

ASK ME SESSION

Informative Session on Science and Harm Reduction

Tuesday 5th September, 2023

8.00 to 9.30 hrs (Dakar time)

9.00 to 10.30 hrs (Lagos time)



Clives Bates

DIRECTOR OF ACTION ON SMOKING
AND HEALTH
UK

Panel 1 – Tobacco Harm
Reduction and Smoke Free
Products



Kgosi Letlape

MEDICAL DOCTOR AND HEALTHCARE
EXPERT
SOUTH AFRICA

Panel 2 – Policies, Regulation and
the Science behind Tobacco Harm
Reduction

Panel 1: Tobacco Harm reduction and Smoke-free Products

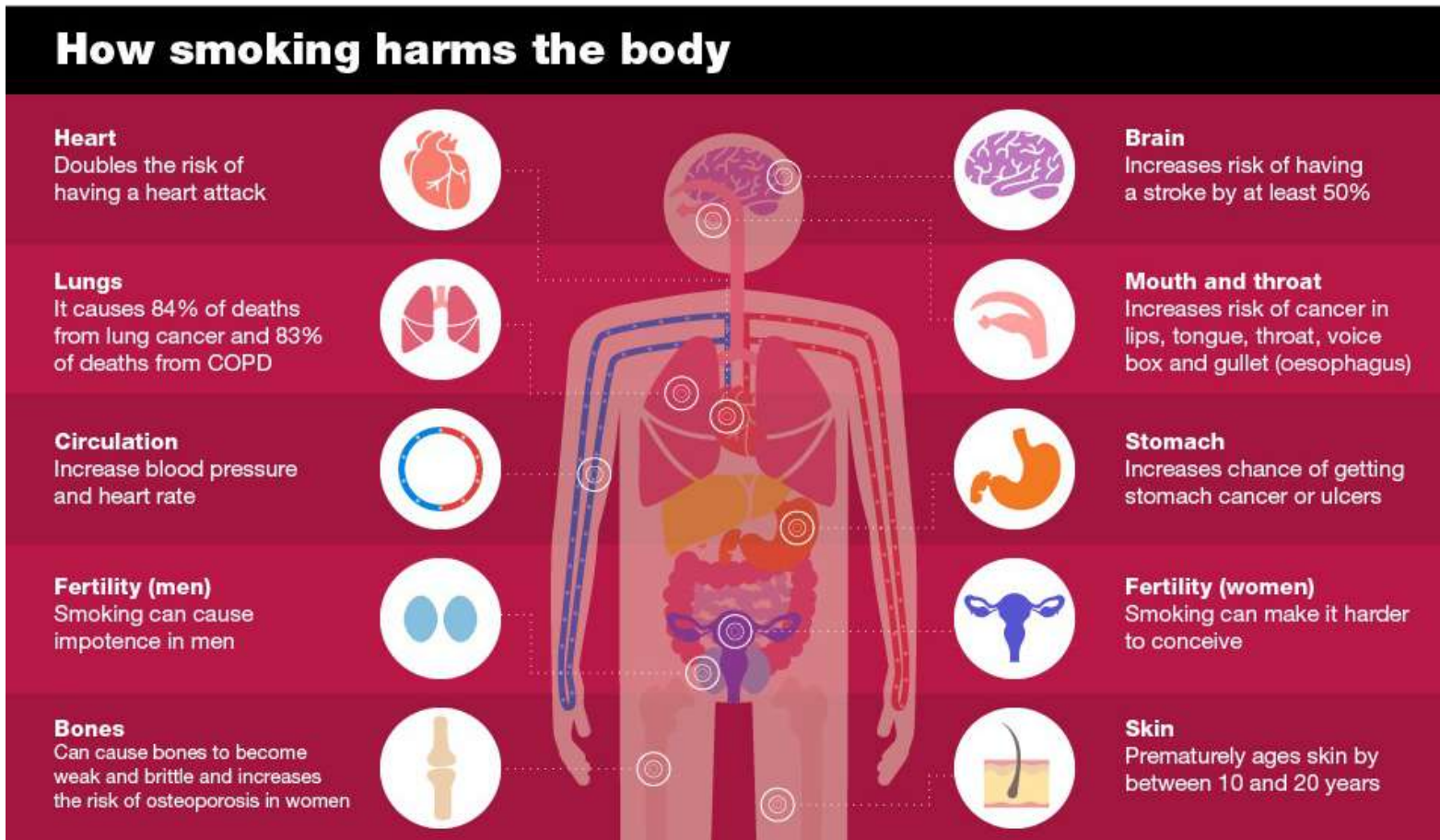
Clive Bates

Counterfactual Consulting

Former Director, Action on Smoking and Health UK

Smoking, nicotine and harm

Well researched toll of harm from smoking...



