

E-cigarettes as harm reduction in smokers

What is the evidence?

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A controversy

Pros

- Safer than cigarettes (95%?)
- Appealing nicotine delivery system
- Effective for smoking cessation
- Could save many lives
- Humans will always use drugs

Cons

- Many dual users
- Recruitment of new long-term nicotine addicts
- Gateway to cigarette smoking
- Unknown long-term health risks
- Undermines tobacco use denormalisation
- Ethical issues regarding tobacco industry

E-cigarettes

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graph LR; A[E-cigarettes] --- B[Smoking cessation (short-term use)]; A --- C[Smoking replacement (long-term use)]; A --- D[Smoking reduction (dual use)]; A --- E[Nicotine delivery system in never smokers]; A --- F[Other substances delivery system];
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Smoking cessation (short-term use)

Smoking replacement (long-term use)

Smoking reduction (dual use)

Nicotine delivery system in never smokers

Other substances delivery system

E-cigarette safety

Research Report

Addiction
Research

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Estimating the Harms of Nicotine-Containing Products Using the MCDA Approach

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Key Words

Smoked tobacco products · Oral tobacco products · Electronic cigarettes · Multi criteria decision analysis · Harm assessment · ENDS (electronic nicotine delivery systems)

Abstract

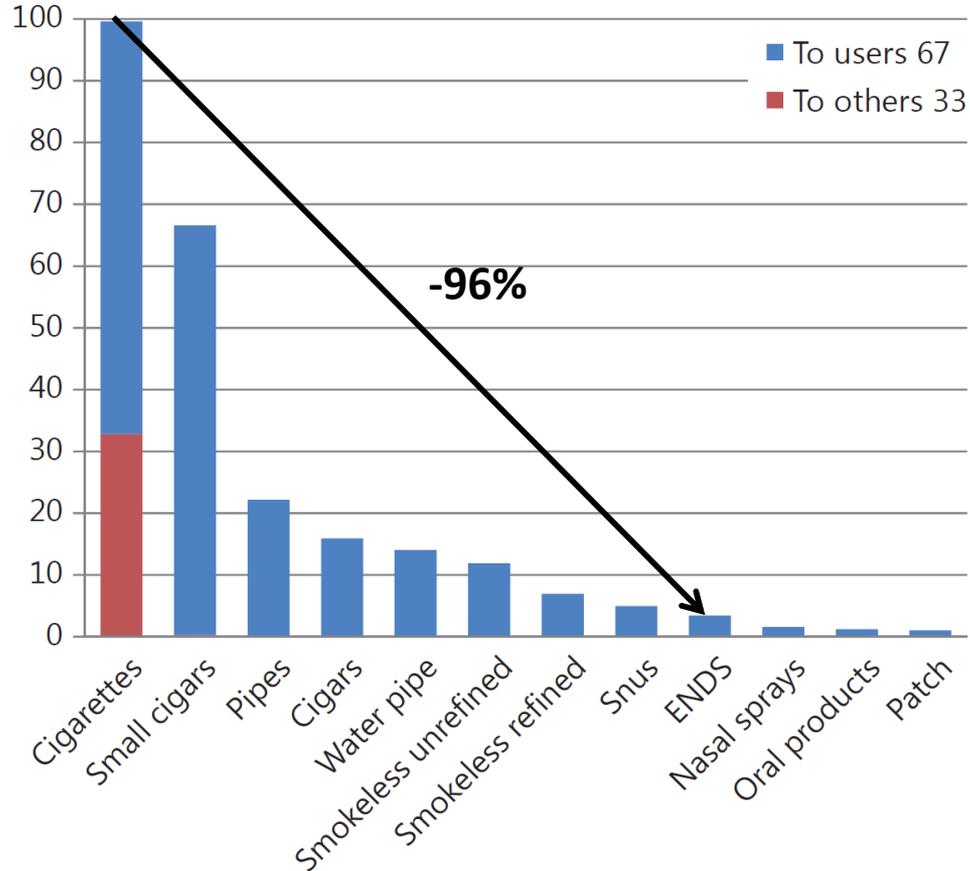
Background: An international expert panel convened by the Independent Scientific Committee on Drugs developed a multi-criteria decision analysis model of the relative importance of different types of harm related to the use of nicotine-containing products. **Method:** The group defined 12 products and 14 harm criteria. Seven criteria represented harms to the user, and the other seven indicated harms to others. The group scored all the products on each criterion for their average harm worldwide using a scale with 100 defined as the most harmful product on a given criterion, and a score of zero defined as no harm. The group also assessed relative weights for all the criteria to indicate their relative importance. **Findings:** Weighted averages of the scores pro-

