SB 63 (file 1)

<TARGET><BILL>SB 63</BILL><SUBJECT>SB 63 (file 1)</SUBJECT><COMM>SHSS30</COMM></TARGET>

SENATE COMMITTEE REPORT
First Committee of Referral

DATE: 2/17/17

FURTHER: Finance

DATE TURNED IN TO OFFICE: 3/1/17

Health and Social Services Committee considered SENATE BILL NO. 63

SB 63 REGULATION OF SMOKING

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

and recommends:

[ ] be **replaced** with **CS** _____ (_____) *[ ] Same Title [ ] New Title*

[ ] adopt **previous CS** _____ (_____) *[ ] Same Title [ ] New Title*

[ ] attached amendment(s)

[ ] adopt _____ Letter of Intent

[ ] further referral to _____ Committee

Dept Abbr.	
ADM	LWF
CED	LAW
COR	LEG
EED	MVA
DEC	DNR
DFG	DPS
GOV	REV
DHS	DOT
AJS	UA

NEW FISCAL NOTE(S)				
Dept.	Fiscal	Indet.	Zero	FN #
DOT	✓			1
D&C			✓	2
DAS			✓	3
DPS			✓	4
CED			✓	5

PREVIOUS FISCAL NOTE(S)				
Dept.	Fiscal	Indet.	Zero	FN #
[illegible]	[illegible]			
[illegible]			✓	[illegible]
[illegible]			✓	[illegible]
[illegible]				[illegible]
				[illegible]

[ ] **APPROPRIATION - no fiscal note**

SIGNATURES AND RECOMMENDATIONS:	PRINTED LAST NAME	DO PASS	DO NOT PASS	NO REC	AMEND
[signature]	Begich	✓			
[signature]	von Imhoff	✓			
[signature]	Giessel	✓			
[signature]	Micciche	✓			
CHAIR: [signature]	Wilson	✓			

Senator Peter A. Micciche

Alaska State Legislature

Session Address:
Alaska State Capitol, Rm. 508
Juneau, Alaska 99801-1182
Phone: (907) 465-2828
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SB 63: Smoke-free Workplace and Employee Protection

SB 63 seeks to protect Alaskan employees from the adverse health effects of secondhand smoke by providing a statewide smoke-free workplace law for businesses and public places. In Alaska, more people die annually from the effects of tobacco than from suicide, motor vehicle crashes, chronic liver disease, cirrhosis, homicide and HIV/AIDS combined (Division of Public Health, 2016, Alaska Tobacco Facts).

I measure each of my Senate decisions carefully and with a yardstick that ensures freedom, liberty, appropriate roles of government, public safety/health and cost containment. We view the fundamental right to avoid the health risks of second-hand smoke and to breathe smoke-free air compels us to protect Alaska's employees as an appropriate governmental responsibility. Similar roles include establishing speed limits, regulating driving under the influence, electrical building codes and ensuring industrial employee safety regulations. The financial burden of caring for those that fall victim to tobacco-related illness due to second-hand smoke costs the State of Alaska tens of millions of dollars annually.

Current law prohibits smoking in the workplace in many areas of the state including healthcare facilities, schools, childcare facilities and public meeting rooms in government buildings. Over one half of the population of Alaska including those in Bethel, Anchorage, Juneau, Barrow, Dillingham, Haines, Skagway, Petersburg, Klawock, Nome, Unalaska, and Palmer are currently living under smoke-free laws similar to SB 63. These laws are well established and strongly supported by citizens and businesses. For Alaskans residing in the remaining areas of the state, this bill will offer a uniformly applied smoke-free workplace policy.

SB 63 does not prohibit outdoor smoking, except near building entrances/exits, air intakes, and other specifically-designated public gathering places. The bill does not legislate the employment of smokers or non-smokers. Local governments with adequate jurisdiction will retain the authority to adopt more restrictive local provisions than the statewide law.

Senator.Peter.Micciche@akleg.gov

SB 63 does not remove the right of the smoker to smoke. Rather, it limits a smoker's ability to adversely affect the health of Alaska's non-smoking employees. In other words, the bill simply asks smokers to "take it outside". More than one thousand Alaskan businesses and organizations representing all regions of the state have signed resolutions in support of a statewide smoke-free workplace law. We believe that Alaskans shouldn't be faced with years of health issues, and in many cases a shorter life, because they simply accepted employment and were then forced to breathe the smoke of other employees or patrons.

SB 63 would protect the lives of Alaska's employees by providing them with an assurance of smoke-free air in the workplace. Through SB 63 we can begin this meaningful discussion and we encourage members of both bodies to engage.

Staff Contact: Rachel Hanke 465-4899

Senator Peter A. Micciche

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SB 63

Sectional Analysis

Section 1

Provides a statement of legislative intent which is that nothing in this Act will waive the state's immunity from liability provided for in state law, nor to alter applicable law relating to possible liability of manufacturers, dispensers, or others as a result of smoking or using tobacco or e-cigarettes within an enclosed area.

Section 2

Adds a new article to AS 18.35 that

- AS 18.35.301 - prohibits smoking in certain places, including specified enclosed areas and at or near specified outdoor areas;
- provides limited exceptions to the smoking prohibitions for retail tobacco and e-cigarette stores, for enclosed, marked, and vented transit areas, for private residences, for specified vehicles and vessels, for stand-alone shelters and for licensed marijuana establishments;
- AS 18.35.306 - requires notices of smoking prohibitions and fines;
- AS 18.35.311 - prohibits employers and building owners or managers from permitting smoking or supplying smoking accessories in place where it is prohibited;
- AS 18.35.316-35.321 - requires the commissioner of health and social services or the commissioner's designee to administer and enforce the requirements under the Act and to provide public education about the requirements;
- AS 18.35.326 - prohibits an employer, or owner or operator of a vehicle from retaliating for initiating or cooperating with enforcement of the Act;
- AS 18.35.331 - allows a municipality to impose additional smoking restrictions and duties;

Sections 3 - 4

AS 18.35.340(a) & (b) - amends cross-references to conform to the new and repealed provisions.

Section 5

AS 18.35.340(c) - amends cross-references and provides new fines for violations in which the commissioner has filed a civil complaint.

Section 6-7

AS 18.35.341(a) & (b) - amends cross-references to conform to the new and repealed provisions.

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Section 8

AS 18.35.341(c) - amends cross-references and provides individuals found guilty of a violation as defined in Title 11 are subject to new fines.

Section 9-12

AS 18.35.341(d), 35.342, 35.343 & 35.350 - Amend cross-references to conform to the new and repealed provisions.

Section 13

AS 18.35.399 - Defines terms used in the Act.

Section 14

Repeals specified provisions related to smoking in AS 18.35.

Section 15

Uncodified law - specifies that the changes made by secs. 2 – 13 of the Act apply to violations or compliance failures that occur on or after the effective date of secs. 2 – 13 of the Act.

Section 16

Uncodified law - authorizes the Department of Health and Social Services to adopt necessary regulations to implement the Act. The Regulations may not take effect before the effective date of the relevant provision being implemented.

Section 17

Provides for an immediate effective date for sec. 16.

Section 18

Provides for an October 1, 2017 effective date for the remainder of the Act.

Fiscal Note

State of Alaska
2017 Legislative Session

Bill Version: SB 63
Fiscal Note Number:
() Publish Date:

Identifier: SB063-DEC-FSS-02-24-17
Title: REGULATION OF SMOKING
Sponsor: MICCICHE
Requester: Senate Health and Social Services

Department: Department of Environmental Conservation
Appropriation: Environmental Health
Allocation: Food Safety & Sanitation
OMB Component Number: 2343

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2018 Appropriation Requested	Included in Governor's FY2018 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2018**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Fund Source (Operating Only)

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimated SUPPLEMENTAL (FY2017) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2018) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency? Yes
If yes, by what date are the regulations to be adopted, amended or repealed? 06/30/18

Why this fiscal note differs from previous version:

Not applicable, initial version.

Prepared By: Christina Carpenter, Director — Phone: (907)269-7645
Division: Environmental Health — Date: 02/24/2017 10:00 AM
Approved By: Alice Edwards, Deputy Commissioner — Date: 02/24/17
Agency: Department of Environmental Conservation

Analysis

This bill would transfer duties relating to regulation of smoking from the Department of Environmental Conservation (DEC) to the Department of Health and Social Services. DEC's recent application of these statutes has been limited to providing information to the public regarding intent and provisions of the law, recommending corrective actions and methods to comply with the legal requirements, providing signs upon request, and recording any failure to post required signs on routine inspection reports at retail food facilities. The result would have no fiscal impact to DEC.

Technical edits to existing DEC regulations would be completed as time allows with existing resources.

Fiscal Note

State of Alaska
2017 Legislative Session

Bill Version: SB 63
Fiscal Note Number:
() Publish Date:

Identifier: SB063-DHSS-CDPHP-2-24-17
Title: REGULATION OF SMOKING
Sponsor: MICCICHE
Requester: (S) HSS

Department: Department of Health and Social Services
Appropriation: Public Health
Allocation: Chronic Disease Prevention and Health Promotion
OMB Component Number: 2818

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2018 Appropriation Requested	Included in Governor's FY2018 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2018**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Fund Source (Operating Only)

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimated SUPPLEMENTAL (FY2017) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2018) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency? Yes
If yes, by what date are the regulations to be adopted, amended or repealed? 1/1/19

Why this fiscal note differs from previous version:

Not applicable; initial version.

Prepared By: Jay C. Butler, Chief Medical Officer/Director
Phone: (907)269-6680
Division: Public Health
Date: 02/23/2017 12:00 PM
Approved By: Shawnda O'Brien, Asst. Commissioner
Date: 02/24/17
Agency: Health and Social Services

Analysis

This bill amends AS 18.35, *Public Accommodations and Facilities*, by adding Article 4, *Prohibition of Smoking in Certain Places,* and repealing Article 3, *Regulation of Smoking in Public Facilities*. The Department of Environmental Conservation is currently responsible for enforcement of Article 3 of Chapter 18.35, *Regulation of Smoking in Public Facilities.* Under this bill, the Commissioner of Health and Social Services would be responsible for ensuring compliance and providing signage and education regarding the law, in combination with the existing comprehensive smoking education, tobacco use prevention, and tobacco control program—currently provided by the department (AS 44.29.020(a)(14), *Duties of the Department*).

The Division of Behavioral Health's Prevention and Early Intervention Section currently monitors retail tobacco sales to minors required by federal Synar legislation. Under this bill, the Tobacco Enforcement Team would monitor and respond to all complaints and provide ongoing education to businesses. Ideally, the Division of Behavioral Health would consider this as a form of "passive enforcement" which could be performed in addition to the other duties assigned to the Tobacco Investigators. An online complaint form would be created and monitored along with a 1.800 number for complaints via phone. The department does not anticipate many calls or complaints based on the experience of other jurisdictions with similar laws such as the Municipality of Anchorage. Under a complaint-driven enforcement model, the division does not expect to require an additional appropriation.

The Division of Public Health's Tobacco Prevention and Control Program would be responsible for developing public education materials regarding the requirements within the law, for educating business owners, our grantees and the public on the specifics of the law, and providing signage. If the intent is that the type of sign provided is an electronic downloadable copy of a sample sign, the cost would be minimal regardless of the number of signs requested. However, if the intent is for more durable manufactured or printed signage, then additional resources would be needed. Current grantees and contractors will refocus their efforts to the implementation related to this statewide smoking prohibition, possibly at the expense of current educational efforts. A website along with other resources and materials would educate business owners, the public and law enforcement on the specifics of the law.

This is a zero fiscal note. The department believes these efforts could be made with existing resources in combination with ongoing comprehensive tobacco prevention and control efforts across the state.

Fiscal Note

State of Alaska
2017 Legislative Session

Bill Version: SB 63
Fiscal Note Number:
() Publish Date:

Identifier: SB063-DPS-DET-02-24-17
Title: REGULATION OF SMOKING
Sponsor: MICCICHE
Requester: (S) HSS

Department: Department of Public Safety
Appropriation: Alaska State Troopers
Allocation: Alaska State Trooper Detachments
OMB Component Number: 2325

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2018 Appropriation Requested	Included in Governor's FY2018 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2018**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Fund Source (Operating Only)

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimated SUPPLEMENTAL (FY2017) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2018) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency? No
If yes, by what date are the regulations to be adopted, amended or repealed?

Why this fiscal note differs from previous version:

Not applicable, initial version.

Prepared By: Kelly Howell
Phone: (907)465-4336
Division: Administrative Services
Date: 02/24/2017 02:00 PM
Approved By: Walt Monegan
Date: 02/24/17
Agency: Public Safety

STATE OF ALASKA
2017 LEGISLATIVE SESSION

BILL NO. SB 63

Analysis

This bill amends AS 18.35.341(a) to allow peace officers to issue citations for violations related to smoking in certain prohibited areas when committed in the officers' presence, and to issue citations for a violation of the requirement to post "no smoking" signage in certain areas.

Passage of this legislation is not expected to significantly impact the efforts of the Alaska State Troopers as such citations would be issued in the peformance of their normal duties. Therefore, a zero fiscal note is being submitted.

Fiscal Note

State of Alaska
2017 Legislative Session

Bill Version: SB 63
Fiscal Note Number:
() Publish Date:

Identifier: SB063-DCCED-AMCO-02-24-17
Title: REGULATION OF SMOKING
Sponsor: MICCICHE
Requester: (S) Health & Social Services

Department: Department of Commerce, Community and Economic Development
Appropriation: Alcohol and Marijuana Control Office
Allocation: Alcohol and Marijuana Control Office
OMB Component Number: 3119

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2018 Appropriation Requested	Included in Governor's FY2018 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2018**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Personal Services							
Travel							
Services							
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Fund Source (Operating Only)

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimated SUPPLEMENTAL (FY2017) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2018) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency? No
If yes, by what date are the regulations to be adopted, amended or repealed? N/A

Why this fiscal note differs from previous version:

Not applicable, initial version.

Prepared By: Sara Chambers, Director — Phone: (907)269-0351
Division: Alcohol and Marijuana Control Office — Date: 02/24/2017 11:29 AM
Approved By: Catherine Reardon, Director — Date: 02/24/17
Agency: Division of Administrative Services, DCCED

STATE OF ALASKA
2017 LEGISLATIVE SESSION

BILL NO. SB 63

Analysis

SB 63 prohibits and penalizes smoking where the public and vulnerable individuals are located. This includes certain retail establishments, public-use areas, and enclosed areas, including buildings that do not meet ventilation standards. Additionally, this legislation requires employers, property owners, property operators, and other members of the public to display signs of the smoking prohibitions to be posted in the aforementioned areas.

The Alcohol and Marijuana Control Office does not anticipate fiscal impact from this legislation. Any regulations required of the Marijuana Control Board will be included in existing regulations projects.

Fiscal Note

State of Alaska
2017 Legislative Session

Bill Version: SB 63
Fiscal Note Number:
() Publish Date:

Identifier: SB063-DOT-COM-2-27-17
Title: REGULATION OF SMOKING
Sponsor: MICCICHE
Requester: (S) Health & Social Services

Department: Department of Transportation and Public Facilities
Appropriation: Administration and Support
Allocation: Commissioner's Office
OMB Component Number: 530

Expenditures/Revenues

Note: Amounts do not include inflation unless otherwise noted below. (Thousands of Dollars)

	FY2018 Appropriation Requested	Included in Governor's FY2018 Request	Out-Year Cost Estimates				
OPERATING EXPENDITURES	**FY 2018**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**
Personal Services							
Travel							
Services	15.3						
Commodities							
Capital Outlay							
Grants & Benefits							
Miscellaneous							
Total Operating	**15.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Fund Source (Operating Only)

1004 Gen Fund (UGF)	12.8						
1026 HwyCapital (Other)	1.5						
1027 IntAirport (Other)	1.0						
Total	**15.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Positions

Full-time							
Part-time							
Temporary							

Change in Revenues

None							
Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Estimated SUPPLEMENTAL (FY2017) cost: 0.0 *(separate supplemental appropriation required)*
(discuss reasons and fund source(s) in analysis section)

Estimated CAPITAL (FY2018) cost: 0.0 *(separate capital appropriation required)*
(discuss reasons and fund source(s) in analysis section)

ASSOCIATED REGULATIONS

Does the bill direct, or will the bill result in, regulation changes adopted by your agency? No
If yes, by what date are the regulations to be adopted, amended or repealed?

Why this fiscal note differs from previous version:

Not applicable; initial version.

Prepared By: Mike Lesmann Phone: (907)465-4772
Division: Commissioner's Office Date: 02/27/2017 12:00 PM
Approved By: Amanda Holland Date: 02/27/17
Agency: DOT&PF

Analysis

This proposal requires No Smoking signs be updated at department facilities and on Alaska Marine Highway vessels as described below:

Statewide Equipment Fleet: This legislation would ban smoking in state-owned vehicles under other enclosed area in a place of employment. Current No Smoking placards in state-owned vehicles do NOT comply with the requirements under the Notice of Prohibition section, on lines 8-12, page 5 of this proposal.
5,653 vehicles in the state equipment fleet
$.26 for decals for entire state equipment fleet vehicles
Total one-time cost = $1,470.00

Alaska Marine Highway System: This legislation would ban smoking in enclosed areas onboard the Alaska Marine Highway System (AMHS) ferries, inside of AMHS terminals and other buildings belonging to the AMHS. With the passage of this legislation, current no-smoking signs at terminals as well as onboard the 11 vessels (this number includes the two new Alaska Class Ferries coming online in 2018/2019) of the fleet will have to be replaced as they do not comply with the requirements under the Notice of Prohibition section, on lines 8-12, page 5 of this proposal.

26 12" x 12" building signs at terminals @ $25/signs	$650.00
66 (6 per vessel) 12" x 12" signs onboard @ $25/sign	$1,650.00
Total one-time cost	$2,300.00

Rural Airport System: This legislation would ban smoking in enclosed areas at all 240 State of Alaska rural airports including state-owned airport terminals, fuel facilities, and other enclosed areas in a place of employment (sand storage sheds, equipment storage/maintenance facilities, airport rescue/firefighting facilities). With the passage of this legislation, our current no-smoking signs will have to be replaced as they do not comply with the requirements under the Notice of Prohibition section, on lines 8-12, page 5 of this proposal. The department would provide durable signs at these locations.

Total 6" x 20" signs ($30/sign, installation & shipping)	
Northern Region Highways & Aviation	125 signs
Total one-time cost	$3,750.00
Total 6" x 20" signs ($30/sign, installation & shipping)	
Southcoast Region Highways & Aviation	65 signs
Total one-time cost	$1,950.00
Total 6" x 20" signs ($30/sign, installation & shipping)	
Central Region Highways & Aviation	160 signs
Total one-time cost	$4,800.00

Alaska International Airport System: This legislation would ban smoking in enclosed areas of the Fairbanks International Airport terminal and the Ted Stevens Anchorage International Airport terminal as well as within airport fuel facilities. It also prohibits smoking in other enclosed areas in a place of employment at these airports. Title 17 currently prohibits smoking within 50 ft of an aircraft on airport property. The international airports follow municipal codes prohibiting smoking in public buildings and displays signage and have periodic public address system announcements in the terminals. Currently smokers are provided with a designated outside smoking area adjacent to the terminals, but away from any building entrances. Additionally, a smoking room equipped with ventilation is provided in the North Terminal of the Ted Stevens Anchorage International Airport for passengers that deplane and cannot leave the terminal secure area before re-boarding their through-flight (some international flights and military charters).

Total 100 12" x 12" signs ($10/sign)		
Ted Stevens Anchorage International Airport	80 signs	$800.00
Fairbanks International Airport	20 signs	$200.00
Total one-time cost	100 signs	$1,000.00

The total one-time cost for signage in the Department of Transportation and Public Facilities is $15,270.00.

ALASKA SMOKE-FREE WORKPLACES

EVERYONE HAS THE RIGHT TO BREATHE SMOKE-FREE AIR.

Resolutions of Support for a Statewide Smoke-Free Workplace Law

This is a list of 1,014 Alaska businesses and organizations who have signed a resolution in support of a statewide smoke-free indoor workplace law.

They come from businesses and organizations large and small, representing nearly every industry in Alaska. They cross all community and cultural lines. Broken out regionally, you will find they are also representative of every corner of The Great Land. From north to south, east to west, it's time for Alaska to have smoke-free workplaces!

