prevalence of current smoking, the annual burden of smoking-attributable mortality can be expected to remain at high levels for decades into the future, with 5.6 million youth currently 0 to 17 years of age projected to die prematurely from a smoking-related illness.

4. Annual smoking-attributable economic costs in the United States estimated for the years 2009–2012 were between $289–332.5 billion, including $132.5–175.9 billion for direct medical care of adults, $151 billion for lost productivity due to premature death estimated from 2005–2009, and $5.6 billion (in 2006) for lost productivity due to exposure to secondhand smoke.

Chapter 13: Patterns of Tobacco Use Among U.S. Youth, Young Adults, and Adults

1. In the United States, the prevalence of current cigarette smoking among adults has declined from 42% in 1965 to 18% in 2012.

2. The prevalence of current cigarette smoking declined first among men (between 1965 and the 1990s), and then among women (since the 1980s). However, declines in the prevalence of smoking among adults (18 years of age and older) have slowed in recent years.

3. Most first use of cigarettes occurs by 18 years of age (87%), with nearly all first use by 26 years of age (98%).

4. Very large disparities in tobacco use remain across racial/ethnic groups and between groups defined by educational level, socioeconomic status, and region.

5. In the United States there are now more former smokers than there are current smokers. More than half of all ever smokers have quit smoking.

6. The rate of quitting smoking among recent birth cohorts has been increasing, and interest in quitting is high across all segments of society.

7. Patterns of tobacco use are changing, with more intermittent use of cigarettes and an increase in use of other products.

Chapter 14: Current Status of Tobacco Control

1. The evidence is sufficient to conclude that there are diverse tobacco control measures of proven efficacy at the population and individual levels.

2. The evidence is sufficient to conclude that advertising and promotional activities by the tobacco companies cause the onset and continuation of smoking among adolescents and young adults.

3. Tobacco product regulation has the potential to contribute to public health through reductions in tobacco product addictiveness and harmfulness, and by preventing false or misleading claims by the tobacco industry of reduced risk.

4. The evidence is sufficient to conclude that litigation against tobacco companies has reduced tobacco use in the United States by leading to increased product prices, restrictions on marketing methods, and making available industry documents for scientific analysis and strategic awareness.

5. The evidence is sufficient to conclude that increases in the prices of tobacco products, including those resulting from excise tax increases, prevent initiation of tobacco use, promote cessation, and reduce the prevalence and intensity of tobacco use among youth and adults.

6. The evidence is sufficient to conclude that smokefree indoor air policies are effective in reducing exposure to secondhand smoke and lead to less smoking among covered individuals.

7. The evidence is sufficient to conclude that mass media campaigns, comprehensive community programs, and comprehensive statewide tobacco control programs prevent initiation of tobacco use and reduce the prevalence of tobacco use among youth and adults.

8. The evidence is sufficient to conclude that tobacco cessation treatments are effective across a wide population of smokers, including those with significant mental and physical comorbidity.

Chapter 15: The Changing Landscape of Tobacco Control—Current Status and Future Directions

1. Together, experience since 1964 and results from models exploring future scenarios of tobacco control indicate that the decline in tobacco use over coming decades will not be sufficiently rapid to meet targets. The goal of ending the tragic burden of avoidable disease and premature death will not be met quickly enough without additional action.

2. Evidence-based tobacco control interventions that are effective continue to be underutilized and implemented at far below funding levels recommended by the Centers for Disease Control and Prevention. Implementing tobacco control policies and programs as recommended by *Ending the Tobacco Epidemic: A Tobacco Control Strategic Plan* by the U.S. Department of Health and Human Services and the *Ending the Tobacco Problem: A Blueprint for the Nation* by the Institute of Medicine on a sustained basis at high intensity would accelerate the decline of tobacco use in youth and adults, and also accelerate progress toward the goal of ending the tobacco epidemic.

3. New "end game" strategies have been proposed with the goal of eliminating tobacco smoking. Some of these strategies may prove useful for the United States, particularly reduction of the nicotine content of tobacco products and greater restrictions on sales (including bans on entire categories of tobacco products).

Accelerating the National Movement to Reduce Tobacco Use

These key conclusions of this report provide evidence that calls for dramatic action:

The current rate of progress in tobacco control is not fast enough. More needs to be done.

- High levels of smoking-attributable disease and death costs will persist for decades into this twenty-first century unless more rapid progress is made in tobacco control. The current burden is unacceptable.

- The almost 500,000 annual premature deaths due to smoking and exposure to tobacco smoke are far too many. Even 100,000 or 200,000 annual attribut¬able deaths are far too many; yet this is a realistic projection of the burden well into the middle of this twenty-first century if more rapid progress is not made in tobacco control.

- The burden of death and disease from tobacco use in the United States is overwhelmingly caused by cigarettes and other combusted tobacco products; rapid elimination of their use will dramatically reduce this burden.

- There are important lessons to be learned from other successes in public health. In confronting worldwide epidemics caused by smallpox and polio, the eradication of the diseases was the clear objective. From this single-minded focus, the best strategies and actions based on public health science and practice were applied, evaluated, refined, and sustained for decades. The results are now evident: smallpox was eradicated decades ago and polio is on the verge of elimination. The nation should firmly commit to this goal of creating a society free of tobacco-related death and disease by engaging all sectors of society to an equally single-minded focus.

In the last 50 years, the smoking rate in the United States has been cut by more than one-half (from 42.7% in 1965 to 18% in 2012). The Strategic Action Plan, *Ending the Tobacco Epidemic: A Tobacco Control Strategic Action Plan for the U.S. Department of Health and Human Services* (USDHHS 2010a), provides a critical framework to guide and coordinate efforts to reduce the smoking rate to less than 10% for both youth and adults in 10 years, averting millions of smoking-related deaths. This national commitment will require increased and sustained action to rapidly eliminate the use of cigarettes and other forms of combustible tobacco products. As end game strategies are being developed, the following actions should be implemented:

- Counteracting industry marketing by sustaining high impact national media campaigns like the CDC's Tips from Former Smokers campaign and FDA's youth prevention campaigns at a high frequency level and exposure for 12 months a year for a decade or more;

- Raising the average excise cigarette taxes to prevent youth from starting smoking and encouraging smokers to quit;

- Fulfilling the opportunity of the Affordable Care Act to provide access to barrier-free proven tobacco use cessation treatment including counseling and medication to all smokers, especially those with significant mental and physical comorbidities;

- Expanding smoking cessation for all smokers in primary and specialty care settings by having health care providers and systems examine how they can establish a strong standard of care for these effective treatments;

- Effective implementation of FDA's authority for tobacco product regulation in order to reduce tobacco product addictiveness and harmfulness;

- Expanding tobacco control and prevention research efforts to increase understanding of the ever changing tobacco control landscape;

- Fully funding comprehensive statewide tobacco control programs at CDC recommended levels; and

- Extending comprehensive smokefree indoor protections to 100% of the U.S. population.

- Former WHO Director General Gro Brundtland was correct in 1999 in stating the need to evaluate current action from the perspective of our grandchildren and their children (Asma et al. 2002). As future generations look back on our current actions and knowledge of the tobacco epidemic, will current efforts show the commitment to public health and social justice set forth in our national plans and objectives?

This nation's decades-long battle against the tobacco epidemic has successfully prevented millions of premature deaths that would otherwise have occurred—an historic achievement by any measure. On the fiftieth anniversary of the landmark 1964 Surgeon General's report, this nation must rededicate itself not only to carrying forward the successful tobacco control efforts that have long been under way, but also to expanding and accelerating those efforts in full recognition of the challenge that remains.

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Article

Quit and Smoking Reduction Rates in Vape Shop Consumers: A Prospective 12-Month Survey

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Abstract: *Aims*: Here, we present results from a prospective pilot study that was aimed at surveying changes in daily cigarette consumption in smokers making their first purchase at vape shops. Modifications in products purchase were also noted. *Design*: Participants were instructed how to charge, fill, activate and use their e-cigarettes (e-cigs). Participants were encouraged to use these products in the anticipation of reducing the number of cig/day smoked. *Settings*: Staff from LIAF contacted 10 vape shops in the province of the city of Catania (Italy) that acted as sponsors to the 2013 No Tobacco Day. *Participants*: 71 adult smokers (≥18 years old) making their first purchase at local participating vape shops were asked by professional retail staff to complete a form. *Measurements*: Their cigarette consumption was followed-up prospectively at 6 and 12 months. Details of products purchase (*i.e.*, e-cigs hardware, e-liquid nicotine strengths and flavours) were also noted. *Findings*: Retention rate was elevated, with 69% of participants attending their final follow-up visit. At 12 month, 40.8% subjects could be classified as quitters, 25.4% as

reducers and 33.8% as failures. Switching from standard refillables (initial choice) to more advanced devices (MODs) was observed in this study (from 8.5% at baseline to 18.4% at 12 month) as well as a trend in decreasing the e-liquid nicotine strength, with more participants adopting low nicotine strength (from 49.3% at baseline to 57.1% at 12 month). *Conclusions*: We have found that smokers purchasing e-cigarettes from vape shops with professional advice and support can achieve high success rates.

Keywords: smoking cessation; smoking reduction; electronic cigarette; vape shop; tobacco harm reduction

1. Introduction

Most smokers want to quit and make attempts to do so, but the majority of these attempts fail largely because the powerful addictive qualities of nicotine and non-nicotine sensory and behavioural cues [1,2]. For those willing to quit, combination of pharmacotherapy and intensive behavioural intervention for smoking cessation can support their quit attempts and can double or triple quit rates [3,4]. However, outside the context of rigorous randomized controlled trials, reported efficacy rates are somewhat lower [5–7]. Consequently, the need for novel and more efficient approaches to smoking cessation interventions is unquestionable.

Electronic cigarettes (e-cigs) are an attractive long-term alternative nicotine source to conventional cigarettes because of their many similarities with smoking [8,9] and randomized controlled trials with early generation products have shown that they may assist smokers to remain abstinent during their quit attempt [10,11]. E-cigs come in all sorts of shapes and sizes. Some, commonly referred to as first generation devices, resemble tobacco cigarettes (cigalikes) with a mouthpiece resembling a cigarette filter, a battery and a LED which glows when the user inhales on the device. These devices comprise low-capacity disposable or re-chargeable batteries and combined cartridges and atomisers (cartomisers). Second generation devices often resemble a pen (personal vaporizer) are equipped with high-capacity lithium batteries, a more efficient vaporizing system compared to cigalikes and can be refilled with a wide combination of flavours and nicotine levels. These devices assent to a more fulfilling vaping experience compared to first generation e-cigs with the choice of an extensive number of e-liquid aromas, and thicker vapour [12,13].

Third generation devices (more advanced devices-MODs) bear little visual resemblance to cigarettes, use larger-capacity batteries, replacement heating coils and wicks for atomizers, and adjustable and programmable power delivery.

These products can be purchased in tobacco retail environments, convenience stores, liquor stores, pharmacies, and on the Internet. Shops devoted exclusively to trial and sales of e-vapour products (e.g., refillable and disposable e-cigs, several types of solution strengths and flavours, customizable atomizers and tank systems, and other accessories) are known as "vape shops" and their popularity has been growing in parallel to that of e-cigs [14].

Two randomised controlled trials investigating success rates in smokers asked to try cigalikes have reported disappointingly low quit rates; 4%–8.7% for the ECLAT study in Italy [10] and 4%–7.3% for

the ASCEND study in New Zealand [11]. Not surprisingly, much higher success rates have been reported in clinical trials with refillable penlike e-cigs, with an overall quit rate of 36% at 6 months [15,16]. Nonetheless, it is likely that their performance and appeal as cigarette substitutes can be further improved outside the rigid context of an experimental setting by describing success rates with refillables purchased by smokers at vape shops where professional advice and regular technical support it is also available. Therefore, we hypothesized that vape shops environment together with best matched e-vapour products may promote high success rates in smokers interested in trying this alternative to tobacco smoking. Here, we present results from a prospective pilot study that was aimed at surveying changes in daily cigarette consumption in smokers making their first purchase at vape shops. Modifications in products purchase over time were also noted.

2. Methods

2.1. Participants and Study Design

Adult smokers (≥18 years old) making their first purchase at local participating vape shops were asked by professional retail staff to complete a form with their basic demographic and smoking history details together with scoring of their level of nicotine dependence by means of Fagerstrom Test of Nicotine Dependence (FTND) questionnaire [17]. Participants were instructed how to charge, fill, activate and use their e-cigs. Key troubleshooting was addressed and phone numbers were supplied for technical assistance. Participants were encouraged to use these products in the anticipation of reducing the number of cig/day smoked. Their cigarette consumption was followed-up prospectively at 6 and 12 months. Details of products purchase (*i.e.*, e-cig hardware, e-liquid nicotine strengths and flavours) were also noted. University of Catania Ethics Review Board approved the study protocol and subjects gave consent prior to participation.

2.2. Vape Shops

Staff from Lega Italiana Anti Fumo (LIAF) contacted 10 vape shops in the province of the city of Catania (Sicily) that acted as sponsors to the 2013 No Tobacco Day. Vape shop owners were asked to help with a survey of smokers making their first purchase at their vape shops. Three declined, but seven accepted to be involved. Participating shops were bar or lounge types and displayed a wide range of nicotine in juices, large selection of flavours and hardware (including cigalikes, refillables and MODs).

2.3. Study Outcome Measures

Sustained 50% reduction in the number of cig/day from baseline (*reducers*) was defined as sustained self-reported 50% reduction in the number of cig/day compared to baseline for the 30-day period prior to follow-up visit.

Sustained 80% reduction in the number of cig/day (*heavy reducers*) and sustained smoking abstinence from baseline (*quitters*) were defined as sustained self-reported 80% reduction in the number of cig/day compared to baseline and complete self-reported abstinence from tobacco smoking (not even a puff) for the 30-day period prior to follow-up visit respectively. Smokers who failed to

meet the above criteria and those who were lost to follow-up were categorized as reduction/cessation failures (*failures*).

2.4. Statistical Analyses

Primary and secondary outcome measures were computed by including all enrolled participants and assuming that all those individuals who were lost to follow-up are classified as failures (intention-to-treat analysis). Data were expressed as mean (±SD). One-way Analysis of Variance (ANOVA) was used for detecting differences between means, and χ^2 test for testing differences in variable frequency distributions. Repeated Measures ANOVA was used for detecting differences at different time points.

3. Results

3.1. Participant Characteristics

A total of 71 (M 44; F 27) regular smokers (mean [±SD] pack/years of 32.4 [±13.7]) with a mean (±SD) age of 41.7 (±8.8) years, and mean (±SD) FTND score of 5.6 (±2.2) were enrolled by seven participating vape shops (Table 1). Retention rate was high, with 49 (69%) participants completing all study visits and attending their final follow-up visit at 12 month. Baseline characteristics (sex, age, pack/year, and FTND) of those who were lost to follow-up were not significantly different from those of participants who completed the study.

Table 1. Characteristics of the study sample at enrollment.

	M	F	*p* Value
Sex *n* (%)	44 (62)	27 (38)	
Age (years, mean ± SD)	42.6 ± 8.6	40.4 ± 9.3	0.31
FTND (mean ± SD)	5.6 ± 2.3	5.1 ± 1.9	0.12
Packs/year (mean ± SD)	36.0 ± 14.3	26.5 ± 10.5	0.004
CPD (mean ± SD)	26.5 ± 7.9	22.3 ± 4.6	0.016

CPD: cigarettes per day; FTND: Fagerstrom Test for Nicotine Dependence.

3.2. Changes in Smoking Behaviour

Participants' smoking status at baseline and at 6 and 12 month follow-up visits is presented in Figure 1. Taking the whole cohort of participants (n = 71), the cig/day use changed (mean and range) from 24.9 (15–50) at baseline to 4.0 (0–30) at 6 month and 2.6 (0–15) at 12 month ($p < 0.0001$). At 12 month, 29/71 subjects (40.8%) could be classified as quitters, 18/71 (25.4%) as reducers, of which 11 (15.5%) reduced their cig/day consumption by at least 80% from baseline, and 24/71 (33.8%) were classified as failures, of which 22 (31%) were lost to follow-ups.

Overall, combined smoking reduction and smoking abstinence was shown in 47/71 (66.2%) participants, with a mean (range) of 24.7 cig/day (15–50) at baseline, decreasing significantly to 2.2 cig/day (0–10) at 12 month ($p < 0.0001$), which is equivalent to an overall 89.1% reduction from baseline.

None of the individual characteristics (age, gender, pack/years, FTND) recorded at baseline were a significant predictor the smoking status at the final follow-up visit.

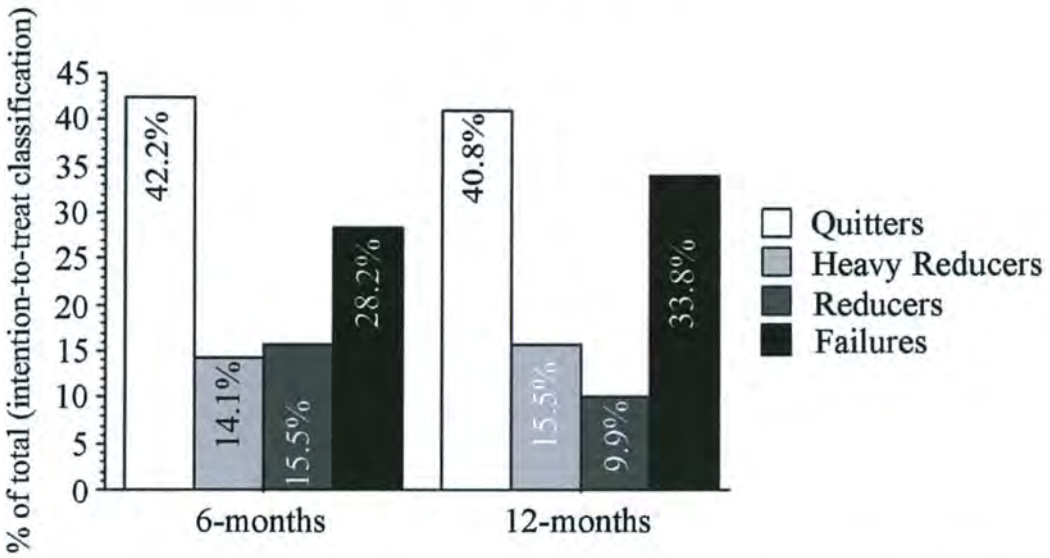

Figure 1. Distribution of smoking phenotype classification (intention-to-treat analysis) at 6 and 12 month follow-up visits.

3.3. Changes in Products Choice

Participants' products choice at baseline and at 6 and 12 month follow-up visits is illustrated in Figure 2.

An increasing percentage of participants switched from standard refillable e-cigs (initial choice) to more advanced devices (MODs) during the study (from 8.5% at baseline to 18.4% at 12 month). Participants also tended to decrease the nicotine strength of their e-liquid with time. More users used a low (4–9 mg/mL) nicotine strength at 12 months, and, less users used a medium (12–18 mg/mL) nicotine strength at 12 month, compared to baseline. Some change did occur too for the preferred flavour used by the participants over time, but most of the participants in our study consistently preferred tobacco flavours over other flavours.

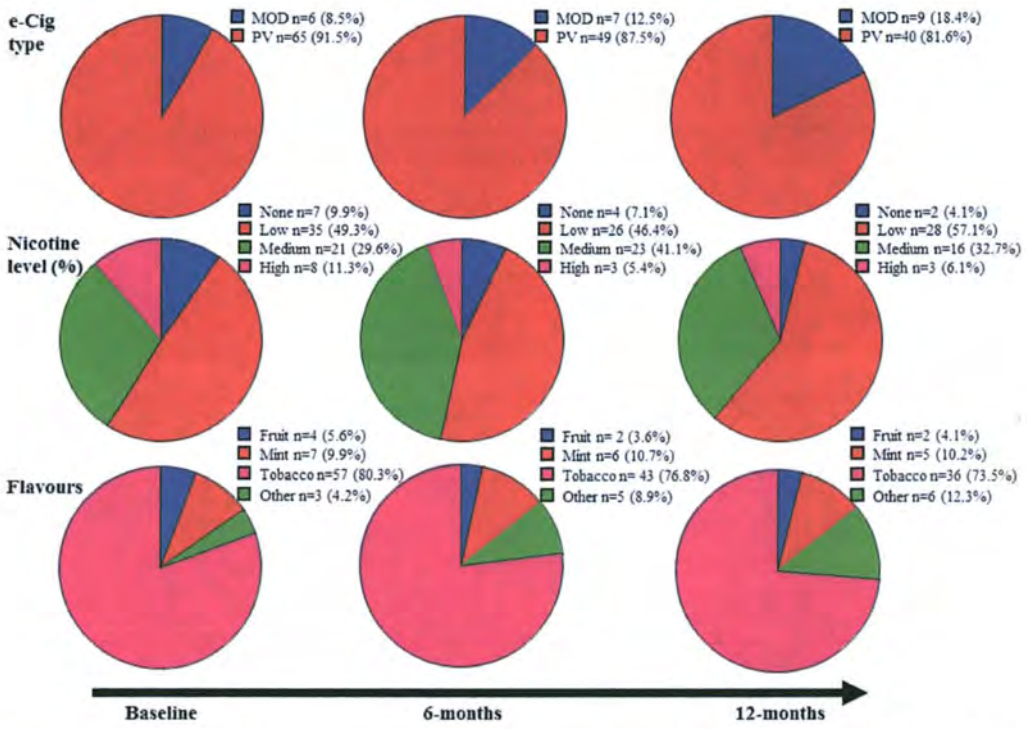

Figure 2. Details of e-Cigs type, e-liquid nicotine strengths (%) and flavours purchased at baseline and at 6 and 12 month follow-up visits. PV: personal vaporizers. MODs: more advanced devices. Low nicotine (4–9 mg/mL), medium nicotine (12–18 mg/mL), high nicotine (19–24 mg/mL).

4. Discussion

E-cigs' success rates have been reported in several clinical trials [10,11,15,16] and Internet surveys [18–20], but never in prospective studies under natural conditions. Here, we present results from the first prospective survey of changes in daily cigarette consumption in smokers making their first purchase at vape shops. The higher success rates observed in this study could reflect both a progress in the type of e-cigs used currently, and a better support and advice from the vape shop staff.

Success rates were not only high, but also stable thorough the whole observation period with quit rates of 42.2% in the intent-to-treat analysis at 6 month barely decreasing to 40.8% at 12 month. The reported quit rates are not only higher than those obtained with pharmaceutical products for the treatment of nicotine addiction [21,22], but also greater than those of first generation cigalikes [10,11]. In contrast, similar quit rates were observed in a recent prospective 6-month study with refillable e-cigs [15].

In addition to those quitting completely, 25.4% substantially reduced cigarette consumption. The prevalence of dual use (that is, use of both e-cigs and conventional cigarettes) in our survey is much lower than that reported for cigalikes [18–20]. Although dual use by leading to gradual reduction in cigarette consumption may aid future quit attempts [23,24], it is not known to what extent this behaviour may confer significant reduction in risk and reversal of harm in long-standing dual users.

The large number of consumers still using the product at 12 months (combined single and dual usage was 66.2%) and the high retention rate (69%) in this study may suggest that the products purchased were providing adequate satisfaction. This may be due to several factors including quality hardware, large selection of flavours and nicotine. Nicotine absorption using high quality e-vapour products has been shown to be consistently superior compared to cigalikes [25,26], which is compatible with a better suppression of the withdrawal symptoms. Last but not least, the high success rate in this study may be also attributable to participants self-selection (*i.e.*, smokers well motivated in trying e-cigs and making their first purchase at vape shops).

Nonetheless, about one third of smokers in this study failed to quit or to substantially reduce cigarette smoking with e-cigs. That reasons for failure were not collected in this study, but this could be due to the fact that probably not all smokers could find the adequate hardware-liquidware combination to allow a fulfilling vaping experience or that some unknown factor hindered their use under realistic conditions. It is not excluded also, that some of them may have persisted to use e-cigs, but went to buy their products in other vape shops than the one chosen for this study.

It is interesting that 69% of vape shop consumers went regularly back to their local vape shop for more personalized e-cig support and advice. This loyalty factor is perhaps a key informative finding and suggests that vape shop staff can promote healthier life-style changes in smokers.

As noted in other (internet) surveys, e-cig users tend to adapt their vaping experience over time [13,27]. This is reflected somewhat in the increased percentage of participants who switched from standard refillables (initial choice) to more advanced devices (MODs) in this study (from 8.5% at baseline to 18.4% at 12 month). Similarly, we observed a trend in decreasing the nicotine strength of their e-liquid, with more participants using low nicotine strength at 12 months compared to baseline, and inversely, with less participants using medium nicotine strength at 12 month compared to baseline. This could confirm that nicotine dependence decreases over time with e-cig use, as noted by other investigators [13,28], but cannot

be validated in our study as we did not measure nicotine dependence at 12 month. The change in vaping experience was also the case for the preferred flavour used by the participants over time, although less significant in our study than in others [12,13,20], with the participants in our study consistently preferring tobacco flavours over any other flavour. This may reflect differences in study populations, vape shop consumers representing a more natural condition compared to those responding to online questionnaires.

There are some limitations in our study:

Firstly, this is a small prospective study (already stated in the text), hence the results observed may be due to bias and not due to a true effect; and consequently be interpreted with caution. However, despite being a small study we were able to detect positive significant changes for success outcomes.

Secondly, patients in this study may represent a self-selected sample, which is not representative of all smokers who switch to e-cigs.

Lastly, smoking abstinence was self-reported. However, self-reported number of cigarettes smoked per day in studies of this type is not subjected to the kind of biases observed in clinical trials where there is the tendency to claim abstinence [29].

This small uncontrolled study shows that combination of high quality e-vapour products together with personalized e-cig support and advice at vape shops promotes high success rates in smokers interested in trying this alternative to tobacco smoking. Complete tobacco cessation is the best outcome for smokers, but the powerful addictive qualities of smoked nicotine and of the ritualistic behavior of smoking create a huge hurdle, even for those with a strong desire to quit. Tobacco harm reduction (THR), the substitution of low-risk nicotine products for cigarette smoking, is a realistic strategy for smokers who have difficulty in quitting. E-cigs are the newest and most promising products for THR [30]. This approach has been recently exploited to reduce or reverse the burden of harm in smokers with mental health disorders and chronic airway diseases [31,32]. It is ironic, but the extent of displacement from tobacco smoking to regular vaping will also depend on how efficient e-cigs will become in replicating smokers' smoking experience and how prevalent and helpful will be vape shops. As a matter of fact, substantial public health benefits (*i.e.*, increase in smoking cessation rates and a continued decline in smoking prevalence) are now reported in countries with high prevalence of vaping [33].

Improved products reliability and attractiveness might have contributed to the very low number of lost to follow-up and high success rates thus confirming the notion that these products are attractive substitutes for conventional cigarettes. Although larger longitudinal studies in vape shops are warranted to confirm these encouraging results, the notion that high quality e-vapour products together with personalized e-cig support and advice at vape shops can substantially decrease cigarette consumption, and allow a large number of smokers to quit should be taken into consideration by regulatory authorities seeking to adopt proportional measures for the vapour category [34].

5. Conclusions

Here we have shown for the first time that combining availability of appealing e-vapour products for smoking substitution with professional advice from vape shops staff it is possible to achieve high and stable success rates. By promoting healthier life-style changes in smokers, vape shops may

become valuable allies in the fight against smoking. Larger studies are now needed to confirm these preliminary findings and to establish the importance of integrating these antismoking services into future tobacco control strategies.

Acknowledgments

Authors wish to thank the local participating Vape Shops and LIAF, Lega Italiana Anti Fumo (Italian acronym for the Italian Anti-Smoking League) for supporting this research.

Author Contributions

Riccardo Polosa: Principal investigator involved in the study concept, protocol design, data interpretation and drafting the manuscript. Pasquale Caponnetto: Co-Principal investigators involved in the study concept, protocol design, coordination of the study, data interpretation and revised the manuscript. Fabio Cibella: Carried out the data analyses, was involved in their interpretation and revised the manuscript. Jacques Le-Houezec: Involved in data interpretation and drafted the manuscript. All authors have read and approved the final manuscript.

Conflicts of Interest

Riccardo Polosa has received lecture fees and research funding from Pfizer and GlaxoSmithKline, manufacturers of stop smoking medications. He has also served as a consultant for Pfizer and Arbi Group Srl, an Italian distributor of e-Cigarettes. Riccardo Polosa is currently scientific advisor for LIAF, Lega Italiana Anti Fumo (Italian acronym for Italian Anti-Smoking League). Jacques Le-Houezec is a consultant for Johnson & Johnson France, a manufacturer of nicotine replacement therapy, and was reimbursed for travel and accommodation to present at a conference in Shenzhen (China) organised by the e-cig manufacturer association (CECMOL). Pasquale Caponnetto and Fabio Cibella have no relevant conflict of interest to declare in relation to this work.

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Beverly K Wooley
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907-830-5503
wooleybk@gmail.com

March 31, 2015

The Honorable Bill Stoltze
State Affairs Committee Chair
Alaska State Senate
State Capitol Room 125
Juneau AK, 99801

Via email Senator.Bill.Stoltze@akleg.gov

Dear Senator Stoltze,

I am a registered voter in Anchorage and have worked in public health in Alaska for over 30 years. I am writing to ask for your support of SB1 to provide a statewide smoke-free workplace law for businesses and public places.

As a public health professional, I have seen firsthand the health damage and costs of second hand smoke. This law will protect employees, patrons and visitors from the well-documented diseases and premature death caused by secondhand smoke from not only tobacco but also marijuana and e-cigarettes. No one should have to choose between their health and a good job.

A statewide law is needed to ensure health equity for all Alaskans as it relates to protection from the known dangers of second hand smoke. Although tobacco-free businesses and public places laws are in place in many locations across Alaska, due to limitations in local authority a statewide law is required to protect those Alaskans living in areas not able to enact local laws. Currently only half of Alaska's population is covered by a smoke-free workplace law. People living in unincorporated areas of the state deserve the same protection from second hand smoke and its serious health effects.

Anchorage and other areas that have enacted local smoke-free workplace laws have demonstrated it is good for business. My husband and I would avoid establishments that allowed smoking prior to the ban of smoking in bars in Anchorage. We are now able to enjoy patronizing establishments we would never have previously.

Alaskans strongly support smoke-free workplaces, including a majority of current smokers (59%) as well as former smokers (80%). This support is high throughout all regions of Alaska, ranging from 75% to 84%.

Please do the right thing for all Alaskans – ensure their right to smoke-free businesses and public places throughout our great state. Please let me know your position on passage of SB1.

Sincerely,

Beverly K Wooley

Beverly K Wooley
2073 Dimond Drive
Anchorage, AK 99507-1311
907-830-5503

Chuck Kopp

Subject: FW: Support for SB 1-Regulation of Smoking

From: Cherry Schaffan [mailto:cnschaffan@alaska.edu]
Sent: Monday, March 30, 2015 10:16 PM
To: Sen. Peter Micciche
Subject: Support for SB 1-Regulation of Smoking

7812 Chiami Loop

Anchorage, Alaska 99504

March 30, 2015

Dear Senator Peter A. Micciche,

My name is Cherry N. Schaffan, I am a resident of Anchorage. As a concerned parent and citizen, I believe that second hand smoke has negative consequences on the health and well-being of children and adults alike. I am writing to express my strong support of SB 1-Regulation of Smoking. I would like you to continue supporting SB 1.

As citizens, we have a responsibility of keeping our children and families safe and healthy. We can take steps to protect our loved ones from secondhand smoke by eliminating smoking in homes, work sites, and public places. The Center for Disease Control and Prevention 2015 Fact Sheet estimated that there is approximately 2,500,000 nonsmokers who have died from health problems caused by secondhand smoke. In addition, children exposed to secondhand smoke are more vulnerable to health illness such as severe asthma, respiratory infections, and Sudden Infant Death Syndrome. In addition, adults who are exposed to secondhand smoke are more prone to developing heart disease, lung cancer, and stroke. Tobacco smoke contains hundreds of toxic chemicals and more than 70 of these chemicals are known to cause cancer.