Smoking prematurely kills around 8 million annually

...more than obesity, alcohol, road accidents, drug misuse and HIV *combined*

...similar to COVID-19, but *every year*

Harm is the currency of tobacco control



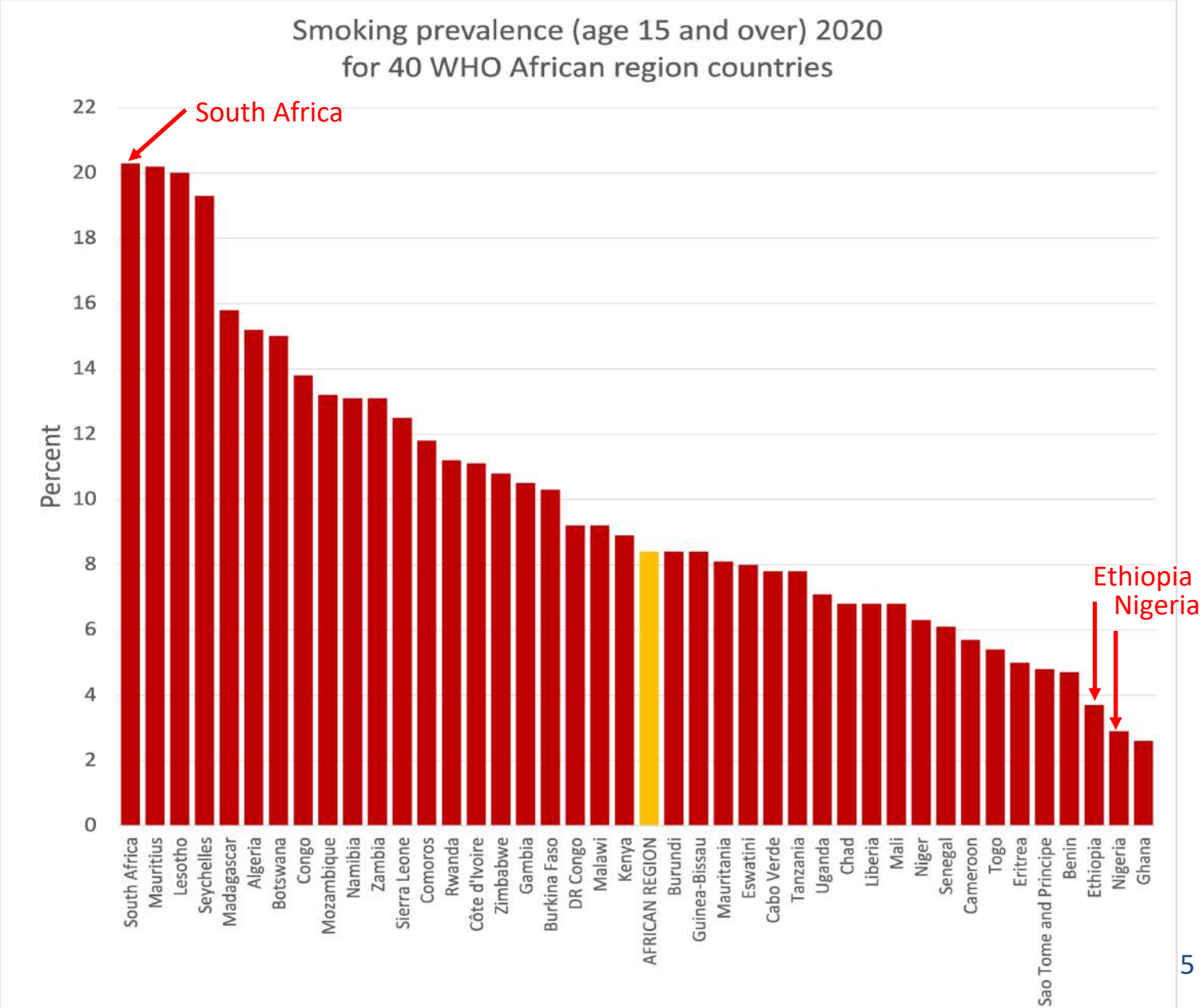
Smoking prevalence in Africa – WHO (2021)