Statewide Supporters

- AARP
- Agnew::Beck
- Akeela
- Alaska Academy of Family Physicians
- Alaska AFL CIO
- Alaska Association of Naturopathic Physicians
- Alaska Association of Student Governments
- Alaska Asthma Coalition
- Alaska Cancer Care Alliance
- Alaska Commercial Company
- Alaska Community Foundation
- Alaska Dental Association
- Alaska Dental Society
- Alaska Federation of Natives
- Alaska Native Health Board
- Alaska Native Tribal Health Consortium
- Alaska Native Veterans Association
- Alaska Nurse Practitioner Association
- Alaska Nurses Association
- Alaska Primary Care Association
- Alaska Public Health Association
- Alaska Regional Hospital
- Alaska Sports Hall of Fame
- Alaska State Dental Hygienists Association
- Alaska State Hospital and Nursing Home Association (ASHNHA)
- American Academy of Pediatrics - Alaska Chapter
- American Cancer Society
- American Diabetes Association Alaska
- American Heart Association
- American Lung Association
- Arctic Office Products
- Asthma and Allergy Foundation of America - Alaska Chapter
- BDO USA, LLP
- Big Brothers Big Sisters of Alaska
- CIRI Alaska Tourism Corporation
- Doyon Limited
- Evangelical Lutheran Church of America - Alaska Synod
- Grant Aviation, Inc.
- Hilcorp Alaska
- March of Dimes
- Mountain Pacific Quality Health - Alaska
- NEA - Alaska
- Premera Blue Cross Blue Shield of Alaska
- Providence Alaska Medical Center
- Ravn Alaska
- RurAL CAP

- Alaska State Medical Association
- Alaska Teen Media Institute
- Alaska Tobacco Control Alliance
- Alaska's Center for Resource Families
- Rural cap Head Start Child Development & Policy Council
- The Alaska Club
- Volunteers of America - Alaska Chapter
- YWCA Alaska

Anchorage Supporters

- 8 Star Alaska Adventures
- Advanced Physical Therapy of Alaska
- AK Starfish Company
- Alaska Advanced Dentistry
- Janssen Funeral Homes
- JC Rentals
- KACN TV
- Kanady Chiropractic Center

- Alaska Bagel Restaurant
- Alaska Children's Heart Center
- Alaska Colorectal Surgery
- Alaska Cyber Knife Center
- Alaska Denali Winery
- Alaska Enterprise Solutions, Inc.
- Alaska Fresh Seafood & The Bubbly Mermaid
- Alaska Lens Rental
- Alaska Mountaineering & Hiking
- Alaska Oncology and Hematology, LLC
- Alaska Optometric Association
- Alaska Wildberry Products, Inc
- Alex Hotel & Suites
- Allergy, Asthma, and Immunology Center of Alaska
- Anchor Inn - Whittier
- Anchorage & Valley Radiation Therapy Centers
- Anchorage Associates in Radiation Medicine
- Anchorage Brewing Company
- Anchorage Education Association
- Anchorage Medical Society
- Anchorage Neighborhood Health Center
- Anchorage Oncology Center
- Anchorage Pediatric Group
- Anchorage Radiation Therapy Center
- Anchorage School District
- Anchorage Senior Activity Center
- Anchorage Youth Court
- Anchorage Youth Development Coalition
- Arctic Industries, LLC
- Arctic Management, LLC
- Arctic Rehabilitation and Physical Therapy
- Arctic Roadrunner
- Batteries Plus Bulbs - Anchorage
- Bear Paw Bar & Grill
- Bernie's Pharmacy, Inc.
- Best of Breed Pet Grooming
- Birch, Chris
- Cash Properties of Alaska Inc
- Cash Properties, LLC
- Catfish Haven Restaurant
- Celestial Sweets Boutique
- Chilkoot Charlie's
- Chugach Physical Therapy, Inc.
- Club Paris
- Construction Machinery Inc
- Cornerstone Animal Hospital
- Kay's Family Restaurant
- Keller Williams Realty Alaska Group
- Kim's Dry Cleaning
- King Street Brewing Company
- Kreig, Ray
- Lawn Wizard Lawn Care
- Living Water Baptist Church
- Lone Star Steak House
- Lulu e Bebe
- MacCoy, Carlotte
- Medical Park Family Care
- Michelsohn & Daughter Construction, Inc.
- Middle Way Cafe
- Midnight Sun Brewing Company
- Midnight Sun Republican Women's Club
- Mike's Maniacs Slow Pitch Softball
- Mitchell Chiropractic
- Moose's Tooth Pub & Pizzeria
- Mountain View Family Dentistry
- Natural Pantry
- Neuffer, Dan
- Northwest Strategies
- Obeidi Limited
- Organic Oasis
- Pain and Headache Center, LLC
- Paris Bakery and Cafe
- Peanut Farm Bar and Grill
- Pediatric OT Services, LLC
- PETCT of Alaska
- Pho Vietnam 2
- Pil's Deli
- Porcaro Communications
- Pro-Care Home Medical
- Providence Pulmonary Rehab
- Puffin Inn
- Pulmonary Associates
- Repairs Unlimited, LLC
- Sacks Cafe
- Safe & Sound Inc.
- Seagalley Restaurant
- Seward's Folly Bar & Grill
- Side Street Espresso
- Skinny Raven Sports
- Smoke-Free Anchorage Coalition
- Sno Flo LLC
- Snow City Cafe
- Snow Wizard Snow Plowing
- Sonia's Magic Hairstyles

- David's Jewelers
- Diagnostic Health Anchorage
- Downtown Grill
- Eagle River Alehouse
- El Rodeo Inc
- Eledge, Judy
- Fell, William P., DDS
- Flattop Pizza & Pool
- Fromagio's Artisan Cheese
- Gallo's Mexican Restaurant
- Generous Health
- George, Rev. Carol
- Golden Donuts
- Graceworks Alaska
- Grandview Baptist Church
- Grassroots Fair Trade Shop
- Graystar Pacific Seafood
- Helander, Ken
- Heritage Birth Center
- Hotel Captain Cook
- Humpy's Great Alaskan Alehouse
- Hurlburt, Kathy
- Identity Inc.
- Imaging Specialists of Alaska
- Spenard Roadhouse
- Starting Point, Inc.
- Sub Zero Bistro & Microlounge
- Sunrise Sun Spa
- Taiga Mining Company
- Terra Bella, Inc.
- The Alaska Dome
- The Alaska Museum of Science & Nature/AKSCI
- The Builders Collaborative
- The Flying Dutchman Pastry
- Title Wave Books
- Tobacco Free Rainbow Alliance
- True Life Chiropractic LLC
- UAA Department of Health Sciences
- UAA Physical Education Department
- UAA School of Social Work
- Uncle Joe's Pizzeria
- United Way of Anchorage
- Walsh Sheppard
- Weaver Brothers
- Wrigley, David C., MD, PC
- Yak & Yeti Himalayan Restaurant

Gulf Coast Supporters

- A Balanced Approach - Kodiak
- A Smiling Bear Bed & Breakfast - Kodiak
- Alaska One Realty LLC - Kodiak
- Alaskan Real Estate
- Arc N Spark Welding - Kodiak
- AT&T - Kodiak
- Bases Loaded
- Beachside Rental House - Kodiak
- Brother Francis Shelter - Kodiak
- Kodiak Printmasters
- Kodiak Teen Court
- Kodiak Women's Resource & Crisis Center
- M & S Enterprises
- MacTavish Marketing Group – Kodiak
- Mill Bay Coffee & Pastries – Kodiak
- Nordic Dancer Bed & Breakfast - Kodiak
- Norman's Fine Gifts & Jewelry - Kodiak
- Northwoods Massage - Kodiak
- Old Harbor Native Corporation - Kodiak
- Orca Book and Sound

- Center Star Training, LLC - Kodiak
- Coastal Creation - Kodiak
- Connecting Ties, Inc. - Kodiak
- Daniels Jewelry - Kodiak
- E-Clips Haircare Studio - Cordova
- Emily's Alterations & Design - Kodiak
- Family Chiropractic - Kodiak
- Galley Gourmet - Kodiak
- Henry's Great Alaskan Restaurant, Inc. - Kodiak
- Humane Society of Kodiak
- Images Hair and Tanning
- Island Air Service- Kodiak
- Kendra's Kreations - Kodiak
- Kings Diner Inc.
- KMK Rentals - Cordova
- Kodiak Area Native Association
- Kodiak Bed & Breakfast
- Kodiak Island Ambulatory Care Clinic, Inc. (KIACC Inc.)
- Kodiak Island Borough School District
- Kodiak Lawn Care
- Kodiak Motors, Inc.
- Orion's Mountain Sports - Kodiak
- Ouzinkie Native Corporation
- Pearson Cove Bed & Breakfast - Kodiak
- Providence Kodiak Island Counseling Center
- Re/Max of Kodiak
- Sparrows - Kodiak
- St Denny Surveying - Kodiak
- St. James the Fisherman Episcopal Church - Kodiak
- St. Mary's Catholic Parish - Kodiak
- Stringbeadz by Susan - Kodiak
- Sutliff's Hardware - Kodiak
- Sweeney Insurance - Kodiak
- TC Enterprises, LLC - Kodiak
- The Sholikof Lodge - Kodiak
- Threshold Services, Inc. - Kodiak
- Ton of Fun - Kodiak
- Total Interior Furnishings - Kodiak
- Wells Fargo Bank - Kodiak
- Wild Iris Salon

Interior Supporters

- A&K Electric, LLC - Fairbanks
- AARP Fairbanks Chapter
- Access Alaska
- Aframe Gas Station
- Airport Equipment Rentals
- Alaska A La Carte Realty
- Alaska Acupuncture and Herb
- Alaska Fur Gallery
- Alaska Homegrown - Russell Bickness
- Alaska Universal Productions, Inc
- Aloha BBQ Grill
- Hair Salon – Glennallen
- Hatcher Photography - Fairbanks
- Healy Heights Family Cabins
- Heartstream Yoga
- Hompesch, Evans & Averett
- Hub of Alaska - Glennallen
- I ACT FREE Coalition
- If Only... a fine store
- Image Optical - Fairbanks
- Infinite Options Care Coordination Services, LLC

- Alpine Chiropractic and Massage
- American Village of Alaska Inc. / Caribou Hotel - Glennallen
- Arctic Burner Service - Fairbanks
- Arctic Chiropractic
- Arctic Fire Hot Sauce-Fairbanks
- Arctic Lights Candle Company-Fairbanks
- Arts Venture - Fairbanks
- Asian Acupuncture, Bodywork and Herbs, Inc.
- Baan O Yeel Kon Corporation - Rampart
- Bergeron, Daniel M., DDS
- Bettisworth North Architects
- Black Diamond Resort Company
- Blue Door Antiques - Fairbanks
- Bobby's Restaurant
- Bonnie's Baskets & Things-Fairbanks
- Brewster's
- Canyon Gift Company
- Castlerock Self Storage
- Cheesh'na Tribal Council
- Chena Hot Springs Resort, LLC
- Chena Power LLC
- Choice Care LLC
- Co-Op Diner
- Co-op Market Grocery & Deli
- Coghill's Store - Nenana
- Coldwell Banker Gold Country
- Concierge Medicine of Alaska - Fairbanks
- Connecting Ties, Inc - Glennallen
- Copper River Native Association
- Copper Valley Historical Society
- Cross Road Medical Center - Glennallen
- CrossFit Fairbanks
- Dana'a Daycare
- Date-Line Digital Printing
- Delta Epsilon Inc. - Fairbanks
- Delta Sigma Theta Sorority, Inc. - Fairbanks Alumnae Chapter
- Denali Adventure Tours
- Denali ATV Adventures
- Denali Borough
- Denali Chamber of Commerce
- Denali Dome Home B&B
- Denali Gift Company
- Denali Glacier Scoops & Gifts
- Denali Jeep Excursions
- Denali Lakeview Inn
- Information Insight
- Interior Alaska Center for Non-Violent Living - Fairbanks
- Interior Community Health Center
- Interior Excavation & Trucking - Fairbanks
- Interior Graphics & Printing
- Jazz Bistro on 4th
- Jazzercise Fairbanks
- Jeff King Inc. / Husky Homestead
- Jolly Roger, Inc.
- Julia Scott Wealth Management
- K&K Recycling Inc.
- Karibu Gallery & Gifts
- Kristi's Quisine
- Lake Louis Lodge
- Last Frontier Denali Photography
- Lavelle's Bistro
- Lavelle's Taphouse
- Lemongrass Thai Cuisine – Fairbanks
- LUNCH Café & Eatery - Fairbanks
- Mark Harris, LPC
- McAfee Chiropractic-Fairbanks
- McCafferty's, A Coffee House, Etc. - Fairbanks
- McCarthy Ventures LLC
- McKinley Gifts
- Miles of Alaska - Nenana
- Minto Development Corporation
- Monderosa Bar & Grill
- Motel Nord Haven - Healy
- Mount Pleasant Baptist Church - Fairbanks
- Mt. McKinley Bank
- Nenana A Frame
- Nenana City Public Schools
- Nenana Native Village
- Nenana Taekwondo
- Nenana Tortella Council on Aging, Inc.
- Nenana Urban Farm
- North Pole Chiropractic
- North Pole Professional Building
- Northern Alaska Environmental Center - Fairbanks
- Northern Alaska Tour Company - Fairbanks
- Northern Business Systems
- Northstar Youth Court - Fairbanks
- Oasis Restaurant

- Denali Mountain Works
- Denali Outdoor Center
- Denali Princess Wilderness Lodge
- Denali Raft Adventure
- Denali Taxi Shuttle - Healy
- do TERRA Essential Oils
- Donna's House of Petals & Gifts
- Duncan Designs - Fairbanks
- Eagle Tribal Buildings
- Eastern Treats – Fairbanks
- Elegant Memories
- Elem Robotics
- Enchanted Forest - Fairbanks
- European International
- Evans Industries
- Fairbanks Children's Museum
- Fairbanks Choral Society
- Fairbanks Clinic Insurance
- Fairbanks Daily News-Miner, Inc.
- Fairbanks Economic Development Corporation
- Fairbanks Family Dental Care
- Fairbanks Forrest and Farm
- Fairbanks Memorial Hospital
- Fairbanks Native Association
- Fairbanks Potters Guild
- Fairbanks Tax Service LLC
- Fairbanks Youth Advocates
- Fairbanks Youth Soccer Association
- Farthest North Girl Scout Council
- FedEx Office Fairbanks
- Finish Line - Fairbanks
- First Fruits Consulting -Fairbanks
- First Presbyterian Church
- Fisher's Fuel Inc
- Food Factory-Fairbanks
- Frontier Farms
- Furred and Feathered Friends 4-H Club - Nenana
- GCI Fairbanks
- Geraldo's - Fairbanks
- Glenallen Chiropractic Clinic
- Glenn Transport LLC - Glennallen
- Granma's Quilt Shop
- Grassroots Guitar Co.
- Greater Fairbanks Board of Realtors
- Perspicacity Contract Services
- Pichette Counseling Services - Fairbanks
- Positive Changes Coaching and Training - Fairbanks
- Radio Fairbanks
- Railbelt Mental Health and Addictions
- Raven Retirement Community of Fairbanks
- Resource Center for Parents and Children - Fairbanks
- Retirement Community of Fairbanks
- Robotics Think Bots
- Ronn Murray Photography
- Rose's Cafe
- Santa's Senior Center
- Santa's Vagabond Travel
- Shear Heaven Salon
- Siam Square Thai & European Restaurant
- Sipping Streams Tea Company- Fairbanks
- Smiling Moose Gifts - Delta Junction
- Stanley Nissan
- Sue Cole Creations-Fairbanks
- Tanana Chiefs Conference
- Tartan Tundra Music
- The Blue Loon
- The Break Room Billiard Hall
- The Bubbly Brew
- The Himalayan
- Tiparo's Restaurant
- Tosina Lodge
- Trax Outdoor Center - Fairbanks
- Tri-Valley Fire Department
- Turning Point Counseling Services - Fairbanks
- Valerie Therrien Attorney at Law
- Valley Chapel
- Venue
- Walsh, Kelliher & Sharp, CPAs, APC
- Warbelow's Air Ventures
- Warwick & Schikora, CPAs
- West Valley Vision Center, Inc. - Fairbanks
- White Palms Art Gallery
- Wind Pond Therapeutic Massage
- Wolfrun Restaurant-Fairbanks
- Working Ink LLC
- Workshop Acres - Nenana
- World Eskimo Olympics
- Wright Air Service

- Wrigley Farms LLC/Alaska Flour Co.

Kenai Peninsula Supporters

- 811 Auk Apartments 6 Plex
- A Flyin Skein LLC - Seward
- A Home Away From Home - Homer
- ABC Pregnancy Care Center
- AK Exports, LLC
- Alaska Advanced Care Chiropractic
- Alaska Christian College
- Alaska Fjord Charters - Seward
- Alaska Lanes
- Alaska Maxi Storage
- Alaska West Air - Nikiski
- Alaskan Cottages - Homer
- Alex Russell Pediatrics
- Aloha Bed & Breakfast - Homer
- Anderson Tug & Barge - Seward
- Angels Rest on Resurrection Bay LLC - Seward
- Aurora Health & Nutrition
- Aurora Taxes & Accounting - Anchor Point
- Bayan Asian Market
- Beach House Rentals - Seward
- Bear Creek Winery & Lodging - Homer
- Beemun's Variety
- Behrens, Dr. Bobbie J.
- Big 'G' Electric & Engineering Inc
- Blazy Construction Inc.
- Box Canyon Cabins - Seward
- Boys and Girls Club of the Kenai Peninsula
- Bridges Community Resource Network
- Brown and Hawkins / Sweet Darlings
- Bunnell Street Arts Center - Homer
- Captain Coffee Roasting Company - Homer
- Central Peninsula Health Foundation
- Central Peninsula Hospital
- Chez Moi Boutique
- Chilson Computer Services
- Chugachmuit
- Clinic of Chiropractic Health - Homer
- Community Action Coalition
- Cook Inlet Council on Alcohol & Drug Addiction (CICADA)
- Cooper Landing Chamber of Commerce
- Cosmic Kitchen - Homer
- Cottler, Dr. Harry - Soldotna
- Delta Leasing LLC
- Diamond M Ranch Resort, LLC
- Donna's Country & Victorian Gifts
- Dr. Robert J. Bauder DMD
- Linda Loris B&B Seward
- Lisa Turner, MS
- Love, Inc of the Kenai Peninsula
- Lucky 13 Fashions
- McDonald's Restaurants of the Kenai Peninsula
- Michael P Moriarty, PC Seward
- Moose Pass Chamber of Commerce & Visitors Bureau
- Mykel's Restaurant & Soldotna Inn
- Nancy Field Insurance
- Nature's Way Rehab Services, LLC
- Neal, Gwen M., Attorney at Law - Homer
- New Beginnings Family Services LLC
- Ninilchik Family Dentistry
- North Star Metals Inc.
- Odie's Bead-It
- Oral Surgery Associates Inc.
- Orange Poppy
- Parker and Associates
- Paul Turner, PhD
- Peninsula Accounting Services
- Peninsula Allergy & Asthma Center
- Peninsula Community Health Services
- Peninsula Dental Center
- Peninsula Health Center Inc
- Peninsula Internal Medicine, P.C.
- Peninsula Medical Center
- Peninsula Pediatric Dentistry
- Peninsula Power Sports
- Peninsula Radiation Oncology Center
- Peninsula Radio Group
- Phormation Chiropractic Inc
- Pioneers of Alaska Igloos #9 - Seward
- Pizza Boys Inc
- Preventative Dental Services PC - Homer
- Professional Escrow Services., Inc
- Qutekcak Native Tribe
- Rangeview Bed & Breakfast - Homer
- Renewal Skincare Studio
- Resurrection Bay Lions Club - Seward
- Rez Fitness
- Schiff RV & Boats
- Sea Otter Community Center - Seldovia
- Seaview Cafe & Bar
- Seaview Community Services