vided a single, overall score for each product. Cigarettes (overall weighted score of 100) emerged as the most harmful product, with small cigars in second place (overall weighted score of 64). After a substantial gap to the third-place product, pipes (scoring 21), all remaining products scored 15 points or less. **Interpretation:** Cigarettes are the nicotine product causing by far the most harm to users and others in the world today. Attempts to switch to non-combusted sources of nicotine should be encouraged as the harms from these products are much lower.

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Introduction

The recreational use of tobacco remains one of the principal causes of chronic ill health and early death worldwide. The tobacco epidemic was largely reflected in the affluent Western countries but, increasingly, the illnesses associated with tobacco use have spread to the developing world [1]. Cigarettes are considered to be the most harm-

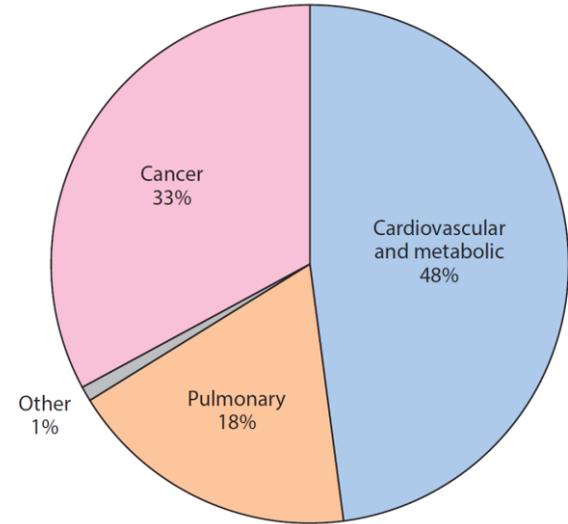


E-cigarette safety

Annual Review of Public Health

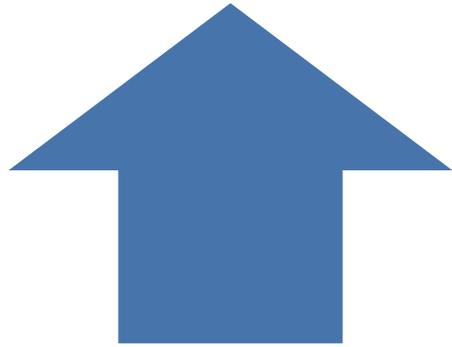
E-Cigarettes: Use, Effects on Smoking, Risks, and Policy Implications

Stanton A. Glantz¹ and David W. Bareham²

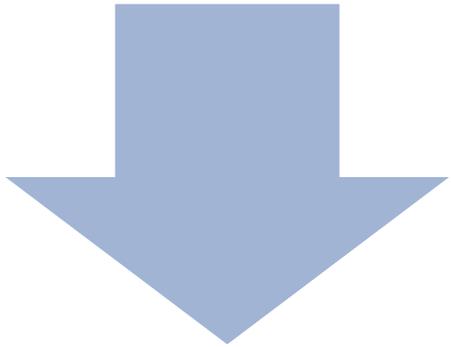


“It would not be surprising if e-cigarettes impose half (or more) of the overall long-term risks as those from conventional cigarettes.”

What effect on smoking prevalence?