Published November 2021

WHO global report on trends in prevalence of tobacco use 2000–2025

Fourth edition





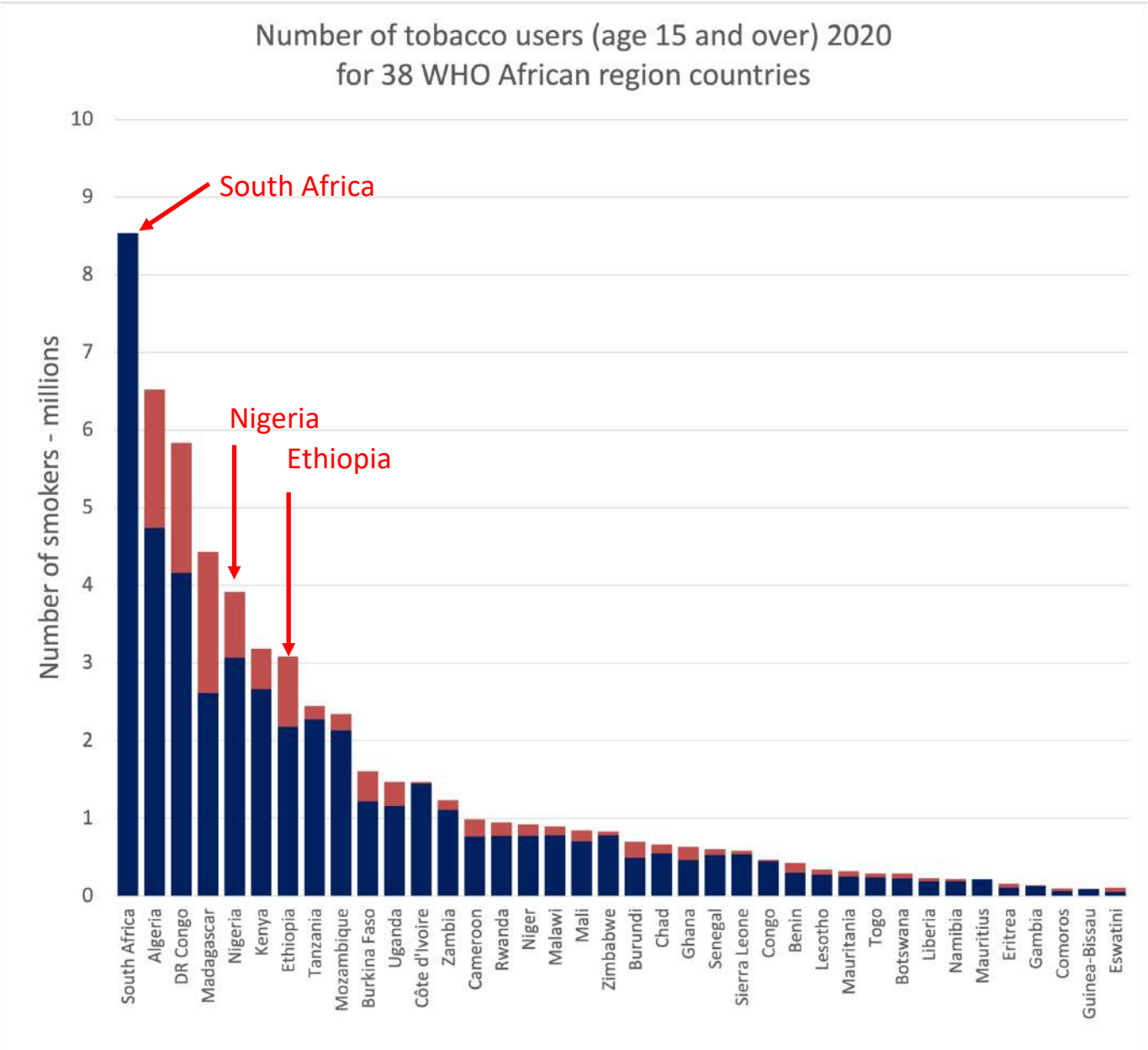
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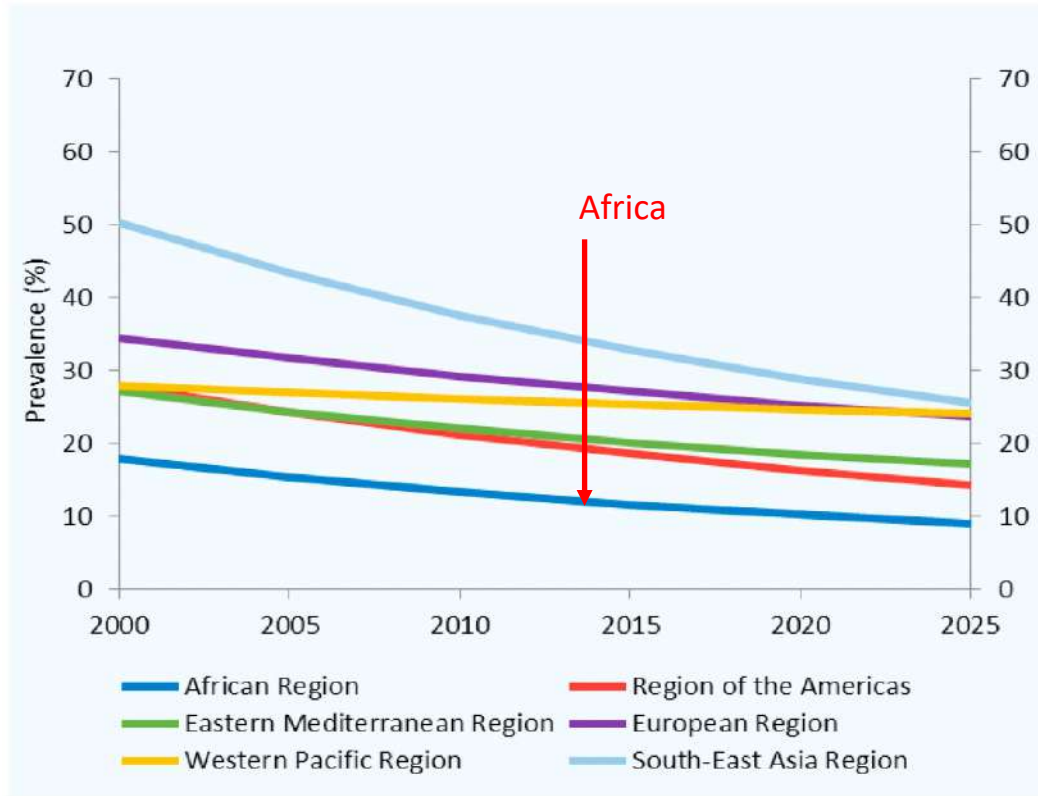
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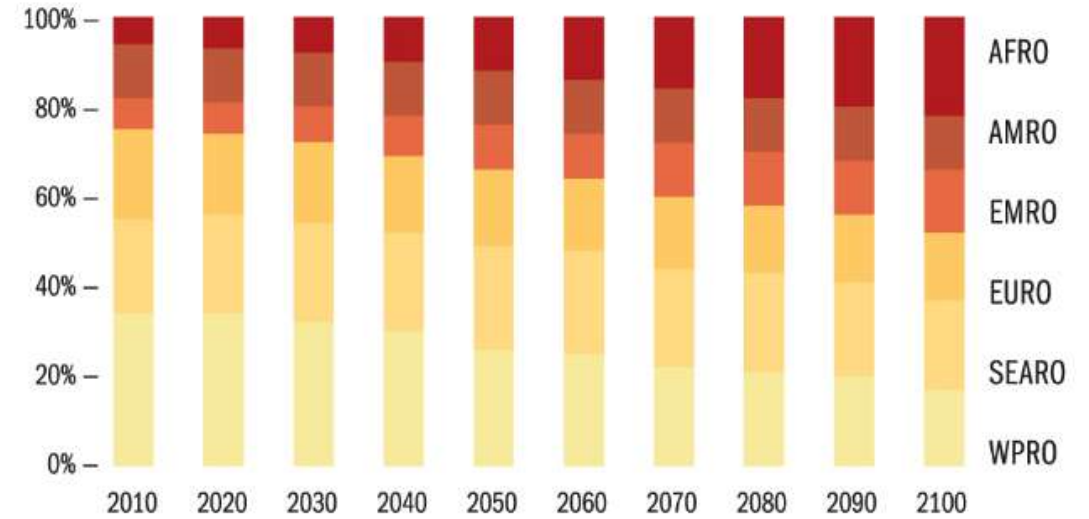


Declining prevalence but increasing population will increase African share



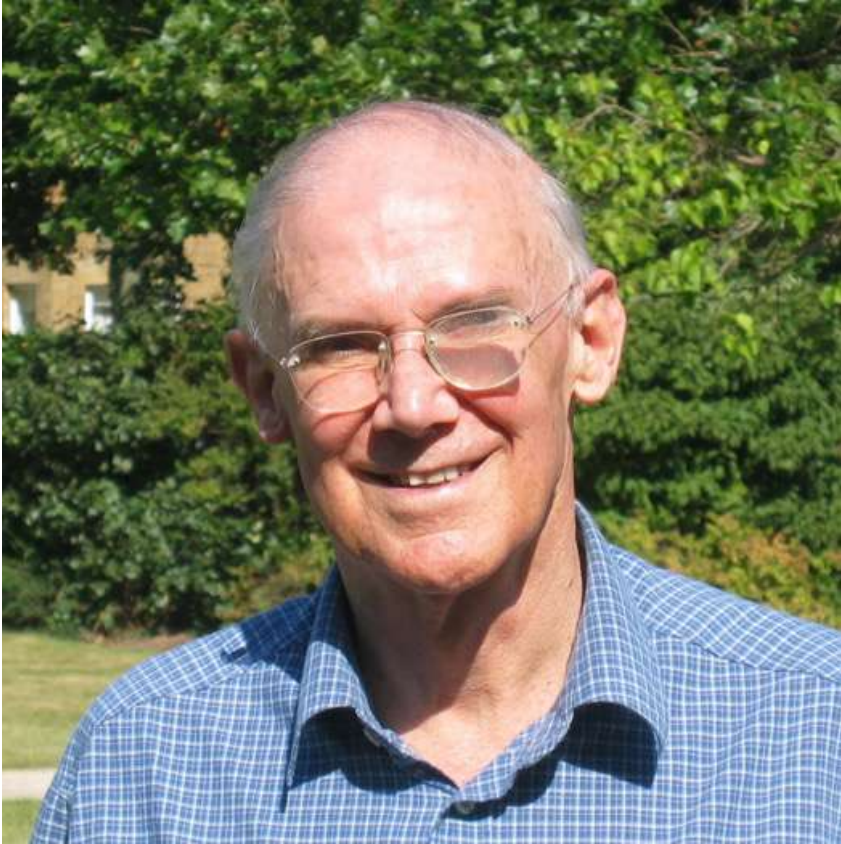
REGIONAL FORECAST

Combined male and female smokers by WHO region with current tobacco control policies, 2010–2100



The majority of the predicted increase in the AFRO region is attributed to men.