- Family Medical Clinic
- Fine Thyme Cafe
- First American Title - Seward
- Foster Construction
- Frontier Community Services
- Froso's Family Dining
- Good Karma Inn - Homer
- Hammer Tax & Accounting Inc - Kenai
- Harry Gaines Kenai River Sport Fishing
- Havenwood Guest House - Seward
- Health North Family Medicine
- Homer Bookstore
- Homer Head Start
- Horace Mann Insurance Co. - Brenda Johnson
- Hospice of the Central Peninsula
- Hutchings Auto Group
- Integrated Robotics Imaging Systems
- Jammin Java
- Jeannie Annette Enterprises
- Jo Doug Inn - Seward
- Kaladi Brothers Coffee
- Kenai Civil Air Patrol
- Kenai Peninsula School District
- Kenai Peninsula United Way
- Kenai Peninsula Urology LLC
- Kenai Peninsula Youth Facility
- Kenai Public Health Center
- Kenai River Drifters Lodge
- Kenai River Suites
- Kenai Spine
- Kenai Sports & Family Chiropractic
- Kenai Vision Center
- Kenai Watershed Forum
- Kenda's Studio
- King's Treasures Christian Bookstore
- KPO Rehabilitation and Sports Medicine
- Kruzof Fisheries LLC - Seward
- Kuskokwim Wilderness Adventures
- Le Barn Appetit Inn & Creperie - Seward
- Legends Dental
- Semaka Charters - Seward
- Seward Chamber of Commerce, CVB
- Seward Rotary Club
- Seward Vacation Properties
- Seward Wellness for All Coalition
- Silhouette Shingles, LLC - Seward
- Snack Shack
- Snowder Chiropractic
- Soldotna Chiropractic & Therapeutic Massage
- Soldotna Dental Arts
- Soldotna Dental Clinic
- Soldotna Mini Storage
- Soldotna Y Chevron
- Spenard Builders Supply - Kenai
- St. Elias Brewing Company
- Stan's Barber Shop
- Starbird Studios - Seward
- Summit Cleaners
- Sunny Cove Sea Kayaking - Seward
- Superstructures
- SVT Health and Wellness
- Sweeny's Clothing
- Tammy's Flowers and Gifts
- The Daily Buzz
- The Duck Inn
- The Fitness Place
- The Medicenter - Kenai
- The UPS Store # 2752
- Thorn's Showcase Lounge - Seward
- Tina's Hair Pros
- Total Office Products
- Trustees Services of Alaska Inc
- Turnagain Heights., LLC
- Ulmer's Drug & Hardware
- Upstream Family Medicine
- Veronica's
- VIDA!
- Weaver Brothers
- West Chiropractic Clinic
- White Crane Academy
- Wilderness Way
- Winter's Grace Guidance Center

Mat-Su Valley Supporters

- Above Alaska Aviation, LLC - Talkeetna
- Alaska Center for Dentistry
- Alaska Center for Resource Families
- Alaska Family Services
- Alaska Midnite Scents - Wasilla
- Alaska Premier Real Estate LLC
- Alaska Sunset View Resort
- Alaska's Mat-Su Bed & Breakfast Association
- Alaska Wellness Coalition - Palmer
- All About Dance - Big Lake
- All I Saw Cookware - Wasilla
- Allison Little Steel Art
- Alpha Counseling and Education Services
- Alpine Inn - Sutton
- Animal Food Warehouse
- Architects Alaska
- Area 51 Hobby and Games, LLC - Wasilla
- Arkose Brewery - Palmer
- Aurora Dora - Talkeetna
- Backcountry Bike & Ski
- Beadberry Patch - Talkeetna
- Big Brothers and Sisters of Alaska - Mat-Su
- Board Media Group LLC
- Body in Balance Physical Therapy - Palmer
- C'est La Vie Affordable Fashions - Wasilla
- Cadillac Cafe - Wasilla
- CAP Solutions
- Capstone Medical Group
- CCS Early Learning
- Chickaloon Village Traditional Council
- Choose Food Wisely LLC
- Christensen Chiropractic
- Church of the Covenant
- Classified Employees' Association of Matanuska-Susitna Borough School District
- Colony Inn
- Country Financial
- Country Legends 100.9 FM - Wasilla
- Crumb LLC
- Denali Images Art Gallery - Talkeetna
- DermaGlow Alaska - Wasilla
- Diversified Tire - Wasilla
- Ehman Outdoors
- Empower LLC - Wasilla
- Envision Matsu
- Mat-Su Conservation Services
- Mat-Su Convention & Visitor Bureau
- Mat-Su Education Association (MSEA)
- Mat-Su Health and Social Service Board
- Mat-Su Health Foundation
- Mat-Su Integrative Medicine, LLC - Wasilla
- Mat-Su Midwifery and Family Health
- Mat-Su Regional Medical Center
- Mat-Su Regional Medical Center Cardiac Rehab
- Mat-Su Senior Services
- Matanuska Electric Association
- Midnight Sun Yoga - Palmer
- Mimi's Closet – Wasilla
- Mocha Me Crazy
- Moonstone Farm
- Murphy & Associates Engineering
- My House/The Gathering Place
- New Horizons Telecom LLC - Palmer
- Non Essentials LLC
- North Star Animal Hospital
- Northern Susitna Institute - Talkeetna
- Now Health, LLC - Palmer
- OnMission Church
- Palmer City Alehouse
- Palmer Pentecostal Church
- Percussion in the Valley - Palmer
- Pia's Custom Picture Framing - Wasilla
- Pioneer Peak Dental
- Pippel Insurance
- PJ's Crafty Corner - Wasilla
- Rent-A-Geek, LTD.
- RMG Real Estate
- Rock-On Climbing, LLC
- Rose Ridge Vacation Center
- Sea Star Strategies LLC
- Set-Free Alaska
- Sheep Mountain Lodge
- Spenard Builders Supply - Wasilla
- Spurs Bar and Grill - Palmer
- Stage 2 Studios, LLC
- Steve's Toyo Stove Repair
- Summit Worship Center - Wasilla
- Sunshine Community Health Center
- Susitna Mechanical

- Family Promise Mat-Su
- Fancy Lou Boutique - Wasilla
- Fence Emporium of Alaska Inc.
- Fireside Books
- First Presbyterian Church of Wasilla
- Flagship Properties LLC
- Flying Squirrel Bakery Cafe - Talkeetna
- For Sweet's Sake - Wasilla
- Forget Me Knot Hair Salon - Wasilla
- Frosty Meadow Farm - Wasilla
- Geneva Woods Pharmacy
- Gorilla Fireworks - Houston
- Greater Palmer Chamber of Commerce
- Hatcher Pass Bed & Breakfast
- Hitchcock Piano Studio - Palmer
- Howdie Inc. - Wasilla
- JC Brandt Insurance & Financial Services, Inc. - Wasilla
- Jenski Automotive
- Just Imagine Toys
- Knik Tribal Council
- Krazy Moose Subs - Wasilla
- Latitude 62 Lodge - Talkeetna
- Learning Essentials
- Locals Pub & Pizzeria
- Lodestar Family Eye Care, PC - Palmer
- Lucas Chiropractic Clinic
- Mat Su Valley Frontiersman
- Mat-Su Borough School Board
- Mat-Su Coalition on Housing & Homelessness
- Tailgaters Sports Bar & Grill LLC
- Take Shape for Life
- Talkeetna Roadhouse
- The Alaska Boathouse Restaurant
- The Alcove Salon - Wasilla
- The Algone Center
- The Baby Store Toys and More - Wasilla
- The Beader's Paradise - Wasilla
- The Dancing Leaf Gallery - Talkeetna
- The Grand View Inn & Suites
- The Grill @ The Grand View
- The Metro Cafe - Wasilla
- Thrive Mat-Su
- Unaccompanied Youth Task Force
- United Way of Mat-Su
- Urban Roots Hair Studio
- Valley Christian Conference
- Valley Community for Recycling Solutions
- Valley Orthodontics
- Valley Residential Services - Wasilla
- Valley Rotaract
- Village Arts & Crafts Gift Shop - Talkeetna
- Wasilla Area Seniors, Inc.
- Wasilla Chiropractic Clinic
- Wasilla Chrysler Dodge Jeep Ram
- Wasilla Physical Therapy
- Wasilla Presbyterian Church
- Wild Iris Family Medicine & Maternity Care - Wasilla
- Windbreak Café/Trouthouse Lounge

Northern Alaska Supporters

- AC Q-Stop - Barrow
- AC Value Center Barrow
- Native Village of Koyuk IRA Council
- Native Village of St Michael

- Airport Pizza
- Alaska Airlines - Barrow
- Alaska Technical Center - Kotzebue
- Arctic Cab - Barrow
- Arctic Chiropractic - Kotzebue
- Arctic Grocery Inc. - Barrow
- Arctic Kitchen and Apartments - Barrow
- Arctic Pizza - Barrow
- Barrow Kitchen
- Bearing Song & Gifts
- Bering Air-Kotzebue
- Bering Air, Inc. - Nome
- City of Kiana
- Era Alaska Kotzebue
- FBX Aviation Services - Kotzebue
- Illisagvik College - Barrow
- Inupiat Cleaners - Barrow
- KBRW FM - Barrow
- KNOM Radio Mission, Inc.
- Leeza's Beauty Salon - Barrow
- Maruskiya's of Nome Alaska Native Art
- McIntyre Optometry Services, Inc. – Barrow
- Native Village of Brevig Mission
- Native Village of Kotzebue
- Noorvik Native Commmunity
- Northwest Arctic Borough
- Northwest Inupiat Housing Authority
- Northwest Inupiat Housing Authority - Kotzebue
- Northwestern Aviation - Kotzebue
- Osaka Asian Cuisine - Barrow
- OTZ Telecommunications, Inc. - Kotzebue
- Ravn Alaska - Kozebue
- Ravn Alaska / Hageland Aviation - Barrow
- Ryan Air
- Ryan Air - Kotzebue
- Sam & Lee's Restaurant - Barrow
- Samuel Simmonds Memorial Hospital - Barrow
- Savoonga Native Store
- Sitmasialk Native Corporation
- The Fur Shop - Barrow
- UAF Chukchi Campus - Kotzebue
- Village of Nome IRA Council
- Village of Solomon
- Water Service - Barrow
- Wells Fargo Bank - Barrow
- Wolf Creek Sales & Service - Kotzebue

Southeast Alaska Supporters

- 1st City 1st Aid - Ketchikan
- Adventure Karts - Ketchikan
- Aimee Shull Photography
- Alaska Arts Southeast
- Alaska Electric Light & Power Company - Juneau
- Alaska Galore Tours - Juneau
- Alaska Grafix - Juneau
- Alaska Island Community Services
- Alaska Laundry and Cleaners - Juneau
- Alaska Native Brotherhood & Alaska Native Sisterhood Grand Camp - Ketchikan
- Alaska Native Girls - Metakatia
- Alaska Native Sisterhood Camp #16
- Alaska Rainforest Sanctuary
- Alaska Robotics
- Aquatic Alaska Adventures
- Armstrong - Keta, Inc. - Baranof Island
- At the White House B& B - Skagway
- Aurora Chiropractic Center
- AWARE Inc-Juneau
- BCD Construction, Inc. - Juneau
- Bev's Flowers and Gifts
- Braveheart Volunteers
- Breakaway Adventures - Wrangell
- Brenner's Fine Clothing and Gifts
- Catholic Charities
- Changing Tides LLC - Juneau
- Chilkoot Indian Association
- City Center Chiropractic - Juneau
- Creek Street Historic Properties
- Creekside Family Health Clinic - Ketchikan
- Diamond C Cafe - Wrangell
- Diversified Investments & Insurance - Ketchikan
- Easeful Being - Juneau
- Fairweather Gallery - Juneau
- Foggy Mountain Shop - Juneau
- Frontier Shipping & Copyworks - Ketchikan
- Garnet School
- McDonald's of Southeast Alaska
- National Council on Alcohol and Drug Dependence
- Native Craft Co-Op - Juneau
- Natural Healthcare - Juneau
- North Star Television Network
- North to Alaska
- Northern Light United Church - Juneau
- Northwind Architects - Juneau
- Organized Village of Kasaan
- Paper Pirates-Sanctuary
- Peace Health Ketchikan Medical Center
- Petersburg Indian Association
- Petersburg Mental Health
- Petersburg School District
- Radio Shack Ketchikan
- Rainbird Community Broadcast Corp. - Ketchikan
- Rainbow Foods - Juneau
- Rainforest Crafts - Ketchikan
- Rainforest Naturopathic Medicine
- Red Onion Saloon
- Rob Cohen Music - Juneau
- Robertson's Gallery & Custom Framing
- Rodfather's Broiler Restaurant
- Seaside Yarns, LLC - Juneau
- Shattuck & Grummett Insurance
- Sitka Dental Clinic
- Sitka Tribe of Alaska
- Sitkans Against Family Violence
- Skagway Brewing Company
- Southeast Alaska Guidance Association (SAGA)
- Southeast Alaska Regional Health Consortium (SEARHC)
- Southeast Furniture Warehouse
- Southeast Medical Clinic
- Southeast Radiation Oncology Center - Juneau
- Starboard Frames and Gifts - Ketchikan
- State Farm Insurance - Ketchikan

- Gateway Center for Human Services/Akeela
- Glacier Auto Parts
- Goldbelt Inc - Juneau
- Haines Brewing Company, Inc.
- Healing Touch Alaska - Juneau
- Hearthside Books & Toys - Juneau
- Heritage Coffee
- Heritage Northwest Inc. - Juneau
- Hi-Tide Construction - Juneau
- Hoonah Indian Association
- Hoonah Liquor Store
- Icy Straits Lodge
- Ike's Fuel
- Inn at Creek Street - Ketchikan
- Inside Passage Midwifery & Natural Medicine
- Island Pharmacy - Ketchikan
- Jerry's Books and Games - Ketchikan
- Juneau Arts & Humanities Council
- Juneau Family Health and Birth Center
- Juneau's Imagination Station
- Ketchikan Public Health
- Ketchikan Ready Mix Inc.
- Ketchikan Wellness Coalition
- Ketchikan Youth Court
- Knockout Productions - Juneau
- Lifetime Eye Care
- Love in Action - Ketchikan
- Stereo North Inc.
- Stikine Drug - Wrangell
- Studio Max - Ketchikan
- Sylvan Enterprises
- Taku Lanes - Juneau
- Taquan Air - Ketchikan
- The Fox Hole - Ketchikan
- The Office Bar - Hoonah
- The Wild Oven Bakehouse - Juneau
- Tideland Tackle Marine - Hoonah
- Tongass Federal Credit Union - Ketchikan
- Tongass Mobile Estates - Hoonah
- Trickster Company - Juneau
- TSS, Inc. - Ketchikan
- University of Alaska - Southeast Campus
- Urban Eskimo - Juneau
- Videl Entertainment
- Wanzer, Terral - Ketchikan
- Weaver, Douglas, DDS - Juneau
- Wellspring Inc Integrative Medicine
- Wellwood Center Bed & Breakfast - Copper Center
- Willow Mountain Lodge
- Wostmann & Associates Inc
- Wrangell Early Childhood Education Coalition
- Wrangell Public Health Center
- Wrangell School District
- Yoga Union Inc

Southwest Alaska Supporters

- 4th and Broadway Boutique
- Alakanuk Tribal Council
- Aleut Community of St. Paul
- Aleutian Pribilof Island Association
- Arctic Belle Boutique - Bethel
- ArXotica Inc
- Association of Village Council Presidents (AVCP)
- Bethel Alaska PC
- Bethel Car Rental
- Bethel Chamber of Commerce
- Bethel Community Services Foundation
- Bethel Family Clinic
- Bethel Friends of Canines
- Bethel Native Corporation
- Bethel Public Health Center
- Bristol Alliance Fuels, LLC - Dillingham
- Bristol Bay Area Health Corporation
- Bristol Express - Dillingham
- Bristol Express Fuels, Inc. - Dillingham
- Bristol Express Gas Station & C-Store - Dillingham
- Brown Slough Bed & Breakfast - Bethel
- City of Dillingham Senior Center
- Donlin Gold
- Herron, Bob
- Iqurmiut Traditional Council - Russian Mission
- Kuskokwim Commercial Supply - Bethel
- Kuskokwim Wilderness Adventures – Bethel
- Let's Get Growing
- Lime Village Traditional Council - McGrath
- Lucy's Cache - Bethel
- Marilyn's Hair Salon
- Native Village of Bill Moore's Slough
- Native Village of Eek
- Native Village of Emmonak
- Native Village of Kwinhagak
- Native Village of Marshall
- Native Village of Nunam Iqua
- Native Village of Tununak
- Northern Lights Essential Oil Products
- Ohogamiut Traditional Council - Marshall
- Orutsaramiut Native Council - Bethel
- Portraits by Pipa
- Pribilof School District
- Sammy's Market - Bethel
- Sattler Strategies - Bethel
- Snack Shack - Bethel
- Stan's Barber Shop - Bethel
- The Delta Discovery, Inc. - Bethel
- Toksook Bay Head Start
- Unalaska City School Board
- Unalaskans Against Sexual Assault and Family Violence
- USA Pools - Bethel
- Valcarce Law Office - Bethel
- Yukon-Kuskokwim Health Corporation
- Yupiit of Andreafski Tribe - St. Marys
- Yupiit Piciryarait Cultural Center - Bethel
- Yupiit Piciryarait Museum - Bethel
- Yuut Elitnaurviat - The People's Learning Center, Inc. - Bethel

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30341-3724

January 5, 2017

Office on Smoking and Health
Centers for Disease Control and Prevention
4770 Buford Highway NE, MS F79
Atlanta, GA 30341

Senator Peter A. Micciche
Alaska State Capitol, Rm. 514
Juneau, AK 99801

Senator Micciche,

Per your request, I am submitting this statement of the scientific evidence regarding secondhand smoke exposure, as well as currently available scientific information on secondhand exposure to the emissions from electronic nicotine delivery system (ENDS) use and marijuana smoking. For the record, I am not submitting this statement for or against any specific legislative proposal.

The Health Effects of Secondhand Exposure to Tobacco Smoke

Secondhand smoke from burning tobacco products is deadly. In adults, secondhand smoke exposure causes stroke, lung cancer, and coronary heart disease, as well as reproductive effects in women, including low birth weight.[1] Children who are exposed to secondhand smoke are at an increased risk for sudden infant death syndrome (SIDS), acute respiratory infections such as pneumonia and bronchitis, middle ear disease, more frequent and severe asthma, respiratory symptoms, and slowed lung growth.[1]

The scientific evidence on the harmful effects of secondhand smoke exposure is well-documented. The Surgeon General first concluded that secondhand smoke causes lung cancer in 1986.[2] In 2006, the Surgeon General's Report on *The Health Consequences of Involuntary Exposure to Tobacco Smoke* concluded that there is no risk-free level of secondhand smoke exposure.[3] Separating smokers and nonsmokers, using designated smoking areas, cleaning or filtering the air, and using separately ventilated areas do not work.[3] Furthermore, in 2010, the Surgeon General's Report on *How Tobacco Smoke Causes Disease* reaffirmed the conclusion that there is no risk-free level of exposure to tobacco smoke.[4] The report and subsequent findings also documented how the complex mix of chemicals in tobacco smoke causes disease, including finding that cigarette smoke contains 7,000 chemicals, 250 of which are toxic and nearly 70 of which cause cancer.[1,4] In 2014, the 50th Anniversary Surgeon General's Report on *The Health Consequences of Smoking* further affirmed these findings.[1] The report estimates that secondhand smoke exposure increases the risk of stroke by 20 to 30%.[1]

The effects of secondhand smoke exposure on the body are immediate.[3] A 2011 study reported that secondhand smoke exposure can produce adverse inflammatory and respiratory effects within 60 minutes of exposure and that these effects persist for at least three hours after the exposure.[5] These findings are significant; the concern is not just secondhand smoke exposure for guests during a meal at a restaurant, but also the compounded health effects for an employee working an eight-hour shift in a smoke-filled restaurant or bar.[3]

The Burden of Secondhand Exposure to Tobacco Smoke

Secondhand smoke exposure costs nonsmokers—especially vulnerable populations, such as children—their health and wellbeing. These costs are born not just by individuals, but by society: exposure to secondhand smoke costs the United States billions of dollars in lost productivity and medical expenses every year.[1]

As a result of the considerable body of evidence documenting the adverse effects of secondhand smoke, substantial progress has been made toward eliminating nonsmokers' exposure to this preventable health hazard over the last 50 years.[1] Recent assessments of cotinine, a metabolite of nicotine and biomarker of recent secondhand smoke exposure, indicates that about 1 in 4 Americans continue to be exposed to secondhand smoke.[6] In the past 50 years, secondhand smoke exposure is estimated to have caused nearly 2.5 million deaths in nonsmoking Americans.[1] Each year, an estimated 7,330 lung cancer deaths and 33,950 coronary heart disease deaths are attributable to secondhand smoke exposure.[1]

The smoking-attributable economic costs in the United States also include about $5.6 billion in lost productivity every year due to secondhand smoke exposure.[1] Many of these deaths and this lost productivity could be prevented if comprehensive smokefree laws prohibiting smoking in all indoor areas of worksites, restaurants, and bars were implemented nationwide.[1]

Preventing Secondhand Exposure to Tobacco Smoke

We know what works to prevent the harms of secondhand smoke exposure. In 2006, the Surgeon General concluded that eliminating smoking in indoor spaces is the only way to fully protect nonsmokers from secondhand smoke exposure.[3] In 2009, the World Health Organization's International Agency for Research on Cancer reiterated these findings, concluding that smokefree policies lead to substantial declines in secondhand smoke exposure, citing air quality improvements of up to 90% in high-risk settings, such as bars.[7] Furthermore, the 2014 Surgeon General's report delved deeper into the science behind the success of smokefree laws in protecting people's health. Specifically, the report concluded that smokefree laws directly cause reductions in coronary events (especially heart attacks), making comprehensive smokefree laws one of the most effective and cost-effective approaches for reducing heart disease—the leading cause of death—in the country.[1]

Finally, beyond reducing exposure to secondhand smoke, smokefree laws also lower smoking rates as a whole, especially among vulnerable youth and young adults.[1] Both the Surgeon General and the U.S. Guide to Community Preventive Services conclude that smokefree laws in workplaces and communities help smokers quit and reduce tobacco use.[1,8] In addition, smokefree workplaces and communities make youth and young adults less likely to start smoking due to a number of factors, including lower visibility of people who smoke, fewer opportunities to smoke alone or with others, and reduced social acceptability for smoking.[1] The implementation of smokefree laws also increase the adoption of voluntary smokefree rules in homes, which can further protect nonsmokers—especially the most vulnerable that are exposed to secondhand smoke in the home, such as children.[1]

CDC defines a comprehensive smokefree law as one that prohibits smoking at all times, in all indoor areas of all workplaces and public places, including restaurants and bars. If a law allows exemptions for designated or ventilated smoking areas in workplaces, restaurants or bars, the state or community is not considered to have a comprehensive smokefree law.