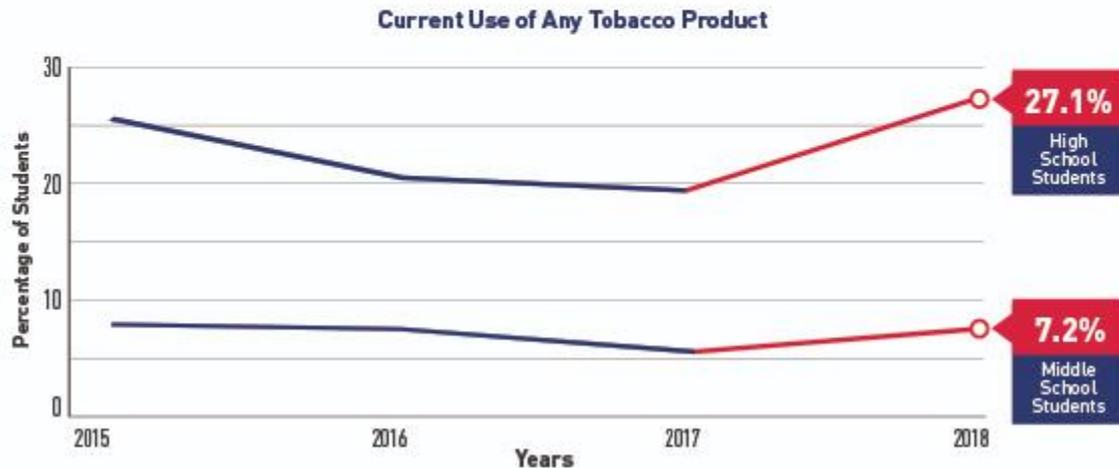
Increase
initiation



Increase
cessation

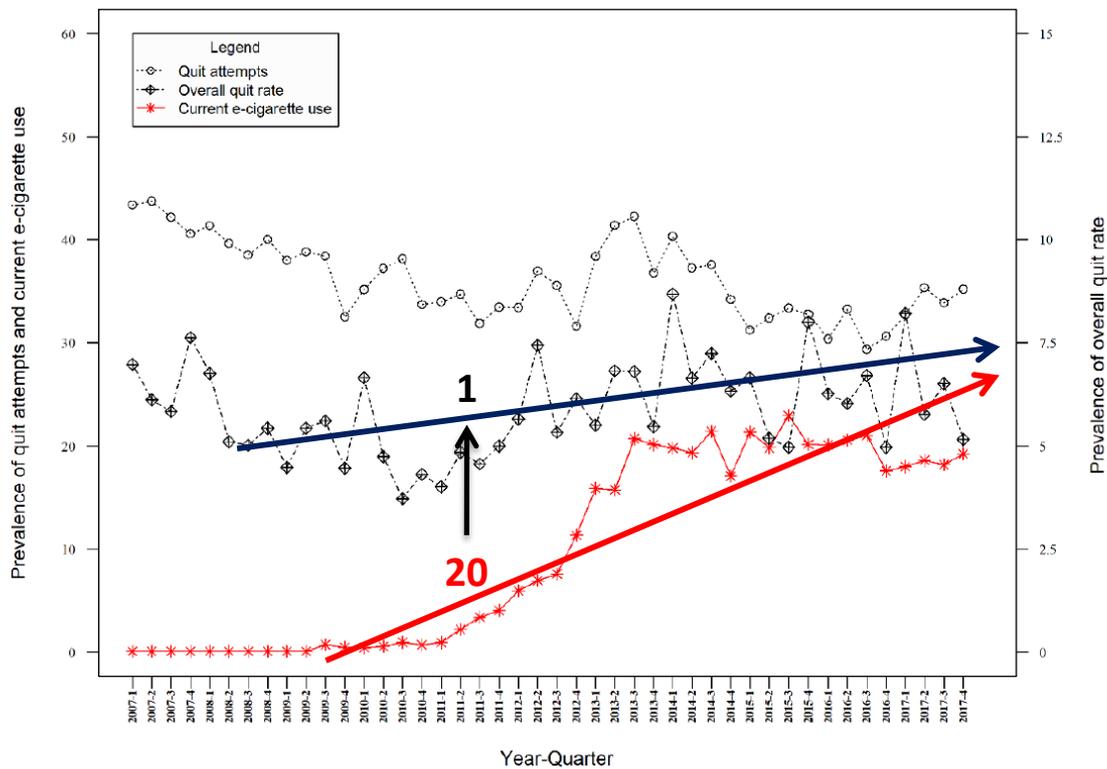
2018 NYTS Data: A Startling Rise in Youth E-cigarette Use

E-CIGARETTE USE SURGE LED TO UPTICK IN OVERALL TOBACCO USE —
Reversing Previous Declines