In addition, a recent poll by the Alaska Tobacco Facts: 2014 Update reported that 9 in 10 Alaska adults agree that people should be protected from secondhand smoke. In fact, 8 in 10 smokers agree that people should be protected from secondhand smoke. This means that SB1-Regulation of Smoking makes sense to many Alaskans and that people are ready for this change to happen. Legislatures should take all the necessary steps in the regulation of smoking.

Please continue supporting SB 1-Regulation of Smoking. Through the passing of this bill we could promote health and safety of our community, and provide a smoke-free environment for all Alaskan generations. If you have questions, I can be reached at (907) 312-4937 or email cnschaffan@alaska.edu.

Thank you and have a good day!

Respectfully yours,

Cherry N. Schaffan

Daniel George

From: Helene M Antel <hma@mtaonline.net>
Sent: Monday, March 30, 2015 12:07 PM
To: Sen. Charlie Huggins; Sen. Bill Stoltze
Subject: SBI Smoke Free Workplaces
Attachments: Smoke free workplaces protect working Alaskans - Letters To Editor - Mat-Su Valley Frontiersman.html; ATT00001.htm

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Senators Stoltze & Huggins,

The attached letter to the editor best expresses my feelings about SB 1. I would appreciate any help you could give; the bill needs to be moved quickly out of Committee to the Senate floor. I am hoping you will consider my heartfelt sentiments. I am a constituent of yours, Senator Stoltze, as I live in Senate District F. I am not a direct constituent of yours, Senator Huggins, but as members of the Valley delegation, I believe both of you represent me. I also trust you will value and respect my opinion on its own merit.

SB 1 is not a partisan issue. Second hand smoke and the carcinogens it carriers, cannot tell the difference between Republicans and Democrats. Neither does SB 1 have anything to do with growing government. When we share common space, such as when we drive on highways, it is appropriate for government to impose speed limits. The government has a legitimate interest in regulating shared airspace so that it is safe for both passengers and innocent bystanders on the ground. We have noise abatement regulations to balance the interests of citizens who live in different homes but in common neighborhoods. We have regulation of the common space in airports to insure the safety of all citizens sharing that common space. As I state in my letter to the Frontiersman attached, I cannot get liver disease simply by standing next to someone who is drinking alcohol. I can, and my father did, get cancer simply by breathing air in a shared space that had been polluted by tobacco smoke.

When people with competing interests share common space, and where the exercise of the interests of one person can, without government regulation, subject innocent bystanders to a proven, unreasonable risk of disease or death, the competing interests must be reconciled in favor of the innocent bystander. It is for that reason that smokers must be asked by law, to refrain from polluting the air they share in common with nonsmokers. If for no other reason, your support of SB 1 is warranted as an appropriate response to the spiraling cost of health care, spiraling costs that can no longer bear further inaction on this subject.

I urge your support of SB 1.

Respectfully,

~Helene

Helene M Antel
Attorney at Law, P.C.
12050 E. Lady Slipper Lane
Palmer. Alaska 99645

hma@mtaonline.net
907.355.4838

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Smoke free workplaces protect working Alaskans

Posted: Monday, March 16, 2015 7:06 pm

To the editor:

If passed, SB 1, promoting smoke free workplaces, will protect working Alaskans and their families against the well established, well documented, costly and seriously adverse health effects of secondhand smoke. Close quarters tobacco smoke has a chokehold on a health care system that is already suffocating. Non-smokers are carrying a disproportionately large and unfair share of the health care burden created by smokers. The cost of protecting the unlimited right of smokers to expose themselves and unwilling others to the risk of disease and even death, has become too high.

There is of course, the legitimate question of smokers' rights. But the bill does not make smoking unlawful. Under SB 1, people will retain the right to smoke. However, they will not have the right to do so if, in exercising their rights, smokers expose others to an unreasonable risk of harm, or where the rights of a smoker, when exercised, eviscerate mine. The rights of smokers do not outweigh the rights of non-smokers to be protected against involuntary exposure to the health risks created by close quarters smoking.

Proponents of SB 1 already have made clear the enormous annual economic cost to Alaskans attributable to secondhand smoke. This should not be a partisan issue. Secondhand smoke kills adult non-smokers of all political persuasions. I do not want to be one of them. My sister was a lifelong chain smoker who lived with my parents for 25+ smoking years. My father, who never smoked a day in his life, died from esophageal cancer. We all grieved, my sister especially.

I support SB 1 not because I seek increased governmental regulation of private rights. To the contrary. But, I do expect my government to protect me against known, manageable risks to my health and safety. I empathize; I can see how smokers might feel stigmatized. I regret that. But, smoking in enclosed public places is not a private right that should be exempt from regulation. It does not only affect the individual exercising it. When I am in an enclosed space with someone who drinks alcohol, my chances of getting liver disease are not aggravated. There are personal choices people can make without exposing those merely in the same room with them to a potentially lethal disease. Smoking is not one. Choose, if you must, your own poison. But please, do not make it mine.

Helene M. Antel

Palmer

Daniel George

From: Patty Ginsburg <pattyginsburg@me.com>
Sent: Sunday, March 29, 2015 1:03 PM
To: Sen. Bill Stoltze
Subject: SB 1

Dear Sen. Stoltze – I'm a former smoker and a 10-year survivor of advanced lung cancer. I'm ashamed when I think back on all the air I polluted and the lungs I damaged (not just my own) through my smoking. Alaskans shouldn't have to choose between their health and their job. Individual rights don't trump other people's health. On the issue of e-cigs, those things are loaded with chemicals and carcinogens. The onus should be on the e-cig industry to prove their safety, not the other way around. I hope you will support SB 1.

Sincerely,

Patty Ginsburg
2600 Redwood St.
Anchorage, AK 99508

Enriching Our Native Way of Life

Bristol Bay
NATIVE CORPORATION

March 20, 2015

Senator Peter Micciche
Alaska State Capitol Building Room 514
Juneau, AK 99801

Dear Senator Micciche:

Bristol Bay Native Corporation (BBNC) supports SB 1 (currently in Committee as CS SSSB1), legislation that would limit the indoor, enclosed or public spaces where smokers could continue to smoke. BBNC currently restricts smoking inside its corporate offices and these rules serve our employees well – protecting non-smoking employees from having to endure second-hand smoke while still providing smoking employees with reasonable access to places they can use tobacco products. BBNC believes SB 1 is similarly in the best interests of all Alaskans.

BBNC appreciates your concerns about limiting state government's intrusions against individual personal liberties. We also agree with the assessment contained in your sponsor statement for SB 1, that this proposed legislation does not overstep that line. The legislation would only apply to indoor or enclosed areas of public buildings and to limited, specified types of private spaces or public outdoor spaces. It does not discriminate against smokers in hiring or employment decisions and allows local governments to adopt more restrictive ordinances should they so choose.

Most importantly, SB 1 is good legislation because it addresses a significant public health problem. According to information contained in "Alaska Tobacco Facts" (April 2012), a publication produced by the Alaska Department of Health and Social Services, exposure to second-hand smoke poses significant health concerns in that it can increase an individual's risk of developing heart disease by 25%-30% and lung cancer by 20%-30%. These are unacceptable health risks that also impose significant and avoidable economic burdens on Alaskans and Alaska businesses. By some estimates, exposure to second-hand smoke costs Alaskans millions of dollars in direct health care costs and lost income and costs Alaskan businesses significant amounts of lost employee time.

Now is the time for the Alaska state government to act on this issue because data contained in the same "Alaska Tobacco Facts" publication shows that Alaskans, smokers and non-smokers alike, overwhelmingly favor smoking bans in or at their workplaces, restaurants, and schools and school events (65%-90% favor).

Simply stated, second-hand smoke is a health and economic issue that Alaskans want addressed. BBNC supports SB1 because it addresses that need in a responsible manner.

Regards,

Jason Metrokin
President & CEO

cc: Commissioner Valarie Davidson, HSS

111 West 16th Avenue, Suite 400 Anchorage, AK 99501 T 907.278.3602 F 907.276.3924

Chuck Kopp

From: American Lung Association <takeaction@lungmtpacific.org> on behalf of Debra Miller <info@lungmtpacific.org>
Sent: Thursday, March 19, 2015 2:03 PM
To: Sen. Peter Micciche
Subject: I Support "Take it Outside"

Mar 19, 2015

Senator Peter Micciche
State Capitol, Room 514
120 Fourth Street
Juneau, AK 99801-1182

Dear Senator Micciche,

I'm one of the four out of five Alaskans who support a statewide smoke-free indoor workplace law. Please move Senate Bill 1, the "take it outside" bill, through the Senate State Affairs Committee.

Please take this opportunity to protect the health and safety of all Alaskan workers, patrons and visitors from the known disease and premature death caused by secondhand smoke.

Especially with marijuana legalized in Alaska, it's critical that e-cigarettes are included in the law. E-cigarette emissions are not harmless water vapor.

A growing number of studies have examined the contents of e-cigarette aerosol. Unlike a vapor, an aerosol contains fine particles of liquid, solid, or both.

Propylene glycol, nicotine, flavorings, heavy metals, volatile organic compounds and tobacco-specific nitrosamines, among other potentially harmful chemicals are found in e-cigarette aerosol. However, in states where marijuana is legalized, e-cig use of hash oil is also common. We need to protect Alaskans from secondhand exposure to these psychoactive drugs!

Please vote yes to move SB1 out of committee to protect all Alaskans from all kinds of secondhand smoke.

Sincerely,

Ms. Debra Miller
406 S Forest Dr
Apt 5
Kenai, AK 99611-7948
(907) 395-7733

Daniel George

From: advocacy@mylegislators.com on behalf of Gordon Glaser <Mensch@acsalaska.net>
Sent: Monday, March 16, 2015 11:25 AM
To: Sen. Bill Stoltze
Subject: Vote Aye for Senate Bill 1

Dear Senator Bill Stoltze:

As an American Heart Association|American Stroke Association advocate, I urge you to vote "Aye" on Senate Bill 1.

The U.S. Surgeon General has declared that there is no safe level of exposure to secondhand smoke. It is a serious health hazard, causing heart disease and cancer. The 2006 surgeon general's report further states "the evidence is sufficient to infer a causal relationship between exposure to secondhand smoke and increased risks of coronary heart disease among both men and women."

Currently, more than half of Alaskans live in communities with smoke-free workplace laws in place, but the remaining population lives in areas that are unable to enact smoke-free workplace laws due to limited power in the local government.

Additionally, Alaskans strongly support smoke-free indoor workplaces:
" 4 in 5 Alaska adults support smoke-free workplaces.
" Support for smoke-free indoor workplaces includes a strong majority of current smokers (59%) as well as former smokers (80%).
" Alaskan support for smoke-free indoor workplaces is high throughout all regions of the state, ranging from 75% to 84%.

I support SB 1 to make Alaska a healthier pace to live. Please vote "Aye" on this important bill.

Sincerely,
Gordon Glaser
1029 Potlatch Cir
Anchorage, AK 99503-1778

Daniel George *NOTE: Letters to Editor included in Packet as Sponsor-Provided Document*

From: Marge Stoneking <mstoneking@aklung.org>
Sent: Wednesday, March 25, 2015 4:14 PM
To: Rep. Jim Colver; Rep. Lynn Gattis; Rep. Shelley Hughes; Rep. Wes Keller; Rep. Mark Neuman; Rep. Cathy Tilton; Sen. Mike Dunleavy; Sen. Charlie Huggins; Sen. Bill Stoltze
Subject: MatSu Letters on SB1
Attachments: matsu letters_001.pdf

Dear MatSu Delegation;

Thank you for your service to Alaskans. Attached are letters to the editor from Valley Alaskans regarding Senate Bill 1, the Take it Outside Act. Add these voices to the more than 870 business resolutions and thousands of individual Alaskans who signed supporter cards.

Yes, smokefree indoor workplaces is a public health priority for American Lung Association, American Cancer Society, American Heart Association, Alaska Native Health Board, and AARP. It's a priority for us because we each speak for thousands of Alaskans who believe that everyone deserves the right to breathe smokefree air.

Marge Stoneking | Executive Director
American Lung Association in Alaska
mstoneking@aklung.org

Phone: 907.644.6404
Fax: 907.565.5587

500 W Intl Airport Rd #A

Anchorage, AK 99518

www.aklung.org

Chuck Kopp

Subject: FW: SB1 from Soldotna Resident

From: Jamie Chilton [mailto:dolchok@gmail.com]
Sent: Friday, March 27, 2015 12:29 AM
To: Sen. Peter Micciche
Subject: SB1 from Soldotna Resident

Senator,
My name is Jamie Chilton, my wife Stephanie and our three children are Soldotna residents and have been for many years. We currently run our own business in the city of Kenai, by the name of High Voltage Vapes. This is a small town e-ciggarette, e liquid, and equipment/device shop. We are a family run business, and do not condone any kind of controlled substances through our shop, we work hard to distance our self from the "head shop" idea that most think about when they see Vape shop.
In responce to SB 1 that was introduced I had some concerns about how the bill was written.
I understand the need to control smoking in public places, and support that by all means. But this bill will pretty much close our shop, lose our business, and the borough will lose the sales tax collection. We support our family off this business, and not only our needs but the needs of our community members that have made the choice to move to e-cigarettes for the health benefits as opposed to smoking.
HB 40 designates e-cigs as "smoking" by defenition from what I have read.
I would like to see a option for compliance to allow a retail e-cigarette shop to operate if they share a wall with another business.
Possibilities:
-Exempt e-cigarette retail shops all together.
- Installing proper air cleaning system (purification).
-Permission from building owner and written permission from attached businesses.
Last year a bill almost identical to SB1 was introduced that landed in the lap of the Senate Finance Committee, and no other information about the bill has been avaliable. I was surprised to see both HB 40 and SB1 come out around the same time frame to designate "vaping" to be the same as smoking. But I see how that would be needed to support SB1.
Please consider my comments, and please visit
http://www.scsaa.org for more information about the benefits that e-cigarettes offer over smoking.
I chose to make the switch over six months ago, I feel better, breather easier, and know that I am only injesting 4 ingredence into my body and not 36,000 that are in tobacco products. I get great pleasure when people come into the shop daily and are looking to move away from smoking, I believe that I am helping save lives by doing what I do.
Vaping is not evil, it is a safer alternative to smoking amist the negitive reporting against it, funded by big tobacco.
Please visit the shop sometime, I would be happy to speak with you and show you around what we do and how we help people.
Thank you for your time,
Sincerely

Jamie and Stephanie Chilton
High Voltage Vapes
11887 Kenai Spur Hwy STE B
Kenai, AK 99611
(907)283-3244

Daniel George

From: Carmen Lunde <carmenj@gci.net>
Sent: Thursday, June 26, 2003 10:40 AM
To: Sen. Bill Stoltze
Subject: SB1

Dear Senator Stoltze,

I listened with interest to your comments on the SB1 hearing in February and again to your comments at the hearing in March concerning the none-smoking issue.

In 1993 the EPA issued a report on the harmful effects of secondhand smoke. They had five years to spread their lies before the report appeared before Federal District Judge William Osteen of Greensboro, North Carolina. Judge Osteen threw the entire report out of his courtroom.

The bottom line:

It may be politically correct to attack secondhand smoke, but it is not scientifically correct nor, in the Court's opinion, legally correct.

EPA deliberately misled the American public about the science concerning secondhand smoke.

EPA was guilty of major scientific and procedural errors in preparing its Risk Assessment.

EPA cherry picked information, changed the standards of scientific inquiry and tortured the data to reach a predetermined conclusion.

EPA abused its power and authority in an effort to force regulation on secondhand smoke when the scientific basis for the EPA's claims simply did not exist.

The EPA actions, reminds me of something Oliver North said: "I was provided with additional input that was radically different from the truth. I assissted in furthering that version."

This to me, is exactly what the spin doctors did by taking the bits and pieces that fit their agenda from this seriously flawed report and, have continued to spin their erroneous findings out of control.

I am also opposed to SB1 because I believe business owners have the right to make their own choices without government mandating laws that force them to go against their wishes.

I oppose SB1 becase I know personally of veterans who go to the American Legion on a daily basis to visit with friends and enjoy a cigarette with their drink. I for one do not have the nerve to tell them they have to stand outside in the freezing Alaskan weather, after all they have done for us, to smoke a cigarette.

Thank you for your time and consideration,
Carmen J. Lunde
Kodiak, Alaska

Daniel George

From: Olgacreek <olgacreek@gci.net>
Sent: Friday, March 13, 2015 2:39 PM
To: Sen. Bill Stoltze
Subject: SB 1 Wade Ball Kodiak

Senators

My name is Wade Ball and I oppose SB 1.

I am the owner of a small business in Kodiak that has been in our family operating for 4 generations (1966). We are in the hospitality industry and operate "The Village Bar".

We are located in a community that is mostly supported by other small business people, i.e. fishermen. Quite a few of our clientele are fishermen that smoke.

At our establishment I have both smoking and non-smoking events (sporting, music, party ...).

Over the last few years I have felt local non-smoking pressure to become a smoke free venue. That being said I decided to go to a non-smoking bar as of Jan. 1 2015. Immediately we encountered a dramatic decline in revenue as we lost our blue collar fishermen without any increase of the local non-smoking voices. After 60 days of lost revenue and consultation with my staff we returned our establishment to its original status of a smoking bar. We were lucky to see our business return but still are trying to recover from the 60 day loss.

This attempt that I made to become a smoke free establishment due to local pressure clearly proves that the out spoken voices of a few did not reflect the thoughts of those involved. The people now have a choice weather they choose to go to a smoking or non-smoking establishment now.

SB 1 is too broad containing "public places".

I recommend "government/municipal places"

Daniel George

From: George Gatter <ohfishguy@yahoo.com>
Sent: Wednesday, March 11, 2015 6:07 PM
To: Sen. Bill Stoltze; Sen. Bill Wielechowski; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire
Subject: Sb 1

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Bill in Committee

Hello

My name is George Gatter jr my wife and I own 2 bars in Kodiak one smoking and the other non smoking .
This is Pete Micciche second attempt to pass a non smoking bill. He says he is trying to protect employees in bars and minors.
First there are no Minors in bars and no one is forcing people to work at any bar. Bars are private property but open to the public an Individual doesn't have to enter a smoking bar and if they do they are consenting adults.

For Senator Pete Micciche This is a Personal Mission.He stated publicly he lost a family member that Smoked and I'm truly sorry for his loss My only plea to you when considering this bill. Dose this bill protect the helpless or is an attempt to condemn people that smoke and business that cater to smokers.
I first hand went nonsmoking to try it out January 1st thru march 1st 2015.
We went back to smoking because sales were down 50 plus percent

Please consider leaving this just the way they are
In Kodiak we have 5 businesses that smoke and 16 that are nonsmoking I believe this is a fair margin.

If this bill banned Tobacco in Alaska we would have a Uprising
Instead its slowly and methodically eliminating this places to use tobacco.

Daniel George

From: Barbara Jones <jonesy_jonez@yahoo.com>
Sent: Tuesday, March 31, 2015 9:00 AM
To: Sen. Bill Stoltze
Subject: Please Oppose SB 1 and HB 40 and any other effort to treat e-cigarettes like smoking.

Barbara Jones
2902 Harlow Ct
JBER, AK 99506

March 31, 2015

Dear Bill Stoltze,

I am writing to express my deep concern and opposition regarding HB 40 and SB 1 which would include the use of smoke-free vapor products (e-cigarettes) in Alaska's smoking law.

Smoking laws are ostensibly enacted to protect the public from the harm of secondhand smoke, but smoke-free 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 (and published in a peer-reviewed journal earlier this year - http://www.biomedcentral.com/1471-2458/14/18/abstract) examined over 9,000 observations of e-cigarette liquid and vapor and found "no apparent concern" for bystanders exposed to e-cigarette vapor, even under "worst case" assumptions about exposure.

Lawmakers must beware of unintended consequences from well-intentioned laws. There is clear evidence of a phenomenon called "accidental quitting," wherein many of the smokers who initially choose e-cigarettes to use just where smoking is prohibited go on to quit smoking conventional cigarettes completely. Prohibiting the use of e-cigarettes in public spaces completely eliminates that incentive to even try e-cigarettes. Unfortunately, the health risks of every one smoker who doesn't quit because e-cigarette use is prohibited (and the risks to the children and others who live with them) cummulatively outweigh any good done by eliminating the miniscule exposures to even hundreds of bystanders in public spaces.

Clearly, the benefits of allowing smokers to use e-cigarettes in public--and thereby increasing the likelihood of "accidental quitting" and reducing the known, extremely high health risks of smoking--outweigh the very low risks of insignificant exposures to bystanders. So, not only is there no genuine public health reason to prohibit e-cigarette use in public spaces, but, in fact, allowing e-cigarettes to be used in public spaces will actually improve public health by inspiring other smokers to switch and reduce their health risks by an estimated 99%. Moreover, private businesses in Alaska are already setting their own policies, and they should retain the right to allow or disallow usage since there is no proven health threat to bystanders.

While I understand some have expressed a fear about these products acting as a "gateway" to traditional cigarettes for youth, there is no evidence to suggest this is really happening, and research actually shows it is unlikely to happen to any substantial extent. Teen smoking rates are at their lowest point since smoking became popular and continue to drop, but there are adults who will continue to smoke until they die unless we provide attractive alternatives.

I urge you to oppose these bills and any legislation that would limit where smoke-free products like e-cigarettes can be used. It is imperative that existing adult smokers become aware of all the alternatives currently available and that access to these products remains unimpeded.

I look forward to your response on this issue. I, along with my fellow members of CASAA (Consumer Advocates for Smoke-free Alternatives Association), thank you for considering my comments and hope you will oppose misguided attempts to limit adult use of smoke-free e-cigarettes.

Sincerely,
Barbara Jones

MAT-SU HEALTH FOUNDATION
950 East Bogard Road, Suite 218 • Wasilla, AK 99654
Phone: (907) 352-2863 • Fax (907) 352-2865
www.matsuhealthfoundation.org

April 6, 2015

The Honorable Senator Stoltze
Alaska State Capitol
Juneau, Alaska 99801-1182

RE: Support for the SB1

Dear Senator Stoltze and Members of Senate State Affairs:

While we are making great headway, AK still has some of the highest tobacco use rates in the nation—which costs Alaska $579 million annually in direct medical costs and lost productivity due to tobacco-related death. Strengthening Alaska's Smokefree public and workspace statutes will help reduce these costs ***and will also reduce Medicaid costs***, an objective that many Alaskans share.

A recent analysis looked at the results of 11 studies encompassing more than 2.5 million births and nearly 250,000 asthma attacks and found that the number of premature births and children's hospital visits for asthma dropped 10% in parts of the United States, Canada and Europe barely a year after they enacted smoking bans. Why? Because strong smoke free laws change social norms about smoking and actually lead to more people implementing smoke-free policies in their own homes—and that's one of the reasons why smoke free policies have such a direct impact on children's health. Medicaid is the payor source for the majority of babies born in Mat-Su at Mat-Su Regional and across much of AK. You can look at the cost of Medicaid asthma admissions and premature births see what a 10% drop in these admissions would save AK ***the very next year after the ban***.

An earlier analysis of the impact of smoking bans on adult health demonstrated a 15% reduction in cardiovascular events presenting to local hospitals. Every community that has instituted these smoking bans has seen this decrease in heart attacks across the entire population. On behalf of the health of all of our citizens, Alaska needs a more robust clean indoor air statute, and one that includes e-cigarettes (documented by both AK DHSS and the CDC for their harmful emissions). It's the number one strategy of the Alaska Tobacco Prevention & Control Program.

Because the Mat-Su Borough is a second class borough and doesn't have health powers to enact such legislation, employees, clientele and the public have much more limited protection from secondhand smoke in workplaces (outside the city limits of Palmer, which has instituted such an ordinance). Only about half of Alaskans are currently protected by smoke-free workplace laws. SB1 is the next step in further reducing smoking rates and secondhand smoke exposure in Alaska. It's the next step in reducing hospital admissions for pre-mature births and asthma in children and cardiovascular events in adults. It's the next step in raising the health status of all Alaskans. The Mat-Su Health Foundation Board unanimously supports this bill and respectfully asks you to expedite its passage.

Sincerely,

Elizabeth Ripley

Executive Director
Mat-Su Health Foundation

MAT-SU HEALTH FOUNDATION
950 East Bogard Road, Suite 218 • Wasilla, AK 99654
Phone: (907) 352-2863 • Fax (907) 352-2865
www.matsuhealthfoundation.org

Resolution in Support of Eliminating Secondhand Smoke in Workplaces and Public Places

Whereas, the 2006 Surgeon General's Report Found overwhelming evidence that secondhand smoke exposure is a risk to anyone[i] and that the Surgeon General of the United States stated that "The scientific evidence is now indisputable: secondhand smoke is not a mere annoyance. It is a serious health hazard"[ii]; and

Whereas, secondhand smoke is a leading cause of preventable death in the United States, causing deaths of more than 50,000 Americans per year[iii] and an estimated 120 Alaska adults[iv]; and

Whereas, the Environmental Protection Agency classified secondhand tobacco smoke as a known human lung carcinogen, and therefore concludes that secondhand smoke is a health risk to nonsmokers[v]; and

Whereas, the World Health Organization states that secondhand smoke is a human carcinogen for which there is no "safe" level of exposure[vi]; and

Whereas, secondhand smoke has been proven to cause cancer, heart disease, and asthma in both smokers and non-smokers[vii]; and

Whereas, the Center for Disease Control and Prevention (CDC) warn that all patients with or at increased risk of coronary heart disease should avoid all indoor environments that permit smoking[viii]; and

Whereas, studies show that infants and children are especially vulnerable to secondhand smoke, suffering more respiratory problems, ear infections, asthma, and sudden infant death syndrome, as a result of exposure [6], and pregnant women exposed to secondhand smoke are at increased risk to have low birth-weight babies[ix]; and

Whereas, no ventilation system can remove all the harmful elements in secondhand smoke from the air, according to the American Society of Heating, Refrigeration and Air Condition Engineers (ASHRAE)[x]; and

Whereas, electronic cigarettes do not just emit "harmless water vapor;" secondhand e-cigarette aerosol (incorrectly called vapor by the industry) contains nicotine, ultrafine particles and low levels of toxins that are known to cause cancer;[xi] the FDS's investigation into the content of e-cigarettes found the aerosol potentially hazardous to the public's health due to tobacco-specific nitrosamines and other volatile organic compounds;[xii] studies have shown the presence of heavy metals and carcinogens in e-cigarette aerosol;[xiiixivxv]

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Whereas, because they look like traditional cigarettes and emit the aerosol, e-cigarettes have the potential to negatively impact social norms and make smokefree workplace policies harder to enforce. In some states and communities, the public is being protected from potential health harms through ordinances and regulations prohibiting e-cigarette use in indoor environments;

Whereas, numerous studies have shown that smoke-free policies have either a neutral or positive impact on businesses[xvi]; and

Whereas, the majority of Alaskans and other Americans do not smoke[xvii]; and

Whereas, worksites and public places are locations where children, members of the community and employees are exposed to secondhand smoke; and

Whereas, smoke-free air policies have been shown to protect the public from exposure to secondhand smoke, and help smokers reduce the number of cigarettes consumed or quit entirely[xviii]; and

Whereas, one of the goals of Healthy Alaskans 2020 is to "increase the proportion of Alaskans who are tobacco-free"[xix]; and all Alaskans have the right to breathe smokefree air;

Therefore Be It Resolved that Mat-Su Health Foundation supports state and local legislation in Alaska prohibiting smoking in certain locations, and providing for an effective date;

ATTEST:
Approved by the Mat-Su Health Foundations Board of Directors March 17, 2014

Linda Conover

Linda Conover, Chair

[i] U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General-Executive Summary.* U.S. Department of Health and Human Services, Center for

Disease Control and Prevention, Coordinating Center for Health Promotion, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006

[ii] U.S. Department of Health and Human Services Office of the Surgeon General news release "The Health Effects of Secondhand Smoke." Downloaded February 23,2011 from http://www.surgeongeneral.gov/news/speeches/06272006a.html

[iii] Americans for Nonsmokers' Rights (August 25, 2010). *Secondhand Smoke*. Downloaded November 11, 2010 from http://www.no-smoke.org/getthefacts.php?id=13.

[iv] Campaign for Tobacco-Free Kids "The Toll of Tobacco in Alaska" Fact Sheet, downloaded February 23, 2011 at: http://www.tobaccofreekids.org/facts_issues/toll_us/alaska

[v] U.S. Environmental Protection Agency. Respiratory Health Effects of Passive Smoking: Lung Cancer and Other Disorders. Washington, DC: U.S. Environmental Protection Agency; 1992. Pub. No. EPA/600/6-90/006F

[vi] World Health Organization./International Consultation on Environmental Tobacco Smoke (ETS) and Child Health./January11-14, 1999(WHO/NCD/TFI/99.10)

[vii] National Cancer Institute. Health Effects of Exposure to Environmental Tobacco Smoke. Smoking and Tobacco Control Monograph No. 10. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute; 1999.

[viii] Pechacek, TF and Babb, S, How acute and reversible are the cardiovascular risks of secondhand smoke" BJM. 2004 Apr 24;328(7446):980-3

[ix] U.S. Department of Health and Human Services. Women and Smoking: a report of the Surgeon General. Washington, DC: US Government Printing Office, 2001.

[x] Samet, J.; Bohanon, Jr., H.R.;Coultas, D.B.; Houston, T.P.; Persily, A.K.; Schoen, L.J.; Spengler, J.; Callaway, C.A., "ASHRAE position document on environmental tobacco smoke," American Society of Heating, Refrigeration and Air Conditioning Engineers, (ASHRAE), 2005.

[xi] Grana, R; Benowitz, N; Glantz, S. "Background Paper on E-cigarettes," Center for Tobacco Control Research and Education, University of Californiam, San Francisco and WHO Collaborating Center on Tobacco Control. December 2013.

[xii] Fairchild, Amy L PhD, MPH, Bayer, Ronald PhD, Colgrove, James PhD, MPH, New England Journal of Medicine January 23, 2014; 370: 293-295. Accessed from: http://www.nejm.org/doi/full/10.1056/NEJMp1313940?query-TOC&

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Beverly K Wooley 907-830-5503
2073 Dimond Drive, Anchorage, AK 99507-1311 wooleybk@gmail.com

April 7, 2015

Senate Affairs Committee
Alaska State Legislature
Juneau, Alaska

Via email chuck.kopp@akleg.gov

TESTIMONY OF Beverly K Wooley

IN SUPPORT OF SB1, "An Act prohibiting smoking in certain places; relating to education on the smoking prohibition; and providing for an effective date."

BEFORE THE SENATE STATE AFFAIRS COMMITTEE, THURSDAY, APRIL 9

My name is Beverly Wooley. I am a registered voter in Anchorage and have worked in public health in Alaska for over 30 years. I served as the State of Alaska Director of Public Health from 2007 – 2009 and as the Municipality of Anchorage Director of the Department of Health and Human Services from 2003 – 2007. I am writing to ask for your support of SB1 to provide a statewide smoke-free workplace law for businesses and public places. This law is needed to protect employees, patrons and visitors from the well-documented diseases and premature death caused by secondhand smoke from tobacco.

As a public health professional, I have seen firsthand the health damage and costs (personal and financial) of second hand smoke. I also have a personal story. As a young person living in Anchorage, I worked in a variety of restaurants and bars where I was constantly subjected to second hand smoke. Recent research have led some scientists to believe that exposure to second hand smoke in work situations similar to those I experienced can indeed raise a woman's risk of developing breast cancer before the age of 50. In 2014, *A Report of the Surgeon General, The Health Consequences of Smoking—50 Years of Progress*, stated "There is emerging evidence to suggest that the risk of breast cancer from passive smoke exposure may be greater in premenopausal than postmenopausal women". As a healthy, premenopausal women in my late 40's I was devastated when I was diagnosed with breast cancer. The exact demographic the research suggest is most likely to be at increased risk of breast cancer due to second hand smoke. A law banning smoking in workplaces might have lowered my risk of cancer. It's time to protect other workers. No one should have to choose between their health and a good job.