But harms are associated with the delivery system, not the drug



Professor Michael Russell 1932-2009

“People smoke for the nicotine but die from the tar”.

Russell MJ. Low-tar medium nicotine cigarettes: a new approach to safer smoking. *BMJ* 1976;1:1430–3

Pure nicotine based

Tobacco based

Heated aerosol

Vaping products



Heated tobacco products "Heat-not-burn"



Unheated

Oral nicotine products

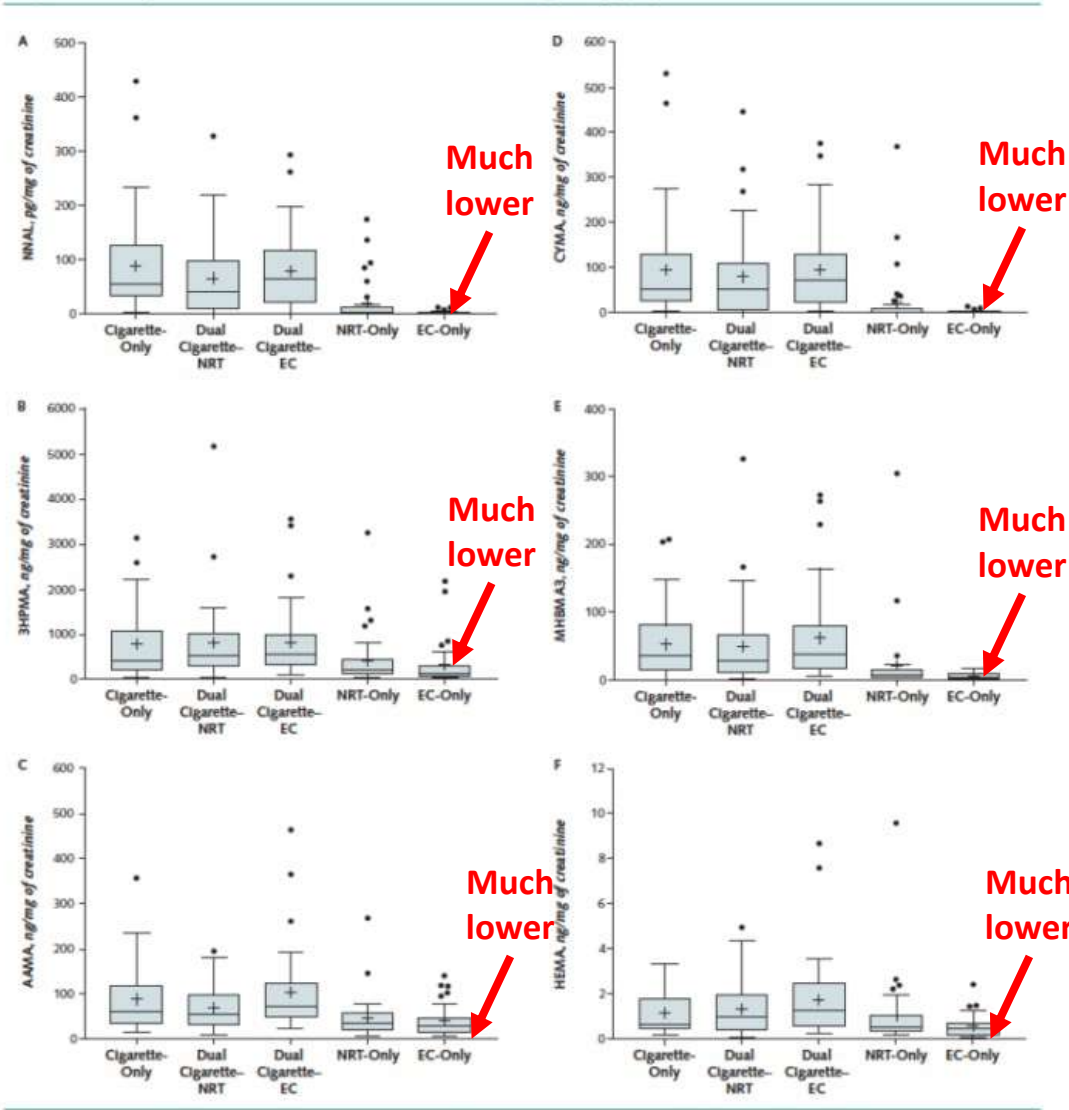


Smokeless tobacco

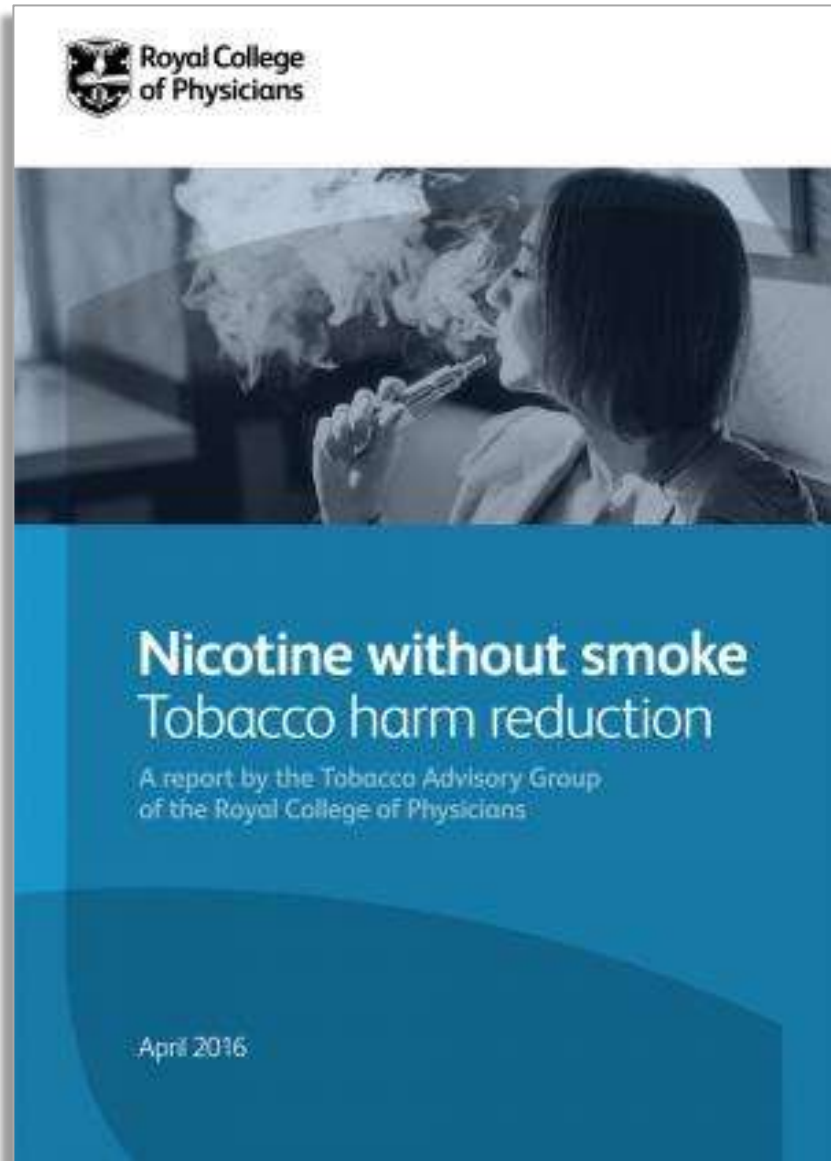


Items are not shown to scale

The strongest evidence for deeply reduced harm is reduced exposure

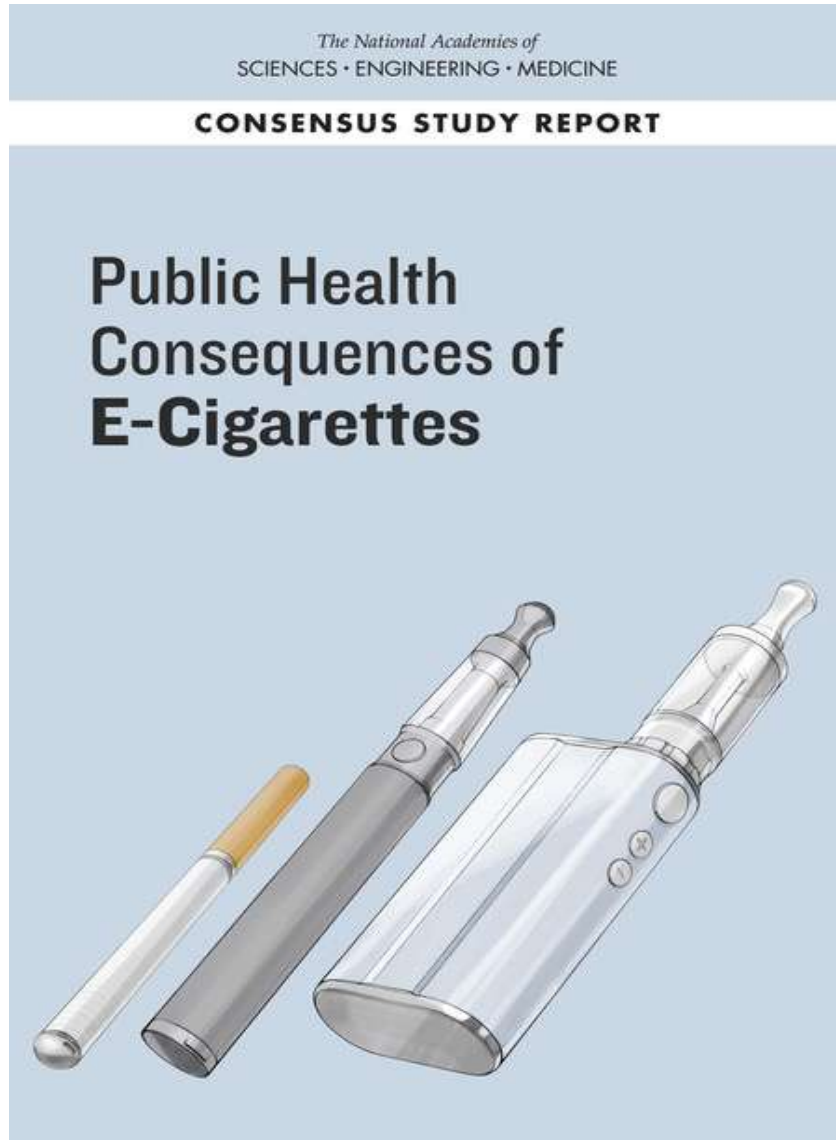


Royal College of Physicians – on relative risk



"Although it is not possible to precisely quantify the long-term health risks associated with e-cigarettes, the available data suggest that they are **unlikely to exceed 5% of those associated with smoked tobacco products**, and may well be substantially lower than this figure".

US National Academies of Sciences, Engineering and Medicine



“While e-cigarettes are not without health risks, **they are likely to be far less harmful** than combustible tobacco cigarettes.”

1,400-page assessment concludes very low risks compared to smoking



“...vaping poses only a **small fraction of the risks** of smoking”

McNeill, A, Simonavičius, E, Brose, LS, Taylor, E, East, K, Zuikova, E, Calder, R and Robson, D (2022). Nicotine vaping in England: an evidence update including health risks and perceptions, September 2022. A report commissioned by the Office for Health Improvement and Disparities. London: Office for Health Improvement and Disparities.