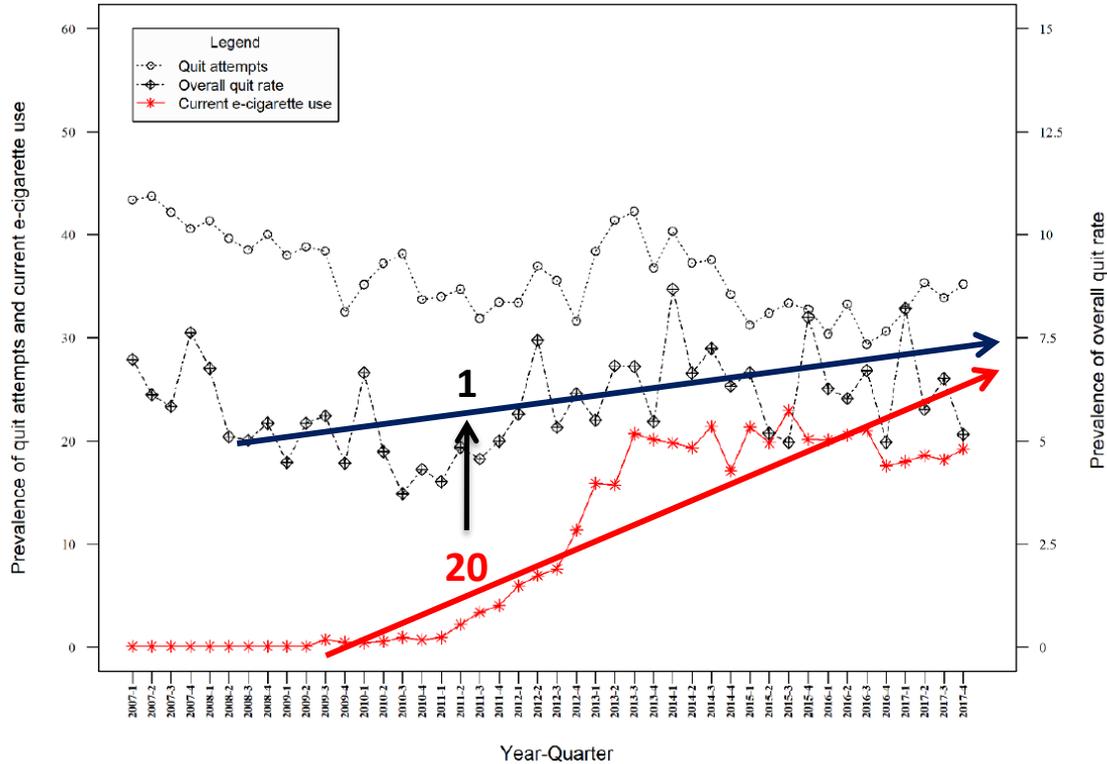
FDA

E-cigarette use and smoking quit rates



Overall quit rates increased by 0.05% for every 1% increase in the prevalence of e-cigarette use by smokers

E-cigarette use and smoking quit rates



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Association between e-cigarette use and smoking prevalence?
Not reported

The National Academies of
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CONSENSUS STUDY REPORT

Public Health Consequences of E-Cigarettes



Public Health Consequences of E-Cigarettes

January 23, 2018

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

Modeling of E-cigarette Use and life-years

2015-2050 Life-years lost due to e-cigs (in Millions)
 E-cigs = 10% x risk of combustibles

Cessation Increases by

		-5%	0%	5%	10%	15%
Initiation Increases by	0%	1.4	0.0	(1.1)	(2.2)	(3.2)
	5%	1.5	0.1	(1.0)	(2.1)	(3.1)
	10%	1.5	0.1	(1.0)	(2.1)	(3.1)
	25%	1.7	0.3	(0.8)	(1.9)	(2.9)
	50%	2.1	0.7	(0.5)	(1.5)	(2.6)

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2015-2050 life-years

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If e-cigarettes increase smoking initiation by 5% and smoking cessation by 15% from 2015 on, there would be a net 3.1 million cumulative lifeyears saved by the year 2050

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If e-cigarettes increase smoking initiation by 50% and decrease smoking cessation by 5% from 2015 on, there would be a net 2,1 million cumulative life- years lost by the year 2050

If e-cigarettes increase smoking initiation by 5% and smoking cessation by 15% from 2015 on, there would be a net 3.1 million cumulative life- years saved by the year 2050



World Health
Organization

WHO REPORT ON THE GLOBAL TOBACCO EPIDEMIC, 2019

Offer help to quit tobacco use

fresh and alive

mpower



2019

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Appendices VI to XII are available online at http://www.who.int/tobacco/global_report/en

Key information and recommendations for countries

- ENDS should be carefully and clearly defined in the legislation in order that countries can regulate ENDS effectively.
- Countries often have the option of classifying ENDS as tobacco products. If this is possible then countries should ensure that existing tobacco control laws adequately protect people from the potential harms of ENDS.
- ENDS products may serve as a gateway to conventional smoking among young people or the renormalization of smoking in society.
- Countries should apply bans on advertising and flavouring of products to deter use by young people.
- Countries should consider introducing policies to force manufacturers to make products unattractive to young people in order to discourage uptake, such as plain packaging.