Smokefree policies in hospitality venues such as restaurants, bars, and casinos protect employees and patrons from the adverse health effects of secondhand smoke. These policies are associated with improved indoor air quality and with reduced secondhand smoke exposure, reduced sensory and respiratory symptoms, and improved lung function in nonsmoking employees.[2,9,10]

Comprehensive smokefree laws are also associated with rapid reductions in hospitalizations due to heart attacks and strokes.[11] For instance, in Colorado, following the implementation of a comprehensive smokefree law in 2006, the state saw a 23 percent drop in ambulance calls from these venues.[12] However, there was no change in ambulance calls from casinos until the law was expanded in 2008 to include casinos—after which, ambulance calls from casinos dropped nearly 20 percent.[12] This illustrates that these health improvements are lifesaving and nearly immediate.

Evidence Shows that Smokefree Policies do not Adversely Impact Business

The evidence concerning the economic impact of smokefree laws is well-documented. In 2006, the Surgeon General concluded that "evidence from peer-reviewed studies shows that smokefree policies and regulations do not have an adverse economic impact on the hospitality industry."[3]

These findings have been replicated numerous times at the international, state, and local levels.[1,3,7] In 2009, the International Agency for Research on Cancer conducted a comprehensive review of 97 studies from eight countries on the economic impact of smokefree policies and found that studies consistently conclude that smokefree policies do not harm business.[7]

At the state and local level, studies consistently reiterate these conclusions. The largest analysis of the impact of smokefree ordinances, which examined local ordinances in eight states (Alabama, Indiana, Kentucky, Mississippi, Missouri, South Carolina, Texas, and West Virginia) and a state ordinance in one state (North Carolina), found that smokefree laws do not have a negative impact on either employment or sales in restaurants and bars.[13] A study of El Paso, Texas's smoke-free policy found that the law had no effect on restaurant and bar revenue.[14] Furthermore, a 2007 study on the economic impact of a smokefree law in Lexingon-Fayette County, Kentucky found that "no important economic harm stemmed from the smoke-free legislation...despite the fact that Lexington is located in a tobacco-producing state with higher-than-average smoking rates."[15]

Further reviews of the literature have also found that, in some cases, a smokefree policy produces positive effects for local businesses.[16,17,18] For instance, an in-depth analysis of tax revenue data in California after the state implemented their smokefree restaurant law (in 1995) and bar law (in 1998) found that the smokefree restaurant law was associated with an increase in restaurant revenues, and the smokefree bar law was associated with an increase in bar revenues.[19] Additionally, just one year after implementation of the New York City smokefree law, an evaluation found that restaurant and bar revenues in New York City increased by 8.7% from April 2003 through January 2004.[20]

Smokefree Policies and ENDS

Science on the issue of ENDS, including e-cigarettes, continues to emerge. However, there is sufficient scientific evidence to support the implementation of precautionary approaches to protect the public from risks associated with exposure to the emissions from these products. For example, in the 2016 Report from the U.S. Surgeon General on e-cigarette use among youth and young adults, "e-cigarette aerosol is not harmless. It can contain harmful and potentially harmful constituents, including nicotine."[21] The report notes that exposure to the aerosol from these products can be particularly dangerous for youth; specifically, the report concludes that "nicotine exposure during adolescence can cause addiction and can harm the developing adolescent brain."[21] ENDS use has the potential to involuntarily expose children and adolescents, pregnant women, and non-users to aerosolized nicotine and, if the products are altered, to other psychoactive substances.[21] Therefore, clean air—free of both smoke and ENDS aerosol—remains the standard to protect health.

In the 2016 Surgeon General's Report, the Call to Action states that "State, local, tribal and territorial governments should implement population-level strategies to reduce e-cigarette use among youth and young adults, such as including e-cigarette in smokefree indoor air policies..." (Goal 4, Strategy 4A).[21] The report notes that most smokefree indoor air policies were put in place before the rise in e-cigarette use. Because of that, these policies may not cover e-cigarettes or exposure to the aerosol these produce.[21] Therefore, the Call to Action states that "smokefree indoor air policies should be updated to prohibit the use of both conventional cigarettes and e-cigarettes, thereby preserving standards for clean indoor air. Efforts to include e-cigarettes in smokefree laws should also uphold or strengthen, not weaken, existing protections against exposure to secondhand smoke."[21]

As noted in the 2016 Surgeon General's report, including e-cigarettes in smokefree indoor air policies can: eliminate health risks from exposure to secondhand aerosol from e-cigarettes; discourage people from using both combustible and electronic tobacco products (dual use); simplify compliance with and enforcement of existing smokefree laws; help to reduce the use of e-cigarettes among youth and young adults; and maintain tobacco-free norms.[21]

The majority of e-cigarette users also smoke cigarettes.**Error! Bookmark not defined.** Permitting ENDS use in public places could perpetuate combusted tobacco use and, therefore, tobacco-related morbidity and mortality. For example, ENDS use in public places could make it easier for smokers to sustain their nicotine addiction in public places, without switching completely away from combusted tobacco use.[22] There is no evidence to support any claim that policies that allow ENDS use in public places result in smokers switching to ENDS completely. Additionally, because some e-cigarettes are designed to mimic smoking, allowing ENDS use in places where smoking is prohibited could complicate enforcement of smokefree policies and renormalize tobacco use.[23]

Health Effects of Secondhand Exposure to Marijuana Smoke

Generally, there are health risks associated with the combustion and subsequent inhalation of its emissions. Whether from burning tobacco or marijuana, toxins and carcinogens are released from the combustion of these materials. Inhaled smoke from marijuana contains many of the same toxins, irritants and carcinogens as tobacco smoke.[24,25] Further, secondhand smoke from combusted marijuana has been found to contain the same toxins and carcinogens found in inhaled marijuana smoke.[26,27,28]

There are recent findings that breathing secondhand marijuana smoke could damage heart and blood vessels as much as secondhand tobacco smoke.[29] Further, emerging research indicates that even brief exposure to marijuana smoke has been shown to have immediate, adverse effects on the heart.[30] The long-term health effects of secondhand exposure to marijuana smoke have not been extensively studied, and research in this area is ongoing.

What States and Communities Have Done

As of December 2016, CDC has determined that 27 states, Puerto Rico, the District of Columbia, and over 800 other communities in the United States have comprehensive smokefree laws in effect that prohibit smoking tobacco in private worksites, restaurants, and bars.[31,32]

Of these 27 states that have implemented comprehensive smokefree laws, eight states (California, Delaware, Hawaii, New Jersey, North Dakota, Oregon, Utah, and Vermont) have also prohibited the use of ENDS where smoking is prohibited, as well as hundreds of local communities.[32]

The most effective tobacco control policies have most often originated at the local level.[1,33,34] This is especially true in the area of smokefree policies.[1,33]

Conclusion

Evidence shows that secondhand smoke causes considerable death and disease, costing the United States billions every year in direct health care costs and lost productivity. And unlike many other health hazards, these harms are completely preventable. Further, secondhand aerosol emitted from ENDS, including e-cigarettes, is not harmless. The diversification of the tobacco product landscape – specifically the increase in ENDS use – is important to consider in the development of public health interventions to protect the public from involuntary exposure to known health risks. Clean air—free of both smoke and ENDS aerosol—remains the standard to protect health.

Thank you.

Sincerely,

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

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E-Cigarette Use Among Youth and Young Adults

A Report of the Surgeon General

Fact Sheet

This Surgeon General's report comprehensively reviews the public health issue of e-cigarettes and their impact on U.S. youth and young adults. Studies highlighted in the report cover young adolescents (11-14 years of age); adolescents (15-17 years of age); and/or young adults (18-25 years of age). Scientific evidence contained in this report supports the following facts:

E-cigarettes are a rapidly emerging and diversified product class. These devices typically deliver nicotine, flavorings, and other additives to users via an inhaled aerosol. These devices are referred to by a variety of names, including "e-cigs," "e-hookahs," "mods," "vape pens," "vapes," and "tank systems."

- E-cigarettes are battery-powered devices that heat a liquid into an aerosol that the user inhales.
- The liquid usually has nicotine, which comes from tobacco; flavoring; and other additives.
- E-cigarette products can also be used as a delivery system for marijuana and other illicit drugs.

E-cigarettes are now the most commonly used tobacco product among youth, surpassing conventional cigarettes in 2014. E-cigarette use is strongly associated with the use of other tobacco products among youth and young adults, including cigarettes and other burned tobacco products.

- In 2015, more than 3 million youth in middle and high school, including about 1 of every 6 high school students, used e-cigarettes in the past month. More than a quarter of youth in middle and high school have tried e-cigarettes.
- Among high school students, e-cigarette use is higher among males, whites, and Hispanics than among females and African-Americans.
- There is a strong association between the use of e-cigarettes, cigarettes, and the use of other burned tobacco products by young people. In 2015, for example, nearly 6 of 10 high school cigarette smokers also used e-cigarettes.
- Research has found that youth who use a tobacco product, such as e-cigarettes, are more likely to go on to use other tobacco products like cigarettes.

E-cigarette use among youth and young adults has become a public health concern. In 2014, current use of e-cigarettes by young adults 18-24 years of age surpassed that of adults 25 years of age and older.

- Among young adults 18-24 years of age, e-cigarette use more than doubled from 2013 to 2014. As of 2014, more than one-third of young adults had tried e-cigarettes.
- The most recent data available show that the prevalence of past 30-day use of e-cigarettes was 13.6% among young adults (2014) and 16.0% among high school students (2015).
- The most recent data available show that the prevalence of past 30-day use of e-cigarettes is similar among middle school students (5.3%) and adults 25 years of age and older (5.7%).
- Among young adults, e-cigarette use is higher among males, whites and Hispanics, and those with less education.

The use of products containing nicotine poses dangers to youth, pregnant women, and fetuses. The use of products containing nicotine in any form among youth, including in e-cigarettes, is unsafe.

- Many e-cigarettes contain nicotine, which is highly addictive.
- The brain is the last organ in the human body to develop fully. Brain development continues until the early to mid-20s. Nicotine exposure during periods of significant brain development, such as adolescence, can disrupt the growth of brain circuits that control attention, learning, and susceptibility to addiction.
- The effects of nicotine exposure during youth and young adulthood can be long-lasting and can include lower impulse control and mood disorders.
- The nicotine in e-cigarettes and other tobacco products can prime young brains for addiction to other drugs, such as cocaine and methamphetamine.

- Nicotine can cross the placenta and affect fetal and postnatal development. Nicotine exposure during pregnancy can result in multiple adverse consequences, including sudden infant death syndrome (SIDS).
- Ingestion of e-cigarette liquids containing nicotine can cause acute toxicity and possible death if the contents of refill cartridges or bottles containing nicotine are consumed.

E-cigarette aerosol is not harmless. It can contain harmful and potentially harmful constituents including nicotine. Nicotine exposure during adolescence can cause addiction and can harm the developing adolescent brain.

- The constituents of e-cigarette liquids can include solvents, flavorants, and toxicants.
- The aerosol created by e-cigarettes can contain ingredients that are harmful and potentially harmful to the public's health, including: nicotine; ultrafine particles; flavorings such as diacetyl, a chemical linked to serious lung disease; volatile organic compounds such as benzene, which is found in car exhaust; and heavy metals, such as nickel, tin, and lead.

E-cigarettes are marketed by promoting flavors and using a wide variety of media channels and approaches that have been used in the past for marketing conventional tobacco products to youth and young adults.

- E-cigarettes are an estimated $3.5 billion business in the United States. In 2014, e-cigarette manufacturers spent $125 million advertising their products in the U.S.
- In 2014, more than 7 of 10 middle and high school students said they had seen e-cigarette advertising. Retail stores were the most frequent source of this advertising, followed by the internet, TV and movies, and magazines and newspapers.
- The 2012 Surgeon General's Report on tobacco use among youth and young adults found that tobacco product advertising causes young people to start using tobacco products. Much of today's e-cigarette advertising uses approaches and themes similar to those that were used to promote conventional tobacco products.
- E-cigarettes are available in a wide variety of flavors, including many that are especially appealing to youth. More than 85% of e-cigarette users ages 12-17 use flavored e-cigarettes, and flavors are the leading reason for youth use. More than 9 of 10 young adult e-cigarette users said they use e-cigarettes flavored to taste like menthol, alcohol, fruit, chocolate, or other sweets.

Action can be taken at the national, state, local, tribal and territorial levels to address e-cigarette use among youth and young adults. Actions could include incorporating e-cigarettes into smokefree policies, preventing access to e-cigarettes by youth, price and tax policies, retail licensure, regulation of e-cigarette marketing likely to attract youth, and educational initiatives targeting youth and young adults.

- The Food and Drug Administration (FDA) now regulates the manufacturing, importing, packaging, labeling, advertising, promotion, sale, and distribution of e-cigarettes.
  - In August 2016, FDA began enforcing a ban on vending machine sales unless in adult-only facilities and a ban on free samples and sales to minors.
- Parents, teachers, health care providers, and others who influence youth and young adults can advise and inform them of the dangers of nicotine; discourage youth tobacco use in any form, including e-cigarettes; and set a positive example by being tobacco-free themselves.

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

Website: E-cigarettes.Surgeongeneral.gov

Chair Senator Wilson and members of the Senate Health & Social Services,

I am offering my testimony against Senate bill 63. As this bill is written it would make it extremely difficult if not impossible for the lifesaving industry of vaping to exist much less to grow in Alaska. The opportunity and choice to vape instead of smoke should not be made more difficult or taken away from those Alaskans that wish to take a healthier path.

Years of research has been done, and millions of dollars have been spent investigating whether vaping is a safe substitute for smoking. The verdict is in. (Aug. 9, 2015) Public Health England.

Key findings of the review include:

- **the current best estimate is that e-cigarettes are around 95% less harmful than smoking**
- **nearly half the population (44.8%) don't realize e-cigarettes are much less harmful than smoking**
- **there is no evidence so far that e-cigarettes are acting as a route into smoking for children or non-smokers**

https://www.gov.uk/government/news/e-cigarettes-around-95-less-harmful-than-tobacco-estimates-landmark-review

This misguided bill lumps vaping together with smoking which it is not.

I am not a advocate for tobacco use as both my parents died from lung cancer. I smoked from age 12 till age 53, 41 years, then I found vaping and was able to quit killing myself.

Now I help other folks get off tobacco, 293 so far and they all tell me they feel better,

An air scrubber for my small store would cost the store between 30 and 50 thousand dollars. The cost of this would be prohibitive for new stores to say the least. Most vape shops in Alaska are small owner operated stores that operate on small margins to keep costs down for folks getting off tobacco.

Please remove all references to vaping from this bill, SB63, as it does nothing to help educate smokers to the benefits of vaping and inhibits the growth of an industry that would help Alaskan smokers have healthier choices than tobacco use.

Thank you for your time,

Steven Mapes

Alaska
DENTAL SOCIETY

February 19, 2017

The Honorable Peter Micciche
Alaska State Senate
Alaska State Capitol, Room 514
Juneau, Alaska 99801

Dear Senator Micciche,

The Alaska Dental Society (ADS) is writing in support of SB63.

The Alaska Dental Society fully supports your efforts in passage of Senate Bill 63. Our membership, the dentists of Alaska, are all too familiar with the detrimental effects second hand smoke has on our patients, the citizens of Alaska. The negative health effects of second hand smoke have been thoroughly studied and peer reviewed. Although most commonly associated with pulmonary and cardiovascular disease, multiple studies published and reviewed in the Journal of American Dental Association (JADA), American Journal of Public Health and the Journal of American Medical Association identified links between a higher rate of carries and periodontitis and exposure to second hand smoke. This unfortunate association is not limited to adults. The JADA has found increased rate of carries amongst infants and children exposed to second hand smoke.

Given the overwhelming scientific evidence, the ADS believes that limiting exposure to second hand smoke is in the best interest those Alaskan citizens that do not wish to be incidentally exposed. We support and thank you for proposing SB63.

Dr. Jessica Blanco
Governmental Affairs Chair, Alaska Dental Society

9170 Jewel Lake Rd. Ste. 100 Anchorage, AK 99502
Phone: (907) 563-3003 • Fax: (907) 563-3009 • Website: akdental.org • E-mail: info@akdental.org

Rachel Hanke

From:	American Cancer Society Cancer Action Network <ican@acscan.org> on behalf of John Kasukonis <ican@acscan.org>
Sent:	Tuesday, February 21, 2017 6:05 PM
To:	Sen. Peter Micciche
Subject:	Fight cancer: Support the smoke-free workplaces bill
Follow Up Flag:	Follow up
Flag Status:	Flagged

Feb 21, 2017

State Senator Peter Micciche
State Capitol, Room 508
120 Fourth Street
Juneau, AK 99801-1182

Dear State Senator Micciche,

I'm sure you have seen volunteers from the American Cancer Society Cancer Action Network in the Capitol today.

While I can't be in Juneau with them, I want you to know I join them in support of Senate Bill 63. I am an Alaskan who believes everyone has the right to breathe smoke-free air.

Please support the progress of SB 63.

Sincerely,

Dr. John Kasukonis
PO Box 315
Soldotna, AK 99669-0315
(907) 394-3826
kasukonis@hotmail.com

From: Alaska Tom [mailto:alaskatom66@hotmail.com]
Sent: Wednesday, February 22, 2017 3:26 PM
To: Sen. David Wilson <Sen.David.Wilson@akleg.gov>; Sen. Natasha Von Imhof <Sen.Natasha.VonImhof@akleg.gov>; Sen. Peter Micciche <Sen.Peter.Micciche@akleg.gov>; Sen. Cathy Giessel <Sen.Cathy.Giessel@akleg.gov>; Sen. Tom Begich <Sen.Tom.Begich@akleg.gov>
Subject: Support For Senate Bill 63

I ask for your of support Senate Bill 63 guaranteeing everyone's right to breathe smoke-free air inside Alaska's workplaces and public places. This issue has special meaning for me.

My partner and I were in our 21st year of a relationship when small cell lung cancer claimed his life. As you may know, this form of lung cancer is generally associated with tobacco smoke. I do not want more of my Alaskan friends to suffer from the same death.

Please support Senate Bill 63.

Tom Rachal

Anchorage Resident

Jody Simpson

From: Thomas PIlatti <toma.spilatti@gmail.com>
Sent: Monday, February 27, 2017 3:05 PM
To: Jody Simpson
Subject: Vaping and its positive effects in alaska.

Vaping is a safer alternative to cigarettes. They are not the same. One is a product. Like morphine. And the other is a cessation product. Like fentanol. Or other psudeo opiates.

Please consider humans health WORLDWIDE as vaping has helped people, not hurt. At the very minimum it has hurt 99.9% less people than tradition tobacco use.