The end of smoking

U.S Annual Review of Public Health



AR ANNUAL REVIEWS

Annual Review of Public Health

Harm Minimization and Tobacco Control: Reframing Societal Views of Nicotine Use to Rapidly Save Lives

David B. Abrams,¹ Allison M. Glasser,² Jennifer L. Pearson,³ Andrea C. Villanti,⁴ Lauren K. Collins,² and Raymond S. Niaura¹

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<https://doi.org/10.1146/annurev-publhealth-040617-013849>
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Keywords
harm minimization, nicotine, e-cigarettes, smoking, tobacco

Abstract
Inhalation of the toxic smoke produced by combusting tobacco products, primarily cigarettes, is the overwhelming cause of tobacco-related disease and death in the United States and globally. A diverse class of alternative nicotine delivery systems (ANDS) has recently been developed that do not combust tobacco and are substantially less harmful than cigarettes. ANDS have the potential to disrupt the 120-year dominance of the cigarette and challenge the field on how the tobacco pandemic could be reversed if nicotine is decoupled from lethal inhaled smoke. ANDS may provide a means to compete with, and even replace, combusted cigarette use, saving more lives more rapidly than previously possible. On the basis of the scientific evidence on ANDS, we explore benefits and harms to public health to guide practice, policy, and regulation. A reframing of societal nicotine use through the lens of harm minimization is an extraordinary opportunity to enhance the impact of tobacco control efforts.