This statewide law is needed to ensure health equity for approximately half of Alaska's population not currently protected from the known dangers of second hand smoke. Due to limitations in local authority, many Alaskans live in areas that are not able to enact local laws prohibiting smoking in certain places. A statewide law is required to protect these Alaskans and visitors to these areas.

I urge the committee to support SB1 to ensure Alaskans in all area of our state are protected from second hand smoke in businesses and public places. Thank you for your time and consideration.

Sincerely,

Beverly K Wooley

Beverly K Wooley
2073 Dimond Drive
Anchorage, AK 99507-1311
wooleybk@gmail.com

Daniel George

From: Alessandra Jenkins <ale.jenkins@alaskaaces.com>
Sent: Wednesday, April 08, 2015 1:10 PM
To: Chuck Kopp; Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: Senate Bill 1- Support Letter

My name is Alessandra Jenkins and I am asking for your support on Senate Bill 1. Every Alaskan has the right to breathe smoke free air when they are in a public restaurant, bar or at work.

Why I advocate for the American Cancer Society. 13 years ago my mother was diagnosed with a blood cancer. At the time of diagnoses she was given 10 years to live, because no cure had been found. 8 years after she was diagnosed with her first cancer we found out she had developed Non-Hodgkins lymphoma. When someone has one type of cancer they can easily develop another cancer. 13 years later my mother has gone into remission due to a cancer trial. You ask why this relates to Senate Bill 1?

If I can stop my mother or anyone else from developing cancer due to second hand smoke then I will.

Senate Bill 1 is not about the smoker it's about the smoke. All I am asking is the smoker to take it outside and allow the public to breathe smoke free air. I ask you to support and pass Senate Bill 1 for the good of Alaska.

Alessandra Jenkins

16642 Rivers Edge Lane

Eagle River, AK 99577

Daniel George

From: Amy Gorn <amygorn@gmail.com>
Sent: Tuesday, April 07, 2015 9:24 PM
[redacted]
Chuck Kopp
Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: Support for Senate Bill 1

Dear Members of the Senate State Affairs Committee,

My name is Amy Gorn and I am a Wasilla resident, where there is no comprehensive protection of indoor workplaces from smoke. I grew up as a secondhand smoker, meaning in a home with parents who smoked. As a result, my brother and myself had, and continue to have, respiratory impacts from that longtime exposure. I support Senate Bill 1 for users to simply take their smoke outside.

Protecting all Alaskans for the harmful effects of secondhand smoke, especially workers who shouldn't have to choose between work and their health, just makes sense this day in age with what we know about the 7,000 chemicals documented in secondhand smoke. It's about time for our state and it can be cost-savings too in terms of medical needs.

I am also a supporter of requiring e-cigarette users to take their aerosol outside. Over the last couple of years I have seen the rise in use of electronic cigarettes or "vape pens" and like products, and I have been exposed to the aerosol ("vapor") emitted from these devices. I can say without exaggeration or doubt that what I breathed in from e-cigarettes affected my health in a disturbing way I had never experienced in 18+ years of living around traditional cigarette smoke. This "vapor" disturbed me greatly and I would feel better as soon as I cleared or move away from it.

[redacted]wed to never be around secondhand aerosol from e-cigarettes again, nor have my 3-year daughter exposed. I can't conceive of watching a movie at the theater or attending a hockey game and being around someone smoking these "vapor" products. The FDA has not included e-cigarettes as an approved cessation device like it has for nicotine inhalers; I don't feel the cessation position or argument holds water until the FDA gives final word.

Overall, I am in full support of SB1 to take the smoke out of indoor workplaces, and I urge you to pass along SB1 to protect mine and my family's health.

Thank you and sincerely,

Amy J Gorn
2609 W Discovery Loop
Wasilla, AK 99654

[redacted]

Daniel George

From: Ashley Peltier <apeltier09@gmail.com>
Sent: Tuesday, April 07, 2015 8:53 AM
T Chuck Kopp
ct: In Support of SB1

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Bill in Committee

Hello,

I am writing to ask the Senate State Affairs committee to support SB1. This bill would protect all workers across Alaska from the harmful effects of secondhand smoke. I am fortunate to work in a smoke-free environment and would never want to have to choose between my health and a paycheck, as many people are forced to do. Please also include e-cigarettes in this bill. Business owners should not be forced to explain to a smoker why they can't smoke but someone else can use an electronic cigarette. These devices can also be used to inhale THC and hash-oil, so business owners have to investigate to find out what is actually being smoked. By including e-cigarettes in this bill we level the playing field for businesses that already have a smoke-free policy. I support SB1 and ask that you do too. Everyone deserves the right to breath clean air.

Thank you,

Ashley Peltier
7319 W Terry L Circle
W[redacted]silla, AK
[redacted]23

Daniel George

From: American Cancer Society Cancer Action Network <ican@acscan.org> on behalf of Brian Guvenir <ican@acscan.org>
Sent: Friday, April 03, 2015 1:59 PM
To: Sen. Bill Stoltze
Subject: Please support Senate Bill 1

Apr 3, 2015

Senator Bill Stoltze
State Capitol, Room 125
120 Fourth Street
Juneau, AK 99801-1182

Dear Senator Stoltze,

I'm writing to urge you to support Senate Bill 1 to prohibit smoking in workplaces and public places.

Everyone has the right to breathe smoke-free air. Unfortunately nearly half of Alaskans are in danger of being denied this basic right.

Smoke-free workplaces are not only a whole lot better for the health of workers and Alaskans like me, but they improve productivity and set a healthy example for our children.

I have been working as an acute care RN at Providence Hospital in Anchorage Alaska for almost 17 years and I have provided care for more than 16,000 patients during that time. Most of my patients are severe heart, lung, stroke, and cancer patients. At least 2/3 of my patients have smoked and/or have been exposed to smoking for many years, many since their early childhood. Many die and/or become incapacitated as a consequence of these mortal illnesses. This is also what the evidence based studies show. Therefore, one of the first questions asked during the admission process of a patient is: 1."Are you a smoker or have you smoked"? and 2. "Have yo been exposed to smoking"?. Exposure to active and passive smoking have been very strongly correlated with many deadly illnesses which affect the entire body. The purpose of these questions is to assess their risk for these illnesses. Active smokers are strongly encouraged to quit smoking.
Those who have quit in the past are encouraged to avoid re-starting smoking. Those who had open heart surgeries, lung surgeries, cancer surgeries, stroke, asthma, COPD, are told to avoid any exposure to any smoking under all circumstances.

For comparison purposes, let's look at another dangerous substance that was once used widely all around us. Prior to early 1970s, asbestos was used as insulation material in most houses and buildings. When it was discovered how dangerous it was to human health, use of asbestos was no longer legally allowed and buildings with asbestos were declared uninhabitable until all asbestos was removed. Exposure to smoking is as dangerous as exposure to asbestos. if not more. Unfortunately presently, for those who are being exposed to smoking by those around them in their workplaces and public places, avoiding exposure to this dangerous risk is not an available choice.

That is why it is so important that I am asking you to support Senate Bill 1 to prohibit smoking in workplaces and public places. Let's do the right thing and provide all Alaskans with the right to breath smoke-free air at least in their workplaces and all public places.

Thank You,

Brian Guvenir RN BSN
P.O. Box 92012
Anchorage, Alaska 99509

That's why I support Senate Bill 1, the Take it Outside Act, to get the smoke out of all Alaska workplaces. I hope I can count on you to protect the right of all Alaskans to breathe smoke-free air.

Sincerely,

Mr. Brian Guvenir
PO Box 92012
Anchorage, AK 99509-2012

Daniel George

From: Cassidy Seamount <cs22201@gmail.com>
Sent: Tuesday, April 07, 2015 8:03 PM
To: Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski; Chuck Kopp
Subject: Secondhand Smoke Kills

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Bill in Committee

Dear Senators,

My name is Cassidy Seamount and I am 14 years old. As an Alaskan, I believe I have the right to breathe clean air. I do not choose to smoke and therefore should not have to be exposed to smoke when I am in public. Secondhand smoke is a health hazard to everyone who breathes. There are more than 4000 chemicals that lead to many health problems, including bronchitis, stroke, heart disease, COPD and cancer.

Cassidy Seamount
9030 E Kiva Way
Palmer, AK 99645
907-707-0278

Daniel George

From: JJ Lussow <jblussow@gmail.com>
Sent: Tuesday, April 07, 2015 4:50 PM
Chuck Kopp
Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: Take It Outside

Dear Senators,
My name is Jaidra Lussow and I'm 14 years old. I'm writing to ask you to vote for smokefree indoor workplaces. My first job will probably be in food service and I want to be sure that I don't have to breathe smoky air just to have a job.
Thank you,
Jaidra Lussow
2115 Belmont Ave
Palmer, Ak 99645
907-746-7268

Daniel George

From: Jill Valerius <dr.valerius@gmail.com>
Sent: Tuesday, April 07, 2015 9:01 PM
T Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Sen. Peter Micciche
Subject: Senate Bill 1

I am writing in support of SB 1. My understanding is that it will be heard in committee on Thursday.

I feel that this is an important piece of legislation for our state. The purpose is to ensure that we all have smoke-free workplaces. As a business owner and a physician I am sensitive to oversight and regulation. I feel that this is one area that the government is obligated to protect it's citizen's.

This particular bill and issue has the ability to really impact healthcare costs in our state. We are at a point that healthcare costs are impacting each and every one of us. I think that anything that we can do on a state level to reduce those costs is best for us all.

Smoke-free Palmer has been good for our community all around. I really think it will be good for our state. I appreciate your support and if anything your ability to move it through committee.

I will try to call in for testimony on Thursday if my schedule permits.

Thank you,

Jill K Valerius, MD, ABIHM, IFMCP, ATC
Now Health
P[illegible]mer, AK

Daniel George

From: Kristin Cox <drkristinnd@gmail.com>
Sent: Tuesday, April 07, 2015 11:01 PM
To: Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: SB1

Dear Senators of Senate Affairs Committee

My name is Dr. Kristin Cox I'm a naturopathic doctor and I have been practicing in Juneau for a dozen years.

As a doctor I have sworn an oath to "first do no harm" and as a Naturopath I have pledged to "identify and treat the cause" of illness.

For the population as a whole, tobacco is without a doubt, the #1 cause of preventable death and disease in this country and our state.

Even after reducing the smoking rate by half, tobacco use remains the leading cause of death and disease in our state, killing nearly 600 Alaskans prematurely every year. That is a lot of knowledge and skills lost. That is a big impact on the young people and families of our small state.

As legislators I believe it is your obligation to adopt policies to protect the people of Alaska from the dangers of smoking, especially the impact on non-smokers from exposure to second-hand smoke. .

The most effective ways to get people to quit and to keep people from initiating tobacco use is through strong smoke-free workplace policies.

Young and low income people are vulnerable to second hand smoke exposure and to smoking initiation through their workplaces. Bars, restaurants, kitchens, auto garages and other low wage jobs have high rates of tobacco use.

Please take a stand to protect the health of Alaskans by passing SB1, un-amended. Including e-cigarettes in this bill is of utmost importance. We do not know that e-cigarettes or exposure to their aerosol is safe. This bill will not restrict access to e-cigarettes for people who believe them to be beneficial to them. The bill requires that those same people don't experiment with the health of the people around them in their workplaces.

People trying to do an honest days work to support themselves and their families shouldn't have to compromise their health or their life nor be made susceptible to adopting a lifelong addictive habit.

Thank you for considering my testimony.

Dr. Kristin Cox

Juneau, Alaska

--
Kristin Cox, ND
Rainforest Naturopathic Medicine
907-523-2102
418 Harris St. #316
Juneau, AK 99801

Daniel George

From: melissa mudd <melissamudd@mtaonline.net>
Sent: Tuesday, April 07, 2015 9:16 AM
[redacted]
Chuck Kopp
Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: Support for SB 1

Imagine working at a place where each employee is required to spend a full shift working in a room where the air contains 70 known cancer-causing chemicals, including formaldehyde, benzene and arsenic. As a condition of employment, the employee must consent to this environment or choose to work elsewhere.

Many Alaskans would say this is an intolerable situation that should not be allowed under any circumstances and that a business owner could never get away with knowingly putting employees at risk.

Thus it is hard to believe that thousands of Alaskans' lives are put in danger each day in this exact way — those who make their living in restaurants, bars and other workplaces across the state that allow smoking. These employees are exposed to secondhand smoke day after day because there are no statewide protections in place.

One of the most dangerous health hazards in America today — one that is entirely preventable — is secondhand smoke. As the third-leading cause of preventable death in the United States, secondhand smoke kills 3,400 Americans through lung cancer and about 46,000 through heart disease annually.

Few actions by state lawmakers will have a greater positive impact on the health and well-being of Alaskans than passing a statewide smoke-free workplace law. This law will protect employees and customers from the dangers of secondhand smoke, saving thousands of lives and millions of dollars for taxpayers.

[redacted]ddition to the health benefits, the numerous economic benefits this legislation would provide to our state are undeniable. Businesses, employees and taxpayers would all benefit from statewide smoke-free legislation because of insurance coverage, health care costs and other direct and indirect costs of secondhand smoke exposure.

Opponents argue that business owners have a right to choose whether they want to allow smoking inside their establishment. While I respect that business owners have the right to make decisions on behalf of their business, that right should not override an individual's right to not have his or her most private property — their lungs — harmed by the choices of others. Businesses should not continue to put their employees in harm's way.

Many cities have adopted comprehensive ordinances that prohibit smoking in indoor workplaces, but unfortunately, many Alaskans live in unincorporated cities or rural areas where no entity exists to pass or enforce this type of legislation. Without a statewide smoke-free workplace law, thousands of Alaskans will remain unprotected from secondhand smoke exposure.

I request that you support the passage of SB 1 and with it, the health of all Alaskans.

Sincerely,

Melissa G. Mudd

[redacted]Box 876658

Wasilla, AK 99687

Daniel George

From: Rachel Gernat <rachelgernat@gmail.com>
Sent: Wednesday, April 08, 2015 11:14 AM
T[illegible]: Sen. John Coghill; Sen. Bill Stoltze; Sen. Charlie Huggins; Sen. Bill Wielechowski; Sen. Lesil McGuire; Chuck Kopp
[illegible]ct: Support for SB 1 smoke free workplace
Attachments: e-cigarettes final.docx

Dear Senators,

Attached is a letter/essay my twelve year old daughter wrote in support of banning e-cigarettes and indirectly in support of SB 1. She is not able to testify tomorrow, as she is in school.

Thank you,
Rachel Gernat

What do you think about e-cigarettes?
By Anja Cheyette (age 12)

"E-cigarettes are battery powered devices that heat nicotine, flavor addictives, and other chemicals, to produce an aerosol inhaled by the user."[1]

E-cigarettes are not healthy to you or everyone else around you, and should not be smoked. E-cigarettes contain nicotine, ultrafine particles and low levels of toxin. The FDA's (the U.S. Food and Drug Administration) investigation into the contents of e-cigarettes, found they contained aerosol. Aerosol is potentially hazardous to the public's health.[2] In half of the e-cigarettes tested there was cancer causing substances inside.[3]

"When you puff on an e-cigarette you are actually inhaling nicotine, liquid, and flavorings."[4] "The nicotine absorbs into the lungs," which causes lung cancer.[5] Despite what is inside e-cigarettes, the makers of e-cigarettes say that the contents of them are safe.[6] Think about this: If the contents of e-cigarettes are safe, then why don't the makers of e-cigarettes post the ingredients on the e-cigarettes?

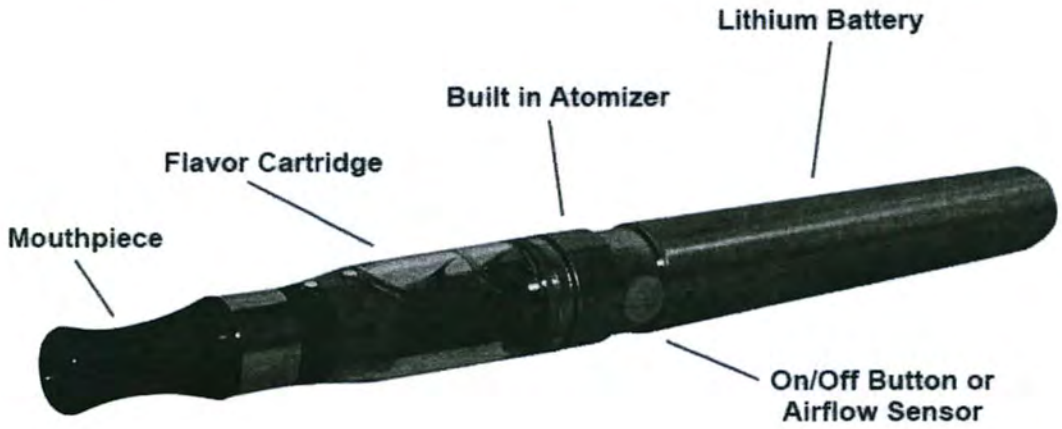
Many middle and high school students have started to think that e-cigarettes are okay. "The number of middle and high school smokers has gone up from 79,000 in 2011 to 263,000 in 2013. Nicotine can harm brain development, which could cause lasting problems in thinking and memory."[7] "Also nicotine is highly addictive, which is why about ¾ of teen smokers become adult smokers."[8] Teens and kids are supposed to be the people of the future. It is disturbing that younger children are using e-cigarettes that are very harmful to them.

While the number of youth tobacco cigarette users has decreased, the number of youth e-cigarette users has increased.[9] "Youth e-cigarette users should be a concern to the community, because non-smoking children who tried an e-cigarette said that they would try a tobacco cigarette."[10]

Everyone has to breathe, correct? Well, if I walk by someone who is smoking an e-cigarette; I am breathing; and the vapor is coming out of that e-cigarette. I am technically second-hand smoking, because I am breathing in the vapor from that e-cigarette. Now, if a family with two little kids walks by, you have five people, all of them are just innocent people walking down the street, who are second-hand smoking the vapor from that first person who is smoking an e-cigarette. Now, think about twenty more people walking by that one user. Think about the many people who smoke e-cigarettes, the innocent people who are walking by all those users all over the United States. How many people are breathing in those vapors, from those users?

So, also ask yourself this: Do you really want to inhale something from a company that doesn't post the ingredients, just says "Trust us"? Why would you trust them when there are cancer causing substances inside an e-cigarette? So ask yourself: Who will you trust? What will you do?

We



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[1] The State of Alaska DHSS, *Electronic Cigarettes and Aerosol Emissions Product Update and Position*
[2] *Id.*
[3] American Cancer Society, *What about Electronic Cigarettes? Aren't they Safe?*
[4] NPR, *E-Cigarettes can Churn out High Levels of Formaldehyde*
[5] *Id.*
[6] *Id.*
[7] WebMD, *Young Non-Smokers who Tried E-Cigs: Number Tripled*
[8] CDC
[9] DHSS, *supra.*
[10] WebMD, *supra.*

Daniel George

From: Stephanie Allen <sallen@unitedwaymatsu.org>
Sent: Wednesday, April 08, 2015 2:26 PM
Chuck Kopp; Sen. Charlie Huggins; Sen. Bill Stoltze
Stephanie Allen
Subject: SB1

Good afternoon. I understand that the Senate State Affairs will be hearing public testimony on SB1 tomorrow morning. We are not able to attend the Mat-Su LIO but I would like to ask you for your support of SB1.

From years of research, we know that secondhand smoke contains harmful chemicals known to cause chronic disease and harmful effects to the body. We have laws and policies in place to protect the health and safety of individuals such as those that work with asbestos, painting, body shops, etc. It stands to reason that by supporting SB1, Alaskans health and safety would be protected from these harmful chemical effects.

Furthermore, Palmer passed an indoor smoke free ordinance two years ago and the bar and hospitality industry have actually seen revenues increase due to more people populating and patronizing their establishments. It has been a huge success for the health of our community as well as the prosperity of our business establishments.

In Alaska, we place high value on our environment and appreciate its purity. Everyone deserves the right and opportunity to breathe clean, smoke free air.

We have an amazing occasion to significantly impact our great state in a positive way. We ask for your support of SB1.

Thank you so much for your consideration,

Stephanie Allen

Stephanie L. Allen

Executive Director

United Way of Mat-Su

550 S. Alaska Street, Suite 205

Palmer, AK 99645

907.745.5821

F: 907.745.0635

http://www.unitedwaymatsu.org

GIVE. | ADVOCATE. | VOLUNTEER. | **LIVE UNITED™**

Chuck Kopp

From: Ami L Reifenstein <areifenstein@bartletthospital.org>
Sent: Monday, April 06, 2015 1:50 AM
To: Chuck Kopp
Subject: Support for SB1

Dear Mr. Kopp,

I am writing in support of SB1. As a life-long Alaskan, a health professional, and a mother, it is very important to me that we do our best to offer healthy living environments in as many places as possible. We have all seen the detriments that both smoking and second hand smoke have on health. We spend millions of dollars annually on patients who have co-morbidities made worse by a history of smoking. Worse yet, we spend money on sick children whose health issues are related to second hand smoke. Plain and simple, smoking is bad for our health and costs our state exorbitant amounts of money. Please consider the health of all Alaskans and support SB1.

Sincerely,

Ami Reifenstein, RN

Juneau, Alaska

Chuck Kopp

From: Faith Brunnhoelzl <fabrunnhoelzl@gmail.com>
Sent: Tuesday, April 07, 2015 4:56 PM
To: Chuck Kopp
Cc: Sen. Bill Wielechowski; haronno@gmail.com; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire

Subject: Take It Outside

Dear Senators,

I am Faith Brunnhoelzl, and I reside in Palmer, and have for 38 years.

Today, I am requesting you to support SB1 for the health and economic benefits of making Alaska smokefree. Making Alaska workplaces, restaurants and bars 100% smokefree would prevent about 1900 youth from becoming smokers, and within five years, save an estimated 5 million dollars in stroke, heart attack and lung cancer costs.

Alaska is one of only 15 states that currently has no law prohibiting smoking in all workplaces or restaurants or bars. A 100% statewide comprehensive smokefree workplace law is the ONLY way to protect all Alaska residents from the dangers of secondhand smoke.

Faith Brunnhoelzl

PO Box 876885

Wasilla, Ak 99687

907-355-0218

Chuck Kopp

From: Jill Valerius <dr.valerius@gmail.com>
Sent: Tuesday, April 07, 2015 7:52 PM
To: Chuck Kopp
Subject: SB 1 email

Mr Kopp,

I'm feeling as though I should apologize for my letter. As you can tell I'm fairly passionate about this topic and very frustrated by the responses that I have gotten in 2 trips to Juneau about this topic, especially with the valley cohort. I can only imagine that you guys share the frustration.

I appreciate all that you are doing in support of this legislation. I'll send another email to my valley representation, asking once again for their support.

Thanks for all you do and sorry for the curt message,

Jill K Valerius, MD
Palmer

KENAI LEGISLATIVE INFORMATION OFFICE

Email: **Kenai_LIO@akleg.gov**

Phone: **907-283-2030** / Fax: **907-283-3075**

WRITTEN TESTIMONY

NAME: Steve Gossman

REPRESENTING: Self

BILL # or SUBJECT: SB 1

COMMITTEE: Senate State Affairs **DATE:** 4-2-15

Dear Senators,

I'm writing you to oppose SB1: Regulation of Smoking.
This is an unnecessary assault on private property, business and association rights.
It also appears to be a backdoor effort to undermine Measure 2.

Business owners and citizens don't need to government making decisions for them...that's why most of us Alaskans came up here in the first place - to escape all the nanny-state BS going on right now down in the states.

SB1 isn't just UN-Alaskan, it's also UN-American.
Freedom of choice is one of the pillars of this great country and should not be messed with.

Sincerely,
Steve Gossman

KENAI LEGISLATIVE INFORMATION OFFICE

Email: **Kenai_LIO@akleg.gov**

Phone: **907-283-2030** / Fax: **907-283-3075**

WRITTEN TESTIMONY

NAME: Gary Superman

REPRESENTING: Self / business owner

BILL # or SUBJECT: SB 1

COMMITTEE: Senate State Affairs **DATE:** 4-2-15

This is a story of crusaders pushing their will through the brute force of the state. Their narrative is based primarily on the pretense of this issue being one of 'settled science". Folks, this is about as much settled science as is the origin of the universe or our understanding of todays climate change.

"The statistical evidence does not appear to support a conclusion that there are substantial health effects of passive smoking.....even at the greatest exposure levels.....very few or even no deaths can be attributed to ETS." This is the 1995 conclusion arrived at by the Congressional Research Service after detailed analysis of the EPA study Environmental Tobacco Smoke and Lung Cancer Risk. This was further reinforced when a 1998 U.S. Federal Court Decision threw the study out finding it had been manipulated to arrive at the desired result. Crusading movements are seldom stopped by facts.

After years of being involved in this fight at the local level and with the legislature last year I've grown to understand the driving forces and the tactics they've employed in their pursuit. MY LIFE AND PROPERTY ARE NOT JUSTIFIABLY AT YOUR DISPOSAL.

I concede that the proximity of tobacco smoke makes some uncomfortable. Hence, we already have bans in 99% of the locations outlined in SB1. We, as that segment of society who smoke are accustomed to those bans and realize that there are compelling reasons for people to enter those locations whether it be for travel, health care, a government service, shopping, eating etc., etc., etc. There is no compelling reason to go into a bar, it is simply a choice. A choice that deserves preservation of rights for the patrons who only wish to relax and enjoy themselves in the last public sanctuary available to them if they smoke. SB1 is utterly disingenuous as it is defacto already without the bars. And this is about the few bars that allow smoking. What harm is being done to society by allowing them to remain so?

Daniel George

From: Andy Lundquist <ynot@gci.net>
Sent: Thursday, April 02, 2015 3:47 PM
To: Sen. Bill Stoltze
Subject: SB 1 Smoking Bill

Dear Senator Stoltze:

I was encouraged to hear you say that this bill is not going anywhere until everyone has had his/her time to testify. Thank-you—please do not be bullied by the non-smoking politically correct industry financed by the" tobacco settlement industry".

First of all—I'm against this bill. This bill represents another example of the left nanny state driving a false narrative to support the politically correct assumption that ANY trace of second hand smoke is lethal and we need to protect everyone from this dreadful toxin at any cost. These do gooders think that every ill of society can be prevented with another law and no one should take responsibility for themselves.

Lets face it—there is no smoking in public buildings, grocery stores, day care centers, most places of employment—about the only enclosed places where you will encounter second-hand smoke is in those few bars where their owners have decided to maintain a place of business where their customers can enjoy a cigarette (a legal substance). Many bar owners in every city in Alaska have made the personal business decision of whether to allow or not allow smoking on their premises. This is an economic decision and should be left up to the owner of each establishment. Whether a business allows smoking, whether a customer chooses to enter a smoking or non-smoking establishment, and whether an employee chooses to work at one of these places is a PERSONAL CHOICE! In addition, all employees working in places serving alcohol are 21 years of age and ADULTS.

Second hand smoking in open air venues like parks, open air stadiums—the science behind this analysis is pure speculation and junk. I don't want to argue whether second hand smoke is good or bad for you but common sense tells you that toxic levels of anything when diluted to undetectable levels is absurd.

I owned a bar for over twenty-five years. I do not smoke. Please do not let these non-smoking zealots tell you a non- smoking law will be good for business. I will make that decision—thank-you.

I think most Alaskans are wise enough to make up their minds for themselves on whether they want to go into bars which allow smoking. The legislature would do better spending more of its time figuring out how to stem the use of meth and heroin (a smoking substance) which is tearing at the social fabric of every town in Alaska . Someone needs to tell Alaska Tobacco Alliance and similar groups to take a break and LIGHTEN UP. (sort of like LIGHT UP)

Sincerely,

Andy Lundquist, Kodiak

Daniel George

From: Guiness64 . <jmfinney64@gmail.com>
Sent: Tuesday, April 07, 2015 7:24 AM
To: Sen. Bill Stoltze
Subject: Regarding SB1
Attachments: Levels of selected carcinogens.pdf

Senator Stoltze,

After listening to the audio from the HSS committee hearing on SB1, I am writing you to give you some insight to a few things that are not being mentioned about the sponsor's information. I have included a copy of one study that has been cited by the supporters of this bill, to prove a specific point regarding personal vaporizers, or e-cigarettes. The supporters have been taking bits and pieces of studies, and not fully casting light on what those studies have shown.

Firstly, the supporters LOVE to shout from the rooftops that their cited study shows that trace metals were found in personal vaporizers. What they won't tell you, is that the study actually says that trace metals were detected, at comparative levels to Nicorette inhalers and the air blanks used. "The same metals in trace amounts were detected in Nicorette inhalator and in blank samples." This shows that the ambient air in the room was the actual cause for those trace metals to be discovered.

Formaldehyde is another large selling point for supporting this bill. I know that I wouldn't be as keen on using a product that was filled with embalming fluid. So, they cite the same studies that state formaldehyde is present in the vapor from a personal vaporizer. But wait, that's not all that they said about it. "Formaldehyde was also found in the vapour of medicinal inhalators, at levels that overlapped with those found in e-cigarette vapour." It doesn't fit the narrative, so it is left out.

Finally, let's just get to the conclusions of the study. What about in general? What level of "potentially", not factually, toxic compounds in a complete aspect are we looking at? And I quote again, "The vapour generated from e-cigarettes contains potentially toxic compounds. However, the levels of potentially toxic compounds in e-cigarette vapour are 9–450-fold lower than those in the smoke from conventional cigarettes, and in many cases comparable with the trace amounts present in pharmaceutical preparation." It's amazing what they have left out of their speeches when reaching to limit the use of a life saving device.

In closing, I would like to thank you for your time regarding the inclusion of personal vaporizers in SB1. As a 20 year smoker, now smoke-free for 14 months due to personal vaporizers, these devices have saved my life. The knee-jerk reaction to set limits on these devices puts more people in the pathway of potential harm than good. And, with the supporters using studies that state specifically, "Our findings support the idea that substituting tobacco cigarettes with electronic cigarettes may substantially reduce exposure to tobacco-specific toxicants. The use of e-cigarettes as a harm reduction strategy among cigarette smokers who are unable to quit, warrants further study", why would anyone in their right mind considered legislating them in the way they are trying to?

Thank you,

Jason Finney

North Pole, AK

907-322-1301

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Levels of selected carcinogens and toxicants in vapour from electronic cigarettes

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ABSTRACT

Significance Electronic cigarettes, also known as e-cigarettes, are devices designed to imitate regular cigarettes and deliver nicotine via inhalation without combusting tobacco. They are purported to deliver nicotine without other toxicants and to be a safer alternative to regular cigarettes. However, little toxicity testing has been performed to evaluate the chemical nature of vapour generated from e–cigarettes. The aim of this study was to screen e-cigarette vapours for content of four groups of potentially toxic and carcinogenic compounds: carbonyls, volatile organic compounds, nitrosamines and heavy metals.

Materials and methods Vapours were generated from 12 brands of e-cigarettes and the reference product, the medicinal nicotine inhaler, in controlled conditions using a modified smoking machine. The selected toxic compounds were extracted from vapours into a solid or liquid phase and analysed with chromatographic and spectroscopy methods.

Results We found that the e-cigarette vapours contained some toxic substances. The levels of the toxicants were 9–450 times lower than in cigarette smoke and were, in many cases, comparable with trace amounts found in the reference product.

Conclusions Our findings are consistent with the idea that substituting tobacco cigarettes with e-cigarettes may substantially reduce exposure to selected tobacco-specific toxicants. E-cigarettes as a harm reduction strategy among smokers unwilling to quit, warrants further study. (To view this abstract in Polish and German, please see the supplementary files online.)