From yours truly,
A former smoker

-----Original Message-----
From: American Cancer Society Cancer Action Network [mailto:ican@acscan.org]
Sent: Thursday, February 23, 2017 8:31 PM
To: Sen. Peter Micciche <Sen.Peter.Micciche@akleg.gov>
Subject: Thank you for sponsoring the smoke-free workplace bill

Feb 23, 2017

State Senator Peter Micciche
State Capitol, Room 508
120 Fourth Street
Juneau, AK 99801-1182

Dear State Senator Micciche,

As your constituent, I wanted to thank you for sponsoring the smoke-free bill (SB63). I urge you to continue to support the passage of this important bill as it progresses through its committees.

Peter,

Thanks for your leadership on this one. There are many healthcare issues I feel strongly about; smoke free environments is one we can definitely agree on.

Kristin

Thanks for your help in protecting everyone's right to breathe smoke-free air by sponsoring SB63. With your help, 2017 will be the year when Alaska becomes a smoke-free state.

Sincerely,

Dr. Kristin Mitchell
247 N Fireweed St
Ste A
Soldotna, AK 99669-7593
(907) 283-4109
politicalkmm@gmail.com

ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM

February 27, 2017

Senate Health & Social Services Committee
Attn: Chair, Senator David Wilson
Alaska State Capitol
Juneau, AK 99801

RE: Support for Senate Bill 63

Dear Chairman Wilson and Members of the Senate Health and Social Services Committee:

The Alaska Native Tribal Health Consortium (ANTHC) is a statewide tribal health organization that serves all 229 tribes and more than 158,000 Alaska Natives and American Indians (AN/AIs) in Alaska. ANTHC and Southcentral Foundation co-manage the Alaska Native Medical Center, the tertiary care hospital for all AN/AI people in Alaska. ANTHC also provides a wide range of statewide public health, community health, environmental health and other programs and services for Alaska Native people and their communities.

On behalf of ANTHC, I write in support of Senate Bill 63. Not all Alaskans are protected from exposure to secondhand smoke. Currently, smoke-free workplace laws cover only half the state's population, and many boroughs lack the authority necessary to pass a local law. The only way for all Alaskans to be protected from the harmful effects of secondhand smoke is through a statewide smoke-free workplace law.

The use of tobacco is the nation's number one cause of preventable death, killing nearly 600 Alaskans each year from direct tobacco use. In 2012, Alaska spent $538 million in medical expenditures and an additional $231 million in lost productivity due to tobacco-related deaths. At twice the rate of non-Natives, 42% of AN/AI people smoke and 15% use smokeless tobacco.

Cancer is the leading cause of death among Alaska Native people and lung cancer is one of the most frequently diagnosed cancers. Cigarette smoking is linked to approximately 90% of all lung cancer cases in the United States. Heart disease is the second leading cause of death among AN/AI people and smoking and exposure to secondhand smoke are major risk factors for heart disease.

There is widespread support for smoke-free workplaces. Among AI/AN adults, 89% believe smoking should not be allowed in indoor work areas and 86% support smoke-free restaurants.

Alaska Native Tribal Health Consortium
4000 Ambassador Drive, Anchorage, Alaska 99508
Main: (907) 729-1900 | Fax: (907) 729-1901 | anthc.org

Thank you for the opportunity to provide these comments. Please do not hesitate contact me at (907) 729-1908 or by email at gmoses@anthc.org with any questions or if additional information can be provided.

Sincerely,

Gerald Moses
Senior Director of Intergovernmental Affairs

April 19, 2016

Senator Peter Micciche
State Capitol, Room: 514
120 E. 4th St.
Juneau, AK 99801

Dear Senator Micciche,

The Denali Oncology Group and the American Society of Clinical Oncology (ASCO) strongly support Alaska Senate Bill 1 to create smoke-free workplaces. We urge the Alaska legislature to enact a smoke-free workplace law as soon as possible.

The Denali Oncology Group (DOG), an organization of oncologists and other health care professionals, is the Alaska Affiliate of ASCO, the national organization representing nearly 40,000 physicians and other healthcare professionals specializing in cancer treatment, diagnosis, and prevention.

The U.S. Surgeon General's 2014 report, "*50th Anniversary Surgeon General's Report: The Health Consequences of Smoking—50 Years of Progress*," noted that tobacco smoke contains more than 7,000 chemicals, including hundreds that are toxic and about 70 that can cause cancer; and secondhand smoke exposure caused more than 7,300 lung cancer deaths each year during 2005–2009 among adult nonsmokers in the United States.

Tobacco use is the leading preventable cause of cancer in the world. It is linked to a long list of cancers, including cancers of the lung, esophagus, mouth, larynx and pancreas, and many others. There is no safe form of tobacco and no safe level of tobacco use. Even brief exposure can be harmful to health.

The DOG and ASCO strongly support policies aimed at reducing and ultimately eliminating tobacco-related disease through discouraging the use of tobacco products and exposure to secondhand smoke. We support clean indoor air policies and efforts to prohibit the use of tobacco products in public places. Such policies are proven to reduce exposure to secondhand smoke. They also result in increased tobacco cessation by adults and decreased initiation among youth.

Thank you for your attention to this important issue. If you have questions or would like assistance on any issue related to providing care of individuals with cancer, please do not hesitate to contact Latha Subramanian M.D. at the Denali Oncology Group or Jennifer Brunelle at ASCO at jennifer.brunelle@asco.org.

Sincerely,

Latha Subramanian M.D.

Latha Subramanian
President, DOG

Julie Vose

Julie M. Vose, MD, MBA, FASCO
President, American Society of Clinical Oncology

Jody Simpson

From: Alex McDonald <alex@icefogvapor.com>
Sent: Monday, February 27, 2017 1:17 PM
To: Jody Simpson
Subject: SB63 documents
Attachments: E-cigarettes safer than smoking says long-term study Cancer Research UK.pdf; Full PDF Download - FDA Deeming Regulations for E-Cigarettes & Liquids, all 499 Pages - Vapeix - Tea.pdf; E-cigarettes around 95% less harmful than tobacco estimates landmark review - Press releases - GOV.U.pdf; Ecigarettes_an_evidence_update_A_report_commissioned_by_Public_Health_England_FINAL.pdf; PHE-advice-on-use-of-e-cigarettes-in-public-places-and-workplaces.pdf; E-Cigarettes-Poised-to-Save-Medicaid-Billions-Publications-State-Budget-Solutions.pdf; Mayo Clinic E-Cigarettes Slash Smokers' Tobacco Use The Daily Caller.pdf; Feasibility of Electronic Nicotine Delivery Systems in Surgical Patients Nicotine & Tobacco Resear.pdf; PATH Study A survey of Ecig use in the US Vaping Post.pdf; A framework for evaluating the public health impact of e-cigarettes and other vaporized nicotine pro.pdf

Ms. Simpson,

Please add the attached documents to public record for SB63.

Thank you,

Alex McDonald

-----Original Message-----
From: American Cancer Society Cancer Action Network [mailto:ican@acscan.org]
Sent: Tuesday, May 24, 2016 9:15 AM
To: Sen. Peter Micciche <Sen.Peter.Micciche@akleg.gov>
Subject: Thank you for being a champion for smoke-free workplaces!

May 24, 2016

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

Dear State Senator Micciche,

I was so happy to see that you voted in favor of Senate Bill 1, the Take It Outside Act, to make indoor workplaces across Alaska smoke-free. Thank you for taking a stand for the health of all of the employees, patrons, and business owners across the state.

As someone who cares about promoting and protecting the health of Alaskans, I want to let you know how proud I was to learn that you are keeping the best interests of our citizens at heart. Everyone deserves to breathe clean, smoke-free air.

Please help this bill succeed by encouraging your fellow legislators in the House to support this bill as it moves through that chamber.

Thank you for doing the right thing for Alaska workers and making smoke-free workplaces a priority. Keep up the good work!

Sincerely,

Ms. Vanessa Reese
1949 Gillam Way Ste A
Fairbanks, AK 99701-6089
(907) 987-7329
vreese@thrivalaska.com

CANCER RESEARCH UK

E-cigarettes safer than smoking says long-term study

Category: **Press release** 6 February 2017 Cancer Research UK

E-cigarettes are less toxic and safer to use compared to conventional cigarettes, according to research* published in *Annals of Internal Medicine* today (Monday).

Cancer Research UK-funded scientists found that people who swapped smoking regular cigarettes for e-cigarettes or nicotine replacement therapy (NRT) for at least six months, had much lower levels of toxic and cancer causing substances in their body than people who continued to use conventional cigarettes.

For the first time, researchers analysed the saliva and urine of long-term e-cigarette and NRT users, as well as smokers, and compared body-level exposure to key chemicals.**

Ex-smokers who switched to e-cigarettes or NRT had significantly lower levels of toxic chemicals and carcinogens*** in their body compared to people who continued to smoke tobacco cigarettes. But, those who used e-cigarettes or

"This study adds to growing evidence that e-cigarettes are a much safer alternative to tobacco, and suggests the long term effects of these products will be minimal." - *Alison Cox, Cancer Research UK*

NRT while continuing to smoke, did not show the same marked differences, highlighting that a complete switch is needed to reduce exposure to toxins.

Dr Lion Shahab, senior lecturer in the department of epidemiology and public health at UCL, and lead author of the publication, said: "Our study adds to existing evidence showing that e-cigarettes and NRT are far safer than smoking, and suggests that there is a very low risk associated with their long-term use.

"We've shown that the levels of toxic chemicals in the body from e-cigarettes are considerably lower than suggested in previous studies using simulated experiments. This means some doubts about the safety of e-cigarettes may be wrong.

"Our results also suggest that while e-cigarettes are not only safer, the amount of nicotine they provide is not noticeably different to conventional cigarettes. This can help people to stop smoking altogether by dealing with their cravings in a safer way."

Alison Cox, Cancer Research UK's director of cancer prevention, said: "Around a third of tobacco-caused deaths are due to cancer, so we want to see many more of the UK's 10 million smokers break their addiction."

"This study adds to growing evidence that e-cigarettes are a much safer alternative to tobacco, and suggests the long term effects of these products will be minimal.

"Understanding and communicating the benefits of nicotine replacements, such as e-cigarettes, is an important step towards reducing the number of tobacco-related deaths here in the UK."

ENDS

For media enquiries please contact the Cancer Research UK press office on +44 203 469 8300 or, out-of-hours, the duty press officer on +44 7050 264 059.

References

*Lion Shahab, L., Goniewicz, M, L., PhD; Blount, B, C., Brown, J., McNeill, A., Alwis, K, U., Feng, J., Wang, L., & West, R. Nicotine, carcinogen, and toxin exposure in long-term e-cigarette and nicotine replacement therapy users: a cross-sectional study. *Annals of Internal Medicine.* doi:10.7326/M16-1107

Notes to Editor

**Previous research into the toxicity of e-cigarettes has focused on assessing concentrations of potentially harmful chemicals within the products themselves, or the vapor they produce.

***Levels of TSNAs (tobacco-specific nitrosamines) and VOCs (volatile organic compounds) metabolites were examined – these compounds have well-established smoking-related toxicological and carcinogenic risks.

Tags

Quitting smoking

Cancer Research UK is a registered charity in England and Wales (1089464), Scotland (SC041666) and the Isle of Man (1103). A company limited by guarantee. Registered company in England and Wales (4325234) and the Isle of Man (5713F). Registered address: Angel Building, 407 St John Street, London EC1V 4AD.

Full PDF Download – FDA Deeming Regulations for E-Cigarettes & Liquids, all 499 Pages

May 5, 2016 Kyle Newton Industry News 0 Comments

oday has been quite a day in the news with expected, but yet, unexpected results of the FDA's eeming Regulations. We are making available, a hosted copy of the PDF here on the Vapeix.io site for nyone to share or download the document in PDF format, making it easier for advocates and onsumers within the industry to access or view the complete 499 page document.

's important to spread the word about how you can still help to oppose the new deeming regulations y supporting the **H.R.2058 – FDA Deeming Authority Clarification Act of 2015**.

o stay up to date on additional information regarding H.R.2058, be sure to create a Vapeix Social ccount and join the dedicated "Support H.R. 2058 – Vapeix Group" of which members of the ommunity have formed. If your new to Vapeix and haven't yet learned about Vapeix Social community, ou can quickly learn more here.

lease see this link to read or to download – http://www.vapeix.io/docs/FDA-Regualtions-For-E-igarettes-&-E-Liquids-May-5-2016.pdf

Kyle Newton

GOV.UK

Press release

E-cigarettes around 95% less harmful than tobacco estimates landmark review

From: Public Health England (https://www.gov.uk/government/organisations/public-health-england)
First published: 19 August 2015
Part of: Smoking (https://www.gov.uk/government/policies/smoking)

Expert independent review concludes that e-cigarettes have potential to help smokers quit.

An expert independent evidence review (https://www.gov.uk/government/publications/e-cigarettes-an-evidence-update) published today by Public Health England (PHE) concludes that e-cigarettes are significantly less harmful to health than tobacco and have the potential to help smokers quit smoking.

Key findings of the review include:

- the current best estimate is that e-cigarettes are around 95% less harmful than smoking
- nearly half the population (44.8%) don't realise e-cigarettes are much less harmful than smoking
- there is no evidence so far that e-cigarettes are acting as a route into smoking for children or non-smokers

The review, commissioned by PHE and led by Professor Ann McNeill (King's College London) and Professor Peter Hajek (Queen Mary University of London), suggests that e-cigarettes may be contributing to falling smoking rates among adults and young people. Following the review PHE has published a paper on the implications of the evidence for policy and practice (https://www.gov.uk/government/publications/e-cigarettes-an-evidence-update).

The comprehensive review of the evidence finds that almost all of the 2.6 million adults using e-cigarettes in Great Britain are current or ex-smokers, most of whom are using the devices to help them quit smoking or to prevent them going back to cigarettes. It also provides reassurance that very few adults and young people who have never smoked are becoming regular e-cigarette users (less than 1% in each group).

However, the review raises concerns that increasing numbers of people think e-cigarettes are equally or more harmful than smoking (22.1% in 2015, up from 8.1% in 2013: ASH Smokefree GB survey) or don't know (22.7% in 2015, ASH Smokefree GB survey).

Despite this trend all current evidence finds that e-cigarettes carry a fraction of the risk of smoking.

merging evidence suggests some of the highest successful quit rates are now seen among smokers who se an e-cigarette and also receive additional support from their local stop smoking services.

rofessor Kevin Fenton, Director of Health and Wellbeing at Public Health England said:

> " Smoking remains England's number one killer and the best thing a smoker can do is to quit completely, now and forever.
>
> E-cigarettes are not completely risk free but when compared to smoking, evidence shows they carry just a fraction of the harm. The problem is people increasingly think they are at least as harmful and this may be keeping millions of smokers from quitting. Local stop smoking services should look to support e-cigarette users in their journey to quitting completely."

rofessor Ann McNeill, King's College London and independent author of the review, said:

> " There is no evidence that e-cigarettes are undermining England's falling smoking rates. Instead the evidence consistently finds that e-cigarettes are another tool for stopping smoking and in my view smokers should try vaping and vapers should stop smoking entirely.
>
> E-cigarettes could be a game changer in public health in particular by reducing the enormous health inequalities caused by smoking."

rofessor Peter Hajek, Queen Mary University London and independent author of the review said:

> " My reading of the evidence is that smokers who switch to vaping remove almost all the risks smoking poses to their health. Smokers differ in their needs and I would advise them not to give up on e-cigarettes if they do not like the first one they try. It may take some experimentation with different products and e-liquids to find the right one."

rofessor Linda Bauld, Cancer Research UK's expert in cancer prevention, said:

> " Fears that e-cigarettes have made smoking seem normal again or even led to people taking up tobacco smoking are not so far being realised based on the evidence assessed by this important independent review. In fact, the overall evidence points to e-cigarettes actually helping people to give up smoking tobacco."
>
> " Free Stop Smoking Services remain the most effective way for people to quit but we recognise the potential benefits for e-cigarettes in helping large numbers of people move away from tobacco.
>
> Cancer Research UK is funding more research to deal with the unanswered questions around these products including the longer-term impact."

isa Surtees, acting director at Fresh Smoke Free North East, the first region where all local stop smoking ervices are actively promoted as e-cigarette friendly, said:

" Despite making great strides to reduce smoking, tobacco is still our biggest killer. Our region has always kept an open mind towards using electronic cigarettes as we can see the massive potential health benefits from switching.

All of our local NHS Stop Smoking Services now proactively welcome anyone who wants to use these devices as part of their quit attempt and increase their chance of success."

Ends

Public Health England press office

Email phe-pressoffice@phe.gov.uk

Telephone 020 7654 8400

Out of hours telephone 020 8200 4400

Please contact PHE press office for:

- the full review E-cigarettes: an evidence update - A report commissioned by Public Health England (https://www.gov.uk/government/publications/e-cigarettes-an-evidence-update)
- interviews with PHE spokespeople or the review's independent authors
- case studies of stop smoking services who work with e-cigarette users and smokers who have quit completely with a combination of e-cigarettes and attending a service

Notes to Editors:

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health. www.gov.uk/phe (http://www.gov.uk/phe), Twitter: @PHE_uk (https://twitter.com/PHE_uk), Facebook: www.facebook.com/PublicHealthEngland (http://www.facebook.com/PublicHealthEngland)

PHE's remit letter for 2014 to 2015 requested an update of the evidence around e-cigarettes. PHE commissioned Professors Ann McNeill and Peter Hajek to review the available evidence. The review builds on previous evidence summaries published by PHE in 2014.

The full list of authors of the report are:

- McNeill A, Brose LS, Calder R, Hitchman SC: Institute of Psychiatry, Psychology & Neuroscience, National Addiction Centre, King's College London and UK Centre for Tobacco & Alcohol Studies

- Hajek P, McRobbie H (Chapters 9 and 10): Wolfson Institute of Preventive Medicine, Barts and The London School of Medicine and Dentistry Queen Mary, University of London and UK Centre for Tobacco & Alcohol Studies

nplications of the evidence for policy and practice: Based on the findings of the evidence review PHE dvises that:

- e-cigarettes have the potential to help smokers quit smoking, and the evidence indicates they carry a fraction of the risk of smoking cigarettes but are not risk free
- e-cigarettes potentially offer a wide reach, low-cost intervention to reduce smoking in more deprived groups in society where smoking is elevated, and we want to see this potential fully realised
- there is an opportunity for e-cigarettes to help tackle the high smoking rates among people with mental health problems, particularly in the context of creating smokefree mental health units
- the potential of e-cigarettes to help improve public health depends on the extent to which they can act as a route out of smoking for the country's eight million tobacco users, without providing a route into smoking for children and non-smokers. Appropriate and proportionate regulation is essential if this goal is to be achieved
- local stop smoking services provide smokers with the best chance of quitting successfully and we want to see them engaging actively with smokers who want to quit with the help of e-cigarettes
- we want to see all health and social care professionals providing accurate advice on the relative risks of smoking and e-cigarette use, and providing effective referral routes into stop smoking services
- the best thing smokers can do for their health is to quit smoking completely and to quit for good. PHE is committed to ensure that smokers have a range of evidence-based, effective tools to help them to quit. We encourage smokers who want to use e-cigarettes as an aid to quit smoking to seek the support of local stop smoking services
- given the potential benefits as quitting aids, PHE looks forward to the arrival on the market of a choice of medicinally regulated products that can be made available to smokers by the NHS on prescription. This will provide assurance on the safety, quality and effectiveness to consumers who want to use these products as quitting aids
- the latest evidence will be considered in the development of the next Tobacco Control Plan for England with a view to maximising the potential of e-cigarettes as a route out of smoking and minimising the risk of their acting as a route into smoking

rom October this year it will be an offence to sell e-cigarettes to anyone under the age of 18 or to buy e-igarettes for them. The government is consulting on a comprehensive array of regulations ttps://www.gov.uk/government/consultations/draft-regulations-on-the-sale-and-manufacture-of-tobacco-products) under e European Tobacco Products Directive.

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Public Health England

Protecting and improving the nation's health

Use of e-cigarettes in public places and workplaces

Advice to inform evidence-based policy making

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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For queries relating to this document, contact: ClearTobaccoTeam@phe.gov.uk

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Introduction

Smoking is a uniquely harmful activity. Despite continued declines in smoking rates, it remains the leading cause of preventable illness and premature death in England, with the damage spreading far beyond smokers, to their families and others around them, to their communities and to wider society. The estimated total annual cost of smoking to society in England, including lost productivity and health and social care costs, is £13.9bn.[i]

Legislation under the Health Act 2006, which prohibits smoking in enclosed public places and workplaces, on public transport and in vehicles used for work, is based on conclusive scientific evidence of the direct health harm caused to bystanders through the inhalation of secondhand smoke.