OPEN ACCESS

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“Alternative nicotine delivery systems have the potential to **disrupt the 120-year dominance of the cigarette....**”

Evidence from randomised controlled trials

The screenshot displays the Cochrane Library interface for a systematic review. At the top, the Cochrane Library logo is accompanied by the tagline 'Trusted evidence. Informed decisions. Better health.' and a search bar with 'English' selected. Below the navigation menu, the title 'Electronic cigarettes for smoking cessation' is prominently displayed, along with the authors' names: Jamie Hartmann-Boyce, Nicola Lindson, Ailsa R Butler, Hayden McRobbie, Chris Bullen, Rachna Begh, Annika Theodoulou, Caitlin Notley, Nancy A Rigotti, Tari Turner, Thomas R Fanshawe, and Peter Hajek. The publication date is noted as 17 November 2022. A sidebar on the right provides options to download the PDF, cite the review, and access various content sections including Abstract, PICOs, Plain language summary, Authors' conclusions, Summary of findings, Background, Objectives, Methods, Results, Discussion, Appendices, Figures and tables, References, Characteristics of studies, Data and analyses, and Download statistical data. The 'Related' section lists 'Cochrane Clinical Answers'.

Electronic cigarettes for smoking cessation

Jamie Hartmann-Boyce, Nicola Lindson, Ailsa R Butler, Hayden McRobbie, Chris Bullen, Rachna Begh, Annika Theodoulou, Caitlin Notley, Nancy A Rigotti, Tari Turner, Thomas R Fanshawe, Peter Hajek

Version published: 17 November 2022

<https://doi.org/10.1002/14651858.CD010216.pub7>

Abstract

Available in [English](#) | [Español](#) | [한국어](#)

Background

Electronic cigarettes (ECs) are handheld electronic vaping devices which produce an aerosol by heating an e-liquid. Some people who smoke use ECs to stop or reduce smoking, although some organizations, advocacy groups and policymakers have discouraged this, citing lack of evidence of efficacy and safety. People who smoke, healthcare providers and regulators want to know if ECs can help people quit smoking, and if they are safe to use for this purpose. This is a review update conducted as part of a living systematic review.

Objectives

To examine the effectiveness, tolerability, and safety of using electronic cigarettes (ECs) to help people who smoke tobacco achieve long-term smoking abstinence.

Search methods

We searched the Cochrane Tobacco Addiction Group's Specialized Register, the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, Embase, and PsycINFO to 1 July 2022, and reference-checked and contacted study authors.

“There is high-certainty evidence that e-cigarettes with nicotine increase quit rates compared to NRT”

Evidence for beneficial population effect ‘triangulates’

Effectiveness for smoking cessation

1. Consistent evidence from RCTs that e-cigarettes can be at least as effective as licensed nicotine products when used in a quit attempt
2. Complementary evidence from comparative observational studies of e-cigarettes when used under real-world conditions, though may be context- and population-dependent
3. Supportive evidence from population trends in England and the US showing a positive association between prevalence of e-cigarette use in the population and smoking cessation rates



SCAN ME



SCAN ME



SCAN ME

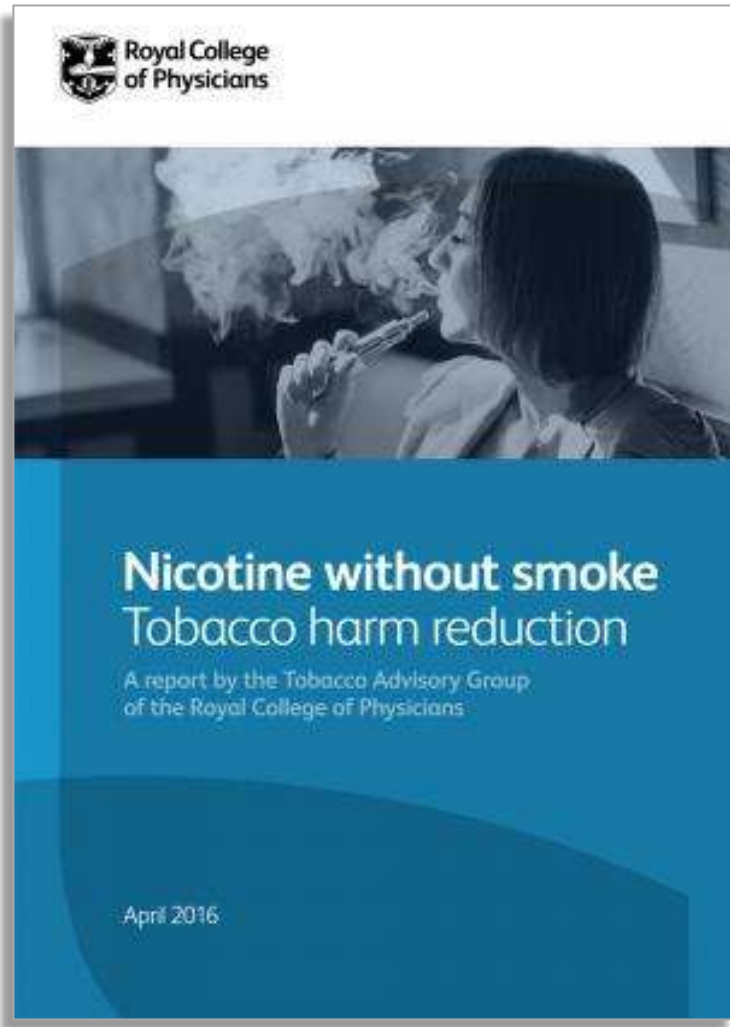
- *Also, user testimony*
- *And... it is what you would expect!!*

Policy
considerations
(see Panel 2)