INTRODUCTION

An electronic cigarette, also known as e-cigarette, is a type of nicotine inhaler, imitating ordinary cigarettes. Although the majority of e-cigarettes look similar to other tobacco products, such as cigarettes or cigars, certain types resemble pens, screwdrivers or even harmonicas. E-cigarettes contain nicotine solution in a disposable cartridge. The cartridge is replaced when the solution is finished or might be refilled by the e-cigarette user. In contrast with ordinary cigarettes, which involve tobacco combustion, e-cigarettes use heat to transform nicotine solution into vapour. Processed and purified nicotine from tobacco leaves, suspended in a mixture of glycerin or propylene glycol with water, is vapourised. Nicotine present in such vapour enters the respiratory tract, from where it is absorbed to the bloodstream.[1–4]

Distributors of e-cigarettes promote the product as completely free of harmful substances. The basis for the claim of harmlessness of the e-cigarettes is that they do not deliver toxic doses of nicotine and the nicotine solution lacks harmful constituents. E-cigarettes are new products and, as such, require further testing to assess their toxic properties. Currently, the scientific evidence on the lack or presence of toxic chemicals in the vapour generated from e-cigarettes, and inhaled by their users is very limited. In August 2008, Ale Alwen, the Assistant Director-General for Non-communicable Diseases and Mental Health, stated that 'the electronic cigarette is not a proven nicotine replacement therapy. WHO has no scientific evidence to confirm the product's safety and efficacy. However, WHO does not discount the possibility that the electronic cigarette could be useful as a smoking cessation aid. The only way to know is to test.[5] Douglas Bettcher, Director of the WHO's Tobacco Free Initiative stated that only clinical tests and toxicity analysis could permit considering e-cigarettes a viable method of nicotine replacement therapy.[6]

The majority of tests carried out on e-cigarettes until now consist of analysing the chemicals in the cartridges or nicotine refill solutions.[7–18] The current tests show that the cartridges contain no or trace amounts of potentially harmful substances, including nitrosamines, acetaldehyde, acetone and formaldehyde. However, using e-cigarettes requires heating the cartridges and under such conditions chemical reactions may result in formation of new compounds. Such a situation takes place in the case of ordinary cigarettes, where a number of toxic compounds are formed during combustion. The US Department of Health and Human Services of the Food and Drug Administration agency carried out tests which showed the presence of trace amounts of nitrosamines and diethylene glycol in e-cigarette vapour. These tests were conducted in a manner which simulated the actual use of the products.[19]

We developed analytical methods and measured concentrations of selected compounds in the vapour generated by different brands and types of e-cigarettes. We focused our study on the four most important groups of toxic compounds present in the tobacco smoke: carbonyl compounds, volatile organic compounds (VOCs), tobacco-specific nitrosamines and metals (table 1).

MATERIALS AND METHODS

Electronic cigarettes and reference product (Nicorette inhalator)

Since the internet is currently the main distribution channel for the products, we searched price

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Table 1 Selected toxic compounds identified in tobacco smoke [20–23]

Chemical compounds	Toxic effects
Carbonyl compounds	
Formaldehyde*, acetaldehyde*, acrolein*	Cytotoxic, carcinogenic, irritant, pulmonary emphysema, dermatitis
Volatile organic compounds (VOCs)	
Benzene*, toluene*, aniline	Carcinogenic, haematotoxic, neurotoxic, irritant
Nitrosamines	
N'–nitrosonornicotine (NNN)*, 4-(methylnitrosoamino)-1-(3-pyridyl)-1-butanone (NNK)*, N'-nitrosoethylomethyloamine	Carcinogenic
Polycyclic aromatic compounds (PAHs)	
Benzo(a)pyrene, benzo(a)anthracene, dibenzo(a)anthracene	Carcinogenic
Free radicals	
Methyl radical, hydroxyl radical, nitrogen monoxide	Carcinogenic, neurotoxic
Toxic gases	
Carbon monoxide, hydrogen sulfide, ammonia, sulfur dioxide, hydrogen cyanide	Cardiovascular toxicants, carcinogenic, irritant
Heavy metals	
Cadmium (Cd)*, lead (Pb)*, mercury (Hg)*	Carcinogenic, nephrotoxic, neurotoxic, haematotoxic
Other toxicants	
Carbon disulfide	Neurotoxic

*Indicates compounds analysed in this study.

comparison websites, online marketplace (Allegro.pl auction service) and internet discussion forums for e–cigarette users to identify the most popular brands of e–cigarettes distributed from within Poland. The searching was limited to web pages from Poland, and only Polish language was allowed for in retrieval options. Some 30 brands were identified. The brands were entered into Google.pl, and ranked according to the number of hits they generated. The number of hits in the search engine for the selected 30 models allowed selection of the 11 most popular e-cigarettes brands. Additionally, one e-cigarette model purchased in Great Britain was used in the study. All e–cigarette models selected for the study were purchased online. Characteristics of the product tested in the study are shown in table 2.

The suitable cartridges of the same brand name were used for the study. They were purchased from the same sources as that of the e-cigarette and were matched to selected models. All cartridges were characterised by high nicotine content (16–18 mg). As a reference product the medicinal nicotine inhalator was used (Nicorette 10 mg, Johnson&Johnson, Poland). The inhalator for the study was purchased in one of the local pharmaceutical warehouses.

Generation of vapour from e-cigarettes and reference product

Vapour from e-cigarettes was generated using the smoking machine Palaczbot (Technical University of Lodz, Poland) as described previously.[3] This is a one-port linear piston-like smoking machine with adjustable puffing regimes in a very wide range, controlled by computer interface.

Pilot samples demonstrated that it was impossible to generate vapour from e–cigarettes in standard laboratory conditions assumed for conventional cigarettes testing (International Organization for Standardization (ISO) 3808).[24] Inhalation of a volume of 35 ml anticipated in conventional cigarette standard is insufficient for activation of most of the e-cigarettes. Thus, we decided to generate vapour in conditions reflecting the actual manner of e-cigarettes using, determined based on the results of inhalation topography measurement among 10 'e–smokers', who declared that they regularly use e-cigarettes for a period

Table 2 Characteristics of products tested in the study

Product code	Brand name	Model	Cartridge type	Flavour	Labelled nicotine content (mg or mg/ml)	Measured nicotine content (mg) [3]	Retailer	Country
EC01	Joye	510	Cartridge	Marlboro	4	4	Inspired s.c.	Poland
EC02	Janty	eGo	Cartridge	Marlboro	16	5	Janty	Poland
EC03	Janty	Dura	Cartridge	Marlboro	16	5	Janty	Poland
EC04	DSE	901	Cartridge	Regular	16	9	Fausee	Poland
EC05	Trendy	808	Cartridge	Trendy	18	2	Damhess	Poland
EC06	Nicore	M401	Cartridge	Marlboro	18	5	Atina Poland	Poland
EC07	Mild	201	Cartridge	Marlboro	18	19	Mild	Poland
EC08	Colinss	Age	Cartomizer	Camel	18	11	Colinss	Poland
EC09	Premium	PR111	Cartomizer	Tobacco	16	12	Premium	Poland
EC10	Ecis	510	Cartridge	Menthol	11	5	Arcotech	Poland
EC11	Dekang	Pen	Cartridge	Regular	18	18	Ecigars Polska	Poland
EC12	Intellicig	Evolution	Cartridge	Regular	8	8	Intellicig	UK

longer that 1 month.[3] All testing procedures in this work were carried out using the same averaged puffing conditions: puff duration of 1.8 s, intervals between puffs of 10 s, puff volume 70 ml and number of puffs taken in one puffing session was 15. A total of 150 puffs were taken from each e-cigarette in 10 series of 15 puffs with intervals between series of 5 min each. Each e-cigarette was tested three times on three following days after batteries were recharged during nights. A fresh cartridge was placed on the e-cigarettes each day they were tested. Vapour was visibly being produced during the full 150 puffs taken from each product tested.

Analytical chemistry

Note: The details of the sample preparation and analysis are given in the online supplementary materials.

It was planned to absorb the analysed vapour components in bulbs containing an organic solvent (extraction to liquid) or on suitable sorbents (extraction to solid phase). This required the modification of the system described above, in such a manner to enable quick connection of desirable sorption system. Carbonyl compounds and organic compounds due to their volatility were trapped in tubes packed with solid adsorbent. Metals and nitrosamines in turn, which are characterised by lower volatility, were to be absorbed in two gas washing bottles with methanol (50 ml in each bottle). Both washing bottles were immersed in acetone-dry ice bath in order to avoid any losses of volatile solvent. A picture of the set for vapour generation from e–cigarette and metals or nitrosamines absorption is presented in online supplementary figure S2.

The samples, after the preparation and condensation procedure, were analysed using analytical methods with high specificity and sensitivity allowing detection of even trace amounts of analysed compounds. Figure 1 shows the sample preparation procedure; and all analytical methods are described in details in the online supplementary materials. The following carbonyl compounds were analysed in this work using high-performance liquid chromatography with diode array detector (HPLC-DAD): formaldehyde, acetaldehyde, acrolein, acetone, propionic aldehyde, crotonaldehyde, butanol, benzaldehyde, isovaleric aldehyde, valeric aldehyde, m-methylbenzaldehyde, o-methylbenzaldehyde, p-methylbenzaldehyde, hexanal, 2,5-dimethylbenzaldehyde. VOCs included benzene, toluene, chlorobenzene, ethylbenzene, m,p-xylene, o-xylene, styrene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, naphthalene and were analysed with gas chromatography-mass spectrometry. Among tobacco-specific nitrosamines two compounds were measured: N′–nitrosonornicotine (NNN) and 4-(methylnitrosoamino)-1-(3-pyridyl)-1-butanone (NNK) with ultra-performance liquid chromatography-mass spectrometry. An inductively coupled plasma mass spectrometry technique was used to quantify following metals: cobalt (Co), nickel (Ni), copper (Cu), zinc (Zn), cadmium (Cd), lead (Pb), arsenic (As), chromium (Cr), selenium (Se), manganese (Mn), barium (Ba), rubidium (Rb), strontium (Sr), silver (Ag), thallium (Tl) and vanadium (V). All analytical methods used in this work were validated as per the International Conference on Harmonisation guideline Q2(R1).[25]

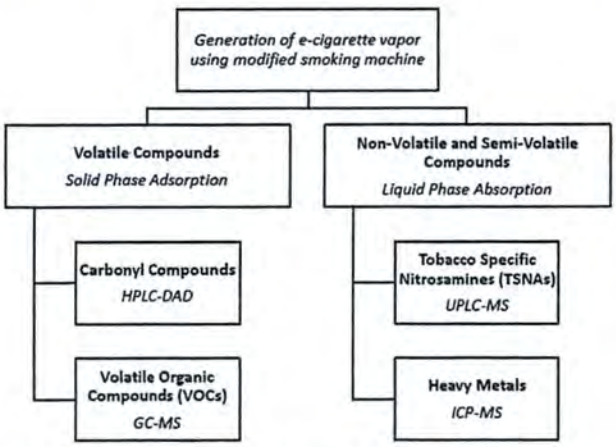

Figure 1 Analytical procedures applied in the study to test carcinogens and selected toxicants in vapour from e-cigarettes. GC-MS, gas chromatography-mass spectrometry; HPLC-DAD, high-performance liquid chromatography with diode array detector; ICP-MS, inductively coupled plasma-mass spectrometry; TSNA, tobacco-specific nitrosamine; UPLC-MS, ultra-performance liquid chromatography-mass spectrometry; VOC, volatile organic compound.

Statistical analysis

Results were presented as mean±SEM levels of selected compounds in vapour generated from e–cigarettes (per 150 puffs). The study aimed to compare the results obtained for aerosol from Nicorette inhalator with the results obtained for all examined e–cigarette models. Due to the small size of the groups, the difference between the mean from two groups was assessed based on Student's t test. All statistical analyses were conducted using the software for statistical data analysis Statistica V.9.0 (StaftSoft, Tulsa, USA). The significance level was established as $p<0.05$.

RESULTS

Carbonyl compounds

Among 15 carbonyls analysed, only 4 were found in vapour generated from e–cigarettes (table 3); and these compounds were identified in almost all examined e–cigarettes. The exception was one e-cigarette marked with code EC09, where acrolein was not detected. Three of the carbonyls have known toxic and irritating properties: formaldehyde, acetaldehyde and acrolein. The content of formaldehyde ranged from 2.0 μg to 56.1 μg, acetaldehyde from 1.1 μg to 13.6 μg, and acrolein from 0.7 μg to 41.9 μg per one e-cigarette (150 puffs). Trace amounts of formaldehyde, acetaldehyde and o-methylbenzaldehyde were also detected from the Nicorette inhalator. None of these compounds were detected in blank samples.

Volatile organic compounds

Among 11 VOCs analysed, only two were found in samples of vapour generated from e-cigarettes (table 3), and these compounds were identified in almost all examined e–cigarettes. The only one exception was e-cigarette marked with code EC02, where toluene and m,p-xylene were not detected. The content of toluene ranged from 0.2 μg to 6.3 μg per one e–cigarette (150 puffs). Although the m,p-xylene levels found in analysed samples of e–cigarette vapours ranged from 0.1 μg to 0.2 μg, it was also found on the same level in blank samples. In Nicorette inhalator in turn, none of the compounds analysed in that group were noted.

Tobacco-specific nitrosamines

Both nitrosamines analysed in the study were identified in all but three vapours generated from e-cigarettes (table 3). NNN was not found in e–cigarettes marked with codes EC01, EC04 and EC05 and NNK was not identified in products EC04, EC05 and EC12. The content of NNN ranged from 0.8 ng to 4.3 ng, and NNK from 1.1 ng to 28.3 ng per one e–cigarette

Table 3 Levels of selected compounds in vapour generated from e–cigarettes (per 150 puffs)

Compound	BS	Levels in vapour from electronic cigarettes†												Reference product
		Product code												
		EC01	EC02	EC03	EC04	EC05	EC06	EC07	EC08	EC09	EC10	EC11	EC12	Inhalator
Carbonyl compounds (µg)														
Formaldehyde	ND	44.2±4.1*	23.6±8.7*	30.2±2.3*	47.9±0.2*	56.1±1.4*	35.3±2.7*	19.0±2.7*	6.0±2.0	3.2±0.8	3.9±1.5	23.9±11.1	46.3±2.1*	2.0±1.1
Acetaldehyde	ND	4.6±0.2*	6.8±3.2	8.2±2.5*	11.5±2.0*	3.0±0.2*	13.6±2.1*	11.1±3.3*	8.8±1.6*	3.5±0.3*	2.0±0.1	3.7±1.5	12.0±2.4*	1.1±0.6
Acrolein	ND	41.9±3.4*	4.4±2.5	16.6±2.5*	30.1±6.4*	22.0±1.6*	2.1±0.4*	8.5±3.6	0.7±0.4	ND	2.7±1.6	1.1±0.6	7.4±3.2*	ND
o-methylbenzaldehyde	ND	1.9±0.5	4.4±1.2*	3.2±1.0*	4.9±1.2*	1.7±0.1*	7.1±0.4*	1.3±0.8	5.5±0.0*	6.0±0.7*	3.2±0.5*	5.1±0.1*	2.2±0.6*	0.7±0.4
Volatile Organic Compounds (VOCs) (µg)														
Toluene	ND	0.5±0.1*	ND	0.2±0.0*	0.6±0.1*	0.2±0.0*	ND	0.3±0.2	0.2±0.1	6.3±1.5*	0.2±0.1*	0.5±0.1*	0.5±0.0*	ND
p,m-xylene	0.1	0.1±0.0*	ND	0.1±0.0*	0.2±0.1*	0.1±0.0	ND	0.1±0.1	0.1±0.0	0.1±0.0*	0.1±0.0*	0.1±0.1*	0.1±0.0	ND
Tobacco-Specific Nitrosamines (TSNAs) (ng)														
NNN	ND	ND	2.7±2.2	0.8±0.8	ND	ND	0.9±0.4	4.3±2.4	1.9±0.3*	1.2±0.6	2.0±1.1	3.2±0.6*	1.3±0.1	ND
NNK	ND	2.0±2.0	3.6±1.8	3.5±1.8	ND	ND	1.1±1.1	21.1±6.3*	4.6±0.4*	28.3±13.2	2.1±2.1	13.0±1.4*	ND	ND
Metals (µg)														
Cd	0.02	0.17±0.08	0.15±0.03*	0.15±0.05	0.02±0.01	0.04±0.01	0.22±0.16	0.02±0.01	0.08±0.03	0.01±0.01	0.17±0.10	0.03±0.03	ND	0.03±0.01
Ni	0.17	0.28±0.22	0.29±0.08	0.21±0.03	0.17±0.07	0.14±0.06	0.11±0.06	0.23±0.09	0.26±0.10	0.19±0.09	0.12±0.04	0.11±0.08	0.11±0.05	0.19±0.04
Pb	0.02	0.06±0.01	0.06±0.03	0.07±0.01	0.03±0.01	0.05±0.01	0.03±0.01	0.04±0.01	0.57±0.28	0.09±0.04	0.06±0.02	0.04±0.03	0.03±0.03	0.04±0.01

Values are mean±SEM.
*Significant difference with Nicorette inhalator ($p<0.05$).
†Units are µg, except for nitrosamines units are ng.
BS, blank sample; ND, not detected; NNK, N′-nitrosonornicotine (NNN) and 4-(methylnitrosoamino)-1-(3-pyridyl)-1-butanone; NNN, N′-nitrosonornicotine; DL, detection limit.

(150 puffs). In Nicorette inhalator or in blank samples in turn, none of these compounds was noted.

Metals

Among 12 metals analysed in the study, cadmium, nickel and lead were identified, and were present in all vapours generated from e-cigarettes (except cadmium, which was not detected in a product of code EC12; table 3). The content of cadmium ranged from 0.01 μg to 0.22 μg, nickel from 0.11 μg to 0.29 μg and lead from 0.03 μg to 0.57 μg per one e-cigarette (150 puffs). The same metals in trace amounts were detected in Nicorette inhalator and in blank samples.

DISCUSSION

We examined vapours generated from 12 models of e-cigarettes for the presence of four groups of toxic compounds found in tobacco smoke. The Nicorette inhalator was used as a reference product. Such a choice was dictated by the premise that a therapeutic product like Nicorette inhalator should fulfil specified safety standards and should not contain significant levels of any of the analysed toxic compounds.

Our results confirm findings from the previous studies, in which small amounts of formaldehyde and acetaldehyde were detected in cartridges. [9 18] However, the presence of acrolein in a cartridge or nicotine solution has not been reported so far. Formaldehyde and acetaldehyde were also found in vapour exhaled to test chamber by volunteers who used e–cigarette filled with three various nicotine solutions.[26] Recently, Uchiyama *et al*[27] demonstrated that vapour generated from a single brand of e–cigarette contained low levels of formaldehyde, acetaldehyde and acrolein. There is a possibility that acrolein is present in vapour only, since this compound may be formed as a result of heating glycerin which is a component of the solution. Pyrolysis of glycerin has been studied in steam with acrolein, formaldehyde and acetaldehyde observed as the major products.[28 29] These products appear to result from dehydration and fragmentation of glycerin. Although energy calculations of the dehydration of glycerin by the neutral mechanisms indicate that these processes can only occur at relatively high temperatures such as in pyrolysis or combustion, the addition of acids allows substantially lower dehydration temperatures.[30]

All three carbonyl compounds found in the study and discussed above have been shown to be toxic in numerous studies: formaldehyde is classified as carcinogenic to humans (group 1 by International Agency for Research on Cancer, IARC)[31]; acetaldehyde as possibly carcinogenic to humans (group 2B),[31] and acrolein causes irritation to the nasal cavity, and damage to the lining of the lungs and is thought to contribute to cardiovascular disease in cigarette smokers.[32] Exposure to carbonyl compounds found in vapour might cause mouth and throat irritation which is the most frequently reported adverse event among e–cigarette users.[1 33] A study by Cassee *et al*[34] showed that sensory irritation in rats exposed to mixtures of formaldehyde, acetaldehyde and acrolein is more pronounced than that caused by each of the compounds separately. Future studies should evaluate possible adverse health outcomes of short term and long term exposure to these compounds among users of e–cigarettes and people involuntarily exposed to exhaled vapours.

We found that the vapour of some e-cigarettes contains traces of the carcinogenic nitrosamines NNN and NNK, whereas neither was detected in aerosol from the Nicorette inhalator. The studies conducted previously reported the presence of NNN and NNK in e–cigarette cartridges in amounts of 3.9–8.2 ng per cartridge,[18 19] which corresponds with the results on vapour obtained in the present paper. However some other studies have reported that some cartridges are free of nitrosamines.[12] This inconsistency of findings of various studies might be due to different analytical methodologies of variable sensitivity applied in the studies discussed above.

Two of the analysed VOCs were detected: toluene and m, p-xylene. None of the studies conducted until now reported the presence of these compounds in a cartridge, nicotine solution or e–cigarette vapour. None of these compounds were found in a study by Schripp *et al*[26] on passive exposure to e–cigarette vapours. Three toxic metals, cadmium, nickel and lead, were detected in the vapour of analysed e–cigarettes. Since the same elements were also detected in trace amounts in Nicorette inhalator and in blank samples it is possible that there were other sources of these metals. This limitation of the study does not allow us to conclude whether e–cigarette alone may be a significant source of exposure to these chemicals.

Recently, we published a study on tests for nicotine delivery of Polish and UK e–cigarette brands.[3] Many of the same brands in that paper have also been included in this study and tested for toxicants delivery. It should be mentioned that the leading brands with the highest nicotine delivery did not have the highest yields for toxicant delivery. This is important as while selecting the brands for nicotine the worst brands for toxicants generally can be avoided.

The results allowed us to compare the content of harmful substances between various e–cigarette models and conventional cigarettes (based on literature data).[35] To compare levels of selected toxins in e-cigarette vapour and mainstream smoke of a conventional cigarette we assumed that users of e-cigarettes take on overage 15 puffs during one session of product use, and it would correspond to smoking one conventional cigarette. In our study the vapours from e-cigarettes were generated from 150 puffs (10 series of 15 puffs each). For comparison purposes, we assumed that 150 puffs of an e-cigarette correspond to smoking 10 cigarettes. The comparison of toxic substance levels between conventional cigarettes and e-cigarettes is presented in table 4.

Table 4 Comparison of toxins levels between conventional and electronic cigarettes

Toxic compound	Conventional cigarette (μg in mainstream smoke) [35]	Electronic cigarette (μg per 15 puffs)	Average ratio (conventional vs electronic cigarette)
Formaldehyde	1.6–52	0.20–5.61	9
Acetaldehyde	52–140	0.11–1.36	450
Acrolein	2.4–62	0.07–4.19	15
Toluene	8.3–70	0.02–0.63	120
NNN	0.005–0.19	0.00008–0.00043	380
NNK	0.012–0.11	0.00011–0.00283	40

NNK, N'-nitrosonornicotine (NNN) and 4-(methylnitrosoamino)-1-(3-pyridyl)-1-butanone; NNN, N'-nitrosonornicotine.

As shown in table 4 levels of selected toxic compounds found in the smoke from a conventional cigarette were 9–450-fold higher than levels in the vapour of an e–cigarette. Smoking an e-cigarette (also referred to as 'vaping') can result in exposure to carcinogenic formaldehyde comparable with that received from cigarette smoking. Formaldehyde was also found in the vapour of medicinal inhalators, at levels that overlapped with those found in e-cigarette vapour. Exposure to acrolein, an oxidant and respiratory irritant thought to be a major contributor to cardiovascular disease from smoking, is 15 times lower on average in e-cigarette vapour compared with cigarette smoke. The amounts of toxic metals and aldehydes in e-cigarettes are trace amounts and are comparable with amounts contained in an examined therapeutic product.

The results of the study support the proposition that the vapour from e–cigarettes is less injurious than the smoke from cigarettes. Thus one would expect that if a person switched from conventional cigarettes to e-cigarettes the exposure to toxic chemicals and related adverse health effects would be reduced. The confirmation of that hypothesis however, requires further studies involving people using e-cigarette devices.

The primary limitation of our research is that the puffing profile we used may not reflect actual user puff topography. Hua *et al*[36] reported that e–cigarette users take longer puffs, and that puff duration varied significantly among e–cigarette brands and users. This suggests that actual doses of toxicants inhaled by e–cigarette users might be higher than measured in our study. Similarly to results of tobacco cigarette testing with smoking machines (International Organization for Standardization (ISO), Federal Trade Commission (FTC)) the values obtained in our study should be interpreted with caution. The other limitation of our research is that we have tested only 12 brands of e-cigarettes. There are numerous different brands in the market, and there is little information on their quality control.

CONCLUSIONS

The vapour generated from e-cigarettes contains potentially toxic compounds. However, the levels of potentially toxic compounds in e-cigarette vapour are 9–450-fold lower than those in the smoke from conventional cigarettes, and in many cases comparable with the trace amounts present in pharmaceutical preparation. Our findings support the idea that substituting tobacco cigarettes with electronic cigarettes may substantially reduce exposure to tobacco-specific toxicants. The use of e-cigarettes as a harm reduction strategy among cigarette smokers who are unable to quit, warrants further study.

What this paper adds

- Distributors of e–cigarettes promote the product as completely free of harmful substances. Currently, there is no comprehensive research on the presence of toxic chemicals in the vapour generated from e-cigarettes and inhaled by their users.
- This study of chemical composition of vapour generated from 12 brands of e-cigarettes revealed that the vapour contained some toxic substances.
- The levels of potentially toxic compounds in e-cigarette vapour were found to be from ninefold to almost 450-fold lower compared with smoke from conventional cigarettes, and in many cases comparable with trace amounts present in pharmaceutical preparations.

Contributors MLG and NB designed the study and wrote the paper. JK, MG and LK tested the products using smoking machine. AS and JK developed the analytical method and measured carbonyl compounds and VOCs. AP, MJC, and CRD developed the analytical method and measured metals. CH and PJ developed the analytical method and measured TSNAs. MLG and JK analysed the data. All contributors approved the final version of the manuscript.

Funding This study was conducted while the first author was at Medical University of Silesia, Poland and was supported by the Ministry of Science and Higher Education of Poland under grant number N N404 025638. The study sponsor had no involvement in the study design, collection, analysis and interpretation of data, the writing of the manuscript or the decision to submit the manuscript for publication. Analysis of nitrosamines at the University of California, San Francisco was supported by grants P30 DA012393 and S10 RR026437 from the National Institutes of Health.

Competing interests MLG received research funding from Pfizer, manufacturer of stop smoking medication and is currently funded by the UK Centre for Tobacco Control Studies (UKCTCS), UK Public Health Centre of Excellence. UKCTCS receives it funding from the Economic and Social Research Council (ESRC), British Heart Foundation (BHF), Cancer Research UK, National Institute for Health Research (NIHR), and Medical Research Council (MRC). Dr Benowitz is a consultant for several companies that market smoking cessation medications and has been a paid expert in litigation against tobacco companies. The other authors declare they have no actual or potential competing financial interests.

Provenance and peer review Not commissioned; externally peer reviewed.

Data sharing statement Data could be made available to qualified researchers by request to the corresponding author.

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Daniel George

From: Jim Davis <jd4x4@jd4x4.net>
Sent: Wednesday, April 01, 2015 9:29 PM
To: Sen. Bill Stoltze
Subject: Please Oppose SB 1 and HB 40 and any other effort to treat e-cigarettes like smoking.

Jim Davis
c/o Avey
Anchorage, AK 99508

April 2, 2015

Dear Bill Stoltze,

Honorable Alaska State Legislators,

Regarding Senate Bill 01 and House Bill 40, 2015 Session

I am a 63 year old father of a daughter who is a resident of Anchorage, and grandparent of a granddaughter living there as well. I am also a 47 year tobacco smoker who is 3 years abstinent due only to the availability and efficacy of e-cigarettes. During my 47 smoking years I failed to quit using most all of the "sanctioned" and "approved" cessation methods. Electronic cigarettes profoundly changed my life.

The proposed legislation SB 1 and HB 40 affects me personally with regard to my welcomeness in your State and more importantly, affects the approximately 162,000 current tobacco users in Alaska.(1 2)

I am OPPOSED to SB 1 and HB 40 for the following reasons:
1. Not all e-cigarettes contain nicotine. E-cigarettes that do contain nicotine do not contain tobacco and their vapor (or aerosol, if you prefer) is not smoke(3 4 5).

2. The judgment of harm from e-cigarettes is premature and unwarranted by current research (6).

3. Language in legislation equating E-Cigarettes to Smoking sends an inaccurate, disingenuous, and harmful message to the public. At a minimum, e-cigarettes provide a previously unavailable and unique opportunity for cessation (7) and/or harm reduction for the 162,000 current smokers, and the associated public health benefit (8 9 10).

4. For those that use nicotine for any of it's established benefits (11 12 13 14), and for those like myself who wish to use it in a vastly harm-reduced (15 16 17 18) yet effective (7 19) delivery vehicle, prohibitions equal to that of smoking will undoubtedly have unconscionable future effects (20 21).

While a complete prohibition of e-cigarette use in public spaces is an easy answer to potential yet unestablished public harm, bystander objections, and is effective in the (in my opinion, misguided) continuation of tobacco "denormalization", I urge you to weigh the potential public good that can be served by accepting e-cigarette benefits and seek a common sense balance for all concerned.

Should you still consider some type of public prohibition, I urge you to adopt an exemption that considers both non-users and users by allowing e-cigarette use in venues that post required "E-Cigarettes Allowed" signage. This simple solution should accommodate all parties concerned, especially if such venues are age restricted unless with parent or guardian approval or attendance.

Respectfully,
Jim Davis

Silver Spring, MD

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Respectfully
Jim Davis

Marie Murray

From: Ariel Hasse <contacting.ariel@gmail.com>
Sent: Thursday, April 09, 2015 10:39 AM
To: Marie Murray
Subject: Testimony to Senate Bill 1

Testimony to Senate Bill 1

Thank you Chairman Stoltze and Committee members for listening to my testimony today, my name is Ariel Hasse, I'm from Wasilla here in Sitka for the Alaska Association of student Governments conference and I am currently a senior at Mat-Su Career and Technical High School. I am currently serving my third term as school student government president and my second term as the MSBSD Student Advisory Board president, and I recently served as the president for the statewide student government organization, the Alaska Association of Student Governments.

These organizations have inspired me and allowed me to serve my peers and my community, whether local or state. For me, serving is the essence of leadership, community, and human compassion. Furthermore I find serving high school students particularly important due to their impending place in society. I believe its often forgotten who our children become and why. Elementary school kids will soon become secondary students and high school students will even more soon become adults. We will assume your jobs, your offices, your companies, and your duties. More than that, what is namely left forgotten is how the decisions and environments of high school students are the sculpting forces of their personhoods. In other word what we experience and learn of ourselves today will often be an integral part of who we are throughout our adulthood.

When it comes to the question of restricting smoking in Alaska, I call on you, Alaska's lawmakers to keep servitude and future generations in mind. While teenagers are not permitted to smoke cigarettes as law stands, the data shows that this does not prevent hundreds of Alaskan students from breathing tar, nicotine, paint thinners, and more into their lungs each year. Restricting areas for smoking will bring these numbers down.

People, teenagers especially are impressionable. As cigarettes are seen more in public and in work environments they will become more desirable. Moreover the wider range of smoking areas increases the availability of smoking. In both ways by enabling smoking we are leading our youth down a path of smoke.

While this bill covers many areas and uses, I believe one section in particular stands proof for the rest, particularly for youth. As students prepare monetarily and skills wise for the world beyond the schoolhouse, many begin work at their first job. This job provides essential professional skills that students can attain in a more forgiving atmosphere than their first post-secondary occupation. However while these jobs are helping to build their future, second hand smoke, and impressionable smoking is tarnishing it. Without SB 1 students must choose between the costs of not achieving more for their futures and taking away from their lives from second hand smoke. The effects of second hand smoke are not up for debate, each year thousands of American's are developing lung cancer, despite never taking a puff. Representatives of Alaska, taking away the choice to smoke in a workplace is not near the consequence of taking away a life from an innocent young bystander.

Every year hundreds of Alaskans turn eighteen. With this event marks new voters, however I urge you not to start your responsibility to them then, but to become responsive to your future constituents today. For they will be our voters, our employees, eventually your fellow politicians, our mothers, our grandfathers, they will make up our communities. As I testify here today representing all the students of Alaska I call you to secure our safety and our community, please protect our youth and pass SB 1.