E-cigarette use, known as vaping, is not covered by smokefree legislation. E-cigarettes do not burn tobacco and do not create smoke. While debate continues about their absolute level of safety, the consensus across England's public health community is that e-cigarettes are significantly safer for users than smoked tobacco. An independent review of the latest evidence[ii] published by Public Health England (PHE) in 2015 found that, based on the international peer-reviewed evidence, vaping is around 95% safer for users than smoking. It also confirmed the findings of PHE's 2014 independent evidence review,[iii] that there is no evidence of harm to bystanders from exposure to e-cigarette vapour and the risks to their health are likely to be extremely low.

E-cigarettes and the endgame for tobacco

Around 2.8m adults in Great Britain use e-cigarettes. Almost all are smokers or ex-smokers.[iv] E-cigarettes have rapidly become the most popular stop smoking aid in England[v] and a developing body of evidence[vi] shows that they can be effective. While experimentation with e-cigarettes among young people has increased over recent years, regular use remains rare and almost entirely confined to current or ex-smokers.[vii]

PHE's ambition is to secure a tobacco-free generation by 2025. We believe e-cigarettes have the potential to make a significant contribution to its achievement. Realising this potential depends on fostering an environment in which e-cigarettes can provide a route out of smoking for England's eight million smokers, without providing a route into smoking for children or non-smokers.

Balancing risks and opportunities

The role of e-cigarettes in tackling tobacco dependency, especially in the long term, is hotly debated within public health and wider society. We don't yet know everything there is to know about e-cigarettes and their impact. For that reason, some commentators cite the 'precautionary principle' in support of prohibition until more evidence is available. Our stance on the precautionary principle is that it requires analysis of the consequences of action and inaction, in this context prohibition as well as toleration. Both approaches demand evaluation, neither is without its risks. Our aim is to build an evidence-based consensus around an approach to e-cigarettes that harnesses the potential benefits to individual and public health while managing the risks.

Appropriate regulation is essential to ensure that e-cigarettes are as safe and effective as possible and to protect against uptake among young people. The UK has one of the most comprehensive regulatory systems for e-cigarettes in the world, with high standards of quality and safety, and tight restrictions on promotion and advertising. The 2015 prohibition on selling e-cigarettes to under-18s, and on adults buying them on behalf of under-18s, has provided additional protection for children and young people.

It is also essential that we continue to monitor the evidence on uptake of e-cigarettes, their health impact on individuals and populations, and their effectiveness for smoking cessation as the technology and products develop.

Finally, if e-cigarettes are to do their job of making smoking less of a social norm, they must be clearly positioned as products that help adult smokers to quit. In this way, vaping becomes synomyous with the rejection of smoking.

Concerns on e-cigarettes, the evidence and the implications

The main concerns surrounding e-cigarettes focus on their uptake by young people, their potential to renormalise smoking, safety for users and bystanders, and their effectiveness as quitting aids. A summary of the current evidence is on page 11.

Further concerns regarding e-cigarette use in public places include the possible reversal of advances in clean air achieved by banning smoking in public places, and a potential normalisation of nicotine addiction. These concerns will resonate with some people, and are especially relevant to risk assessments for particular settings. For instance, when developing its policy on e-cigarette use, it would be rational for a school to prioritise the risk of youth uptake and to decide to treat e-cigarettes in the same way as other age-restricted products and prohibit them onsite.

How to use this guide

Policies and practice on e-cigarette use in public places and workplaces are evolving and need to continue to do so in the light of the emerging evidence. Action on Smoking and Health and the Chartered Institute of Environmental Health took a lead in this field with the publication in 2015 of their 'five questions' briefing.[viii]

PHE has produced this guide in consultation with public health partners and other stakeholders.* It is deliberately non-prescriptive, because no one-size-fits-all answer exists to the issue of e-cigarette use in public places and workplaces. Instead, by setting out some key principles for an approach that fits with our current knowledge and protects against the unintended consequences of being either too permissive or too prohibitive, it can help organisations develop their own policies.

*For details see 'Report of PHE stakeholder 'conversation' on use of e-cigarettes in enclosed public places and workplaces', Public Health England, July 2016

Use of e-cigarettes in public places and workplaces: key principles to guide policy making

These five principles guide the development of evidence-based policies that maximise the potential for e-cigarettes to improve public health while managing the risks in any particular setting. It is recommended that policies are kept under regular review to take account of developments in the evidence base and changes in the regulatory environment.

1. Make clear the distinction between vaping and smoking

Smoking is defined clinically[ix] and in law,[x] and e-cigarette use does not meet the definition in either context. Based on the international peer-reviewed evidence, e-cigarettes carry a fraction of the risk of cigarettes and have the potential to help drive down smoking rates and improve public health. To the extent that they cut the number of smoking role models, reduce public smoking and provide a role model for the rejection of smoking, e-cigarettes can help to denormalise smoking. Therefore policies should make clear the distinction between vaping and smoking.

Considerations for policy development:

- while taking account of the specific circumstances applying to a public place or workplace, policies on e-cigarette use should be evidence-based and should aim to maximise the benefits while managing any identified risks
- when communicating an organisation's policy on e-cigarette use, make clear the distinction between vaping and smoking, and the evidence on the relative risks for users and bystanders
- to avoid confusion, do not use smoking terminology when referring to e-cigarettes. E-cigarette use is often known as 'vaping' and e-cigarette users are often known as 'vapers'
- NICE guidance for NHS secondary care recommends that estates should become completely smokefree, indoors and outdoors. Managers should seek to develop approaches to e-cigarettes that support smokefree sites

2. Ensure policies are informed by the evidence on health risks to bystanders

International peer-reviewed evidence indicates that the risk to the health of bystanders from exposure to e-cigarette vapour is extremely low. This is in contrast to the conclusive evidence of harm from exposure to secondhand smoke, which provides the

basis for UK smokefree laws. The evidence of harm from secondhand exposure to vapour is not sufficient to justify the prohibition of e-cigarettes. Managers of public places and workplaces should ensure that this evidence informs their risk assessments.

Considerations for policy development:

- e-cigarette use is not covered by smokefree legislation and should not routinely be included in the requirements of an organisation's smokefree policy
- reasons other than the health risk to bystanders may exist for prohibiting e-cigarette use in all or part of a public place or workplace, such as commercial considerations and professional etiquette
- people with asthma and other respiratory conditions can be sensitive to a range of environmental irritants, which could include e-cigarette vapour. The interests of such individuals should be taken into account when developing policies and adjustments made where necessary
- vaping can in certain circumstances be a nuisance or distraction for people nearby. Where a decision is taken to allow vaping in an enclosed place, policies could consider some simple etiquette guidelines for vapers, such as minimising the production of visible vapour

3. Identify and manage risks of uptake by children and young people

E-cigarette use is not recommended for young people. In the UK protection is in place via prohibitions on the sale of e-cigarettes to under-18s and purchase by adults on behalf of under-18s, and restrictions on advertising. However, because adult smokers use e-cigarettes to quit smoking and stay smokefree, the products can help reduce children's and young people's exposure to secondhand smoke and smoking role models. In developing policies on e-cigarette use in child and youth settings it is appropriate to guard against potential youth uptake, while balancing this with the need to foster an environment where it is easier for adults not to smoke.

Considerations for policy development:

- UK data shows little evidence that young people who try e-cigarettes progress to regular use, other than those who had previously smoked. Managers of child and youth settings such as schools have a particular responsibility in managing the risk of youth uptake of e-cigarettes and might want to treat e-cigarettes as they would any other age-restricted product
- while it is not recommended to allow adults who use or work in child and youth settings to vape in view of children, consider ways to make it easier to vape than to smoke. Approaches might include allowing vaping in a designated adults-only indoor area or allowing vaping but prohibiting smoking in outdoor areas

- while it is preferable for young people neither to smoke nor to vape, when assessing the risks policies should give priority to supporting young people not to smoke

4. Support smokers to stop smoking and stay smokefree

E-cigarettes are used almost exclusively by smokers and ex-smokers and are now the most popular stop smoking aid in England. To support smokers to stop smoking and stay smokefree, a more enabling approach may be appropriate in relation to vaping to make it an easier choice than smoking. In particular, vapers should not be required to use the same space as smokers, as this could undermine their ability to quit smoking and stay smokefree, particularly among those most heavily addicted.

Considerations for policy development:

- e-cigarettes have significant potential to help reduce tobacco use and the serious harm it causes to smokers, those around them and wider society. Recognition of this should be at the centre of policies on e-cigarette use in public places and workplaces
- while e-cigarettes are not currently available as licensed medicines, it is expected that products will come onto the market that can be prescribed on the NHS by GPs and other healthcare professionals alongside other stop smoking medicines
- to maximise the number of smokers switching to e-cigarettes, vaping should be made a more convenient, as well as safer, option
- while smokefree law protects people from the harm of secondhand smoke, forcing smokers outdoors has increased public visibility of smoking, including to children and young people. Having a more enabling approach to vaping can mitigate this and help make smoking less of a social norm
- smokers can achieve their desired blood plasma nicotine level with one cigarette every hour or so, and in a short space of time. Vaping provides a generally lower blood nicotine level and takes longer to reach a desired level, requiring frequent interim top-ups This difference should be taken into account, particularly when developing policies for workplaces
- it is never acceptable to require vapers to share the same outdoor space with smokers. Where a designated outdoor smoking area has been provided in a public place or workplace, vapers should be allowed to vape elsewhere

5. Support compliance with smokefree law and policies

Compliance with smokefree requirements can be maintained and supported by emphasising a clear distinction between smoking and vaping. Managers should indicate accurately where vaping is permitted or prohibited, and communicate the policy clearly to everyone it affects.

Considerations for policy development:

- UK smokefree law prohibiting smoking in enclosed public places and workplaces is well established, and compliance levels are high. While some e-cigarettes physically resemble cigarettes, the distinctive odour and ash of lit tobacco makes it generally easy to distinguish between someone who is vaping and someone who is smoking.
- policies on e-cigarette use should be communicated clearly so that everybody using a public place or workplace is aware of the policy and understands where vaping is or is not allowed. Where appropriate, this could include signs.
- the Action on Smoking and Health / Chartered Institute of Environmental Health 'five questions' briefing* advises: "It should be remembered that offering a safe and effective alternative to smoking tobacco to people who are addicted to nicotine may help support compliance with smokefree legal requirements and make smokefree policies easier to implement."

*'Will you permit or prohibit electronic cigarette use on your premises? Five questions to ask before you decide', ASH/CIEH, October 2015

Summary of the current evidence on e-cigarettes

Prevalence and patterns of use

Adults

An estimated 2.8m adults in Great Britain currently use e-cigarettes. Of these, 1.4m are smokers and 1.3m have completely stopped smoking. The principal reasons given for e-cigarette use are to support cutting down or quitting tobacco use and to help avoid relapse to smoking. Regular use of e-cigarettes among never smokers is negligible at 0.2%.

Early e-cigarettes all looked like cigarettes, however rapid innovation has resulted in a range of product designs. Rechargable devices with a reservoir/tank have increased in popularity, with over two thirds of vapers (71%) using this type of product in 2016. Cigalike or pen-type devices with pre-filled cartridges are used by 23% of vapers and only 3% use disposable products.[xi]

Young people

Evidence from UK studies indicates that while young people's awareness of, and experimentation with, e-cigarettes has increased, regular use remains rare and almost entirely confined to those who are current smokers or have smoked in the past.

Around 12% of British youth have ever tried e-cigarettes. Around 2% use e-cigarettes at least monthly and 0.5% weekly. Among young people who have never smoked, regular use (at least monthly) is 0.3% or less.

Overall, the youth data suggests that e-cigarettes are attracting very few young people who have never smoked into regular use.[xii]

E-cigarettes and smoking – renormalising or denormalising?

Concerns have been expressed that the presence of e-cigarettes might act to renormalise smoking, undermining decades of work to tackle the harm from tobacco. So far, there is no evidence that e-cigarettes are acting as a route into smoking for children or non-smokers. The authors of PHE's independent review of the latest evidence found that: "Since EC [e-cigarettes] were introduced to the market, smoking prevalence among adults and youth has declined. Hence there is no evidence to date

that EC are renormalising smoking, instead it's possible that their presence has contributed to further declines in smoking, or denormalisation of smoking."

The gateway hypothesis – the theory that the use of one drug leads to the use of another drug – features prominently in the academic and public discourse on e-cigarettes in relation to young people. In their review, the authors address this, pointing out that "The gateway theory is ill defined and we suggest its use be abandoned until it is clear how it can be tested in this field. Whilst never smokers are experimenting with EC, the vast majority of youth who regularly use EC are smokers. Regular EC use in youth is rare." [xiii]

Safety

For users

E-cigarettes are not risk free, but based on current evidence they carry a fraction of the risk of cigarettes. The authors of PHE's independent review of the latest evidence concluded that using an e-cigarette (known as 'vaping') is around 95% safer than smoking.[xiv] In an authors' note published to accompany the report, they explain that this estimate is based on the facts that:

- the constituents of cigarette smoke that harm health – including carcinogens – are either absent in e-cigarette vapour or, if present, they are mostly at levels much below 5% of smoking doses (mostly below 1% and far below safety limits for occupational exposure)
- the main chemicals present in e-cigarettes only have not been associated with any serious risk[xv]

Their overall assessment is that on current evidence, there is no doubt that smokers who switch to vaping dramatically reduce the risks to their health.

For bystanders

There is no published scientific evidence of harm to bystanders from exposure to e-cigarette vapour and the available evidence indicates that any risk of harm is extremely low, especially when compared with tobacco smoke.

In their independent evidence review conducted for PHE and published in 2014, Professor John Britton and Dr Ilze Bogdanovica concluded that: "Electronic cigarettes do not produce smoke so the well-documented effects of passive exposure of others to cigarette smoke are clearly not relevant...laboratory work suggests that electronic cigarette use in an enclosed space exposes others to nicotine at levels about one tenth

generated by a cigarette, but little else. The health risks of passive exposure to electronic cigarette vapour are therefore likely to be extremely low."[xvi] Following their assessment of the latest evidence, the authors of PHE's 2015 evidence review reached a similar conclusion: "EC [e-cigarettes] release negligible levels of nicotine into ambient air with no identified health risks to bystanders."[xvii]

Effectiveness for smoking cessation

PHE is clear that the best way for smokers to protect their health and the health of those around them is to stop immediately, completely and permanently. We also recognise that not all smokers are ready or able to stop in one step, and for those people we support the approaches set out in the NICE public health guidance on tobacco harm reduction (PH45). These include: cutting down to quit, reducing the amount smoked and temporary abstinence from smoking, with or without using licensed nicotine-containing products. Our advice is for smokers to switch to e-cigarettes and for e-cigarette users to stop smoking completely.

E-cigarettes have rapidly become the most popular stop smoking aid in England.[xviii] In PHE's independent review of the latest evidence, the authors conclude that: "Recent studies support the [2014] Cochrane Review[xix] findings that EC [e-cigarettes] can help people to quit smoking and reduce their cigarette consumption. There is also evidence that EC can encourage quitting or cigarette consumption reduction even among those not intending to quit or rejecting other support. It is not known whether current EC products are more or less effective than licensed stop-smoking medications, but they are much more popular, thereby providing an opportunity to expand the number of smokers stopping successfully...The evidence on EC used *alongside smoking* on subsequent quitting of smoking is mixed."[xx]

Evidence indicates that e-cigarettes are particularly effective when combined with additional support from local stop smoking services: in 2014-15, smokers in England who combined e-cigarette use with behavioural support had the highest quit rates, with two out of three quitting successfully.[xxi]

A much-cited study by researchers at King's College London and University College London found that the type of e-cigarette used and the frequency of use had an impact on outcomes. They concluded that daily use of tank models may give smokers a better chance of quitting.[xxii]

Impact on compliance with smokefree legislation

The ASH/CIEH guide 'Developing an organisational approach to the use of electronic cigarettes on your premises' advises that: "There are concerns that the appearance and use of electronic cigarettes could undermine our high levels of compliance with smoke-

free requirements. However, burning tobacco produces a distinctive and pervasive smell as well as deposits of ash. The Chartered Institute of Environmental Health advises that attempts to pass off smoking as using an electronic cigarette should be able to be detected by a diligent investigator."[xxiii]

The CIEH policy on use of electronic cigarettes in indoor workplaces and public places acknowledges that the organisation has been made aware of enforcement problems occurring in Wales, including some cases being lost when the enforcement officer's evidence is insufficient to secure a conviction. Taking this into account, the policy states: "A statutory prohibition on the use of nicotine vapourisers because of a limited number of smokefree legislation enforcement failures cannot be justified. This would be particularly perverse if the evidence is accepted of the effectiveness of nicotine vapourisers in assisting smokers to stop or reduce their smoking and all other risks are considered to be acceptable."

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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.

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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]

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

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.

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 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.

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

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

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

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 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 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).

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

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

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 negative externalities of certain actions. Cigarette smoking creates many negative externalities such as

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	

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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Mayo Clinic: E-Cigarettes Mitigate Risks Of Smoking Before And After Operations

GUY BENTLEY
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Research Associate, Reason Foundation
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-Cigarettes slashed smokers' tobacco use both before and after elective surgery, ccording to a study from the Mayo clinic.

egular cigarette smoking can often cause post-operative complications in mokers, and health professionals have long argued that "quitting or cutting down" moking close to the time of operation can lessen these risks.

n hopes of achieving this, researchers examined adult smokers that were cheduled for operations at the Mayo Clinic Rochester, one of the nation's leading nedical practices and research groups, http://ntr.oxfordjournals.org/content/early/2016/01/31/ntr.ntw003.abstract) betw een December 2014 and June 2015.

n the two weeks before and after surgery, patients were asked to use e-cigarettes o get their nicotine hit instead of regular smokes. All the patients had their use of -cigarettes recorded on a daily basis and were quizzed about their smoking behavior at 14 and 30 days.

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)f the 75 patients who took part in the study, 87 percent tried an e-cigarette over ıe trial period. After 30 days, a little more than half — 51 percent — said they vould continue vaping.

he average number of cigarettes consumed fell sharply from 15.6 per person to 7.6 — a 51.3 ercent decrease. "ENDS (Electronic Nicotine Delivery Device) use is feasible in adult smokers cheduled for elective surgery and is associated with a reduction in perioperative cigarette onsumption."

These results support further exploration of ENDS as a means to help surgical atients reduce or eliminate their cigarette consumption around the time of urgery," the study said.

These pilot data suggest that ENDS use is feasible and well-accepted in surgical atients, and worthy of exploration as a harm reduction strategy in these patients. he major finding of this feasibility study was that when cigarette smokers cheduled for elective surgery were offered free ENDS at the time of pre-nesthesia evaluation, a high proportion utilized them in the perioperative period, vith an associated reduction in cigarette consumption."

he study will add weight to the arguments made by some public health rofessionals that e-cigarettes, while not 100 percent safe, can serve as a critical ool to reduce the harms and hazards associated with regular smoking, particularly fter Public Health England's report concluded e-cigarettes are 95 percent safer han regular cigarettes. **(RELATED: Study: E-Cigarettes Are 95% Safer Than obacco) (http://dailycaller.com/2015/08/19/study-e-cigarettes-are-95-safer-han-tobacco/)**

he study's authors caution more work needs to be done in the field, adding "to ur knowledge, there are no prior comparable studies reporting uptake of ENDS vhen their use is encouraged by healthcare professionals in a medical population."

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Feasibility of Electronic Nicotine Delivery Systems in Surgical Patients

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Abstract

Introduction:

Cigarette smoking is a known risk factor for postoperative complications. Quitting or cutting down on cigarettes around the time of surgery may reduce these risks. This study aimed to determine the feasibility of using electronic nicotine delivery systems (ENDS) to help patients achieve this goal, regardless of their intent to attempt long-term abstinence.

Methods:

An open-label observational study was performed of cigarette smoking adults scheduled for elective surgery at Mayo Clinic Rochester and seen in the pre-operative evaluation clinic between December 2014 and June 2015. Subjects were given a supply of ENDS to use prior to and 2 weeks after surgery. They were encouraged to use them whenever they craved a cigarette. Daily use of ENDS was recorded, and patients were asked about smoking behavior and ENDS use at baseline, 14 days and 30 days.