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Nicotine without smoke: fighting the tobacco epidemic with harm reduction



The rapid rise of smoke-free nicotine products, especially vaping, is the most disruptive influence on smoking in decades. These products are challenging not only smoked tobacco's stranglehold on the nicotine market but also the public health response to tobacco harm reduction, including by WHO.¹ In October, 2018, 72 experts with no connections to the tobacco industry wrote to the WHO Director-General to argue that WHO should embrace innovation and more actively include tobacco harm reduction in its strategy to tackle the burden of smoking-related disease.² However, the WHO Report on the Global Tobacco Epidemic, 2019³ continues to underappreciate the potential of low-risk alternatives to smoking.

The tobacco harm minimisation strategy complements other tobacco control strategies but has been underappreciated because for many in tobacco control the emphasis has been on achieving abstinence of all tobacco and nicotine use. However, abrupt cessation of nicotine has had low population success rates—for example, 4–5% in the USA.⁴ Regrettably, many smokers find it hard to quit and go on to die prematurely—around 8 million a year.

The latest WHO report on the global tobacco epidemic stresses the importance of best-practice tobacco cessation services based on a medical treatment model. Unfortunately, this approach has had limited population level impacts because of low uptake, and is in contrast to the much more promising consumer-led approach to cessation based on safer alternatives to smoked tobacco. The potential of vaping is that it combines high efficacy with widespread uptake. The latest WHO report

is a missed opportunity to embrace innovation and to exploit the potential of low-risk alternatives to smoking.

People smoke cigarettes for the nicotine but die from the tar.⁵ The modern tobacco epidemic is based on factory-made cigarettes, a commercially successful product that has barely changed in 75 years. There are 1.4 billion tobacco users aged 15 years and older worldwide—1.07 billion smokers and 367 million smokeless tobacco users—a small number of whom use both smoked and smokeless tobacco.⁶ Tobacco smoking's dominance of the nicotine market comes at huge cost with over a billion lives expected to be lost to tobacco smoking this century.⁴

Nicotine replacement therapy (NRT) has been available since 1978. These products are designed to partly mitigate nicotine withdrawal and assist an attempt to quit smoking and nicotine use. While this approach suits some people, absolute success rates are low.⁷ It is hard to defend the pharmaceutical model as best practice when there is an increasing body of evidence that people who use electronic vaping products to quit are achieving better quit rates than those on pharmacotherapies.⁸

Electronic vaping products (e-cigarettes) deliver nicotine through a heated aerosol consisting of a diluent, nicotine, and flavourings; it is inhaled much like smoking but without the damaging by-products of burnt tobacco. Heated tobacco products use a similar approach, with a vapour aerosol drawing the added flavour and nicotine from tobacco that has been heated rather than burnt, but with more toxins in the vapour than in that of e-cigarettes.

Vaping [...] have the potential to reduce the enormous harm of smoked tobacco products.

The stakes of getting policy responses to smoke-free products wrong are high, especially if such restrictions stop millions of the world's smokers accessing safer alternatives.

It is disappointing that in its latest tobacco report, WHO clings to outdated orthodoxy when it could embrace innovation.



**Ethics of alternative nicotine delivery systems
and harm reduction approaches in tobacco control**
Call for Submissions (Deadline Extended October 11, 2019)

Examples of possible manuscript topics include, but are not limited to:

- The relative priority of **protecting non-smokers vs. helping current smokers**
- Weighing **benefits to current smokers against those of potential future smokers**
- Discounting the **relative importance of future lives saved in relation to present lives**
- The moral importance, if any, to be attached to **personal responsibility of the smoker**
- Judging how much weight should be given to sheer numbers of lives saved in deciding how to **respect other basic ethical concerns of public health**
- Ethical questions relating to **regulation of non-combustible nicotine products**, eg. how paternalism, liberty and autonomy bear on these policy questions
- Ethical questions relating to the **implementation of tobacco harm reduction policies**