ANCHORAGE LEGISLATIVE INFORMATION OFFICE

Email: Anchorage.lio@akleg.gov 907-269-0111/ phone, 907-269-0229/fax

WRITTEN TESTIMONY

NAME: Luan Jensen

REPRESENTING: SELF & CHILDREN

BILL#/ SUBJECT: SB1

COMMITTEE &

HEARING DATE:

71% Kodiak & Kodiak Borough support KB passed resolution

As a mom of (2) young children part of my responsibility is to protect my children & limit exposure to harmful environments. I feel that all ALASKANS should be protected in their workplaces & I strongly support SB1 to include E-cigarettes.

I SHARED THIS WITH THE HOUSE & WANTED TO SHARE WITH YOU. Two months ago, "JOHNS HOPKINS reported that EXPOSURE to E-cigarette aerosols results in decreased ability to withstand bacterial & viral infections in mice." They concluded:

"DESPITE the common perception that E-cigs are safe, this study clearly demonstrates that E-cig use, even for relatively brief periods, may have significant consequences to respiratory health."

Daniel George

From: Betty MacTavish <mactavish.betty@gmail.com>
Sent: Friday, April 10, 2015 10:47 AM
To: Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Bill.Wielechowski@akleg.gov
Subject: Fwd: SB-1 Supporter

---------- Forwarded message ----------
From: **Betty MacTavish** <mactavish.betty@gmail.com>
Date: Fri, Apr 10, 2015 at 10:39 AM
Subject: SB-1 Supporter
To: chuck.kopp@akleg.gov

We need to have SB-1 onto the Senate floor this session for a vote. Lives are at stake each year that this Bill does not get to the Legislature. This bill has a documented supporter base of 71% to over 80% of Alaska's citizens are in favor of this Bill to protect workers from secondhand smoke across this Great State. How much more disease and death must be endured before the Legislature does the right thing to protect its citizens? I hope the answer is no longer! Pass SB-1 - the Take it Outside Bill!
Sincerely,
Betty MacTavish
Kodiak, Alaska

Daniel George

From: Dana <danadenise99645@gmail.com>
Sent: Thursday, April 09, 2015 4:49 PM
To: Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski; haronno@gmail.com
Subject: Support SB 1

Good afternoon, my name is Dana Phillips and I am a 19 year resident of the Mat Su valley. I am a non-smoker that avoids smoking establishments. Two years ago when the City of Palmer went smoke free, I was able to frequent several fine establishments that were previously off limits to me.

Secondhand smoke is a major cause of preventable death. In 2006, the US Surgeon General concluded that there is no risk-free level of exposure to secondhand smoke.

Presently, only half of Alaska's population is covered by a smokefree workplace law. Due to limitations in local authority, they are unable to pass their own smokefree laws and must now depend on the statewide law to protect their health and breath.

I appreciate having the right to breathe, and would like to see other Alaskans also have that right.

Dana Phillips
9030 East Kiva Way
Palmer, AK 99645

Sent from my iPhone

Daniel George

Subject: I support HB 1

om: Dana R. Mudd [mailto:danamudd@mtaonline.net]
Sent: Thursday, April 09, 2015 5:15 PM
To: Chuck Kopp; Sen. Bill Wielechowski; Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins
Subject: I support HB 1

Dear Senators:

Fully 80% of Alaskans support smokefree workplaces. My name is dana steininger_, and I do, too.

I have smoking and vaping friends that know smoking is bad for them, but have been unable to quit so far. They would never DREAM of smoking in anyone's home, much less a place of business, even their own, as it is not only painful and smelly to breathe, but also dangerous.

Secondhand smoke causes approximately 3400 deaths from lung cancer and 22 to 69 thousand deaths from heart disease each year.

Please support every Alaskans opportunity to both work AND breathe clean air.

Dana steininger

7529 s fiskari drive
9073737219

Daniel George

From: advocacy@mylegislators.com on behalf of Gail Forrest <GLFRRST@aol.com>
Sent: Friday, April 10, 2015 12:24 PM
To: Sen. Bill Stoltze
Subject: Vote Aye for Senate Bill 1

Dear Senator Bill Stoltze:

As an American Heart Association|American Stroke Association advocate, I urge you to vote "Aye" on Senate Bill 1.

The U.S. Surgeon General has declared that there is no safe level of exposure to secondhand smoke. It is a serious health hazard, causing heart disease and cancer. The 2006 surgeon general's report further states "the evidence is sufficient to infer a causal relationship between exposure to secondhand smoke and increased risks of coronary heart disease among both men and women."

Currently, more than half of Alaskans live in communities with smoke-free workplace laws in place, but the remaining population lives in areas that are unable to enact smoke-free workplace laws due to limited power in the local government.

Additionally, Alaskans strongly support smoke-free indoor workplaces:
" 4 in 5 Alaska adults support smoke-free workplaces.
" Support for smoke-free indoor workplaces includes a strong majority of current smokers (59%) as well as former smokers (80%).
" Alaskan support for smoke-free indoor workplaces is high throughout all regions of the state, ranging from 75% to 84%.

I support SB 1 to make Alaska a healthier pace to live. Please vote "Aye" on this important bill.

Sincerely,
Gail Forrest
11569 Discovery View Dr
Anchorage, AK 99515-2752

Daniel George

From: george scharf <georgescharf@yahoo.com>
Sent: Wednesday, April 08, 2015 6:57 PM
Chuck Kopp
Sen. John Coghill; Sen. Bill Stoltze; Sen. Lesil McGuire; Sen. Bill Wielechowski; Sen. Charlie Huggins
Subject: support SB1

Dear Senators,

I've been a resident of Alaska since 1978. I've seen Alaska, and especially, the Mat Su Valley, grow as a community. I've enjoyed some of the changes that have happened during my residence in Alaska. I believe one of the changes that needs to be made in this state is to have smoke-free indoor workplaces.

There are still bars and restaurants that allow smoking in Wasilla. Smoking is a public health issue, and yet we still allow smoking inside buildings and workplaces. The correlation between smoking and lung cancer is undeniable.

Many individuals who are employed in restaurants and bars that allow smoking are unable to leave their jobs because they need them. It would seem as if the employees forced to work where smoking is permitted are simply not being afforded the same rights as others. I pity those with asthma or COPD who cannot endure the effects of secondhand smoke.

Please support the public health of all Alaskans and vote in favor of SB1.

George Scharf
P.O. Box 876658
Wasilla, AK 99687
907-745-6833

Daniel George

From: Inna Rivkin <idrivkin@alaska.edu>
Sent: Thursday, April 09, 2015 11:32 PM
To: Chuck Kopp
Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: Support for smoke-free workplace law Senate Bill 1

To the Senate State Affairs Committee,

As a Fairbanks resident who values the freedom of all workers to breathe smoke-free air, I am very happy to see the progression of a bill that would create a smoke-free workplace law. This development brings great hope and anticipation. I have lived in Fairbanks for eight years, and look forward to many more decades here in this beautiful and vibrant place.

As you know, a smoke-free campus policy has been approved at University of Alaska campuses. As a faculty member at UAF, I am grateful for the ability to breathe clean air at my workplace. But not everyone experiences this benefit. I believe that all workers deserve the right to breathe smoke-free air, regardless of their occupation. No-one should have to choose between their job and their health. The health risks that workers face at smoky establishments are ones that are preventable with a change in policy. It's time for this change to happen.

A smoke-free workplace law would protect the health of workers, as well as customers and the public as a whole. Broad environmental policies such as this one have significant health impacts. It can help protect health for generations to come.

A smoke-free workplace law would also provide greater access and opportunities for those with health conditions that experience difficulties when exposed to tobacco. As someone with sensitivities to tobacco, I experience health problems when exposed for even short periods of time. Due to my sensitivities, I have to avoid not only establishments where smoking is allowed, but even places that share walls or ventilation with smoky establishments. For example, Lemongrass Thai, and Loose Moose Café both choose to be smoke-free establishments, yet they are infiltrated with smoke from the bars next door. A smoke-free workplace law would result in clean air in such places as well, protecting the health of customers and workers and the vitality of their business. The regulations limiting smoking around doorways would also reduce the smoke exposure people like me have to deal with in our day to day lives when trying to get in or out of various establishments.

Although I personally struggle with the health effects of exposure to smoke, whether I'm trying to get into the doorway of Fred Meyers or figuring out which social opportunities I can safety join in on, the most compelling reason for a smoke-free workplace law is for the workers who are heavily exposed in their jobs, day in and day out. I am grateful for the ability to breathe smoke-free air at my workplace, and feel that other workers, including restaurant and bar staff, should experience the same benefits, regardless of where they work. I support smoke-free workplaces for Alaska.

Thank you,

na Rivkin

2053 Toboggan Lane

Fairbanks, AK 99709

Daniel George

From: Jim F <jimfassler@gmail.com>
Sent: Wednesday, April 08, 2015 6:21 PM
To: Sen. Bill Stoltze
Subject: SB Statewide no smoking

I oppose exemptions to the no smoking initiative. All or Nothing!! Other communities in the state have not had negative impact to business because of smoking bans.
Thank you
Jim Fassler
36815 Cheechako News Dr
Soldotna, Alaska 99669
907-398-8384

Marie Murray

From: Kea Bekkedahl <kbekks23@gmail.com>
Sent: Thursday, April 09, 2015 9:39 AM
To: Marie Murray
Subject: Smoke free alaska sb1

Hi I'm kea bekkedahl and I am a junior at mat-su career and technical high school in Wasilla.
Whenever I walk through a public place like a grocery store, I see adults outside the store smoking. I don't believe that I should have to hold my breath as I walk past them as I buy food. Teenagers see these adults and many of them probably don't have the same mindset I do when I walk past smokers. They might see someone smoking who they may look up to. The people we look up to can greatly affect what we choose do do with our life. Do we want to encourage teens to get lung cancer?
Individuals shouldn't have to get involuntary second hand smoke just because they want to go to a public place. They should be free to breath smoke free air. For the health of smokers, employers shouldn't be allowing their employees to smoke during breaks because not only is it affecting others around the smoker, it is affecting the smoker themselves. By allowing employees to smoke at work, employers are ultimately encouraging their employees to have unhealthy lives with the string possibility of heart problems. These smokers may want to quit smoking and allowing these smoke breaks to continue smoking doesn't help the smoker's journey in quitting.
It is important that teens see the bad effects of smoking and seeing their mentors or role models destroying the health of themselves and the others around them.

Sent from my iPod

Daniel George

From: Kira Page <page.kira@yahoo.com>
Sent: Wednesday, April 08, 2015 5:07 PM
To: Chuck Kopp
Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski; haronno@gmail.com
Subject: Support for SB 1

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Editor,
I am writing as a concerned citizen and voicing my support for a comprehensive smoke-free ordinance that would cover ALL employees in any worksite in the state of Alaska.
I have spent a great amount of time in restaurants and workplaces where secondhand smoke is prevalent. Understanding the negative effects of secondhand smoke, I am a firm believer that smoke-free workplaces are necessary.
It is a fact that secondhand smoke is a health hazard. It contains more than 4,000 chemicals and can lead to many health problems, including heart disease, cancer, respiratory infections and asthma.
As an Alaskan, I believe that I have the right to breathe clean air in restaurants, bars and other workplaces. I do not choose to smoke and therefore should not have to be exposed to smoke when I am in public.
Evidence shows that strong smoke-free laws that cover all workplaces including restaurants and bars are effective at reducing the risk of secondhand smoke exposure. In fact, laws that support strong smoking ordinances prove to have no adverse effect to the revenue of business owners. Consequently they have improved the health of the employees and communities tremendously.
I urge constituents to express their desire for an ordinance that includes ALL workplaces.
Fifty years after the first Surgeon General's report we have learned that the estimated increase in risk for stroke from exposure to secondhand smoke is about 20 percent to 30 percent.
Furthermore, the Surgeon General's report states that, "the evidence is sufficient to infer a causal relationship between the implementation of a smoke-free law or policy and a reduction in coronary events among people younger than 65 years of age."
Secondhand smoke kills smokers and nonsmokers alike. I should not be at a higher risk for health problems because I go to restaurants or other workplaces that allow smoking. The harmful effects of secondhand smoke should be eliminated by simply requiring smoke-free workplaces.
I further encourage the lawmakers to not exempt any businesses, nor make an exception for e-cigarettes and vape pens. . The science is clear, there is no safe alternative other than a complete smoke-free law that covers all public workplaces.
Kira Page
6109 Debarr rd #107
Anchorage, AK 99504
5412072861

Daniel George

From: Lisa McCutcheon <lmccutcheon@threadalaska.org>
Sent: Friday, April 10, 2015 7:09 PM
To: letters@alaskadispatch.com
Sen. Bill Stoltze; senator.john.coghill@akleg.govl; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski; haronno@gmail.com
Subject: Smoke Free Work Places in Alaska In memory of Carl McCutcheon

Dear Editor,

Secondhand smoke is a major cause of chronic illness and disability such as emphysema, asthma, and respiratory infection. Just as we expect workplace protection from other deadly toxins like asbestos, benzene, and lead, why should people not be given common sense workplace protection from this preventable cause of disease and death?

A recent study determined that even a half hour of exposure to secondhand smoke dramatically increases a person's short-term risk of heart attack. This is a result of the immediate effect secondhand smoke has on the cardiovascular system of nonsmokers. Other research shows that short-term secondhand smoke exposure "activates" blood platelets, making them sticky and starting the process of atherosclerosis (blockage of the heart's arteries).

Nonsmokers regularly exposed to secondhand smoke suffer death rates 30 percent higher than that of unexposed nonsmokers. Studies show that smokefree policies work. They protect the health of nonsmokers, who make up over

80 % of Alaska's population, and also benefit employers. Employees who work in smokefree environments are healthier, suffer less absenteeism, and file fewer workers' compensation claims. Employee turnover is less frequent, reducing the associated training costs. In addition, many insurance companies discount their fire, property, and health policy premiums for smokefree workplaces.

Thousands of cities, counties and states across the country have enacted laws protecting the working public from secondhand smoke. In Alaska, the Municipality of Anchorage and several cities like Palmer, Juneau, Nome and Bethel have all passed 100% smokefree ordinances for worksites and public places. Other localities are unable to enjoy the benefits of similar health regulation due to their lack of status as first class cities.

Alaska needs a clean indoor air law - for the health of our citizens and to reduce exposure to the harms of secondhand smoke.

I have already lost my father to lung cancer since 2005 because laws were not in place for his protection or others protection from first and second hand smoke.

Respectfully,

Lisa McCutcheon, M. Ed

Professional Development Specialist

Direct: 907.265.3112

Main: 907.265.3100 or 800.278.3723

Fax: 907.265.3191 or 877.563.1959

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www.threadalaska.org / Facebook

3350 Commerical Drive, Suite 203

Anchorage, AK 99501

Daniel George

From: Michelle Maynor <michelle@interiorgraphics.com>
Sent: Thursday, April 09, 2015 3:04 PM
To: Chuck Kopp
Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: Support for Senate Bill 1

Good Afternoon -

I just wanted to drop you a note and let you know that I fully support the approval of Senate Bill 1.

Alaska is a great State with some amazing people in it. Those people deserve the right to breath clean, smoke-fee air. SB1 doesn't prevent folks from smoking regular or e-cigarettes, it just makes sure they are not doing it in a place that would infringe on others rights to unpolluted air.

This is an important issue to me because I have a daughter that will be entering the workforce soon and the types of jobs she'll likely get while she's attending UAF will most likely be in food service or waitressing. She won't have much influence and won't be able to voice her opinion, other than looking for work elsewhere.

As adults, employers and lawmakers, we have a responsibility to provide safe places for all our residents to work, and SB1 will make that easier to enforce statewide.

Thank you for your consideration,

Michelle Maynor

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Daniel George

From: Octavia Harris <octavia.m.harris@gmail.com>
Sent: Thursday, April 09, 2015 9:11 AM
To: Chuck Kopp
Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: SB1:Taking It Outside

Dear State Affairs Committee,

I live and work in Fairbanks. My husband and I have two growing and active boys. Our oldest boy, a teenager, and I both have asthma. One of our triggers is cigarette smoke. In Fairbanks we experience exposure to secondhand smoke as we enter and leave many public places including grocery stores. Individuals stand right by doors and intakes making it difficult to avoid. Each asthma attack caused scarring on our lungs, aging is from the inside out. Additionally there are many workplaces that allow indoor smoking and there is concern that my son will have to suffer exposure as he enters the workforce in Fairbanks. E-cigarette use is also a concern as many youth and young adults are not aware of the dangers of e-cigarettes and are using these products at higher rates than traditional cigarettes or even in combination.
I support SB1 and strongly believe that it provides protection for all Alaskans. I ask the committee to support SB1 and pass it through the State Affairs Committee.

Thank you,
Octavia Harris
1353 Joyce Drive
Fairbanks, AK 99701

Daniel George

From: Rose Lyford <roselyford@gmail.com>
Sent: Thursday, April 09, 2015 8:41 AM
To: Chuck Kopp
senator.bill.stoltze@akleg.gov

Dear Senators,

Legislative officials have an obligation to their voters to protect their health and

well-being. That is why The Alaska State House and Senate need to pass a smokefree workplace regulation.

When officials discover that the lives of thousands of workers are at risk and there

is something they can do to rid citizens of this risk, they must take the issue up and deal with it. Such is the case with secondhand smoke. Every day thousands of Alaskan employees enter workplaces where secondhand smoke impacts their health.

I urge our elected officials to act boldly and pass a health regulation

providing smokefree air in our worksites.

Rose Lyford
3560 south Phenix
Wasilla, Alaska 99623

Sent from my iPhone

Daniel George

From: Sunny Hemen <krazysunny96@gmail.com>
Sent: Wednesday, April 08, 2015 8:39 PM
To: Chuck Kopp
Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: Support for Senate Bill 1

Dear Members of the Senate State Affairs Committee,

My name is Sunny Hemen, and I live in Eagle, Alaska, where there is no smoke-free workplace ordinance. I am 15 years old and I go to Eagle Community School. I am in full support of Senate Bill 1.

I am growing up around secondhand smoke and vapor from cigarettes and other tobacco products. Secondhand smoking effects my health. I have suffered from asthma for about three years, ever since I stopped smoking. If I am around someone else who is smoking or vaping, my throat closes up and I can't breathe. It is not my decision, but the choice of those around me. I should be able to go into businesses and public places without having to be concerned about secondhand smoke. I believe that I should always be in control of the chemicals that go into my body, not those around me. Because of this, I am in full support of Senate Bill 1.

Thank you for your time.

Sincerely,

Sunny Hemen
161 Taylor Highway
Eagle, Alaska 99738

Daniel George

From: Terrence Robbins <trobbins3710@outlook.com>
Sent: Wednesday, April 08, 2015 5:07 PM
To: Chuck Kopp
Sen. Bill Stoltze; Sen. John Coghill; Sen. Charlie Huggins; Sen. Lesil McGuire; Sen. Bill Wielechowski
Subject: I Support SB1

Follow Up Flag: Follow up
Flag Status: Completed

Honorable Senators,

Hi! My name is Terrence Robbins, and I was born and raised in Alaska and I fully support Senate Bill 1.

As we all know, the damaging effects of smoking kill many Alaskans every year. In 1982, while I was in high school, my grandfather, Alfred Gordon of Juneau, died from lung cancer. My mother, June Robbins of Ketchikan, who settled in Alaska in the 60's, lost both of her parents to cancer before I was old enough to remember them. After their death, she brought two brothers and three sisters to Alaska where they lived until retirement. She retired from the Ketchikan Legislative Information Office. My mother's sister, Eileen Jones of Juneau, worked for the State of Alaska and died from cancer shortly after her retirement in 2007. Her sister Laura D'Arcy of Butte, Montana, who loved visiting Alaska with her family, was killed by cancer 2010. Her brother Earl McLean of Ketchikan, died from smoking-related heart disease in 2010. Her husband, and my father, Dale "Mickey" Robbins of Ketchikan, who worked for the Alaska DOT for 30 years, retired from the State after being treated for cancer. Thankfully he is a cancer survivor, as is his sister Connie Libel of Juneau, who lost an arm to cancer as a teen, yet still had a successful career with Alaska Airlines.

Personally, I became addicted to snus (Kodiak-brand) when I was thirteen and playing Senior League Baseball in Ketchikan. I ended up chewing tobacco (first Kodiak, then Skoal, and finally, Copenhagen) for the next 20+ years. I used Commit lozenges for TWO YEARS before I was free from my nicotine addiction. Kodiak has a pleasant wintergreen flavor, was inexpensive, my friends also chewed it, and it gave me a great buzz. Fast forward from the 1980's to today, and replace the word "Kodiak" with "E-Cigarettes" and we have our answer to how we can addict the next generation of 13-year-olds to nicotine products.

I support SB1 because I have witnessed the last, ragged, breath that my only grandfather took and I saw my mother spend two "retirement" years desperately trying to comfort and care for her little sisters as they wasted away and eventually succumbed to their cancer. Smoking is so addictive, and so deadly, that, in my opinion, this simple act: protecting our friends, our family, and our neighbors from second hand smoke, will surely prevent illness, it will save lives, it will help tobacco users to quit smoking, and, by changing community norms regarding smoking, that it will reduce youth smoking rates.

Thank you very much for you hard work!

Terrence Robbins, Ketchikan, AK

From The Desk
Of
Larry J. "Hack" Hackenmiller
518 Farmers Loop Road
Fairbanks, Alaska 99712
Phone: 907-457-1327 Fax: 907-457-1328 Cell: 907-388-4677

April 9, 2015

SB1

Public Testimony

I speak against passage of SB1. The intent of this bill to protect the public has got to be the biggest hazard con this state has ever witnessed. And I don't understand why big government wants to protect public's rights because the people choose not to or don't have the government powers to do it themselves in their respective communities.

The con is representing secondhand smoke as a hazard when every chemical associated with secondhand smoke falls way under permissible exposure limits, PELs, established by OSHA using the chemical list provided by the EPA. This science backed standard has been in place since the beginning and is the standard used by the EPA in determining risk factors for toxic air. This standard has never been challenged, questioned or discredited and is accepted as the uniform standard used by all parties involved in air quality.

An example of this would be the chemical substance CARBON MONOXIDE, CO. The OSHA PEL is 50 ppm for an 8-hour period. OSHA standards prohibit worker exposure to more than 50 parts of gas per million parts of air averaged during an 8-hour exposure time. If the PEL for this chemical is not exceeded it is considered **SAFE** to inhale.

Not one of these chemicals in secondhand smoke gets close to their PELs for any secondhand smoke concentrations in any room in any building to be considered, implied or perceived to be a hazard to anyone inhaling it. Yes, that means **employees are not working under a hazardous workplace condition if secondhand smoke is present.**

It follows that if secondhand smoke in a building is safe to inhale under real scientific standards applied today how can it kill 60 Alaskans or 41,000 other people a year? Or another major health issue attributed to secondhand smoke exposure? Seems highly improbable that one report from OSHA could set aside everything we were told about secondhand smoke. This is why I refer to SB1 as the biggest con Alaska has experienced to date.

When an HSS committee member ask the sponsor of SB1 if smoking exceeds air quality standards in the workplace and why can't OSHA enforce this law the sponsor replied, "**he has not measured air quality as it related to smoking.**" And, "He pointed out that at the federal level there is opposition to this bill. It has been difficult to classify tobacco smoke so that state

From The Desk
Of
Larry J. "Hack" Hackenmiller
518 Farmers Loop Road
Fairbanks, Alaska 99712
Phone: 907-457-1327 Fax: 907-457-1328 Cell: 907-388-4677

or federal OSHA would regulate it. He opined that tobacco smoke far exceeds many other dangerous materials."

Did I miss something here? Doesn't SB1 expound on the hazards of secondhand smoke in the air which would directly relate to the air quality being inhaled by the public who has a right to smoke-free air? But, according to the sponsor, the air quality in tobacco smoke was not researched or looked into yet it is this air that is the root for screaming all the hazards of air filled with secondhand smoke. If you didn't research the air quality in tobacco smoke how do you know that tobacco smoke far exceeds many other dangerous materials?

This state affairs committee should be looking at a state affair on the serious misrepresentation on educating the public about the **lethal** effects of exposure to secondhand smoke. **Lethal** in my pocket dictionary means **deadly, fatal.** This appears in AS Sec 44.29.020 for the Dept. of Health and Social Services to administer programs of public health to include a comprehensive smoking education, tobacco use prevention, and tobacco control program. It states the program must include (c) anti-tobacco counter-marketing targeting both youth and adult populations designed to communicate messages to help prevent youth initiation of tobacco use, promote cessation among tobacco users, **and educate the public about the lethal effects of exposure to secondband smoke.**

Really! One whiff of secondhand smoke will be fatal!

I don't believe the EPA or any recognized health institution has ever used the word **lethal** even in their misguided conceptions on risks associated with secondhand smoke. The word **lethal** in this application is not only a gross misrepresentation of the facts but it is gross negligence on the backs of those who wish to rule. This wording is used in the HSS mandated smoking education program that is handed out to the general public. I believe the creation of this unwarranted fear in the minds of the public state propaganda was more intentional than a simple oversight. It is no wonder the surveys indicate a major percentage of the population is in favor of smoking prohibition and SB1 seems to exploit this. Selling fear to the public is faster than selling facts.

Reality is that SB1 is protecting the public from the **SAFE** exposure to secondhand smoke which calls to question why we need more laws that protect the public from something that they don't need protection for.

If you must address the fear that you, the state, has, with malice, instilled in the minds of the public I suggest you come up with a law to post signs at all places where the public goes that would indicate if that facility is a smoking facility. This would allow the public to exercise their right to smoke-free air and protect themselves from the perceived risks on inhaling secondhand smoke. Proper signage would be a less restrictive means of advancing the state public health interests.

Attachment 1

State Affairs Testimony

SB1

9-Apr-15

Email from Dave Guinn, Health Consultant with Alaska Occupational, Safety & Health
Official response to a the question "What are the OSHA standards for secondhand smoke in the workplace."

Print Close

OSHA Request 39519602: Environmental Tobacco Smoke

From: **Guinn, Dave (DOL)** (dave.guinn@alaska.gov)
Sent: Fri 3/20/15 11:41 AM
To: icharrfbks@hotmail.com (icharrfbks@hotmail.com)
Cc: Markiewicz, Krystyna A (DOL) (krystyna.markiewicz@alaska.gov)

Hello Mr. Hackenmiller,

My name is Dave Guinn, I'm a Health Consultant with Alaska Occupational Safety and Health, Consultation and Training, and I've been asked to respond to your question: "What are the OSHA standards for environmental tobacco smoke, ETS, or commonly referred to as secondhand smoke, in a workplace?"

The short answer to your question is: OSHA and AKOSH (Alaska Occupational Safety and Health) currently have no occupational safety and health regulations that directly address environmental tobacco smoke (ETS) in the workplace. (See Attachment 1 below for OSHA's position on ETS in the workplace).

However, Alaska Statute AS 18.35.300, Places Where smoking Is Regulated, prohibits smoking in "a place of employment in which the owner, manager, proprietor, or other person who has control of the premises posts a sign stating that smoking is prohibited by law." The text of the Alaska statute addressing smoking can be found at: http://www.legis.state.ak.us/basis/folioproxy.asp?url=http://wwwjnu01.legis.state.ak.us/cgi-bin/folioisa.dll/stattx12/query=*/doc/%7bt8695%7d. The state agency with jurisdiction for enforcing this statute is the Alaska Department of Environmental Conservation (ADEC). In addition to state regulations, the following communities have smoke-free workplace laws:

Anchorage

Bethel

Haines

Juneau

Klawock

Nome

Palmer

Petersburg

Skagway

Unalaska

Valdez

Reference: http://dec.alaska.gov/eh/fss/Smoking_Home.html

Tobacco smoke contains many (4,700+) chemical compounds, and some of these are addressed in the OSHA Air Contaminant Standard (29 CFR 1910.1000). Examples of these and their federal and Alaska-specific occupational permissible exposure limits can be found in the table below. For additional information on the hazards of the chemicals listed below, you can use the NIOSH Pocket Guide to Chemical Hazards, which can be found at this link: http://www.cdc.gov/niosh/npg/. While ETS is unlikely to produce hazardous chemicals in concentrations high enough to violate enforceable occupational exposure standards, they remain hazardous, and tobacco smoke in combination with exposure to other hazardous substances (e.g. crystalline silica, asbestos, radon gas) increases the health hazards synergistically.

In summary:

There are no OSHA or AKOSH occupational safety and health standards that directly address ETS:

While not regulated specifically, ETS contains hazardous chemicals that may be individually regulated by OSHA and AKOSH standards;

AKOSH PELs may be lower (more protective) than federal OSHA PELs;

While present, levels of these contaminants in air resulting from ETS are unlikely to reach levels that approach or exceed OSHA/AKOSH PELs;

Alaska statutes address smoking in public places, and smoking is prohibited in places of employment that management has designated as non-smoking;

Some Alaska municipalities have smoke-free workplace laws.

Contaminant	Federal PEL [1, 2, 3]	Alaska PEL [1, 2, 3, 6]
Carbon Monoxide (CO)	50 ppm	3S ppm
Nicotine	0.5 mg/m^3	0.S mg/m^3
Benzene	1 ppm or 10 ppm [5]	1 ppm or 10 ppm [5]

Formaldehyde [4]	0.75 ppm	0.75 ppm
Methanol (wood alcohol)	200 ppm	200 ppm
Ammonia	50 ppm	35 ppm

Notes:

PEL = Permissible Exposure Limit

PPM = Parts per million (Used for contaminants in the gas phase)

Mg/m^3 = milligrams per cubic meter (Used for contaminants in the solid (particulate) phase.)

See 29 CFR 1910.1048

Benzene is covered by a specific standard (29 CFR 1910.1028), which lists a PEL of 1 ppm as an 8-hour time-weighted average. 29 CFR 1910.1028(a)(2) lists exclusions, for which the 10 ppm PEL applies.

Alaska PELs are found in Alaska Administrative Code, 8 AAC 61.1100, Table Z-1-A. Link: http://www.legis.state.ak.us/aacpdf/ak861100.pdf

This table includes only 8-hour time-weighted averages; there may be additional exposure limits such as ceilings and short-term exposure limits (STELS), as well as action levels (e.g. 0.5 ppm for benzene), which trigger other requirements for employers. As with other occupational exposure limits, these are unlikely to be triggered by ETS exposure.

If you have any additional questions, please feel free to contact AKOSH at 907-269-4940, or you can contact me directly at 907-269-4949. Thank you for your interest in occupational safety and health.

ATTACHMENT 1: OSHA Policy on Indoor Air Quality: Office Temperature/Humidity and Environmental Tobacco Smoke

February 24, 2003

MEMORANDUM FOR: REGIONAL ADMINISTRATORS STATE PLAN DESIGNEES

THROUGH: R. DAVIS LAYNE
DEPUTY ASSISTANT SECRETARY

FROM: RICHARD E. FAIRFAX, DIRECTOR
DIRECTORATE OF ENFORCEMENT PROGRAMS

SUBJECT: OSHA Policy on Indoor Air Quality: Office Temperature/Humidity and Environmental Tobacco Smoke

On December 17, 2001 OSHA withdrew its Indoor Air Quality (IAQ) proposal and terminated the rulemaking proceeding (66 FR 64946). However, the Agency still receives public inquiries about IAQ, primarily office temperature/humidity and smoking in the workplace. For that reason, we have summarized the Agency's position and guidance on these topics. We are including language in the form of letters you can utilize when responding to complainants on these topics.

Office Temperature/Humidity

As a general rule, office temperature and humidity are matters of human comfort. OSHA has no regulations specifically addressing temperature and humidity in an office setting. However, Section III, Chapter 2, Subsection V of the OSHA Technical Manual, "*Recommendations for the Employer*," provides engineering and administrative guidance to prevent or alleviate indoor air quality problems. Air treatment is defined under the engineering recommendations as, "the removal of air contaminants and/or the control of room temperature and humidity." OSHA recommends temperature control in the range of 68-76° F and humidity control in the range of 20%-60%.