The public health mechanism



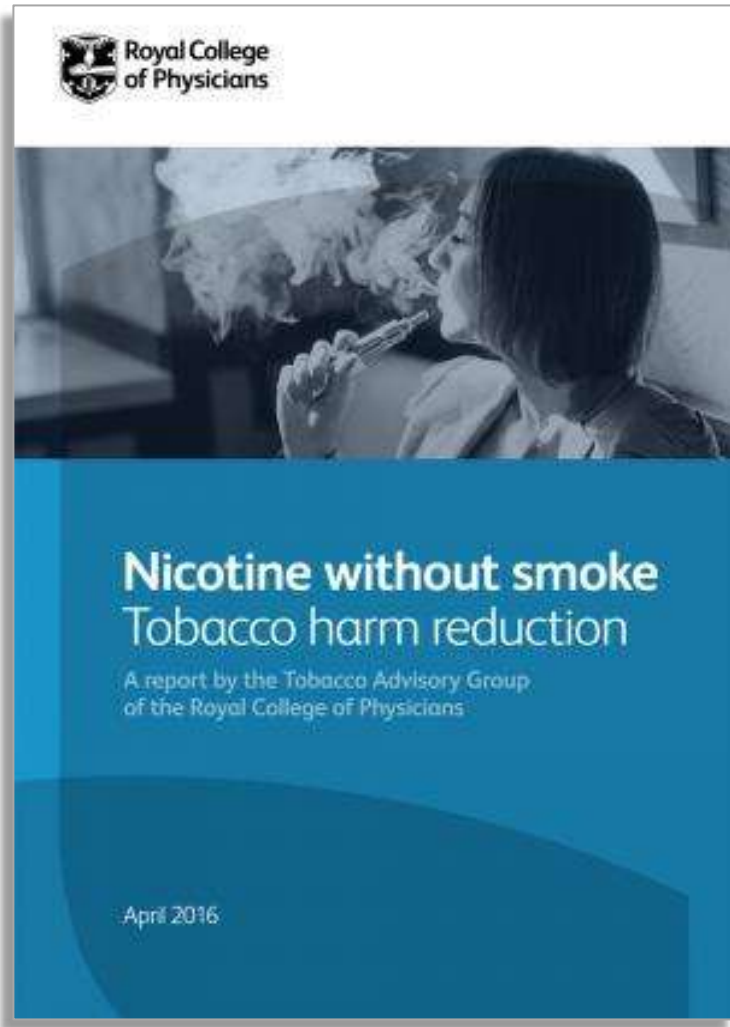
Royal College of Physicians – perverse unintended consequences



12.10 Regulation and harm reduction

It is difficult to determine, and more difficult still to apply, the right level of regulation for reduced-harm products. The wide range of different regulatory approaches adopted in different countries in relation to e-cigarettes, which spans a spectrum from freedom to market as a consumer product to complete prohibition, reflects a desire, on the one hand, to encourage as many smokers as possible to switch from tobacco to e-cigarettes and, on the other, to prevent harm to users or others from e-cigarette use. A risk-averse, precautionary approach to e-cigarette regulation can be proposed as a means of minimising the risk of avoidable harm, eg exposure to toxins in e-cigarette vapour, renormalisation, gateway progression to smoking, or other real or potential risks. However, if this approach also makes e-cigarettes less easily accessible, less palatable or acceptable, more expensive, less consumer friendly or pharmacologically less effective, or inhibits innovation and development of new and improved products, then it causes harm by perpetuating smoking. Getting this balance right is difficult.

Royal College of Physicians – perverse unintended consequences



...if a risk-averse, precautionary approach makes e-cigarettes:

- less easily accessible
- less palatable or acceptable
- more expensive
- less consumer friendly
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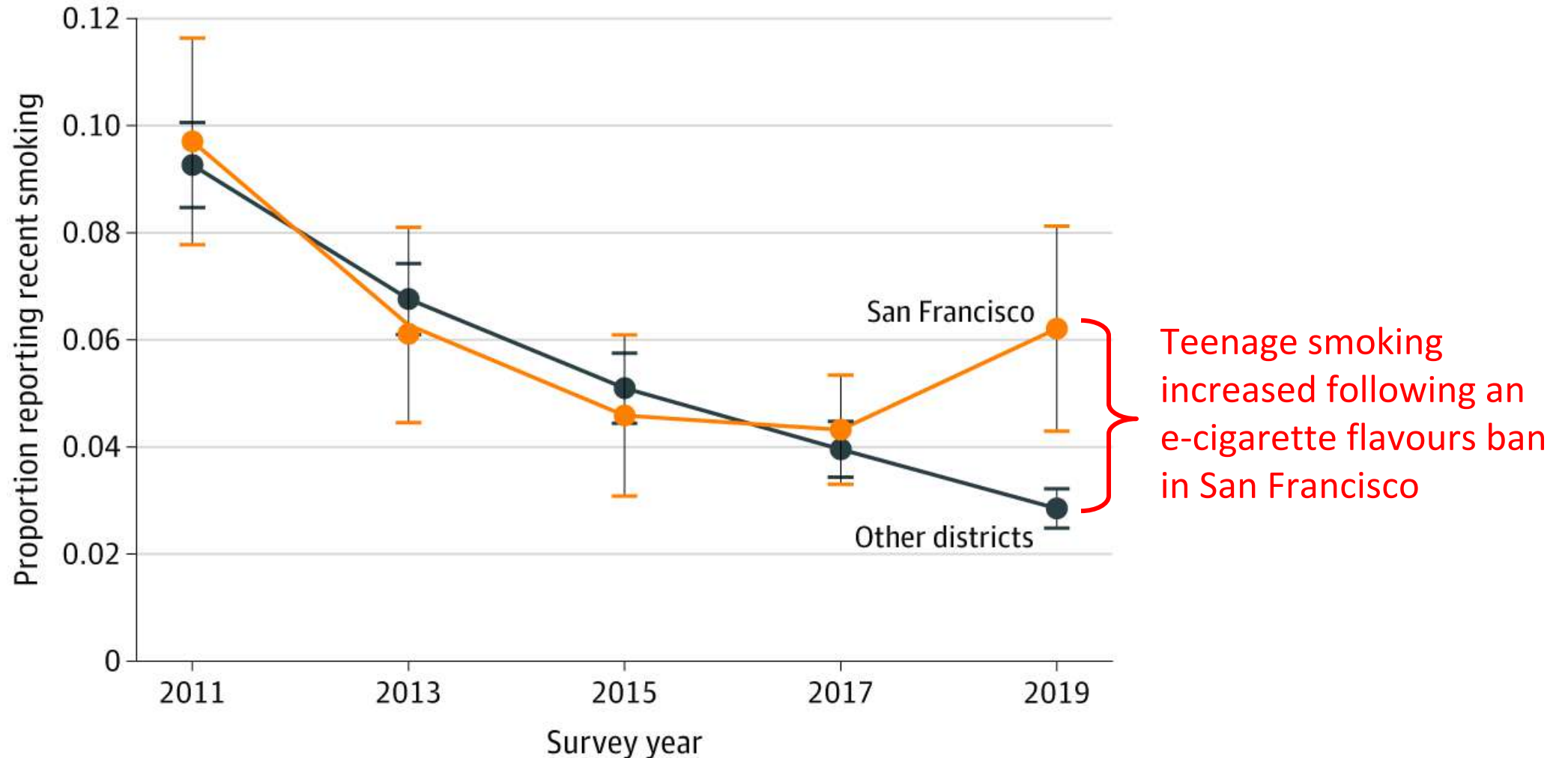
...then it causes harm by perpetuating smoking.