Results:

Of the 105 patients approached, 80 (76%) agreed to participate; five of these were later excluded. Among the 75, 67 (87%) tried ENDS during the study period. At 30-day follow-up, 34 (51%) who had used ENDS planned to continue using them. Average cigarette consumption decreased from 15.6 per person/d to 7.6 over the study period ($P < .001$). At 30 days, 11/67 (17%) reported abstinence from cigarettes.

Conclusion:

ENDS use is feasible in adult smokers scheduled for elective surgery and is associated with a reduction in perioperative cigarette consumption. These results support further exploration of ENDS as a means to help surgical patients reduce or eliminate their cigarette consumption around the time of surgery.

Implications:

Smoking in the perioperative period increases patients' risk for surgical complications and healing difficulties, but new strategies are needed to help patients quit or cut down during this stressful time. These pilot data suggest that ENDS use is feasible and well-accepted in surgical patients, and worthy of exploration as a harm reduction strategy in these patients.

Topic: smoking , surgical procedures, elective , surgical procedures, operative , cigarettes , electronic nicotine delivery system , perioperative period

Issue Section: Original Investigation

Introduction

Cigarette smoking increases the risks for postoperative complications in patients undergoing surgery, including cardiac, respiratory, and wound-related complications, and abstinence from smoking reduces these risks. [1] The duration of abstinence necessary for reduction of these risks is not known, but some evidence suggests that even a brief period of abstinence may be beneficial, [2,3] and that abstinence in the postoperative period itself may be helpful. [4] Numerous toxic compounds in cigarettes, including carbon monoxide, may contribute to risk, but available evidence suggests that patients benefit when nicotine replacement therapy (NRT) is used to achieve abstinence. [5] Although there are efficacious interventions available to help smokers quit, [6] including patients scheduled for elective surgery, the implementation of these interventions into clinical practice has proved challenging. For example, despite several years of active tobacco control efforts, at Mayo Clinic Rochester, approximately 40% of cigarette smokers still smoke on the morning of their surgical procedure (unpublished observations). Clearly, new strategies are needed to reduce exposure to cigarette smoke in the perioperative period.

Electronic nicotine delivery systems (ENDS) have recently exploded in popularity. [7,8] Also known as "electronic cigarettes" or "E-cigarettes," these devices vaporize nicotine solutions with some devices mimicking the look and feel of tobacco cigarettes. ENDS have been promoted as potential harm-reduction devices. [9] Although data are limited, some studies (but not all) suggest that at least some cigarette smokers are using ENDS to reduce or eliminate tobacco smoking. [10–14] Given that ENDS produce a nicotine-containing vapor, it is likely that any deleterious effects are less than conventional cigarettes, as many of the harmful constituents in tobacco smoke result from the combustion of tobacco leaf. Although the content of vapors produced by different ENDS varies and their long-term safety is not known, the levels of harmful substances found in ENDS are generally lower than those produced by combustible tobacco products. [15,16] ENDS are also available in a range of nicotine concentrations, including nicotine-free. However, the net public health effects of the widespread introduction of ENDS remain almost wholly unknown, and their potential impact (for good or harm) is a subject of considerable debate. [17]

NRT is a common component of efficacious interventions to help surgical patients quit smoking. [6] It is possible that ENDS, as a form of NRT, could be useful in helping smokers reduce or eliminate their smoking in the perioperative period, especially given emerging data that smokers may view ENDS more favorably than traditional NRT. [18] In pilot survey work, we have shown that smokers scheduled for elective surgery who are seen in Mayo Clinic Rochester Preoperative Evaluation Center express considerable interest in using ENDS to reduce their tobacco consumption. [19] However, it is not clear whether patients scheduled for surgery, who may have no experience with ENDS and many distractions in the busy perioperative period, would be able to consistently utilize these devices.

This study aimed to determine the feasibility and acceptability of ENDS in the perioperative period among cigarette smokers scheduled for elective surgery. A secondary objective was to determine how access to ENDS was associated with changes in cigarette consumption both preoperatively and up to 2 weeks following discharge from the surgical facility.

Methods

This study was approved by the Mayo Clinic Institutional Review Board, Rochester, Minnesota. Written informed consent was obtained.

Recruitment

Subjects were recruited from patients scheduled for elective surgery who were evaluated in the Mayo Clinic Preoperative Evaluation Center (POE), where approximately 15% of elective surgical patients at Mayo Clinic Rochester are seen. Patients undergoing a wide variety of elective procedures, including orthopedic, plastic and reconstructive, and oncologic procedures, are evaluated in this center. Inclusion criteria included age at least 18 years and current smoking (defined as >100 cigarettes lifetime consumption and self-report of smoking either every day or some days) prior to evaluation. For women of child-bearing potential, a negative pregnancy test was required. Exclusion criteria included current use of END (past use was not an

exclusion), current use of pharmacotherapy for nicotine dependence, pregnancy or lactation, and those whose surgeons specifically directed them not to use NRT prior to surgery. Eligible subjects were approached on a convenience basis and invited to participate, regardless of any intent to modify smoking behavior in the perioperative period; that is, subjects were not selected based on their willingness to quit or cut down smoking.

Study Procedures

After enrollment, study personnel delivered a brief intervention emphasizing the importance of quitting or cutting down on smoking in the perioperative period (Supplementary Appendix). The intervention also introduced the concept of ENDS, and provided instructions for their use. They were encouraged to use ENDS instead of cigarettes when they desired to smoke.

Study subjects were then given a supply of NJOY ENDS sufficient for use in the preoperative period and up to 2 weeks postoperatively in one of three varieties depending on patient preference and baseline cigarette consumption: NJOY KingsTraditional Gold (2.4% nicotine), NJOY Kings Traditional Bold (4.5% nicotine, offered to subjects smoking ≥15 cigarettes/d) and NJOY Kings Menthol (3% nicotine). The NJOY Traditional Gold product was selected because it is a single-use, disposable product that requires minimal training, and because there were published investigation of its pharmacokinetics at the time of study design. [20] According to the product label, each NJOY device delivers the equivalent of approximately one pack of tobacco cigarettes (20 cigarettes), although there is considerable variability in use patterns and recent data suggest that actual delivery does not achieve nicotine levels comparable to a cigarette. [10] The cost per device is $4.75, which is less expensive or comparable to purchasing regular cigarettes, depending on the pattern of ENDS use. Study subjects were supplied a sufficient number of devices to completely replace their use of tobacco cigarettes from the time of POE evaluation until 2 weeks after anticipated discharge from the surgical facility (median length of stay 1 day, IQR 0–2), along with an additional four devices to account for variability in use patterns. For example, the median time from POE evaluation to surgery is 1 day. Thus, a typical subject who smokes 20 cigarettes per day would have been given 15 NJOY ENDS, plus

an additional 4 to account for subject variability. Study subjects scheduled for surgery more than 1 week from the time of POE evaluation were given sufficient supply to support 1 week of preoperative and 2 weeks of postoperative ENDS use.

Study Measurements

Assessments were performed at baseline in the POE clinic, and at 14 and 30 days post discharge from the surgical facility. In addition, patients were asked to keep a daily diary of ENDS use for 1 week before surgery and 14 days after discharge.

Baseline

A survey administered via iPad (REDCap Survey, a secure, web-based electronic data capture tool hosted at Mayo Clinic) [21] queried demographic information, baseline measures of smoking history, and Surgical Risk and Health Concerns Indices assessing knowledge of how smoking affects surgical risk and health in general, respectively. [22] If subjects had used ENDS, additional items queried the reasons they used ENDS and their perceived benefits. Finally, the survey included items used in our prior work regarding interest in using ENDS to maintain perioperative abstinence (four items), perceived benefits in using ENDS to maintain perioperative abstinence (four items), and perceived barriers to using ENDS to maintain perioperative abstinence (five items). [19] The factor structure of ENDS-related indices, including internal consistency of scales and factor loading of each indicator was previously analyzed and found acceptable. [19]

Daily Diary Up to 14 Days Post Discharge

At the time of enrollment, subjects were given a paper diary in which to record their episodes of use of either ENDS or tobacco cigarettes over this period, as well as the number of ENDS finished each day. The diary also included binary response items (agree/disagree) to be completed at 14 days regarding their experience in using ENDS. Subjects were asked to return the diary via mail, and received $40 remuneration if they did so. Study personnel contacted participants by phone at 14 days to remind them to send the diary and survey. Study personnel first attempted to contact the subject on

day 14, and for up to 1 week after that time. If the patient reported losing the diary or not recording their use, study personnel verbally completed the 14-day survey with the patient during this phone call.

30 Days Post Discharge

Subjects were contacted by telephone to determine smoking behavior since surgery, ENDS utilization and a summary of ENDS use.

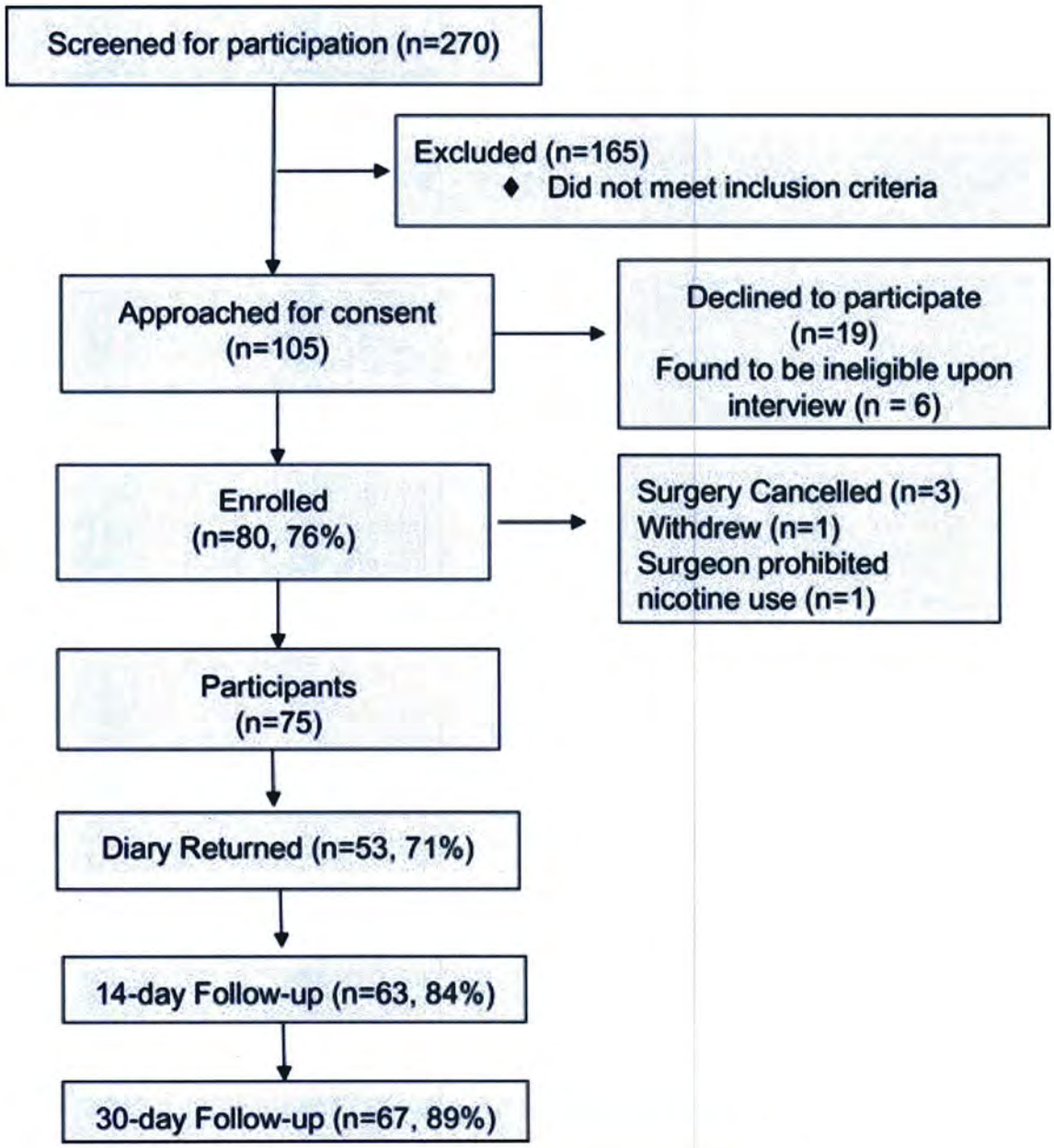
Statistical Analyses

The primary endpoints of this pilot study were the proportion of subjects who utilized ENDS before and after surgery and the number of times it was utilized. The secondary endpoint of this study was cigarette consumption. With a sample size of 80, this study was designed to have a power of 0.90 to detect a 20% decrease in cigarettes per day compared with baseline values. Descriptive statistics were used to characterize each of the primary and secondary endpoints listed above, with 95% CI used to present variability for proportions and standard deviation for continuous variables. Survey information was entered into REDCap directly by the participant (for enrollment survey) or indirectly by study personnel (for 14- and 30-day follow-up), which allowed for the automated export of data to statistical packages for analysis. Indices including the Surgical Risk Index, the Health Concerns Index, and three ENDS-related indices assessing interest in, perceived benefits of, and barriers to perioperative use, were scored and reported as mean ± standard deviation. The Surgical Risk Index was scored by summing the number of "yes responses." For the Health Concerns Index, each response was assigned a numerical value, with higher values indicating greater concern. For the ENDS-related indices, a score was calculated by averaging the numerical values assigned to each Likert response (1 = strongly disagree, 5 = strongly agree). Thirty-day outcomes were compared to baseline using Wilcoxon sign rank tests.

Results

A flow diagram of the recruitment process is illustrated in Figure 1 . Enrollment among patients who were eligible and approached for consent was high (76% of eligible patients enrolled). Of the 80 patients enrolled, five were excluded after enrollment (reasons shown in Figure 1). Of the 75 remaining participants, 53 (71%) returned the daily diaries; 63 (84%) and 67 (89%) were contacted at days 14 and 30, respectively. The median time from enrollment to surgery was 1 day [IQR 1–3.25].

Figure 1.



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Flow of patient recruitment, participation, and follow-up.

Baseline Characteristics

Most participants were older, male, at least high-school educated, and white (Table 1). Most also had a long history of cigarette consumption and had made at least one prior quit attempt, with about one-third making an attempt within the past year. Approximately half stated that they intended to remain abstinent after surgery, and approximately one in four felt that they were likely or very likely to succeed in doing so. Values of the Surgical Risk Index and Health Concerns Index were consistent with a strong appreciation of the risks of smoking to health.

Table 1.

Demographics and Baseline Data [a]

Age	60±9
Female gender	31 (42)
Education of high school/GED and beyond	71 (96)
Caucasian	106 (95)
Cigarettes/d	16±9.7
Prefer menthol cigarettes	4 (5)
Number of year of smoking	36±13.6
At least one quit attempt previously	63 (84)
Tried to quit within last year	28 (37)
No plan to quit smoking	9 (12)
Nicotine dependence (FTND score)	4.3±2.0
Surgical risk index (four items, max score = 4) [b]	2.9±1.4
Health concern index (three items, max score = 9) [b]	7.0±1.1

Plan to stay off cigarettes after surgery	52 (69)
Interest index (four items, max score = 20) [b]	17.6±2.1
Perceived benefits (four items, max score = 20) [b]	16.9±2.5
Barriers index (four items, max score = 20) [b]	9.9±2.6
Likely to stay off cigarettes after surgery	
Very likely	2 (3)
Likely	24 (32)
Neither likely nor unlikely	33 (44)
Unlikely	13 (17)
Very unlikely	3 (4)
Succeed at quitting smoking	
Extremely sure	1 (1.3)
Very sure	16 (21.3)
Somewhat sure	35 (48)
Not at all sure	22 (29.3)

[a] For proportions, values are given as *n* (%) for the 75 patients included in the analysis. Values for continuous variables are presented as mean ± standard deviation. FTND = Fagerstrom test for nicotine dependence; GED= general educational development, a marker of high school completion equivalence.

[b] Indices calculated as described in the methods.

Approximately two-thirds of participants had heard of ENDS, but had never tried them; most of the remainder had tried them, but no longer used them. Among those who had tried ENDS in the past (n = 24), the most common reason was to attempt abstinence from cigarettes. However, most of these individuals did not find them

useful for this purpose. Table 2 lists the interest in, perceived benefits of, and perceived barriers to using ENDS in the perioperative period for all participants. High proportions agreed or strongly agreed that they would be willing to use ENDS to help them eliminate or reduce regular cigarette use around the time of surgery, and similar proportions perceived health benefits of doing so. The corresponding values of the indices calculated from these responses regarding interest, perceived benefits, and perceived barriers were consistent with favorable perceptions of perioperative ENDS use (Table 1).

Table 2.

Interest, Perceived Benefits, and Barriers to E-Cigarette (E-Cig) Use

	1	2	3	4	5
Willing to try e-cigs to help me stay off or cut down regular cigarette around the time of surgery	44 (59)	30 (40)	1 (1)	0 (0)	0 (0)
If they were available free of charge, I would try to use them to help stay off or cut down regular cigarette use around the time of surgery	43 (57)	30 (40)	2 (3)	0 (0)	0 (0)
Even if I needed to buy them myself, it would be worth to try e-cigs to stay off or cut down regular cigarettes around the time of surgery	28 (37)	35 (47)	10 (13)	2 (3)	0 (0)
I think that e-cigarettes could help me stay off or cut down regular cigarette use around the time of surgery.	30 (40)	35 (47)	10 (13)	0 (0)	0 (0)
Using e-cigarettes instead of smoking regular cigarettes could help me do better after my surgery	27 (36)	37 (49)	11 (15)	0 (0)	0 (0)
E-cigarettes could help me cope with not being able to smoke regular cigarettes while in the hospital for my surgery	25 (33)	36 (48)	13 (17)	0 (0)	1 (1)
It would be better for my health if I could use e-cigarettes around the time of surgery rather than smoking regular cigarettes	30 (40)	36 (48)	9 (12)	0 (0)	0 (0)
Using e-cigarettes could help me improve my health around the time of surgery	29 (39)	35 (47)	11 (15)	0 (0)	0 (0)

Nicotine could cause problems for my surgery whether I get it by smoking or through e-cigarettes	15 (20)	33 (44)	24 (32)	2 (3)	1 (1)
It would be hard for me to learn how to use e-cigarettes around the time of my surgery	4 (5)	6 (8)	19 (25)	36 (48)	10 (13)
I have too many other things to worry about other than to try e-cigarettes around the time of surgery	3 (4)	6 (8)	19 (25)	36 (48)	11 (15)
E-cigarettes would be too expensive for me to use	3 (4)	3 (4)	36 (48)	28 (37)	5 (7)
I am concerned that e-cigarettes are not safe	2 (3)	5 (7)	28 (37)	32 (43)	8 (10)

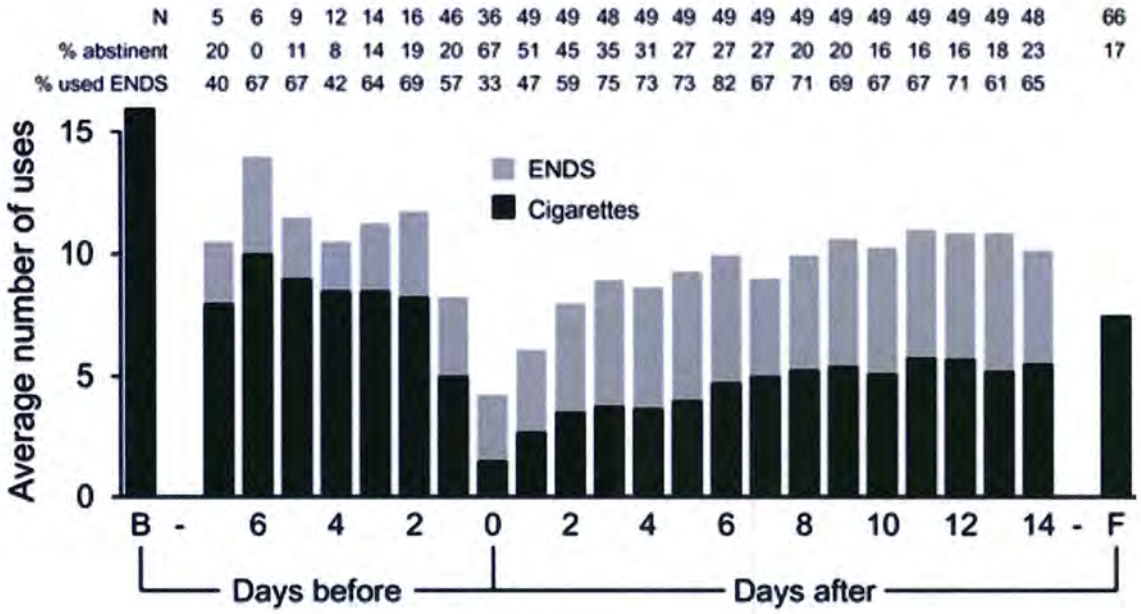
Values given as *n* (%) for the 75 participants. 1 = strongly agree; 2 = agree; 3 = neither agree nor disagree; 4 = disagree; 5 = strongly disagree.