As a second source of guidance, American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Standard 55, *Thermal Environmental Conditions for Human Occupancy,* addresses "thermal comfort" in an office environment, which means that an employee wearing a normal amount of clothing feels neither too cold nor too warm. This standard discusses thermal comfort within the context of air temperature, humidity, and air movement and provides recommended ranges for temperature and humidity that are intended to satisfy the majority of building occupants. These ranges vary for cold and hot weather. ASHRAE addresses ventilation and the removal of air contaminants in a separate standard, ASHRAE Standard 62, *Ventilation for Acceptable Indoor Air Quality.*

As you know, hazards for which OSHA does not have a specific standard are governed by Section 5(a)(1) of the Occupational Safety and Health Act (the Act; General Duty Clause) which requires that employers provide employment and a place of employment that are free from recognized hazards that are causing or are likely to cause death or serious physical harm. Citations for violations of the General Duty Clause are issued when the four components of this provision are present, and when no specific OSHA standard has been promulgated to address the recognized hazard. These four components are: 1) the employer failed to keep his/her workplace free of a "hazard"; 2) the hazard was "recognized" either by the cited employer individually or by the employer's industry generally; 3) the recognized hazard was causing or was likely to cause death or serious physical harm; and 4) there was a feasible means available that would eliminate or materially reduce the hazard.

Office temperature and humidity conditions are generally a matter of human comfort rather than hazards that could cause death or serious physical harm. OSHA cannot cite the General Duty Clause for personal discomfort.

Environmental Tobacco Smoke (ETS)

Because the organic material in tobacco doesn't burn completely, cigarette smoke contains more than 4,700 chemical compounds. Although OSHA has no regulation that addresses tobacco smoke as a whole, 29 CFR 1910.1000 *Air contaminants,* limits employee exposure to several of the main chemical components found in tobacco smoke. In normal situations, exposures would not exceed these permissible exposure limits (PELs), and, as a matter of prosecutorial discretion, OSHA will not apply the General Duty Clause to ETS.

For further information to offer to employers/employees as guidance, you may wish to review a document published by the U.S. Environmental Protection Agency (EPA) about the health effects from environmental tobacco smoke, *A Fact Sheet: Respiratory Health Effects of Passive Smoking.* Additional information on indoor air quality in general can be found on the

Indoor Air Quality Technical Links page on the OSHA website.

I hope you find this information helpful. If you have any questions, please feel free to contact the Office of Health Enforcement at (202) 693-2190

End of Attachment 1

Dave Guinn

Industrial Hygienist

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Department of Labor and Workforce Development

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http://labor.alaska.gov/lss/oshhome.htm

I work for the Alaska Department of Labor and Workforce Development, Labor Standards and Safety Division and was recently assigned your request. I must preface this response by stating that I am not an attorney; and I cannot provide legal advice. I can provide you with the current clarification of the Occupational Safety and Health Regulations that are applicable in Alaska based upon the facts provided. All requests must be in the form of letter, fax, or electronic transmission to ensure accuracy, and will be retained for future reference. Statements and conclusions expressed herein may change depending upon the inclusion or exclusion of additional facts or background information. Due to periodic changes in OSHA Standards and their interpretations, it is important for you to review them regularly.

Attachment 2

State Affairs Testimony
SB1
9-Apr-15

Letter from Larry J. "Hack" Hackenmiller dtd April 1, 2015
Subject: Real science for the hazards of secondhand smoke

From The Desk
Of
Larry J. "Hack" Hackenmiller
518 Farmers Loop Road
Fairbanks, Alaska 99712
Phone: 907-457-1327 Fax: 907-457-1328 Cell: 907-388-4677

April 1, 2015

SB1

REAL SCIENCE EXISTS
for the
HAZARDS OF SECONDHAND SMOKE

Honorable Legislators,

The U.S. Environmental Protection Agency, EPA, has done the real science on the hazards of toxic chemicals. This includes those chemicals found in secondhand smoke. In the EPA risk assessments for chemicals found in toxic air pollutants the size of the increased health risks depends on 1) the exposure level or concentration level of the pollutant and; 2) duration or length of time a person is exposed to that specified concentration level.

OSHA, the U.S. Department of Labor **O**ccupational **S**afety and **H**ealth **A**dministration establishes permissible exposure limits, **PELs,** on all EPA chemical substances known to be in contact with workers or employees in the workplace. The PEL is based on a parts per million, ppm, concentration level and an 8 hour exposure time.

A clear example of this would be the chemical substance carbon monoxide, CO. The OSHA PEL is 50 ppm for an 8-hour time period. OSHA standards prohibit worker exposure to more than 50 parts of gas per million parts of air averaged during an 8-hour time period.

The OSHA PEL standard as a health benchmark level has never been challenged as to its scientific research reliability and is a standard used by the EPA in air toxin risk assessments.

The EPA classifies smoke coming from the butt of a cigarette, cigar or pipe or exhaled by a smoker as "Environmental Tobacco Smoke", ETS, and is sometimes called involuntary or passive smoking. Hereafter ETS will be called secondhand smoke to eliminate confusion.

OSHA has established PELs for all the measurable chemicals in secondhand smoke, including the 40 alleged carcinogens in secondhand smoke. According to OSHA **no harm will result from an 8-hour workday exposure to secondhand smoke.**

As for secondhand smoke in the air at a workplace, OSHA has stated outright that "Field studies of environmental tobacco smoke indicate that under normal conditions the **components** in tobacco smoke **are diluted below** existing Permissible Exposure Limits as referenced in the Air

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Contaminant Standard (29 CFR 1910.1000)....**it would be very rare to find a workplace with so much smoking that any PEL would be exceeded."**

(Bold letters added for emphasis)

(Letter from Greg Watchman, Acting Sec'y. OSHA, to Leroy J. Pletten, PHD, July 8, 1997)

The **data source.** Taking the figures for chemicals found in secondhand smoke from the EPA an independent Public Health Policy Research group, Littlewood & Fennel calculated the number of cigarettes that would be required to reach the **lowest publisbed "danger" threshold for each of the measurable chemical emissions found in secondhand smoke.**

The researchers posit a sealed, unventilated enclosure that is 20 feet square with a 9 foot ceiling clearance for all chemical measurements.

Based on the standard 8 hour workday exposure to toxic chemicals in a 20 square foot enclosed room some notable examples of their results are shown.

Chemical **BENZO(a)PYRENE**

222,000 cigarettes would be required to reach the EPA "lowest" published danger threshold.

Chemical **ACETONE**

118,000 cigarettes would be required to reach the EPA "lowest" published danger threshold.

Chemical **TOLUENE**

50,000 PACKS of simultaneously smoldering cigarettes.

Chemical **ACETALDEHYDE or HYDRAZINE**

More than 14,000 smokers would have to light up simultaneously in the little room to reach the EPA threshold at which they might begin to pose a danger.

OSHA and the Alaska authority on workplace safety, **AKOSH**, Alaska Occupational Safety and Health, have no occupational safety and health regulations that directly address secondhand smoke. They both use the standard PELs for chemical substances. In the absence of any occupational and health standards for secondhand smoke both authorities are governed by the Occupational Safety and Health Act, (the act: General Duty Clause) which requires that employers provide employment and a place of employment that are free from **recognized hazards that are causing or are likely to cause death or serious physical harm.**

Note the mandate for the General Duty Clause to be used where no other method exists the word **HAZARD** finds defimition in itself - "causing or likely to cause death or serious physical harm."

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Based on real science, common sense and reality prove secondhand smoke in the workplace is **NOT A HAZARDOUS WORK CONDITION** under the Occupational Safety and Health Act which requires that employers provide employment at a place of employment that are free from recognized hazards that are free from recognized hazards that are causing or likely to cause death or serious physical harm.

SCIENCE vs. PROPAGANDA

LUNG CANCER
In 1989 the EPA was charged with further evaluating the evidence of health effects of secondhand smoke.

In 1992 EPA published its report, "Respiratory Health Effects of Passive Smoking." Claiming secondhand smoke is a serious public health problem, that it kills approximately 3,000 nonsmoking Americans each year from lung cancer and that it is a Group A carcinogen (like Benzene, asbestos, and radon).

For this 1992 report EPA arbitrarily chose to equate secondhand smoke with mainstream (or firsthand) smoke. One of the agency's stated assumptions was that because there is an association between active smoking and lung cancer there also must be a similar association between secondhand smoke and lung cancer.

Thrown out. In November 1995 after a 20-month study, the Congressional Research Service released a detailed analysis of the EPA report that was highly critical of EPA's methods and conclusions. In 1998, in a devastating 92-page opinion Federal Judge William Osteen **vacated the EPA study, declaring it null and void.** He found a culture of arrogance, deception and cover-up at the agency.

Damage done. This thrown out null and void 1992 study was still cited by Surgeon General Richard Carmona 2006 report on secondhand smoke which made an absurd claim that there is no risk-free level of exposure to secondhand smoke. A false manifestation held as fact by the tobacco-control movement and government agencies, including our Alaska Health and Social Services Division, to justify the imposition of thousands of indoor smoking bans in public places.

More real science. In 2003 a definitive paper on secondhand smoke and lung cancer mortality was published in the British Medical Journal. It is the largest and most detailed study ever reported (up to 2010). The authors studied more than 35,000 never-smokers over a 39 year period and found no statistically significant association between exposure to secondhand smoke and lung cancer mortality.

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CONCLUSION.

You would be <u>scientifically correct</u> to assume secondhand smoke and lung cancer have little if nothing to do with each other. You would he <u>politically correct</u> to assume otherwise.

Statistics on secondhand smoke deaths, heart problems, SIDS, etc. all become discredited based on real science concerning permissible exposure limits for inhaling toxic chemical substances in a building. No science knows what causes Sudden Infant Death Syndrome, SIDS, or Asthma yet EPA pages state secondhand smoke as a cause. These children health issues are associated with home air toxins and not the incidental exposure of air toxins outside the home. An eighth month old child is not going to die from exposure to secondhand smoke from a restaurant or other public place. Any reference to protecting children by enacting secondhand smoke laws for public places is a stretch of reality if not a joke! And a home is not a public place.

If the state of Alaska wanted to restrict fact or fiction secondhand smoking restrictions in their buildings or holdings no legislation is required. The governor may restrict smoking in all state properties by executive authority as the administrator of the state's holdings.

The same is true for any property owner. The owner has a right to control or restrict smoking on their properties and has remedy such as trespassing laws to enforce their right. Hospitals and most restaurants are good examples of exercising these constitutional rights.

But the same constitutional right holds true for property owners to allow tobacco smoking in their facilities when no public health issue from hazardous working condition exists with the presence of secondhand smoke. A frequently used theory that the public has a right to smoke-free air ends on entering a private business that is open to the public and now becomes a choice under the rights and control of the owner. The right to smoke-free air does not lessen or eliminate the right to smoke-filled air. The smoke filled air coming from a forest fire violates what constitution right affixed to the right of secondhand smoke free air?

The city of Fairbanks does have health powers but voted not to pass a no-smoking ordinance in 2009. The city council determined from testimony given by anti-smokers that 85% of the restaurants in Fairbanks were non-smoking and there was no need to restrict smokers in 15% of the restaurants that still allowed smoking. (2015 less than 5% of the restaurants are non-smoking by choice) The credibility of the testimony that 50,000 people a year die from secondhand smoke was also a factor in the outcome of the city council vote citing no data in Fairbanks of any secondhand smoke deaths, or at least a death certificate listing secondhand smoke as the cause of death. My thoughts on this was that the city council was concerned about the Fairbanks air and not the air in California or anywhere else in the U.S.A. Just my observations from attending the meeting.

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LOCAL OPTION

SB1 does not allow for local option for cities, boroughs or unorganized villages to regulate smoking in their respective communities. Local option exists for alcohol and pending legislation on marijuana but nothing in SB1. One thought is that a small business in a small local community might find remedy in a legal action to discard state no-smoking restrictions arguing no real or proven health risk or hazard to the public health exists.

SOLUTION

We have grown so accustomed to testimonials from smoking prohibitionists and misguided health officials, to include the EPA and our own Alaska Health & Social Services Division, on the perceived dangers of secondhand tobacco smoke that we accept these manifestations as an article of faith even though scientific standards in place today prove otherwise.

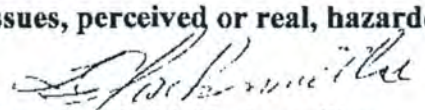
Recognizing that a majority of voting Alaskans fear secondhand smoke more than they fear God their misguided beliefs do need some recognition and response from government to address their concerns. *(Testimony – 82% of Alaskans survey want secondhand smoke laws – church attendance not that high!)*

For those who believe that being exposed to secondhand smoke is a health issue they should be given proper notice of a possible health issue where secondhand smoke may exist. The choice to put themselves in harm's way by exposing themselves to secondhand smoke would belong to them. We already do this by using public broadcasts to inform the public of health risks associated with forest fire smoke and particulate matter.

SB1 should be amended by deleting every section and add a new section that mandates all buildings in the state of Alaska that are open to the public post a sign at or near the entrance to that building that reads this building or identified portions of this building is a smoking facility or this building is a tobacco free facility – or wording to that effect.

This signage is applicable to taxi cabs or other vehicles involved in public transport and does not restrict those communities who already have no-smoking laws in place but will be required to post signs with appropriate language if their no-smoking laws do not have such notification signage.

You don't need a complicated fine system for those who don't have signs posted but you do need someone from Health & Social Services to provide and put up a sign when needed to protect the public from seeing or coming in contact with bad health practices. Because that is what Health & Social Services is supposed to do - keep the public informed of all health issues, perceived or real, hazardous or not? Fiscal note – pay for the signs.



Larry J. "Hack" Hackenmiller
Registered Voter Extraordinaire

SB1 testimony

My name is Sheb Garfield, I am a ex smoker, now an avid vaper, and manager at Cafe De Vapor.

SB1 includes personal vaporizers because of the fear of second hand vapor being as dangerous as second hand smoke, and its supporters tout that there isn't very much research on this subject so we should preemptively ban their use in public places and businesses . A short time on Google will show you the opposite, once you weed through the Blogs and articles hyping the evils of vaping that state opinion instead of facts, by cherry-picking certain results out of context, or using correlation as proof instead of causation. The biggest offenders being Americans for nonsmokers rights ie. Stanton Glantz's pseudoscience front, and most recently the california debacle called SmokeFree CA.

here are some recent studies showing that second hand vapor is risk free,
a peer reviewed study in toxicology and pharmacology published dec of 2014 compared the makeup of second hand smoke, and secondhand vapor to ambient air, ive included a copy of the study and the peer review with my testimony because there isn't enough time today to go over it all but here are some highlights.

- The e-cigarettes contained and delivered mostly glycerin and/or PG and water.
- Aerosol nicotine content was 85% lower than the cigarette smoke nicotine.
- The levels of harmful or potentially harmful chemicals in aerosol were consistent with the air blanks (<2 micrograms/puff).
- Mainstream cigarette smoke HPHCs (~3000 micrograms/puff) were 1500 times higher than e-cigarette HPHCs.
- No significant contribution of tested HPHC classes was found for the e-cigarettes.

the only difference this study found between ambient air and the vapor in a ecig was more VG, PG, and higher water content, everything else was consistent with the air we are already breathing in, let me say that again in case someone missed it, everything else was consistent with the air we are already breathing in.

Now lets take a look at some health experts that support vaping:

Dr Murrey Laughesen New Zealands most respected tobacco policy and health researcher

"... nicotine is one of the safest of drugs, and is being sold as the alternative to the most dangerous consumer product – the tobacco cigarette. Low risk compared to cigarettes is the real world risk that smokers face"

I chose this statement because the supporters of this bill including the Alaska Tobacco Control Alliance and Alaska Dept of Health keep claiming nicotine is as harmful and addictive as heroin, always talk about its addictive qualities, and dangerous health concerns. which brings me to the next quote, Dr. Jean-François Etter (PhD, MPH), Professor at University of Geneva

"Even if there are long-term vapers, this is not a problem, as long as they quit smoking. The problem is combusted tobacco, not nicotine. At the dosage used by vapers or users of nicotine gums or patches, nicotine is not toxic. Long term vaping is not a public health problem; not any more than long term use of nicotine gums."

comparison of e-cig aerosol to ambient air

peer review

http://www.sciencedirect.com/science/article/pii/S0273230014002505

download actual study

http://www.sciencedirect.com/science/article/pii/S0273230014002505/pdfft?md5=5f4aee56cba57fa54653d223da192939&pid=1-s2.0-S0273230014002505-main.pdf

Health experts on Vaping
this article cites the studies and interviews where the quotes were pulled from, as well as many other resources that show the lack of risk to second hand vapor and the benefits of vaping
http://vapers.org.uk/10-health-experts-who-endorse-e-cigarettes/

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Comparison of select analytes in aerosol from e-cigarettes with smoke from conventional cigarettes and with ambient air

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ABSTRACT

Leading commercial electronic cigarettes were tested to determine bulk composition. The e-cigarettes and conventional cigarettes were evaluated using machine-puffing to compare nicotine delivery and relative yields of chemical constituents. The e-liquids tested were found to contain humectants, glycerin and/or propylene glycol, (⩾75% content); water (<20%); nicotine (approximately 2%); and flavor (<10%). The aerosol collected mass (ACM) of the e-cigarette samples was similar in composition to the e-liquids. Aerosol nicotine for the e-cigarette samples was 85% lower than nicotine yield for the conventional cigarettes. Analysis of the smoke from conventional cigarettes showed that the mainstream cigarette smoke delivered approximately 1500 times more harmful and potentially harmful constituents (HPHCs) tested when compared to e-cigarette aerosol or to puffing room air. The deliveries of HPHCs tested for these e-cigarette products were similar to the study air blanks rather than to deliveries from conventional cigarettes; no significant contribution of cigarette smoke HPHCs from any of the compound classes tested was found for the e-cigarettes. Thus, the results of this study support previous researchers' discussion of e-cigarette products' potential for reduced exposure compared to cigarette smoke.

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1. Introduction

Electronic cigarettes (e-cigarettes) are a relatively new consumer product. Unlike conventional cigarettes, e-cigarettes do not burn tobacco to deliver flavor. Instead, they contain a liquid-based flavorant (typically referred to as e-liquid or e-juice) that is thermally vaporized by an electric element. This liquid typically consists of a mixture of water, glycerin, and/or propylene glycol. The liquid also contains nicotine and flavor, although nicotine-free products are available.

While there are decades of characterization studies and numerous standardized analytical procedures for conventional cigarettes, relatively little published analytical data exists for commercial e-cigarette products. Furthermore, no standardized test methods or reference products exist for e-cigarettes.

Electronic cigarettes are generally purported to provide reduced exposure to conventional cigarettes' chemical constituents because they deliver flavors and nicotine through vaporization rather than by burning tobacco. Goniewicz et al. (2014) reported low levels of select chemical constituents in select e-cigarette brands commercially available in Poland. A recent review of analyses from diverse e-cigarettes shows comparatively simple chemical composition relative to conventional cigarette smoke (Burstyn, 2014). However, limited published results exist for commercial products that represent a significant presence in the marketplace (Cheng, 2014).

The purpose of this study was to evaluate e-cigarette products with a significant presence in the marketplace for bulk composition, including nicotine, and for select constituents for comparison with conventional cigarette products. Three blu eCigs products (approximately 50% of the US market) and two SKYCIG products (approximately 30% of the UK market) were chosen for evaluation. Marlboro Gold Box (US), and Lambert & Butler Original and Menthol products (UK), with significant market share in their respective geographical areas, were included in the study for conventional cigarette comparisons.

Abbreviations: ACM, aerosol collected mass; HPHC, harmful and potentially harmful constituents; CO, carbon monoxide; TSNA, tobacco-specific nitrosamines; PAA, polyaromatic amines; PAH, polyaromatic hydrocarbons; LOQ, limit of quantitation; LOD, limit of detection; CAN, Health Canada Test Method T-115; blu CTD, Classic Tobacco Disposable; blu MMD, Magnificent Menthol Disposable; blu CCH, Cherry Crush, Premium, High Strength; SKYCIG CTB, Classic Tobacco Bold; SKYCIG CMB, Crown Menthol Bold; MGB, Marlboro Gold Box; L&B O, Lambert & Butler Original; L&B M, Lambert & Butler Menthol; TPM, total particulate matter; PG, propylene glycol.

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The products used in the study were evaluated for content and delivery of major ingredients (glycerin, propylene glycol, water, and nicotine) and for select constituents (carbon monoxide (CO), carbonyls, phenolics, volatile organic compounds (volatiles), metals, tobacco-specific nitrosamines (TSNAs), polyaromatic amines (PAAs), and polyaromatic hydrocarbons (PAHs)). Many of these constituents are included in cigarette industry guidance issued by the FDA that includes reporting obligations for harmful and potentially harmful constituents (HPHCs) in cigarette filler and smoke under section 904(a)(3) of the 2009 Family Smoking Prevention and Tobacco Control Act (FDA, 2012). For delivery studies, the conventional cigarettes were smoked under an intense puffing regime published by Health Canada (1999). The e-cigarettes were tested using minimal modifications to this smoking regime. Ninety-nine puffs were used to collect approximately the same aerosol mass as obtained from conventional cigarette testing. Ambient 'air' samples, empty port collections, were included as a negative control of aerosol testing for cigarette constituents (i.e. HPHC).

2. Materials and methods

2.1. Test products

Two disposable e-cigarette products and three rechargeable e-cigarette products were obtained from the manufacturers. Three conventional cigarette products were purchased through wholesale or retail sources for testing. Information for each of the products is listed in Table 1.

2.2. Methods overview

ISO 17025 accredited analytical methods were used to evaluate the cigarette samples for select HPHCs in mainstream smoke. Official methods are cited and other, internally validated, methods are briefly described for general understanding. Furthermore, because no standardized methods exist for e-cigarette analysis, the methods used to evaluate the conventional cigarettes were adapted to evaluate the e-cigarette products and the study blanks (room air). In an effort to maximize signal and lower methods' limits of quantitation, aerosol collection amounts were maximized (but maintained below breakthrough) and extraction solvent volumes were minimized. In some cases, alternative instrumentation was employed to improve detection. For example, mainstream smoke TSNAs were analyzed by GC–TEA while aerosol and air blank samples were analyzed by LC–MS/MS. Accuracy, precision, and method limits of quantitation and detection (LOQ and LOD) were verified for each method. On average, accuracy and method variability for the analytes tested were determined to be 98% and 3%, respectively. Analyte LOD and LOQ information is listed in Supplemental Appendix A Tables 1 and 2. Method resolution for low levels of analytes was influenced by background levels of select analytes in air control samples. These background levels are attributed to instrument or smoking machine carry-over as evidenced in solvent or air blanks. In addition, the high concentration of glycerin and water in e-cigarette aerosol present challenges for volatile-based measurement systems (i.e. GC). Additional method refinements and dedicated e-cigarette puffing machines are two areas for consideration to improve e-cigarette aerosol method sensitivities. Method development and verification details for e-cigarette liquids and aerosols are the subject of a future publication.

2.3. Smoke and aerosol collection

Cigarette preparation and machine smoking for conventional cigarettes are described in Health Canada Test Method T-115 (CAN) (1999). Two to three cigarettes were smoked per replicate for conventional cigarettes and 99 puffs were taken from single e-cigarettes for no more than approximately 200 mg of particulates collected per pad. Three to five replicates were tested for each measurement. Prior to analysis, filter pads from cigarette smoke collection were visually inspected for overloading of particulates, as evidenced by brown spotting on the back of the filter pad. To ensure no overloading of particulates for aerosol collection, e-cigarette units were weighed before and after collection to verify that product weight change and filter pad weight change were comparable. Air blanks were prepared by puffing room air (99 puffs) through an empty smoking machine port to the indicated trapping media for an analysis method. These air blank samples were prepared and analyzed in the same manner and at the same time as the e-cigarette aerosol samples. Smoke and aerosol collection sections were conducted separately. Smoke and aerosol particulate was collected onto 44 mm glass fiber filter pads with >99% particulate trapping efficiency for each replicate analysis. For carbonyls, smoke/aerosol was collected directly by two impingers, in series. For smoke metals analysis, electrostatic precipitation was used. For volatiles and PAH determinations, single chilled impingers were placed in-line with the filter pads. e-Liquid glycerin and nicotine were quantitated using GC–FID and/or GC–MS using a method equivalent to ISO 10315 (ISO, 2000a). e-Liquid water was quantitated using Karl Fischer analysis. A reference e-liquid was developed and used as a testing monitor for ingredient determinations in the e-liquid samples. The reference e-liquid is composed primarily of glycerin, propylene glycol, and water with low levels of nicotine, menthol, and Tween 80. The Tween 80 is added to improve solubility of menthol in the solution. The reference is not meant to directly mimic an e-liquid used for consumption but merely used for analytical control charts. Three replicates were tested for each sample and the reference.

2.4. Analytical assays

Carbon monoxide was determined concurrently with aerosol and smoke collection for nicotine and water and analyzed by NDIR using ISO method 8454:2007 (ISO, 2007). Carbonyls were trapped using 2,4-dinitrophenylhydrazine as a derivatizing agent with

Table 1
List of cigarette and e-cigarette products tested.

Product	Manufacturer	Product type	Nicotine information provided on packaging
Classic Tobacco Disposable (blu CTD)	blu eCigs	Disposable e-cigarette	Content: 24 mg/unit
Magnificent Menthol Disposable (blu MMD)	blu eCigs	Disposable e-cigarette	Content: 24 mg/unit
Cherry Crush, Premium, High Strength (blu CCH)	blu eCigs	Rechargeable e-cigarette	Content: 16 mg/unit
Classic Tobacco Bold (SKYCIG CTB)	SKYCIG	Rechargeable e-cigarette	Content: 18 mg/unit
Crown Menthol Bold (SKYCIG CMB)	SKYCIG	Rechargeable e-cigarette	Content: 18 mg/unit
Marlboro Gold Box (MGB)	Philip Morris USA	Conventional cigarette	–
Lambert & Butler Original (L&B O)	Imperial Tobacco	Conventional cigarette	Yield: 0.9 mg/cig (ISO)
Lambert & Butler Menthol (L&B M)	Imperial Tobacco	Conventional cigarette	Yield: 0.5 mg/cig (ISO)

subsequent analysis by UPLC–UV using CORESTA method 74 (CORESTA, 2013). For phenolics determination, filter pads were extracted with 20 mL of 1% acetic acid/2.5% methanol (MEOH) in water using 30 min of agitation. Extracts were analyzed by UPLC-fluorescence detection using a C18 column for separation. For volatiles analysis, filter pads and impinger solutions (20 mL MEOH) were combined. Extracts were analyzed by GC–MS in SIM mode using a WAX capillary column. For metals analysis, cigarette smoke was collected using an electrostatic precipitator while e-cigarette aerosol was collected on glass fiber filter pads. After smoking, the cigarette smoke condensate was rinsed from the electrostatic precipitation tube using methanol. The dried condensates were digested using hydrochloric (10% v/v), nitric acids (80% v/v), and heat and were diluted prior to analysis by ICP-MS. For aerosol samples, filter pads were extracted using 20 mL of a mixture of nitric (2% v/v) and hydrochloric acids (0.5% v/v) using wrist action shaker (20 min). Resultant extracts were analyzed by ICP-MS equipped with an octapole reaction cell.

For TSNA analysis of smoke, samples were extracted in nonpolar solvent, treated to an SPE clean-up, concentrated and analyzed by GC–TEA following CORESTA method 63 (CORESTA, 2005). For TSNA analysis of aerosol samples, filter pads were extracted with 20 mL of 5 mM aqueous ammonium with 15 min of shaking. Extracts were analyzed by LC–MS/MS with a C18 column. For PAA determinations, filter pads were extracted using 25 mL of 5% HCl (aq) and shaking (30 min) followed by solvent exchange and derivatization with pentafluoropropionic acid anhydride and trimethylamine. After an SPE clean-up step (Florisil® SEP-PAK), samples were analyzed by GC–MS in SIM mode using negative chemical ionization. PAH analysis was conducted by extraction in MEOH followed by SPE clean-up and analysis by GC–MS in SIM mode (Tarrant et al., 2009).

The results obtained from these analyses were tabulated as mean ± one standard deviation for levels of selected compounds in Supplementary Appendix A. In cases where quantifiable amounts of analyte were present in an e-cigarette aerosol sample above that of the associated air blanks, an Analysis of Variance (ANOVA) was used to compare the means for the cigarette smoke data with respective aerosol data. Statistical analyses were performed using JMP 10.0.0 (SAS Institute, Inc. Cary, NC, USA). The significance level was established as $p < 0.05$ for all comparisons.

3. Results and discussion

3.1. Collection of aerosol

Machine smoking of cigarettes under standardized regimes is for comparative purposes and is not intended to represent the range of consumer smoking behaviors. Thus, standardized equipment, cigarette reference products, and methodology have been established to allow comparison of different products under a common set of controlled conditions. ISO 3308:2000E and Health Canada (CAN) methods are frequently used for standardized smoking of conventional cigarettes for the purposes of laboratory comparisons among products (ISO, 2000b; Health Canada, 1999). Following each of these methods, conventional cigarettes are smoked to a specified butt length using a fixed and specified puffing volume, duration, and interval.

Regarding e-cigarette experimentation, there is no generally accepted standard e-cigarette puffing regime at this time. Topography studies are limited but anecdotal information indicates e-cigarette usage depends greatly on the individual consumer and product design and capabilities. For the purposes of this study, our objective was to collect sufficient aerosol to be able to detect, if present, select HPHCs. A wide range of parameters would be adequate to accomplish this. Given the objectives of this study, use of collection parameters which are compatible with conventional and electronic cigarettes was essential for facilitating comparisons between cigarette smoke and e-cigarette aerosol. The more intense of the standard regimes used with cigarettes, CAN, which requires 55 mL puffs taken twice a minute, was adapted for this investigation. The key difference required for testing e-cigarettes with the CAN method is that a fixed puff count (rather than 'butt length') is necessary for aerosol collection. A standard of 99 puffs was adopted for all e-cigarette and air blank analyses. This puff count provides similar total particulate collection per pad between the e-cigarette samples and the conventional cigarette testing. This also represents approximately 11 times more puffs than are typically observed for a conventional cigarette. Marlboro Gold Box, L&B O, and L&B M averaged 9.1, 8.2, and 7.2 puffs per cigarette, respectively, when machine-smoked to the standard butt length. If more aggressive puffing parameters had been chosen for the study, the puff count specification would have been lowered to maintain the target level of ACM collected. Note that the range of puffs collected in-use may vary widely depending on product design, battery strength, and user puffing preferences. Thus, the 99 puffs collection in this study is not intended to represent a life time use yield for any of the analytes tested.

3.2. Aerosol and smoke characterization – reference information

Traditional cigarette testing incorporates the use of monitor or reference cigarettes that serve as positive controls and provide quality metrics for standardized analytical methods. Key examples are Kentucky Reference cigarettes and CORESTA monitor cigarettes (CORESTA, 2009; ISO, 2003; University of Kentucky, 2014). Each of

Table 2
Percent composition of e-liquid and aerosol.

	Glycerin (%)	Propylene glycol (%)	Water (%)	Nicotine (%)	Flavor[a] (%)
e-Liquid composition					
blu Classic Tobacco Disposable	82	–	9	2	7
blu Magnificent Menthol Disposable	75	–	18	2	5
blu Cherry Crush High Premium	77	–	14	2	7
SKYCIG Classic Tobacco Bold	24	67	6	2	1
SKYCIG Crown Menthol Bold	21	66	7	2	4
e-Cigarette aerosol composition[b]					
blu Classic Tobacco Disposable	73	–	15	1	11
blu Magnificent Menthol Disposable	80	–	18	2	–
blu Cherry Crush High Premium	70	–	19	1	10
SKYCIG Classic Tobacco Bold	24	61	10.4	1.4	3
SKYCIG Crown Menthol Bold	21	59	12	2	6

[a] Flavor content is estimated by difference.
[b] Aerosol % composition calculated based on the ACM delivery as analyte yield (mg)/ACM (mg) × 100.