1. Prohibition of vaping and other smokefree products



2. Banning e-liquid flavours

Past-30-Day Smoking Trends Among High School Students Younger Than 18 Years



The solution: Risk-Proportionate Regulation

Measure	Cigarettes, hand-rolling tobacco and other combustibles	Vaping, heated tobacco smokeless and oral nicotine
Taxation	Relatively high taxes	Low or zero tax (sales tax only)
Advertising	Prohibit other than within trade	Control themes and placement
Warnings	Graphic warnings depicting disease	Messages encouraging switching
Public places	Legally mandated controls	Up to the discretion of the owner
Plain packaging	Yes	No
Ingredients	Control reward-enhancing additives	Blacklist material health hazards
Age restrictions	No sales to under-21s	No sales to under-18s
Internet sales	Banned	Permitted with age controls
Product standards	Control risks and reduce appeal	Control risks

Why do people use
nicotine?

Nicotine acts on nicotinic cholinergic receptors, triggering the release of dopamine, producing rewarding psychoactive effects.



Nicotine acts on nicotinic cholinergic receptors, triggering the release of dopamine producing rewarding psychoactive effects.



Why do people use nicotine? Mood control



The image shows a screenshot of a journal article page. At the top, there is a dark blue header with a logo on the left and search, shopping cart, and menu icons on the right. Below the header is a light gray bar with social media sharing options: Save, Email, Facebook, Twitter, LinkedIn, YouTube, and RSS. The main content area has a dark blue background with white text. The title is 'Pharmacology of Nicotine: Addiction, Smoking-Induced Disease, and Therapeutics'. Below the title is the journal name 'Annual Review of Pharmacology and Toxicology', the volume and page information 'Vol. 49:57-71 (Volume publication date 2/10/2009)', the publication date 'First published online as a Review in Advance on October 3, 2008', and the DOI link 'https://doi.org/10.1146/annurev.pharmtox.48.113006.094742'. At the bottom, the author's name 'Neal L. Benowitz' is listed, followed by his affiliation: 'Departments of Medicine and Biopharmaceutical Sciences, Division of Clinical Pharmacology and Experimental Therapeutics, Medical Service, San Francisco General Hospital Medical Center, University of California, San Francisco, California 94143-1220; email: NBenowitz@MedSFGH.ucsf.edu'.

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In humans, nicotine from tobacco induces stimulation and pleasure, and reduces stress and anxiety.

Smokers come to use nicotine to modulate their level of arousal and for mood control in daily life.

Why do people use nicotine? Mood control



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Why do people use nicotine? Cognitive enhancement

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NICOTINE & TOBACCO RESEARCH  SRNT

Article Navigation

JOURNAL ARTICLE

Therapeutic Applications of Nicotinic Stimulation: Successes, Failures, and Future Prospects 

Paul A Newhouse, MD 

Nicotine & Tobacco Research, Volume 21, Issue 3, March 2019, Pages 345–348,
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Nicotine improves performance on attentionally and cognitively demanding vigilance tasks and response inhibition performance, suggesting that nicotine may act to optimize attention/response mechanisms as well as enhancing working memory in humans.

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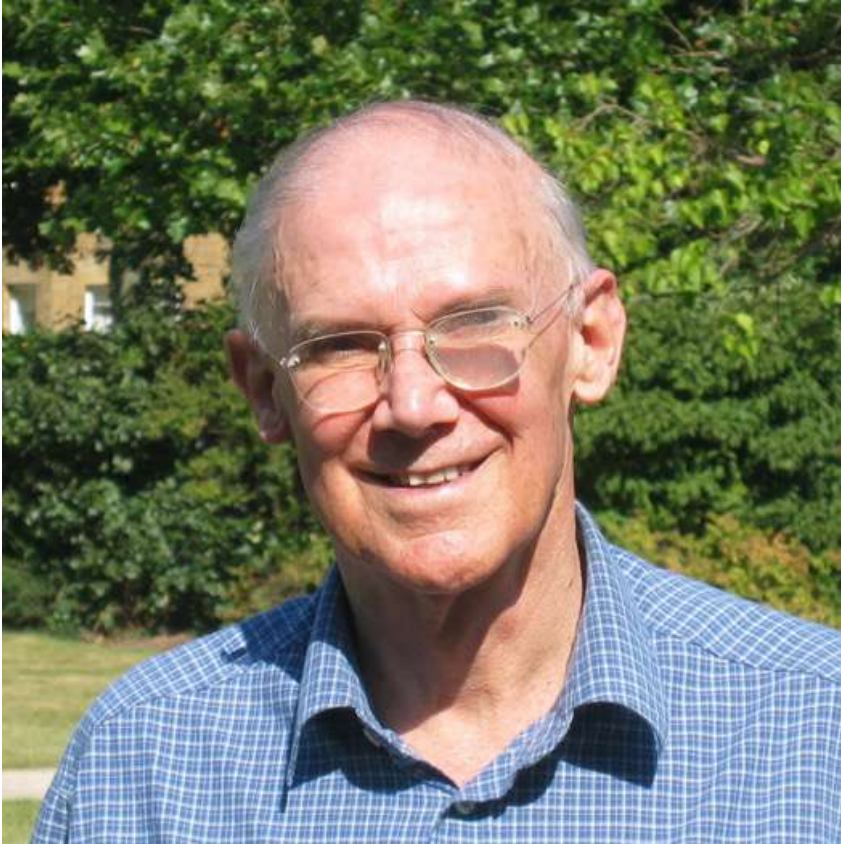
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Socially acceptable psychoactive substances



Nicotine as a recreational drug



Professor Michael Russell 1932-2009

There is no compelling objection to the recreational and even addictive use of nicotine provided it is not shown to be physically, psychologically, or socially harmful to the user or to others.

The Lancet, 1991

A technology transition

A technology transition - cars





Innovation and its enemies...

“Claims about the promise of new technology are at times greeted with skepticism, vilification or outright opposition—often dominated by slander, innuendo, scare tactics, conspiracy theories and misinformation.

“The assumption that new technologies carry unknown risks guides much of the debate. This is often amplified to levels that overshadow the dangers of known risks.”

Thankyou!



Counterfactual

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[@clive_bates](#)