ENDS Utilization (Primary Outcome)

For the 67 participants contacted on day 30, 58 (87%) reported at least one use of ENDS during the study period; 21 (32%) used ENDS before their surgery, and 58 (87%) used them afterward. At day 30, 34 (51%) of the 58 participants who had used the ENDS reported planning to continue using them in the future. Nine (16%) reported having finished their given ENDS supply and having already purchased additional ENDS for continued use.

ENDS use in the 53 participants who returned their daily diaries is presented in Figure 2 . The number of ENDS uses (defined as "e-times," or number of episodes of ENDS use per day) was relatively stable from 1 week prior to surgery until 14 days after surgery (the period over which free ENDS were provided), as was the proportion of participants using ENDS. The relatively low absolute number of ENDS users from 2 to 7 days prior to surgery reflects the fact that most subjects were enrolled the day prior to surgery; regardless of when enrolled, approximately two-thirds of patients used ENDS preoperatively. On the day of surgery, 12 (33%) of participants used ENDS.

Figure 2.



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Cigarette and electronic nicotine delivery systems (ENDS) usage for study participants at the following timepoints: baseline (B, at enrollment), the 7 days before surgery (days −7 to −1), the day of surgery (day 0), the 14 days after surgery (days 1–14), and 30-day follow-up (F). The number of subjects reporting data each day (*N*) appears at the top of the figure, along with the proportion of subjects reporting who were abstinent from cigarettes on that day, and the proportions of subjects reporting who used ENDS at least once that day.

Of participants returning diaries, 46 answered items regarding their experiences using ENDS. Of these, 39 (85%) would be willing to try ENDS again for future surgeries, 29 (63%) felt that ENDS helped them cope with not smoking regular cigarettes, 33 (72%) felt that ENDS helped them quit or cut down on regular cigarettes, and 35 (76%) felt that their health was benefitted by their ENDS use.

Tobacco Use (Secondary Outcome)

At 30 days after discharge, 11 of the 67 participants contacted (17%) self-reported 7-day point prevalence abstinence from smoking. For these 67 participants, cigarette consumption at 30 days decreased significantly compared with baseline consumption (from 15.6 to 7.6 cigarettes per day, $P < .001$). Figure 2 presents cigarette use for the 53 participants who returned their daily diaries. The proportion of respondents who were abstinent on a given day in the preoperative period ranged from 0% to 20%. Two-thirds of those who reported their smoking behavior on the day of surgery maintained abstinence, with the proportion of abstainers ranging from 16% to 51% in the

subsequent 14 days. Over this postoperative period, on average approximately half of the instances of nicotine self-administration by subjects were via cigarettes, and half via ENDS.

Discussion

The major finding of this feasibility study was that when cigarette smokers scheduled for elective surgery were offered free ENDS at the time of pre-anesthesia evaluation, a high proportion utilized them in the perioperative period, with an associated reduction in cigarette consumption.

Consistent with our prior formative work, [19] interest in ENDS utilization was high in this pre-surgical population, as indicated by the baseline survey, the high enrollment rate and the high rate of utilization. This occurred despite the considerable life disruptions that surround the surgical experience, relatively high level of nicotine dependence, relatively low self-efficacy for maintaining abstinence, and no prior experience with ENDS for most patients. Approximately half of patients were sufficiently satisfied with their experience that they planned to continue ENDS use, and most would be willing to use ENDS again for future surgeries. These findings suggest that ENDS are potentially feasible and well-accepted in surgical patients who smoke. To our knowledge, there are no prior comparable studies reporting uptake of ENDS when their use is encouraged by healthcare professionals in a medical population.

This study also provides evidence that the use of ENDS in surgical patients was associated with a reduction in cigarette consumption. The potential of ENDS to impact smoking behavior has led to exploration of whether they could be effective tools to reduce or eliminate cigarette consumption, with variable results. [11] The current findings are consistent with prior observations in different settings that ENDS use is associated with modification of tobacco use. However, with this observational study design it is not possible to determine whether their use actually changed smoking behavior. Surgery itself serves as a "teachable moment" for changes in smoking behavior, [23] and patients may spontaneously reduce or eliminate consumption in the

absence of any intervention. Whether ENDS are efficacious in modifying smoking behavior in this setting requires further investigation using a control group not given ENDS. Nonetheless, these preliminary data are at least consistent with the concept that ENDS use could facilitate a reduction in cigarette consumption.

Given the apparent feasibility of ENDS use in surgical patients, several questions need to be explored before their use could be recommended in the perioperative period. Perioperative abstinence clearly reduces the risk for pulmonary and wound-related complications; whether reduced consumption would also be beneficial is unknown. Initial evidence suggests that dual use can reduce exposure to toxicants in cigarettes in the short term. [16] However, it is not clear, for patients unwilling to abstain, whether advocating a harm reduction strategy of replacing some portion of regular cigarette consumption with ENDS would be beneficial to surgical outcomes. Tobacco interventions incorporating approved NRT are efficacious to achieve sustained postoperative abstinence in the surgical population [6] ; the efficacy of ENDS remains to be determined. If efficacy were equivalent, ENDS would have the potential to be more effective in practice, given the high level of interest expressed in this and our prior study. As a further indication of potential interest, in a prior study of patch NRT in the same study setting (in which the intent to abstain also was not an inclusion criterion), [24] approximately 10% of those approached enrolled, compared with 76% in the present study. Given the relatively low nicotine delivery of the ENDS product used in the present study, it is possible that newer ENDS products that deliver nicotine at levels comparable to smoking could have an even greater impact on reducing or eliminating tobacco use.

In addition, the consequences of dual use beyond the immediate postoperative period would need to be considered, including the question of who could provide ongoing smoking cessation services and support to dual users, and if such use would potentially interfere with the "teachable moment" effect of surgery to promote spontaneous abstinence. [23] On the other hand, attempts to reduce consumption using NRT in smokers with an intention to quit significantly increases cessation rates, [10] raising the potential that ENDS could serve as an attractive means to initiate pharmacotherapy in this population who might otherwise not be willing to do so.

Finally, promotion of these devices by healthcare professionals given the rapidly

evolving state of ENDS development and regulation would be problematic. There is a wide array of available products, with potentially differing safety profiles (which themselves remain to be determined), and the FDA has not approved these devices for any type of smoking cessation or reduction. If ENDS were found in future studies to be effective in reducing perioperative risk, clinicians would likely insist upon a well-characterized, standardized ENDS product approved for this purpose.

Limitations of this study include the likelihood that those most interested in ENDS were more likely to enroll (although consent rates were high) and that results from this specialty practice in the upper Midwest, with a high proportion of Caucasian patients and many with greater than a high school education, may not apply to all practice settings. Also, as mentioned above, this pilot observational study did not have a control group, limiting our ability to determine any effect of ENDS on smoking behavior.

These results support further exploration of ENDS as a means to help surgical patients reduce or eliminate their cigarette consumption around the time of surgery.

Supplementary Material

Supplementary Appendix can be found online at http://www.ntr.oxfordjournals.org

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Declaration of Interests

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DOW has been funded by Pfizer to develop a tobacco control curriculum for anesthesiology and surgery residents. IC, MN, SK, DS, and AH have nothing to disclose.

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PATH Study: A survey of Ecig use in the US

A US FDA and NIH program, PATH, is studying tobacco use and health in the United States by means of a longitudinal population survey. The first wave of data (2013) have been shown during a scientific meeting in Chicago. A tobacco expert gives her opinion in the light of the results.

By **Jérôme Harlay** - April 6, 2016

The US Food and Drug Administration (FDA) and National Institute of Health's Population Assessment of Tobacco and Health (PATH) Study is a large, national, representative longitudinal cohort study of tobacco use and health in the United States which measures tobacco use behaviors and related health effects. The PATH Study will provide an evidence base for informing **FDA's current and future regulatory actions** in meeting its mandate under the Family Smoking Prevention and Tobacco Control Act (FSPTCA).

The cohort has been followed annually for three data collection waves. PATH researchers announced last week that the study will be extended four years and will now include **7 waves**, with the final wave set to be completed in 2022. The baseline data collection, 59,600 individuals, started in Fall 2013 with a cohort of never, current, and former users of tobacco products ages 12 years and older.

The Society for Research on Nicotine and Tobacco Conference was held in Chicago, last month, and hosted numerous talks among which those dedicated to the analysis of the first wave of data obtained through the PATH Study. Ms Vivien Azer, managing director and senior research analyst for the tobacco sector for the Cowen group, wrote a research note on the first wave (2013). She reports:

- Regular use of electronic cigarettes is low (5.5% of adults, 3.1% of 12- to 17-year-olds having used e-cigs in the past month,
- 8.5% of daily e-cigarette users had not previously used tobacco,
- 63% of the 25-year-olds and above reported using flavors and 85% of users aged 12 to 17,
- 15.9% of adult current e-cigarette users were "nicotine naive".

The research note points out that **daily users constitute a**

"In fact, among current adult e-cig users, more than 40% had only used an e-cig less than three times in the past 30 days," -V. Azer.

very small percentage of these 30-day users and its author believes that it indicates the products had not been embraced by consumers at the time of the survey (2013). Ms Azer also notices the **gateway effect to other tobacco products is not supported by the data since the majority of users were already consumers of other tobacco products**. Finally, the expert also notices that the youngest exhibited a strong flavor preference across all tobacco categories, not only e-cigarettes.

The term "nicotine naive" used by the expert strongly suggests that more effort should be made to inform users on the composition of the products, especially with regard to the active substance, nicotine. This also calls for standardized and more visible labels on nicotine products.

"Are e-cigarettes a step toward a cigarette smoker getting off of cigarettes? Or are e-cigarettes a crutch so they can get nicotine in places and times when they wouldn't normally be allowed to smoke cigarettes?" -Dr A.Hyland

PATH is a landmark collaboration between the National Institute on Drug Abuse (NIDA)/National Institutes of Health (NIH) and the Center for Tobacco Products (CTP)/ Food and Drug Administration (FDA). **Roswell Park Cancer Institute** is the scientific lead for the Westat team, the prime contractor for the study.

The primary investigator for the government study of trends in smoking and tobacco use, Dr Andrew Hyland, explained that his program is expected to provide a wealth of data about smoking behavior that **could shape regulations ranging from warning labels and advertising restrictions to new-product approvals**.

Wave 1 database is still confidential, but the full dataset will be available by the end of 2016. The second wave of data is under review, and Wave 3 is 40% complete.

Some **experts are afraid the PATH study may not be able to capture crucial details** about the use of electronic cigarettes, vapor tanks and other devices as tastes and technology are evolving so rapidly. They can be reassured, an expert view already noticed from the earliest results, without going into the details of the whole dataset, that **the published studies assimilating a 30-day use as a regular use of e-cigarette are misleading**.

The extension of the program over 4 additional waves of data collection up to 2022 will increase the chances of capturing interesting details. An expert view on these datasets will hopefully help refining existing literature to discard misleading studies to re-focus the debate on the most important aspects of Public Health and Smoking reduction.

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Addiction Debate

A framework for evaluating the public health impact of e-cigarettes and other vaporized nicotine products

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Abstract

The use of vaporized nicotine products (VNPs), especially e-cigarettes and, to a lesser extent, pressurized aerosol nicotine products and heat-not-burn tobacco products, are being adopted increasingly as an alternative to smoking combusted products, primarily cigarettes. Considerable controversy has accompanied their marketing and use. We propose a framework that describes and incorporates patterns of VNP and combustible cigarette use in determining the total amount of toxic exposure effects on population health. We begin by considering toxicity and the outcomes relevant to population health. We then present the framework and define different measures of VNP use; namely, trial and long-term use for exclusive cigarette smokers, exclusive VNP and dual (cigarette and VNP) use. Using a systems thinking framework and decision theory we considered potential pathways for current, former and never users of VNPs. We then consider the evidence to date and the probable impacts of VNP use on public health, the potential effects of different policy approaches and the possible influence of the tobacco industry on VNP and cigarette use.

Introduction

In the United States, smoking rates have fallen by 50% since their peak in the 1960s as a result of tobacco control policies [1], but smoking still contributes to high rates of premature mortality. The 2014 Surgeon General's Report stated: 'the burden of death and disease from tobacco in the U.S. is overwhelmingly caused by cigarettes and other combusted tobacco products; rapid elimination of their use will dramatically reduce this burden'.

While all are agreed that efforts to discourage combustible tobacco products, especially cigarettes, should continue, there is more controversy about the marketing of new vaporized nicotine products (VNPs), especially e-cigarettes, because of disagreements about whether they will complement or undermine successful tobacco control efforts [2, 3]. VNP use has increased markedly in many high-income countries [4-7] as a result of increased marketing [8, 9], the use of VNPs for smoking cessation [10] and policies that have made cigarettes less affordable [11]. In the United States, increasing e-cigarette use [5, 6] has been accompanied by an unusually large reduction in adult [12] and youth [6, 13] smoking prevalence.

Although the types of available VNPs vary and are evolving rapidly [14, 15], these products expose users to substantially lower levels of toxicants than combustible cigarettes [16-18]. Consequently, VNPs could reduce harm to never smokers who would have otherwise initiated long-term cigarette use, and reduce harm to current smokers by helping them to quit, to switch to exclusive VNP use or to substantially reduce their smoking. If, however, VNP use encourages the long-term use of cigarettes, or VNPs are used by those who would not have otherwise smoked, the net societal benefit would be diminished and VNPs could incur population-level harm.

Despite growing evidence of the possible benefits of VNPs, 55 of 123 countries surveyed [19] have bans or laws that prohibit or restrict the sale of VNPs and 71 have laws that regulate the minimum purchase age, marketing or taxation of VNPs. In April 2014, the US Food and Drug Administration (FDA)'s Center for Tobacco Products proposed deeming regulations that would assert their jurisdiction over e-cigarettes [20]. Before imposing regulations, the FDA must consider scientific evidence on the probable benefit and harm to individuals and the population as a whole.

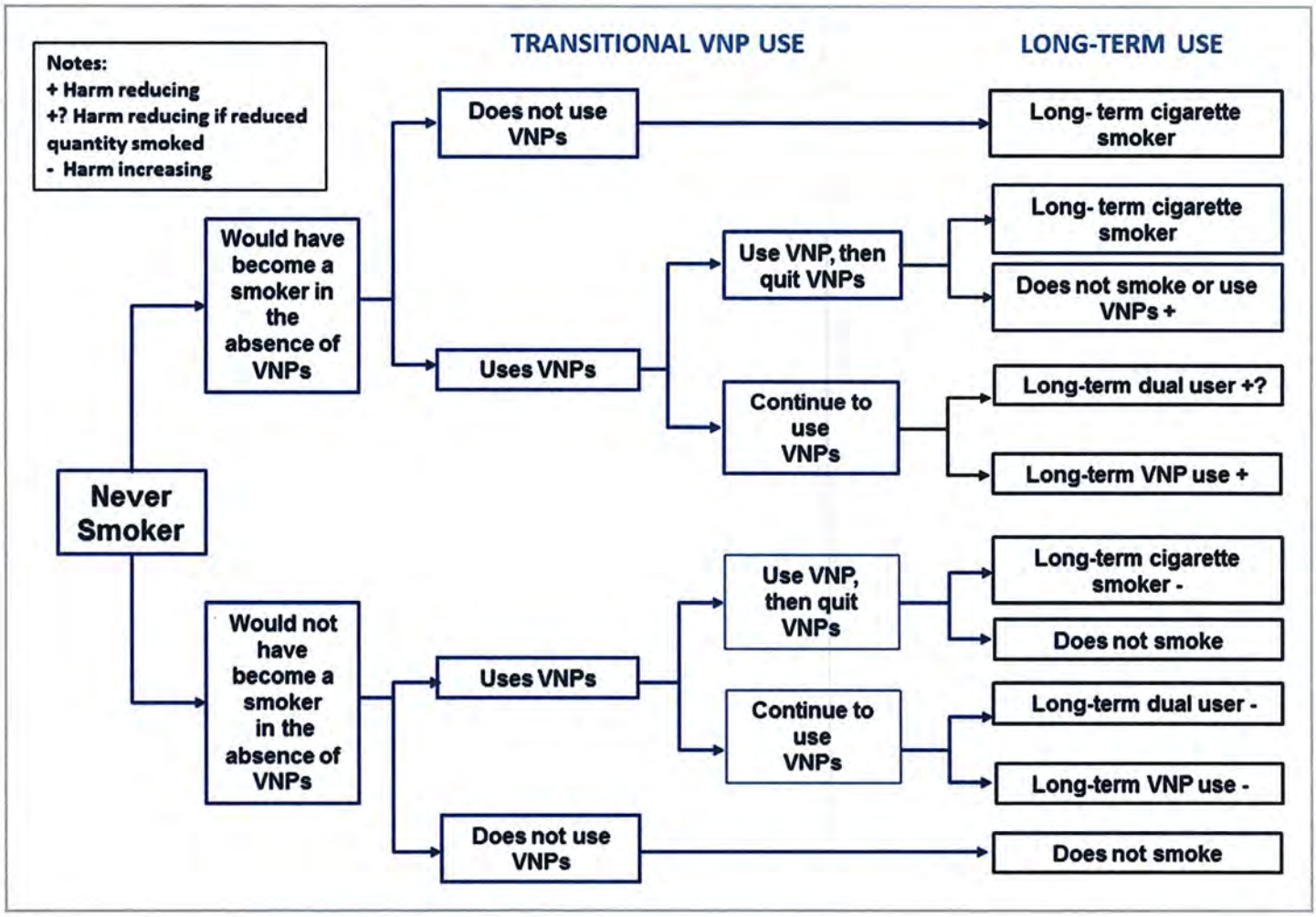
This paper proposes a systems-level model [21] of the possible harm-increasing and harm-reducing effects that is used to estimate the potential net effects of VNPs on population health. This framework employs decision theory to consider potential pathways of cigarette and VNP product use by current, former and never smokers. We begin by considering the toxicity of VPN. We then present the framework and consider different measures of use, distinguishing trial from different forms of long-term use. Finally, we consider the available evidence and probable impacts on public health, the potential effects of different policies and the possible influence of the tobacco industry on VNP and cigarette use. We focus on the United States, where VNPs are now largely unregulated.

Mortality risks of exclusive and dual VNP use

A multi-criteria decision analysis [22] estimated that exclusive VNP use is associated with 5% of the mortality risks of smoking. This is comparable to the estimated risks of low-nitrosamine smokeless tobacco [23]. In the absence of long-term experience the precise percentage of reduced harm may be difficult to quantify, but studies using major biomarkers of cancer and other chemicals in e-cigarettes indicate substantially lower

(e.g. 9–450 times) levels compared to cigarette smoke [16-18].

For dual users, VNP use may translate to a lower quantity and duration of cigarettes smoked. Both may decrease lung cancer and chronic obstructive pulmonary disease (COPD) risk [24, 25], with the amount depending upon the proportion of total harm exposure obtained from each source. Studies find considerable variation in VNP use and quantity of cigarettes smoked [26], including ≥ 50% reduction in consumption. The potential to reduce risk is likely to depend upon the age of initial dual use. Although much use now begins at later ages, VNP use is likely to occur at earlier ages in more recent cohorts of smokers, and thereby provide a greater reduction in cigarette use and toxic exposures over longer periods of use. In addition, initiating VNP use before cigarette smoking may delay or prevent smoking initiation and thereby reduce smoking risks.

Framework and measures of use

The use of tobacco products over a prolonged period is necessary to detect reductions in life expectancy [25, 27]. This is also likely to apply to the use of VNPs. We consider short-term ('trial') use, which may determine transitions to long-term ('prolonged') use and may help to gauge the immediate effects of public policies. Possible transitions are shown for never, current and former smokers in Figs 1-3. Harm-reducing effects are indicated by '+' and harm-increasing effects by '–'; '?' indicates that the amount of change depends upon the pattern of use. In each case, the impact on population health will depend upon how VNP use influences the long-term prevalence of: exclusive cigarette smoking, exclusive VNP use, dual use and abstinence compared to the counterfactual scenario in the absence of VNPs.