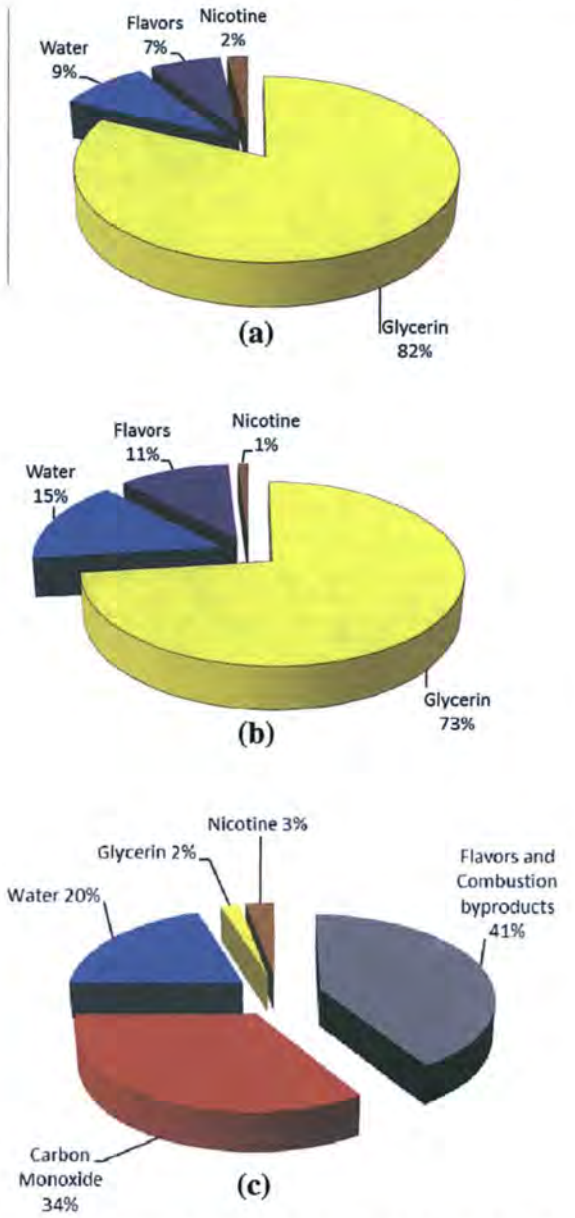

Fig. 1. Percent composition comparison for e-liquid, e-cigarette aerosol, and cigarette smoke: (a) Classic Tobacco Disposable e-liquid Composition. (b) Classic Tobacco Disposable Aerosol Composition (99 puffs, CAN). (c) Marlboro Gold Box Smoke Composition (9 puffs, CAN).

these reference cigarettes can serve as a single positive control and an indicator of method variability within and among laboratories for all analytes of interest. The manufacture, design, and function of these reference products are similar to those of commercial cigarettes. Currently reference products are not available for e-cigarette testing. Given the range of e-cigarette designs, development of a consensus strategy to produce positive controls or monitors for e-cigarette testing is needed.

In the absence of standardized e-cigarette references, measures were taken to ensure experimental robustness. For example, aerosol collected mass (ACM) results for the e-cigarette samples were compared across methods as an indicator of puffing consistency for a given product among the machine-puffing sessions required to conduct the battery of tests. Thus, if a sample set yielded ACM outside of a specified ranged deemed typical for a given product, the sample set was repeated. This range was determined for each product based on collection of 20 or more replicates across the product lot using CAN parameters.

Also, because results from initial analyses indicated low or no measurable levels of many of the analytes, blank samples were included to verify any contribution of analyte from the laboratory environment, sample preparation, and/or analyses for each HPHC test method. The air blank results are listed with the samples' results in Tables 4 and 5. There were instances for which solvent blank and air blank samples had measurable levels of an analyte. This is due to the ubiquitous nature of some of the analytes, such as formaldehyde, or to carry-over. Laugesen reported similar findings (2009). These observations serve as a cautionary note regarding the measurement of extremely low levels of constituents with highly sensitive instrumentation.

3.3. Main ingredients

e-Liquid expressed from the individual products was tested for reported e-cigarette ingredients to compare the percent compositions of the e-liquids and the aerosols. Percent composition calculations of the ingredients are shown in Table 2 for each sample and in Fig. 1 for blu CTD, as this product's comparative results were exemplary of the samples. The primary ingredients in the e-cigarette samples were glycerin and/or propylene glycol ($\geqslant$75%). Water ($\leqslant$18%) and nicotine (~2%) were also present. Based on a mass balance, other ingredients, presumed to be flavorants, were present at less than 7%. Note that this calculation would also include method uncertainty and any possible HPHCs, if present. The composition of the aerosol was calculated based on the ACM delivery as analyte yield (mg)/ACM (mg) × 100. The bulk composition of the delivered aerosol was similar to the bulk composition of the e-liquid.

By comparison, the total particulate matter (TPM) of the conventional cigarettes tested is 30% water and <5% nicotine. The essential difference between the ACM composition of the e-cigarettes tested and the TPM of the conventional cigarettes is that the remaining 65% of the TPM of the conventional cigarette is predominantly combustion byproducts. There was no detectable carbon monoxide in the emitted aerosol of the e-cigarette samples. The conventional cigarettes, on the other hand, delivered more than 20 mg/cig of CO. Smoke composition for Marlboro Gold Box, exemplary of the conventional cigarettes tested, is shown in Fig. 1 in contrast to the e-liquid and aerosol results for blu CTD.

While the percent composition of the nicotine in the ACM and TPM are relatively similar, it should be noted that the actual deliveries of nicotine are markedly lower for the e-cigarettes tested than the conventional cigarettes. The nicotine yields ranged from 8 μg/puff to 33 μg/puff for the e-cigarette samples which was 85% lower than the 194–232 μg/puff for the conventional cigarettes. These results are presented in Table 3.

3.4. Aerosol and smoke HPHC testing

For cigarette smoke analysis, the conventional cigarettes were machine smoked by established cigarette smoking procedures. Approximately 7–9 puffs per cigarette were collected. For the e-cigarette samples and air blanks, 99 puffs were collected. Results were compared on an 'as tested' basis; i.e. yields for a single cigarette of 7–9 puffs compared to yields from 99 puffs of an e-cigarette as displayed in Table 4. Additionally, in order to simplify making comparisons between the cigarette and e-cigarette samples, all values were converted to yield per puff. These results are summarized by class in Table 5. Results for individual analytes are tabulated as mean ± one standard deviation in Supplemental Appendix A Tables 1 and 2.

Table 3
Nicotine content and yield comparison between e-cigarettes and conventional cigarettes (mean ± standard deviation).

	Nicotine content (μg/unit)	Nicotine yield (μg/puff)
blu Classic Tobacco Disposable	20,600 ± 1500	33 ± 12
blu Magnificent Menthol Disposable	20,000 ± 300	25 ± 4
blu Cherry Crush High Premium	11,700 ± 300	8 ± 3
SKYCIG Classic Tobacco Bold	12,750 ± 295	29 ± 4
SKYCIG Crown Menthol Bold	13,027 ± 280	33 ± 6
Marlboro Gold Box	11,431 ± 80	226 ± 2
L&B Original	12,941 ± 26	232 ± 5
L&B Menthol	12,131 ± 24	194 ± 10

Number of replicates = 3–5.

Table 4
Analytical characterization of commercial e-cigarettes and conventional cigarettes collected using CAN parameters – select cigarette HPHC methodology (mg/total puffs collected) summary by analyte classes.

	CO	Carbonyls[a]	Phenolics[b]	Volatiles[c]	Metals[d]	TSNAs[e]	PAA[f]	PAH[g]	Sum
Marlboro Gold Box (mg/cig)	27	1.92	0.204	1.430	<0.00020	0.000550	0.000024	0.00222	<30.6 mg
L&B Original (mg/cig)	22	1.89	0.26	1.02	<0.0002	0.000238	0.000019	0.00219	<25.2
L&B Menthol (mg/cig)	20	1.81	0.17	0.94	<0.0003	0.000185	0.000017	0.00153	<22.9
blu CTD (mg/99 puffs)	<0.1	<0.07	<0.001	<0.001	<0.00004	<0.00002	<0.000004	<0.00016	<0.17
blu MMD (mg/99 puffs)	<0.1	<0.08	<0.001	<0.001	<0.00004	<0.00002	<0.000004	<0.00016	<0.18
blu CCHP (mg/99 puffs)	<0.1	<0.05	<0.003	<0.0004	<0.00004	<0.00002	<0.000004	<0.00014	<0.15
SKYCIG CTB (mg/99 puffs)	<0.1	<0.06	<0.0010	<0.008	<0.00006	<0.000013	<0.000014	<0.00004	<0.17
SKYCIG CMB (mg/99 puffs)	<0.1	<0.09	<0.0014	<0.008	<0.00006	<0.000030	<0.000014	<0.00004	<0.20
Air Blank (blu Set) (mg/99 puffs)	<0.1	<0.06	<0.001	<0.0004	<0.00004	<0.00002	<0.000004	<0.00015	<0.16
Air Blank (SKYCIG Set) (mg/99 puffs)	<0.1	<0.05	<0.0009	<0.008	<0.00006	<0.000013	<0.000014	<0.00006	<0.16

< Indicates some or all values were below method limits of quantitation or detection, number of replicates = 3–5.
[a] Formaldehyde, acetaldehyde, acrolein propionaldehyde, crotonaldehyde, MEK, butyraldehyde.
[b] Hydroquinone, resorcinol, catechol, phenol, m-+p-cresol, o-cresol.
[c] 1,3-Butadiene, isoprene, acrylonitrile, benzene, toluene, styrene.
[d] Beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, selenium, tin.
[e] NNN, NAT, NAB, NNK.
[f] 1-Aminonaphthalene, 2-aminonaphthalene, 3-aminobiphenyl, 4-aminobiphenyl.
[g] Naphthalene, acenaphthylene, acenaphthene, fluorine, phenanthrene, anthracene, fluoranthene, pyrene, benzanthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, B(a)P, indeno[1,2,3-cd]pyrene, benzo(g,h,i)perylene.

Table 5
Analytical characterization of commercial e-cigarettes and conventional cigarettes collected using CAN parameters – select cigarette HPHC methodology (μg/puff) summary by analyte classes.

	CO	Carbonyls[a]	Phenolics[b]	Volatiles[c]	Metals[d]	TSNAs[e]	PAA[f]	PAH[g]	Sum
Marlboro Gold Box	2967	211	22	157	<0.026	0.0604	0.00264	0.244	<3357 μg
L&B Original	2683	230	32	124	<0.024	0.0290	0.00232	0.267	<3069
L&B Menthol	2778	251	24	130	<0.042	0.0257	0.00236	0.213	<3183
blu Classic Tobacco Disposable	<1.0	<0.7	<0.01	<0.01	<0.0004	<0.0002	<0.00004	<0.002	<1.7
blu Magnificent Menthol Disposable	<1.0	<0.8	<0.01	<0.01	<0.0004	<0.0002	<0.00004	<0.002	<1.8
blu Cherry Crush High Premium	<1.0	<0.5	<0.03	<0.004	<0.0004	<0.0002	<0.00004	<0.001	<1.5
SKYCIG Classic Tobacco Bold	<1.0	<0.6	<0.01	<0.08	<0.0006	<0.0001	<0.00014	<0.0004	<1.7
SKYCIG Crown Menthol Bold	<1.0	<0.9	<0.01	<0.08	<0.0006	<0.0003	<0.00014	<0.0004	<2.0
Air Blank (blu Set)	<1.0	<0.6	<0.01	<0.004	<0.0004	<0.0002	<0.00004	<0.002	<1.6
Air Blank (SKYCIG Set)	<1.0	<0.5	<0.01	<0.08	<0.0006	<0.0001	<0.00014	<0.001	<1.6

< Indicates some or all values were below method limits of quantitation or detection, number of replicates = 3–5.
[a] Formaldehyde, acetaldehyde, acrolein propionaldehyde, crotonaldehyde, MEK, butyraldehyde.
[b] Hydroquinone, resorcinol, catechol, phenol, m-+p-cresol, o-cresol.
[c] 1,3-Butadiene, isoprene, acrylonitrile, benzene, toluene, styrene.
[d] Beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, selenium, tin.
[e] NNN, NAT, NAB, NNK.
[f] 1-Aminonaphthalene, 2-aminonaphthalene, 3-aminobiphenyl, 4-aminobiphenyl.
[g] Naphthalene, acenaphthylene, acenaphthene, fluorine, phenanthrene, anthracene, fluoranthene, pyrene, benzanthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, B(a)P, indeno[1,2,3-cd]pyrene, benzo(g,h,i)perylene.

Table 6
Per puff comparisons of quantifiable analytes for blu eCigs products from CAN puffing – yields and ratios to conventional product yields.

	Marlboro Gold Box μg/puff	blu MMD μg/puff	MGB/blu MMD
Acrolein	16.4 ± 0.2	0.19 ± 0.06	86
Phenol	1.53 ± 0.16	0.0017[a]	900

[a] Fewer than three replicates were quantifiable; no standard deviation is listed.

Table 7
Per puff comparisons of quantifiable analytes for SKYCIG products from CAN puffing – yields and ratios to conventional product yields.

	L&B average μg/puff	SKYCIG CTB μg/puff	SKYCIG CMB μg/puff	L&B average/SKYCIG CTB	L&B average/SKYCIG CMB
Acetaldehyde	174	–	0.32[a]	–	544
Acrolein	17	0.15 ± 0.02	–	113	–
Propionaldehyde	12	–	0.11 ± 0.05	–	109
N-Nitrosoanatabine	0.010	–	0.0002 ± 0.0001	–	50

[a] Fewer than three replicates were quantifiable; no standard deviation is listed.

All analytes tested were present in the cigarette smoke at quantifiable levels except for select metals. These results are consistent with internal historical results for commercial cigarettes tested under the CAN smoking regime. For the cigarette samples, the total yield range was 3069–3350 μg/puff of HPHCs tested.

Of the 55 HPHCs tested in aerosol, 5 were quantifiable in an e-cigarette sample but not the associated air blank. The quantifiable results for aerosol are listed in Tables 6 and 7 in contrast with the conventional cigarettes from the same geographical region. The five analytes which were quantifiable were statistically different ($p < 0.05$) at levels 50–900 times lower than the cigarette smoke samples. Phenol was quantified in one e-cigarette product at 900 times lower than cigarette smoke. N-Nitrosoanatabine was quantified in one product at 50 times lower than cigarette smoke. Three carbonyls (acrolein, acetaldehyde, and propionaldehyde) were quantified at 86–544 times lower than cigarette smoke.

All other analytes were not quantifiable above the air blanks in aerosol samples. The e-cigarettes and air blanks total yields for analytes were <2 μg/puff which is 99% less than the approximately 3000 μg/puff quantified for the cigarette smoke samples. Thus, the results support the premise of potentially reduced exposure to HPHCs for the e-cigarette products compared to conventional cigarette smoke.

4. Conclusions

The purpose of this study was to determine content and delivery of e-cigarette ingredients and to compare e-cigarette aerosol to conventional cigarettes with respect to select HPHCs for which conventional cigarette smoke is routinely tested. Routine analytical methods were adapted and verified for e-cigarette testing. Aerosol collection was conducted using conventional smoking machines and an intense puffing regime. As machine puffing cannot, and is not intended to, mimic human puffing, results of this study are limited to the scope of the comparisons made between the e-cigarette and conventional cigarette products tested.

The main ingredients for the e-cigarettes tested were consistent with disclosed ingredients: glycerin and/or propylene glycol (⩾75%), water (⩽18%), and nicotine (~2%). Machine-puffing of these products under a standardized intense regime indicated a direct transfer of these ingredients to the aerosol while maintaining an aerosol composition similar to the e-liquid. Nicotine yields to the aerosol were approximately 30 μg/puff or less for the e-cigarette samples and were 85% lower than the approximately 200 μg/puff from the conventional cigarettes tested.

Testing of the e-cigarette aerosol indicates little or no detectable levels of the HPHC constituents tested. Overall the cigarettes yielded approximately 3000 μg/puff of the HPHCs tested while the e-cigarettes and the air blanks yielded <2 μg. Small but measurable quantities of 5 of the 55 HPHCs tested were found in three of the e-cigarette aerosol samples at 50–900 times lower levels than measurable in the cigarette smoke samples. Overall, the deliveries of HPHCs tested for the e-cigarette products tested were more like the study air blanks than the deliveries for the conventional cigarettes tested. Though products tested, collection parameters, and analytical methods are not in common between this study and others, the results are very consistent. Researchers have reported that most or all of the HPHCs tested were not detected or were at trace levels. Burstyn (2014) used data from approximately 50 studies to estimate e-cigarette exposures compared to workplace threshold limit values (TLV) based on 150 puffs taken over 8 h. The vast majority of the analytes were estimated as ≪1% of TLV and select carbonyls were estimated as <5% of TLV. Cheng (2014) reviewed 29 publications reporting no to very low levels of select HPHCs relative to combustible cigarettes, while noting that some of the tested products exhibited considerable variability in their composition and yield. Goniewicz et al. (2014) tested a range of commercial products and reported quantifiable levels for select HPHCs in e-cigarette aerosols at 9- to 450-fold lower levels than those in cigarette smoke that in some instances were on the order of levels determined for the study reference (a medicinal nicotine inhaler). Laugesen (2009) and Theophilus et al. (2014) have presented results for commercial e-cigarette product liquids and aerosols having no quantifiable levels of tested HPHCs, or extremely low levels of measurable constituents relative to cigarette smoke. Additionally, findings from several recent studies indicate that short-term use of e-cigarettes by adult smokers is generally well-tolerated, with significant adverse events reported relatively rarely (Etter, 2010; Polosa et al., 2011, 2014; Caponnetto et al., 2013; Dawkins and Corcoran, 2014; Hajek et al., 2014). Thus, the results obtained in the aforementioned studies and in the present work broadly support the potential for e-cigarette products to provide markedly reduced exposures to hazardous and potentially hazardous smoke constituents in smokers who use such products as an alternative to cigarettes.

Additional research related to e-cigarette aerosol characterization is warranted. For example, continued characterization of

major components and flavors is needed. Establishment of standardized puffing regimes and reference products would greatly aid sharing of knowledge between researchers. Continued methods' refinement may be necessary for improved accuracy for quantitation of analytes at the low levels determined in this study. To that end, it is critical that negative controls and steps to avoid sample contamination be included when characterizing e-cigarette aerosol since analytes are on the order of what has been measured in the background levels of a laboratory setting. Though researchers have reported quantification of select analytes, great care must be taken when interpreting results at such trace levels.

Conflicts of interest

The company for which the study authors work and the companies that manufacture the e-cigarettes tested for this study are owned by the same parent company.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.yrtph.2014.10.010.

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10 Health Experts who endorse E-Cigarettes

Dr. Murray Laugesen (MBChB), Director at Health NZ Ltd

Registered as a medical practitioner since the 1960s, Dr Murray Laugesen is New Zealand's most respected tobacco policy and health researcher. After 18 years of service in the New Zealand public health sector, Dr Laugesen was awarded a medal of recognition by the World Health Organisation for

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- EU Considers Taxing E-Cigarettes
- 'Internet vermin' target health advocates

his contribution to the concept of tobacco-free societies.

Dr Laugesen currently acts as the director of Health New Zealand Ltd, where he works to advance New Zealand's health goal of becoming a smoke-free nation by 2025. Having conducted extensive laboratory tests on the safety and efficacy of electronic cigarettes as smoking cessation aids, he is optimistic about the role they could play in achieving this goal.

Quotes on Electronic Cigarettes:

> *"Inhaling mist from the e-cigarette is rated several orders of magnitude (100 to 1000 times) less dangerous than smoking tobacco cigarettes."*

> *"... nicotine is one of the safest of drugs, and is being sold as the alternative to the most dangerous consumer product – the tobacco cigarette. Low risk compared to cigarettes is the real world risk that smokers face."*

> *"E-cigarettes are caught in a two-box regulatory trap. Nicotine products are in law usually either tobacco products or medicines. From a smoker's viewpoint, however, it belongs in a third box, as a lifestyle choice or cigarette alternative. Big Tobacco controls Box no. 1, Big Pharma and the white coat health professional prescribers and dispensers control Box no. 2, while many smokers addicted to nicotine, the ones most likely to be sitting on death row, are powerless. They would like to buy from Box no. 3, but it is empty."*

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Dr. Michael Siegel (MD), Professor at Boston University School of Public Health

With a career in tobacco control and research spanning over 25 years, Dr Michael Siegel is a vocal supporter of electronic cigarettes as tools for tobacco harm reduction. Prior to becoming vaping advocate, he contributed to significant advances in United States policy reform on tobacco advertising and smoke-free workplaces.

In addition to teaching at Boston University's School of Public Health, Professor Siegel writes about the latest developments in smoking related research and policy at his blog. He claims that the tobacco control movement regularly misleads the public with junk science or outright false claims about the "dangers" of vaping.

Quotes on Electronic Cigarettes:

> *"This is an important effort that could result in saving countless lives. I find it interesting and quite informative that while anti-smoking groups are promoting nicotine replacement therapy via pharmaceutical products – which have dismal efficacy – they are seeking a ban on nicotine replacement therapy via e-cigarettes, which appear to actually be reasonably effective."*

"The anti-smoking movement's ideology – which is guided by an abstinence-only type of philosophy – just doesn't have room for a product [the e-cigarette] that looks and acts like a cigarette but happens to be orders of magnitude safer. In this case, the science – the health effects – just don't matter. The ideology is too deeply ingrained to allow the product to be given a chance of saving lives."

"[The electronic cigarette] is substantially safer than the conventional cigarette. Inhaling nicotine cannot be nearly as dangerous as inhaling nicotine plus thousands of other chemicals, including more than 40 carcinogens. It doesn't take long-term studies to make that determination ... determining that a tobacco-free nicotine delivering product is safer than a product that delivers nicotine with thousands of tobacco smoke constituents is a fact of basic science, and anyone who challenges such a notion would probably benefit from a remedial course in basic sciences."

Dr. Riccardo Polosa (MD, PhD), Professor at Italy's University of Catania

One of Europe's foremost experts on tobacco addiction, Dr Riccardo Polosa lead the world's first randomised controlled trials on electronic cigarettes as smoking cessation devices. The results of the trials deeply impressed Dr Polosa, as they proved both safe and highly effective as quit aids – even on trial subjects who were unwilling to quit smoking!

Professor Polosa leads the University of Catania's Centre for Tobacco Research, where he frequently publishes academic papers on aspects of nicotine addiction, tobacco harm reduction, and the impact of smoking on respiratory health. He also promotes the use of e-cigarettes as a low risk smoking alternative in his capacity as a director of the Italian Anti-Smoking League.

Quotes on Electronic Cigarettes:

> *"Clearly, the rapidly expanding popularity of e-cigs represents a threat to the interests of many, including national governments – because of the fat revenues generated by tobacco excise taxes. Only if these obstacles can be overcome, a truly sensible and rational regulation of e-cigs will be agreed upon, and millions of lives saved."*
>
> *"The status quo in smoking cessation presents smokers with just two unpleasant alternatives: quit or die. But, there is a third choice for smokers: switching to the e-cig. The use of e-cig allows smokers to introduce nicotine from a much safer source than a lit cigarette and to keep the gestures associated with smoking."*
>
> *"Working in the area of nicotine dependence for many years has convinced me that we, as health professionals, should also take care of the smokers who are unable or unwilling to*

quit. To this end, the e-cig is an opportunity not to be missed."

Dr. Konstantinos Farsalinos (MD), Researcher at Greece's Onassis Cardiac Surgery Center

From a distinguished medical background as a practicing cardiologist, Dr Konstantinos Farsalinos has been actively studying the impact of tobacco smoking on cardiac health since 2010. From 2011, he lead some of the world's first clinical and laboratory trials on the use, safety and harm reduction potential of electronic cigarettes.

In 2013, Dr Konstantinos Farsalinos conducted a ground-breaking global survey of over 19,000 electronic cigarette users. The results indicated that switching from smoking to vaping had "significant health benefits". He founded the website E-Cigarette Research Advocates Group to keep the public informed the survey outcomes, plus other important developments in electronic cigarette research and legislation.

Quotes on Electronic Cigarettes:

"I believe most of the people expressing negative opinion about e-cigarettes don't really have any deep knowledge about the products. If you're expressing your opinion about e-cigarettes in public you should know what you're talking about, because the things we say as scientists influence a lot of people."

"I know a lot of smokers who were put off right at the point of trying an e-cigarette. Even worse, I've seen a lot of vapers go back to smoking after hearing scientists discuss the potential hazards of e-cigarettes – the problem is that they often forget to mention the dangers of smoking."

"Most authorities simply do not like the name e-cigarettes. And they do not like that they have nicotine, they mimic smoking and they provide pleasure to the user. However, these are the main reasons for their success, and these features are not present in any other medicinal smoking-cessation product. That is why every other product has failed..."

Dr. Jean-François Etter (PhD, MPH), Professor at University of Geneva

With an academic background in public health, political sciences and epidemiology, Dr Jean-François Etter has worked in the field of smoking addiction and treatment for nearly two decades, and has written over 120 peer-reviewed papers on the physical, psychological and social impacts of tobacco use. His extensive research on electronic cigarettes has made him a firm advocate of vaping as less harmful alternative to conventional smoking.

In 2013, Professor Etter published The Electronic Cigarette: An Alternative to Tobacco?, a short book summarising his e-cigarette research findings in easy-to-understand language.

The same year, he presented alongside other public health professionals at The E-Cigarette Summit in London, which was the world's first large-scale gathering for the discussion and debate of electronic cigarette science, safety and regulation.

Quotes on Electronic Cigarettes:

> *"This is one of the very first studies of vapers with 12 months follow-up. We found that very few ex-smokers relapsed to smoking, and that many smokers (i.e. dual users) either reduced or quit smoking after 12 months."*

> *"Even if there are long-term vapers, this is not a problem, as long as they quit smoking. The problem is combusted tobacco, not nicotine. At the dosage used by vapers or users of nicotine gums or patches, nicotine is not toxic. Long term vaping is not a public health problem; not any more than long term use of nicotine gums."*

> *"Our data (and other studies) suggest that e-cigs are not very addictive, much less addictive than tobacco cigs. The conventional definition of addiction has two components (compulsive use in spite of harm). Because e-cigs do not cause harm, it is more appropriate to talk about compulsive use rather than of addiction in the case of e-cigs."*

Dr. Joel L. Nitzkin (MD, MPH, DPA)

With doctorates in medicine and public administration, a master degree in public health, and a forty-year career in public health and tobacco control policy, Dr Joel Nitzkin has both the education and the experience to back up his support of electronic cigarettes.

While serving as the Chair of the American Association of Public Health Physicians' (AAPHP) Tobacco Control Task Force, Dr Nitzkin strongly advocated the adoption of policies aimed at tobacco harm reduction (THR) via less dangerous alternatives to smoking, vs. the "quit or die" approach favoured by public health powers.

Now an expert adviser to the R Street Institute, a public health policy "think tank", Dr Nitzkin continues to promote the message that e-cigarettes and similar smokeless products should be seen as part of the cure to the global epidemic of smoking-related diseases – and definitely not as part of the problem!

Quotes on Electronic Cigarettes:

> *"E-cigarettes can and should be marketed as a substitute for conventional cigarettes for smokers unable or unwilling to quit."*

> *"E-cigarettes deliver the same nicotine found in the pharmaceutical products, with no more contamination by toxic substances than the pharmaceutical products already approved*

by the FDA."

"... we have every reason to believe that the hazard posed by e-cigarettes would be much lower than one percent, probably lower than one tenth of one percent, of the hazard posed by regular cigarettes."

Dr. Carl Phillips (MPP, PhD)

A Harvard doctorate in public policy and a post-doctorate in public health are among Dr Carl Phillips' credentials in the field of tobacco control. He is generally recognized as one of the world's top two academic experts on tobacco harm reduction (THR), which he defines as "the public health strategy of encouraging smokers to switch to low-risk alternatives like smokeless tobacco and e-cigarettes."

While an associate professor of public health at the University of Alberta, Dr Phillips co-founded the TobaccoHarmReduction.org education and research program, and conducted multiple studies that pointed to the health advantages of vaping vs. smoking. He has also built a reputation for "naming and shaming" individuals and organizations that spread fear-mongering misinformation about e-cigarettes on his blog Anti-THR Lies.

Dr Phillips currently serves as Scientific Director on the board of the Consumer Advocates for Smoke-free Alternatives Association (CASAA), a United States-based group dedicated to protecting vapers' rights, and educating the public about electronic cigarettes.

Quotes on Electronic Cigarettes:

> *"E-cigarettes are not just a huge public health breakthrough. They are one of the most impressive examples of People Power of recent times, and should be mentioned alongside the Arab Spring and Occupy ... e-cigarettes seem to have mobilized an unstoppable push-back against the failed "quit or die" approach that those in power are trying to impose on an unwilling population."*

> *"Nicotine has about the same implication for health as coffee and fries."*

> *"Three months of additional smoking poses a greater risk to someone's health, on average, than a lifetime of using a low-risk alternative."*

Dr. Brad Rodu (DDS)

Alongside his colleague Carl Phillips, Dr Brad Rodu is the world's foremost authority on tobacco harm reduction. He has devoted over 20 years to the study and analysis of THR, during which time he has acted as the lead researcher on multiple THR clinical trials, and published over 150 scholarly articles on the subject.

Coming from a background in oral medicine, Dr Rodu's early THR research focused on chewing or smokeless tobacco. In 1995, he published the book For Smokers Only: How Smokeless Tobacco Can Save Your Life, described as "An explanation on the advantages of smokeless tobacco to cigarettes and as a better alternative to the nicotine patch".

Following the invention and rise of electronic cigarettes, Dr Rodu noted that vaping was certain to "play a major role" in the evolution of THR. As the Professor of Medicine at the University of Louisville, where he holds an Endowed Chair in tobacco harm reduction research, Dr Rodu continues to champion the use of e-cigarettes and other less harmful alternatives to smoking.

Quotes on Electronic Cigarettes:

> *"Sadly, the potential of tobacco harm reduction is threatened by opposition from many major medical organizations and government agencies. Obsessed with a myopic vision of a tobacco-free society, they have transformed a legitimate war on smoking into a moral crusade against tobacco, a mistake that was tragically made with alcohol almost 100 years ago."*

> *"There is no public health justification for denying smokers information about and access to safer sources of tobacco and nicotine."*

> *"There is substantial and compelling scientific research documenting that consuming the ingredients in e-cigarettes (nicotine, propylene glycol, water and flavors) is vastly safer than burning tobacco and inhaling 3000+ toxic by-products."*

Dr Adrian Payne (PhD, BSc)

With a doctorate in pharmacology and bachelor of science from the University of London, Dr Adrian Payne has held numerous senior level research and management positions at multinational companies in the pharmaceutical and tobacco industries, with a focus on corporate social responsibility and tobacco harm reduction.

In addition to his work in the private sector, Dr Payne is an Adjunct Professor of Global Citizenship at the Hult International Business School in London. He has also lectured on tobacco harm reduction at the University of Geneva and George Washington Business School, and published numerous peer-reviewed scientific

articles.

In 2007, Dr Payne drew on his two decades of experience as a pharmacologist specializing in tobacco harm reduction to found Tobacco Horizons, THR consultancy agency. In his capacity as managing director, he presented at Harm Reduction International on the urgent need for electronic cigarettes and other smokeless non-pharmaceutical nicotine products to be globally recognized as low-risk alternatives to conventional tobacco cigarettes.

Quotes on Electronic Cigarettes:

> *"Certainly large pharmaceutical companies with interests in stop-smoking medicines provide very substantial financial support to some of the 'public health' groups that are calling for e-cigarettes to be banned."*

> *"Some detractors claim that making E-cigarettes available encourages dual-use in combination with cigarettes and thus delays quitting smoking. But the same criticism could equally well be directed towards medicinal nicotine products marketed to relieve cravings during temporary abstinence from smoking."*

> *"... it really would be a cruel irony if smokers who had switched to E-cigarettes were forced to revert to smoking regular cigarettes."*

Dr Robert West (PhD, BSc)

With a doctorate in psychology and over 30 years of experience in smoking cessation research, Dr Robert West currently serves as Professor of Health Psychology and Director of Tobacco Studies at the University College London. In line with his decades-long professional interest in smoking behaviors, he is also the editor-in-chief of the scientific journal *Addiction*.

During his academic career, Dr West has conducted intensive research and numerous laboratory studies in the areas of smoking addiction and cessation. The outcomes of his research have lead Dr West to become an advocate of THR, particularly in regard to electronic cigarettes, which have been shown to satisfy not only the chemical (nicotine) aspect of smoking addiction, but the behavioural (hand-to-mouth motion) aspect as well.

Having investigated the ingredients of e-cigarettes and e-liquid (propylene glycol, glycerin and flavourings), Dr West is dismissive of unfounded claims that vaping poses any non-trivial risk to human health. Instead, he is hopeful that global health authorities will unite behind the electronic cigarette and its unique, powerful potential to advance THR goals.

Quotes on Electronic Cigarettes:

> *"E-cigarettes could substantially improve public health because of their widespread*

appeal and the huge health gains associated with stopping smoking."

"We have such a massive opportunity here. It would be a shame to let it slip away by being overly cautious. E-cigarettes are about as safe as you can get."

"If those young people are people who would have smoked but instead they're using e-cigarettes, then that's a huge public health gain. If they're people who would never have smoked but they've taken up e-cigarettes, frankly in public health terms it's not really an issue – it's like drinking coffee or something, there's no real risk associated with it."

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Thank you for giving me a chance to speak today

My name is Benjamin Nguyen, I am the co-owner of Cloud 49 Vapor Lounge in Eagle River, Alaska. I have been an avid smoker of traditional cigarettes for a long time. I am now 31 and have been smoke free for a little over two years. I have tried to quit several times due to bleeding gums, and well that basically gave me a wake up call. Knowing how I don't have medical insurance, gave me quite a scare. Even a worst case scenario might be lurking around the corner concerning to my health. My cousin from Texas introduce me to Ecigs, and thanks to him I am feeling better with no more bleeding gums.

From my experience I truly believe that traditional cigarettes is not the true addiction, but more so the habit that goes along with cigarettes. Something I would like to call "muscle memories" of hand to mouth motion. From my insight and experiences, traditional cigarette gave me a chance to break away from my busy schedule for a moment of relaxation to rejuvenate my mind. During that break even though it might be only for 5-15mins would feel like time has frozen.
For people that works a long 9 to 5 or even those that works longer hours. Those breaks are what keeps them going. That is why I used to smoke, but I am pretty sure most smokers will say the same thing. With that scenario, people that switch to vaping will still take it outside on their own, just so they can have a private break

You see most of my customer switch to electronic vaporizer, majority because it is cheaper, and a ~~thin line to~~ total health benefits. Studies I have included with this letter. Most of the Alaska workforces belongs to the low income bracket. Let me play some numbers for you. 31% of Alaskan smoke traditional cigarettes. Lets say that all of them are low incomes families. Did you know an average married couple spends anywhere from $100 to $300 a week on traditional cigarettes. Switching electronic vaporizers will save them a little over $200 a week. In one month they could be saving anywhere from $500-$800 a month. Now imagine 31% of Alaskan has all switched to electronic vaporizers. Not only will it strengthen our low incomes families, but also cut the cost medical expenditures associated with traditional cigarettes. I will submit a research article done by the State Budget Solutions on how this Vaping Industries will save millions of dollars on medicaid. Even the Ex-Surgeon General, Dr. Richard Carmona has jumped on board to back the electronic vaporizers industries.

See the why reason I mention all this is because this industries has the potential to do many things for our community, that outweigh the cause for scare. Potential so great that it should be given more time and more effort to learn and to understand. If I came along and told you that I found the cure for cancer, wouldn't you take the time to study and hear what I have to offer? Well I'm here now, telling you we have something that could stop possibly stop it at its source. Please take the time and consideration to all this.

In closing I understand that this bill is simply a bill that request people to take smoking outside. But incorporating electronic vaporizer into this bill will cause a domino effect that would demeanor the effort into helping people quit traditional cigarettes. for that reason i do not agree with SB1 in its current FORM.

STATE BUDGET SOLUTIONS

POLICY ANALYSIS

MARCH 31, 2015

E-Cigarettes Poised to Save Medicaid Billions

J. Scott Moody, Chief Executive Officer and Chief Economist

Electronic cigarettes (e-cigs) have only been around since 2006, yet their potential to dramatically reduce the damaging health impacts of traditional cigarettes has garnered significant attention and credibility. Numerous scientific studies show that e-cigs not only reduce the harm from smoking, but can also be a part of the successful path to smoking cessation.

The term "e-cig" is misleading because there is no tobacco in an e-cig, unlike a traditional, combustible cigarette. The e-cig uses a battery-powered vaporizer to deliver nicotine via a propylene-glycol solution—which is why "smoking" an e-cig is called "vaping." The vapor is inhaled like a smoke from a cigarette, but does not contain the carcinogens found in tobacco smoke.

Unlike traditional nicotine replacement therapy (NRT), such as gum or patches, e-cigs mimic the physical routine of smoking a cigarette. As such, e-cigs fulfill both the chemical need for nicotine and physical stimuli of smoking. This powerful combination has led to the increasing demand for e-cigs—8.2% use among nondaily smokers and 6.2% use among daily smokers in 2011.[1]

The game-changing potential for dramatic harm reduction by current smokers using e-cigs will flow directly into lower healthcare costs dealing with the morbidity and mortality stemming from smoking combustible cigarettes. These benefits will particularly impact the Medicaid system where the prevalence of cigarette smoking is twice that of the general public (51% versus 21%, respectively).

Based on the findings of a rigorous and comprehensive study on the impact of cigarette smoking on Medicaid spending, the potential savings of e-cig adoption, and the resulting tobacco smoking cessation and harm reduction, could have been up to $48 billion in Fiscal Year (FY) 2012.[2] This savings is 87% higher than all state cigarette tax collections and tobacco settlement collections ($24.4 billion) collected in that same year.

Unfortunately, the tantalizing benefits stemming from e-cigs may not come to fruition if artificial barriers slow their adoption among current smokers. These threats range from the Food and Drug Administration regulating e-cigs as a pharmaceutical to states extending their cigarette tax to e-cigs. To be sure, e-cigs are still a new product and should be closely monitored for long-term health effects. However, given the long-term fiscal challenges facing Medicaid, the prospect of large e-cigs cost savings is worth a non-interventionist approach until hard evidence proves otherwise.

Prevalence of Smoking in the Medicaid Population

According to the Centers for Disease Control and Prevention, in 2011, 21.2% of Americans smoked combustible cigarettes. However, as shown in Table 1, the smoking rate varies considerably across states with the top three states being Kentucky (29%), West Virginia (28.6%), and Arkansas (27%) and the three lowest states being Utah (11.8%), California (13.7%), and New Jersey (16.8%).[3]

Additionally, the smoking rate varies dramatically by income level. Nearly 28% of people living below the poverty line smoke while 17% of people living at or above the poverty line smoke.[4]

As a consequence, the level of smoking prevalence among Medicaid recipients is more than twice that of the general public, 51% versus 21%, respectively. However, this too varies considerably across states with the top three states being New Hampshire (80%), Montana (70%), and Pennsylvania (70%) and the three lowest states being Mississippi (35%), New Jersey (36%), and South Carolina (41%).[5]

In absolute terms, the U.S. Medicaid system includes 36 million smokers out of a total Medicaid enrollment of over 68 million. As such, this places much of the health burden and related financial cost of smoking on the Medicaid system which strains the system and takes away scarce resources from the truly needy.

Economic Benefit of Smoking Cessation and Harm Reduction

Smoking creates large negative externalities due to adverse health impacts. Table 2 shows the results of a comprehensive study that quantified the two major costs of smoking in 2009—lost productivity and healthcare costs.[6]

Lost productivity occurs when a person dies prematurely due to smoking or misses time

from work due to smoking. This cost the economy $185 billion in lost output in 2009.

Table 1
Smokers Represent Significantly Larger Proportion of Medicaid Recipients than General Population
2011

State	Percent Smokers		Medicaid Enrollment	Number of Smokers on Medicaid
	Medicaid	General Population		
United States	51%	21.2% (median)	68,372,045	36,461,209
Alabama	52%	24.3%	938,313	487,923
Alaska	68%	22.9%	135,059	91,840
Arizona	49%	19.2%	1,989,470	974,840
Arkansas	54%	27.0%	777,833	420,030
California	45%	13.7%	11,500,583	5,175,262
Colorado	61%	18.3%	733,347	447,342
Connecticut	49%	17.1%	729,294	357,354
Delaware	58%	21.7%	223,225	129,471
Florida	46%	19.3%	3,829,173	1,761,420
Georgia	42%	21.2%	1,925,269	808,613
Hawaii	62%	16.8%	313,629	194,450
Idaho	62%	17.2%	409,456	253,863
Illinois	58%	20.9%	2,900,614	1,682,356
Indiana	68%	25.6%	1,208,207	821,581
Iowa	61%	20.4%	544,620	332,218
Kansas	54%	22.0%	363,755	196,428
Kentucky	65%	29.0%	1,065,840	692,796
Louisiana	43%	25.7%	1,293,869	556,364
Maine	63%	22.8%	327,524	206,340
Maryland	51%	19.1%	1,003,548	511,809
Massachusetts	53%	18.2%	1,504,611	797,444
Michigan	64%	23.3%	2,265,277	1,449,777
Minnesota	54%	19.1%	989,600	534,384
Mississippi	35%	26.0%	775,314	271,360
Missouri	66%	25.0%	1,126,505	743,493
Montana	70%	22.1%	136,442	95,509
Nebraska	64%	20.0%	284,000	181,760
Nevada	62%	22.9%	363,357	225,281
New Hampshire	80%	19.4%	152,182	121,746
New Jersey	36%	16.8%	1,304,257	469,533
New Mexico	50%	21.5%	571,621	285,811
New York	54%	18.1%	5,421,232	2,927,465
North Carolina	63%	21.8%	1,892,541	1,192,301
North Dakota	63%	21.9%	85,094	53,609
Ohio	65%	25.1%	2,526,533	1,642,246
Oklahoma	58%	26.1%	852,603	494,510
Oregon	67%	19.7%	690,364	462,544
Pennsylvania	70%	22.4%	2,443,909	1,710,736
Rhode Island	48%	20.0%	221,041	106,100
South Carolina	41%	23.1%	978,732	401,280
South Dakota	69%	23.0%	134,798	93,011
Tennessee	58%	23.0%	1,488,267	863,195
Texas	43%	19.2%	4,996,318	2,148,417
Utah	54%	11.8%	366,271	197,786
Vermont	67%	19.1%	184,088	123,339
Virginia	58%	20.9%	1,016,419	589,523
Washington	67%	17.5%	1,371,987	919,231
West Virginia	67%	28.6%	411,218	275,516
Wisconsin	63%	20.9%	1,292,799	814,463
Wyoming	62%	23.0%	76,372	47,351
District of Columbia	51%	20.8%	235,665	120,189

Source: Centers for Disease Control and Prevention, Centers for Medicare and Medicaid Services, and State Budget Solutions

Smokers incur higher healthcare costs when those individuals require medical services such as ambulatory care, hospital care, prescriptions, and neonatal care for conditions caused by smoking. This cost the economy $116 billion in extra medical treatments.

Overall, in 2009 alone, the negative externalities of smoking cost the U.S. economy $301 billion in lost productivity and higher healthcare costs. Not surprisingly, these costs were centered in high population states such as California ($26.9 billion), New York ($20.6 billion), and Texas ($20.4 billion).

Literature Review On E-cig Impact On Harm Reduction Through Reduced Toxic Exposure and Smoking Cessation

E-cigs have only been around since 2006, yet their potential to dramatically reduce the damaging health impacts of traditional combustible cigarettes has garnered significant attention and credibility. Numerous scientific studies are showing that e-cigs not only reduce the harm from smoking, but is also a successful path to smoking cessation.

In perhaps the most comprehensive e-cig literature review to date, Neil Benowitz et al. (2014) identified eighty-one studies with original data and evidence from which to judge e-cig effectiveness for harm reduction.[7] They concluded:

"Allowing EC (electronic cigarettes) to compete with cigarettes in the market-place might decrease smoking-related morbidity and mortality. Regulating EC as strictly as cigarettes, or even more strictly as some regulators propose, is not warranted on current evidence. Health professionals may consider advising smokers unable or unwilling to quit through other routes to switch to EC as a safer alternative to smoking and a possible pathway to complete cessation of nicotine use."

There are two ways that e-cigs benefit current smokers. First, there is harm reduction for the smoker by removing exposure to the toxicity

Table 2
Comprehensive Costs of Smoking
(Billions of Dollars)
2009

State	Lost Productivity			Healthcare Costs	Total Smoking Costs
	Premature Death	Workplace	Total		
United States	117.1	67.5	184.6	116.4	301.0
Alabama	2.7	1.2	3.9	1.7	5.6
Alaska	0.2	0.2	0.4	0.3	0.7
Arizona	1.9	1.3	3.2	1.9	5.1
Arkansas	1.7	0.7	2.4	1.1	3.4
California	9.6	5.7	15.2	11.6	26.9
Colorado	1.3	1.2	2.5	1.6	4.1
Connecticut	1.2	0.7	1.8	1.7	3.6
Delaware	0.4	0.2	0.6	0.4	1.1
District of Columbia	0.3	0.1	0.4	0.5	0.9
Florida	7.9	4.4	12.3	7.3	19.6
Georgia	3.7	2.4	6.2	2.9	9.0
Hawaii	0.4	0.2	0.7	0.4	1.1
Idaho	0.4	0.3	0.7	0.4	1.1
Illinois	5.0	2.9	7.9	4.8	12.7
Indiana	3.0	2.1	5.1	2.6	7.7
Iowa	1.2	0.7	1.9	1.1	3.0
Kansas	1.0	0.6	1.6	1.0	2.6
Kentucky	2.6	1.3	3.9	1.8	5.7
Louisiana	2.4	0.9	3.3	1.8	5.1
Maine	0.6	0.3	0.9	0.7	1.6
Maryland	2.1	1.3	3.4	2.2	5.6
Massachusetts	2.2	1.3	3.4	3.7	7.1
Michigan	4.5	2.4	7.0	4.0	11.0
Minnesota	1.5	1.5	3.0	2.3	5.4
Mississippi	1.8	0.7	2.4	1.0	3.5
Missouri	3.0	1.5	4.5	2.7	7.2
Montana	0.3	0.2	0.6	0.4	0.9
Nebraska	0.6	0.5	1.1	0.7	1.8
Nevada	1.1	0.7	1.7	0.9	2.6
New Hampshire	0.5	0.3	0.8	0.6	1.4
New Jersey	2.9	1.8	4.7	3.6	8.3
New Mexico	0.5	0.4	0.9	0.6	1.5
New York	6.9	3.9	10.8	9.8	20.6
North Carolina	4.1	2.2	6.3	3.4	9.7
North Dakota	0.2	0.2	0.4	0.3	0.7
Ohio	5.7	2.9	8.6	5.2	13.9
Oklahoma	2.1	0.9	3.0	1.3	4.3
Oregon	1.3	0.8	2.1	1.3	3.4
Pennsylvania	5.4	3.2	8.5	5.7	14.2
Rhode Island	0.4	0.2	0.7	0.6	1.3
South Carolina	2.3	1.0	3.3	1.6	4.9
South Dakota	0.3	0.2	0.5	0.3	0.8
Tennessee	3.6	1.7	5.3	2.6	7.9
Texas	7.9	4.9	12.8	7.6	20.4
Utah	0.4	0.3	0.7	0.4	1.1
Vermont	0.2	0.1	0.4	0.3	0.7
Virginia	2.9	2.0	4.8	2.7	7.5
Washington	2.1	1.3	3.4	2.4	5.7
West Virginia	1.1	0.5	1.6	0.9	2.5
Wisconsin	2.0	1.4	3.4	2.4	5.8
Wyoming	0.2	0.2	0.4	0.2	0.6

Source: See Endnote 6 and State Budget Solutions

associated with the thousands of compounds, many carcinogenic, found in the burning of tobacco and the resulting smoke. Second, smoking cessation efforts by the smoker are enhanced by simultaneously fulfilling both the chemical need for nicotine and physical stimuli of smoking.

In the last few years the academic literature has exploded with articles on these two topics. The following is a selection of some of the most recent studies and their conclusions.

Reduced Toxic Exposure

Igor Burstyn (2014) concludes, "Current state of knowledge about chemistry of liquids and aerosols associated with electronic cigarettes indicates that there is no evidence that vaping produces inhalable exposures to contaminants of the aerosol that would warrant health concerns by the standards that are used to ensure safety of workplaces . . . Exposures of bystanders are likely to be orders of magnitude less, and thus pose no apparent concern."[8]

Neal Benowitz, et al. (2013) concludes, "The vapour generated from e-cigarettes contains potentially toxic compounds. However, the levels of potentially toxic compounds in e-cigarette vapour are 9—450-fold lower than those in the smoke from conventional cigarettes, and in many cases comparable with the trace amounts present in pharmaceutical preparation. Our findings support the idea that substituting tobacco cigarettes with electronic cigarettes may substantially reduce exposure to tobacco-specific toxicants. The use of e-cigarettes as a harm reduction strategy among cigarette smokers who are unable to quit, warrants further study."[9]

Kostantinos E Farsalinos et al. (2014) concludes, "Although acute smoking inhalation caused a delay in LV (Left Ventricular) myocardial relaxation in smokers, electronic cigarette use was found to have no such immediate effects in daily users of the device. This short-term beneficial profile of electronic cigarettes compared to smoking, although not conclusive about its overall health-effects as a tobacco harm reduction product, provides the first evidence about the cardiovascular effects of this device."[10]

Smoking Cessation

Emma Beard et al. (2014) concludes, "Among smokers who have attempted to stop without professional support, those who use e-cigarettes are more likely to report continued abstinence than those who used a licensed NRT [Nicotine Replacement Therapy] product bought over-the-counter or no aid to cessation. This difference persists after adjusting for a range of smoker characteristics such as nicotine dependence."[11]

Christopher Bullen et al. (2013) concludes, "E-cigarettes, with or without nicotine, were modestly effective at helping smokers to quit, with similar achievement of abstinence as with nicotine patches, and few adverse events . . . Furthermore, because they have far greater reach and higher acceptability among smokers than NRT [Nicotine Replacement Therapy], and seem to have no greater risk of adverse effects, e-cigarettes also have potential for improving population health."[12]

Pasquale Caponnetto et al. (2013) concludes, "The results of this study demonstrate that e-cigarettes hold promise in serving as a means for reducing the number of cigarettes smoked, and can lead to enduring tobacco abstinence as has also been shown with the use of FDA-approved smoking cessation medication. In view of the fact that subjects in this study had no immediate intention of quitting, the reported overall abstinence rate of 8.7% at 52-weeks was remarkable."[13]

Konstantinos E. Farsalinos et al. (2013) concludes, "Participants in this study used liquids with high levels of nicotine in order to achieve complete smoking abstinence. They reported few side effects, which were mostly temporary; no subject reported any sustained adverse health implications or needed medical treatment. Several of the side effects may not be attributed to nicotine. In addition, almost every vaper reported significant benefits from switching to the EC [e-cigarette]. These observations are consistent with findings of Internet surveys and are supported by studies showing

that nicotine is not cytotoxic, is not classified as a carcinogen, and has minimal effects on the initiation or propagation of atherosclerosis . . . Public health authorities should consider this and other studies that ECs are used as long-term substitutes to smoking by motivated exsmokers and should adjust their regulatory decisions in a way that would not restrict the availability of nicotine-containing liquids for this population."[14]

Potential E-cig Medicaid Cost Savings

To date, the academic literature strongly suggests that e-cigs hold the promise of dramatic harm reduction for smokers simply by switching from combustible tobacco cigarettes to e-cigs. This harm reduction is due to both its positive impact on smoking cessation and reduced exposure to toxic compounds in cigarette smoke.

As a result, we can expect the healthcare costs of smoking to decline over time as the adoption of e-cigs by smokers continues to grow. Additionally, we can expect greater rates of adoption as e-cigs continue to evolve and improve based on market feedback—a dynamic that has never existed with other nicotine replacement therapies.

As discussed earlier, the potential savings to the economy are very large. In terms of healthcare alone, most of that cost is currently borne by the Medicaid system where the prevalence of cigarette smoking is twice that of the general public, 51% versus 21%, respectively. So what are the potential healthcare savings to Medicaid?

Brian S. Armour et al. (2009) created an impressive economic model to estimate how much smoking costs Medicaid based on data from the Medical Expenditure Panel Survey and the Behavioral Risk Factor Surveillance System.[15]

Overall, their model ". . . included 16,201 adults with weighting variables that allowed us to generate state representative estimates of the

Table 3
Smoking Costs on Medicaid by State
(Millions of Dollars)
Fiscal Year 2012

State	Medicaid Spending	Smoking Costs as Percent of Medicaid Spending	Smoking Costs on Medicaid
United States	415,154	11%	45,667
Alabama	5,027	9%	452
Alaska	1,348	15%	202
Arizona	7,905	18%	1,423
Arkansas	4,160	11%	458
California	50,165	11%	5,518
Colorado	4,724	17%	803
Connecticut	6,759	7%	473
Delaware	1,485	10%	148
District of Columbia	2,111	11%	232
Florida	17,907	11%	1,970
Georgia	8,526	10%	853
Hawaii	1,493	11%	164
Idaho	1,452	14%	203
Illinois	13,393	11%	1,473
Indiana	7,486	15%	1,123
Iowa	3,495	10%	350
Kansas	2,667	12%	320
Kentucky	5,702	12%	684
Louisiana	7,358	12%	883
Maine	2,413	14%	338
Maryland	7,687	12%	922
Massachusetts	12,926	11%	1,422
Michigan	12,460	13%	1,620
Minnesota	8,894	11%	978
Mississippi	4,466	9%	402
Missouri	8,727	14%	1,222
Montana	973	15%	146
Nebraska	1,722	15%	258
Nevada	1,739	11%	191
New Hampshire	1,187	15%	178
New Jersey	10,389	6%	623
New Mexico	3,430	12%	412
New York	53,306	11%	5,864
North Carolina	12,282	11%	1,351
North Dakota	744	12%	89
Ohio	16,352	13%	2,126
Oklahoma	4,642	12%	557
Oregon	4,587	15%	688
Pennsylvania	20,393	11%	2,243
Rhode Island	1,856	8%	148
South Carolina	4,848	11%	533
South Dakota	749	16%	120
Tennessee	8,798	11%	968
Texas	28,286	11%	3,111
Utah	1,903	14%	266
Vermont	1,353	15%	203
Virginia	6,906	11%	760
Washington	7,560	18%	1,361
West Virginia	2,790	11%	307
Wisconsin	7,096	13%	923
Wyoming	528	16%	85

Note: States do not sum to Total due to rounding.
Source: See Endnote 15 and State Budget Solutions

adult, noninstitutionalized Medicaid population."

The study concluded that 11% of all Medicaid expenditures can be attributed to smoking. Additionally, among the states these costs ranged from a high of 18% (Arizona and Washington) to a low of 6% (New Jersey).

This study uses their percentage of Medicaid spending due to smoking and applies it to the latest year of available state-by-state Medicaid spending. As shown in Table 3, in FY 2012, smoking cost the Medicaid system $45.7 billion. Of course, the largest states bear the brunt of these costs such as New York ($5.9 billion), California ($5.5 billion), and Texas ($3.1 billion).

To put this potential savings to Medicaid into perspective, in FY 2012, state governments and the District of Columbia combined collected $24.4 billion in cigarette excise taxes and tobacco settlement payments. As shown in Table 4, the potential Medicaid savings exceeds cigarette excise tax collections and tobacco settlement payments by 87%.

However, this varies greatly by state with high ratios in the South Carolina (435%), Missouri (409%), and New Mexico (260%), Arizona (238%), and California (238%) and low ratios in New Jersey (-39%), New Hampshire (-31%), Rhode Island (-17%), Connecticut (-13%), and Hawaii (-4%). Overall, 45 states and D.C. stand to gain more from potential Medicaid savings than through lost cigarette tax collections and tobacco settlement payments.

Note that many of the five states with negative ratios are distorted because excise tax collections are based on where the initial sale occurred and not where the cigarettes were ultimately consumed. This can vary greatly because of cigarette smuggling and cross-border shopping created by state-level differentials in cigarette excise taxes.[16]

For instance, New Hampshire has long been a source for out-of-state cigarette purchase from shoppers living in Massachusetts, Maine, and Vermont because of its lower cigarette excise

Table 4
Smoking Costs on Medicaid Exceeds State Cigarette Tax Collections and Tobacco Settlement Payments
(Millions of Dollars)
Fiscal Year 2012

State	State Cigarette Tax Collections (a)	Tobacco Settlement Payments (b)	Smoking Costs on Medicaid	Smoking Costs on Medicaid as a Percent of State Cigarette Tax Collections and Tobacco Settlement Payments
United States	17,226	7,190	45,667	87%
Alabama	126	94	452	106%
Alaska	67	30	202	108%
Arizona	319	101	1,423	238%
Arkansas	247	51	458	54%
California	896	736	5,518	238%
Colorado	203	91	803	173%
Connecticut	418	124	473	-13%
Delaware	121	27	148	1%
District of Columbia	36	38	232	214%
Florida	381	365	1,970	164%
Georgia	227	141	853	132%
Hawaii	122	49	164	-4%
Idaho	48	25	203	177%
Illinois	606	274	1,473	67%
Indiana	465	130	1,123	89%
Iowa	225	66	350	20%
Kansas	104	58	320	98%
Kentucky	277	102	684	81%
Louisiana	133	141	883	222%
Maine	140	51	338	77%
Maryland	411	146	922	66%
Massachusetts	574	254	1,422	72%
Michigan	965	256	1,620	33%
Minnesota	422	167	978	66%
Mississippi	157	110	402	50%
Missouri	105	135	1,222	409%
Montana	87	30	146	24%
Nebraska	68	38	258	145%
Nevada	103	40	191	34%
New Hampshire	215	43	178	-31%
New Jersey	792	231	623	-39%
New Mexico	75	39	412	260%
New York	1,632	738	5,864	147%
North Carolina	295	141	1,351	210%
North Dakota	28	32	89	49%
Ohio	843	295	2,126	87%
Oklahoma	293	77	557	50%
Oregon	256	79	688	106%
Pennsylvania	1,119	337	2,243	54%
Rhode Island	132	47	148	-17%
South Carolina	26	73	533	435%
South Dakota	60	24	120	42%
Tennessee	279	139	968	131%
Texas	1,470	475	3,111	60%
Utah	124	36	266	66%
Vermont	80	35	203	77%
Virginia	192	117	760	145%
Washington	471	151	1,361	119%
West Virginia	110	64	307	77%
Wisconsin	653	131	923	18%
Wyoming	26	19	85	90%

(a) Includes all forms of tobacco taxes.
(b) Includes Master Settlement Agreement and individual state payments.
Source: Department of Commerce: Census Bureau, Internal Revenue Service, and State Budget Solutions

tax. As such, the ratio is too high for Massachusetts, Maine, and Vermont and too low for New Hampshire. The same applies to New Jersey and Connecticut vis-à-vis New York and, more specifically, New York City, which levies its own cigarette tax on top of the state tax.

Hawaii is an exception due to its physical isolation which creates monopoly rents. Rhode Island levies a very high cigarette excise tax, but not relatively high enough compared to neighboring Connecticut and Massachusetts to drive a lot of cross-border shopping.

Other Potential E-cig Cost Savings

Another area of cost savings from greater e-cig adoption is the reduction in smoke and fire dangers in subsidized and public housing. According to a recent study, smoking imposes three major costs:

1. Increased healthcare costs from exposure to second hand smoke within and between housing units.

2. Increased renovation costs of smoking-permitted housing units.

3. Fires attributed to cigarettes.

As shown in Table 5, the study estimates that smoking imposes a nationwide cost of nearly $500 million.[17] The top three states facing the greatest expenses are New York ($125 million), California ($72 million), and Texas ($24 million) while the top three states with the lowest expenses are Wyoming ($0.6 million), Idaho ($0.8 million), and Montana ($1 million).

Applying Cigarette Taxes to E-cigs?

Many policymakers around the country have suggested applying the existing cigarette tax, wholly or in part, to e-cigs. This is bad public policy and is based on a fundamental misunderstanding of the cigarette tax.

The cigarette tax is what economists call a "Pigovian Tax" which is designed to mitigate

Table 5
Smoking Costs on Subsidized and Public Housing
(Millions of Dollars)
2012

State	Smoking Costs
United States	496.8
New York	124.7
California	72.4
Texas	28.3
Massachusetts	24.0
Florida	23.2
Ohio	21.7
Pennsylvania	17.7
New Jersey	15.8
Louisiana	14.4
North Carolina	13.9
Illinois	13.3
Tennessee	12.9
Michigan	12.8
Alabama	12.4
Georgia	11.6
Connecticut	10.7
Missouri	9.4
Indiana	8.3
Virginia	7.8
Mississippi	7.2
Kentucky	7.1
Minnesota	7.1
South Carolina	7.0
Maryland	7.0
Arkansas	6.8
Oklahoma	6.8
Wisconsin	6.5
Washington	5.0
Arizona	4.9
Colorado	4.5
West Virginia	4.3
Oregon	4.3
Maine	4.2
Rhode Island	4.0
Hawaii	3.8
Iowa	3.8
New Mexico	3.0
Kansas	2.9
Nebraska	2.1
Nevada	1.9
Vermont	1.9
New Hampshire	1.9
Utah	1.4
Delaware	1.3
North Dakota	1.2
South Dakota	1.1
Montana	1.0
Idaho	0.8
Wyoming	0.6
Alaska	N.A.
District of Columbia	N.A.

Source: See Endnote 17 and State Budget Solutions

negative externalities of certain actions. Cigarette smoking creates many negative externalities such as harmful health consequences to the user or to those in near proximity (second-hand smoke).

As detailed in this study, the negative externalities associated with traditional smoking are all but eliminated by e-cigs. Without evidence of actual negative externalities, applying the existing cigarette tax to e-cigs is simply bad public policy.

Conclusion

Policymakers have long sought to reduce the economic damage due to the negative health impact of smoking. They have used tactics ranging from cigarette excise taxes to subsidizing nicotine replacement therapies. To be sure, smoking prevalence has fallen over time, but there is more that can be done, especially given the fact that so much of the healthcare burden of smoking falls on the already strained Medicaid system.

As with any innovation, no one could have predicted the sudden arrival into the marketplace of the e-cig in 2006. Since e-cigs fulfill both the chemical need for nicotine and physical stimuli of smoking the demand for e-cigs has grown dramatically. The promise of a relatively safe way to smoke has the potential to yield enormous healthcare savings. The most current academic research verifies the harm reduction potential of e-cigs.

As shown in this study, the potential savings to Medicaid significantly exceeds the state revenue raised from the cigarette excise tax and tobacco settlement payments by 87%. As such, the rational policy decision is to adopt a non-interventionist stance toward the evolution and adoption of the e-cig until hard evidence proves otherwise. While cigarette tax collections will fall as a result, Medicaid spending will fall even faster. This is a win-win for policymakers and taxpayers.

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WRITTEN TESTIMONY

NAME: Luan Jensen

REPRESENTING: SELF & CHILDREN

BILL#/ SUBJECT: SB1

COMMITTEE &

HEARING DATE:

71% Kodiak & Kodiak Borough insppa KB passed resolution

As a mom of (2) young children part of my responsibility is to protect my children & limit exposure to harmful environments. I feel that all ALASKANS should be protected in their workplaces & Strongly support SB1 to include E-cigarettes.

I SHARED THIS WITH THE HOUSE & WANTED TO SHARE WITH YOU.

Two months ago, "JOHNS HOPKINS ~~recently~~ reported that EXPOSURE to E-cigarette aerosols results in decreased ability to withstand bacterial & viral infections in mice."

They concluded:

"DESPITE the common perception that E-cigs are safe, this study clearly demonstrates that E-cig use, even for relatively brief periods, may have significant consequences to respiratory health."